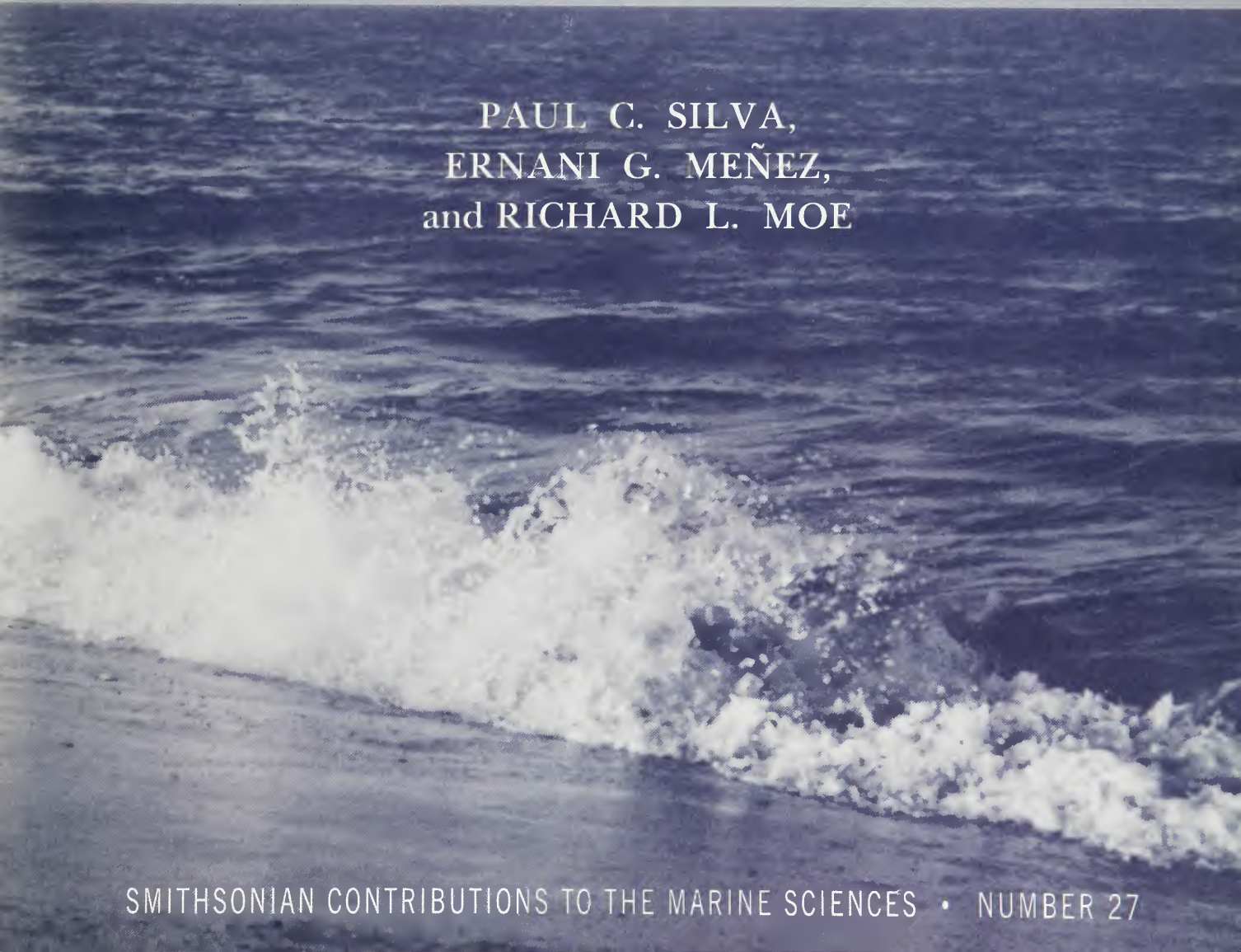
Catalog of the Benthic Marine Algae of the Philippines

PAUL C. SILVA,
ERNANI G. MEÑEZ,
and RICHARD L. MOE



SMITHSONIAN CONTRIBUTIONS TO THE MARINE SCIENCES • NUMBER 27

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Robert McC. Adams
Secretary
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Corrections to Smithsonian Contributions to the Marine Sciences Number 27:

Page 69. *Polysiphonia beaudettei.* First entry should be spelled the same as the centered heading.

Page 142. Delete van den Hoek from the authorship of van den Hoek, Vannajan, and Trono, then transfer the two references to page 153, preceding Velasquez.

Page 157. Change explanation of Index to read:
(Primary entries in roman, synonyms and names mentioned incidentally in italic.)

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ABSTRACT

Silva, Paul C., Ernani G. Meñez, and Richard L. Moe. Catalog of the Benthic Marine Algae of the Philippines. *Smithsonian Contributions to the Marine Sciences,* number 27, 179 pages, 2 figures, 1987.—All published records of benthic marine algae from the Philippines are assembled in a catalog with the taxa arranged according to an assumed phylogenetic scheme to the rank of family. The taxonomic framework takes into consideration recently published opinions. Each taxonomic synonym is accompanied by a citation of the author who first proposed the synonymy. Additional taxonomic and nomenclatural notes are provided where deemed useful. Type localities are indicated for all accepted names and taxonomic synonyms.

Cyanophyceae (blue-green algae) comprise 19 genera with 61 species. They are arranged according to the Geitlerian system, accompanied by a reconciliation with the Drouetian system. Their nomenclature is based on a 1753 Linnaean starting point rather than the later starting points specified by the International Code of Botanical Nomenclature.

Rhodophyceae (red algae) comprise 130 genera with 506 specific or infraspecific taxa, of which 35 have Philippine type localities.

Phaeophyceae (brown algae) comprise 23 genera with 154 species or infraspecific taxa, of which 27 have Philippine type localities.

Chlorophyceae (green algae) comprise 37 genera with 251 species or infraspecific taxa, of which 20 have Philippine type localities.

Portieria Zanardini 1851 is adopted in place of *Chondrococcus* Kützing 1847, *Eupogodon* Kützing 1845 in place of *Dasyopsis* (Montagne) Montagne 1847, and *Hincksia* J.E. Gray 1864 in place of *Giffordia* Batters 1893. In addition, new binomials are proposed in *Gelidium, Halymenia, Callophyllis, Sporolithon, Gracilaria, Ceramium, Polysiphonia,* and *Hormophysa.*

The catalog is preceded by a brief history of Philippine phycology.

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Contents

We dedicate this work to Dr. Gregorio T. Velasquez, Professor Emeritus, University of the Philippines, devoted champion of phycology and phycologists in the Philippines.

Catalog of the Benthic Marine Algae of the Philippines

Paul C. Silva, Ernani G. Meñez, and Richard L. Moe

Introduction

During May–June 1978 and April–May 1979, Ernani G. Meñez participated in the Smithsonian Institution Philippines Expedition (SIPHILEXP), which was officially based at the Silliman University Marine Laboratory in Dumaguete City, Negros Island. The primary objective was to collect marine organisms from the Central Visayas for studies on taxonomy and distribution. A large collection of benthic marine algae was obtained and subsequently studied.

In preparation for SIPHILEXP, Meñez initiated a compilation of the species of benthic marine algae reported from the Philippines and a list of references pertaining to them. Because of the existence of unique phycological resources in the Herbarium of the University of California at Berkeley, specifically the Index Nominum Algarum and the Bibliographia Phycologica Universalis (both in the form of card files compiled and maintained by Paul C. Silva), he took his preliminary draft there for checking. The utility of collaboration was perceived and an arrangement was made whereby Meñez would be responsible for the citations of species while Silva would be responsible for providing the taxonomic framework and correct nomenclature. In the five years that have passed since the cooperative effort was begun, the number of publications dealing with Philippine seaweeds has increased markedly, and both Meñez and Silva have been involved in keeping pace with the output. In the summer of 1984, Richard L. Moe was asked to join the project, in view of his competency in word-processing and broad phycological experience.

The purpose of this catalog is to integrate published information on the taxonomy and distribution of Philippine benthic marine algae and thus provide a foundation for future exploration and research. Rather than make an uncritical compilation of records (such as Velasquez, Trono, and Doty, 1975), we decided to incorporate as much information as was pertinent to understanding the taxonomic structure and nomenclature adopted in this catalog. The continued relevance of this information obviously depends upon the reliability of the determinations that underlie the published records. Considering that very little critical work has been done on Philippine marine algae, it is reasonable to assume that a certain portion of the incorporated information will eventually prove irrelevant. Nonetheless, we believe that this catalog will facilitate and perhaps stimulate future work by pointing out geographic and taxonomic areas most in need of attention. Unlike publications that are intended to endure like monoliths, this catalog is intended to become obsolete, with the rate of obsolescence an index of the progress in Philippine phycology. Because tens of thousands of data are incorporated in this catalog, the possibility of making errors is great, but we hope that we have initiated far fewer than we have encountered in the literature and corrected.

ACKNOWLEDGMENTS.—For assistance in obtaining copies of pertinent literature, we are especially grateful to Ms. Hilconida Calumpong, Silliman University Marine Laboratory, Dumaguete City, Dr. Paciente A. Cordero, Junior, Division of Botany, Philippine National Museum, Manila, Mrs. Edna T. Fortes-Ganzon, Marine Science Institute, University of the Philippines, Quezon City, Mr. Lawrence M. Liao, Department of Biology, University of San Carlos, Cebu City, and Dr. Milagrosa R. Martinez, University of the Philippines at Los Baños. We are indebted to Dr. Thomas O. Duncan, Director of the Herbarium of the University of California at Berkeley, for his efforts in obtaining a computer system for the Herbarium and for encouraging us to use it in preparing the electronic manuscript of this catalog.

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History of Philippine Phycology

Detailed accounts of the history of Philippine phycology have been provided by Velasquez (1962b; 1985) and Cordero (1972; 1977a), but it seems useful to review its most salient features, especially with regard to marine algae. Unlike many areas that were explored biologically by colonial powers in the late eighteenth and early nineteenth centuries, the Philippines were not so favored by Spain, and the earliest information on its plants and their uses came from resident Augustinian monks (M. Blanco, 1837). Unfortunately, there are no extant specimens to document this work. In October 1836, Hugh Cuming, an English naturalist especially interested in conchology, arrived at Manila to begin three years of exploration that would take him to nearly every large island in the archipelago (Merrill, 1926). He made a small but important collection of marine algae, which was reported on by Montagne (1844a) and also served as the basis of *Galaxaura fastigiata* and *Liagora caenomyce,* both described by Decaisne (1842).

During the last half of the nineteenth century, four expeditions returned to Europe with varying amounts of Philippine algae. The *Preussische Expedition nach Ost-Asien* contributed collections made at Manila and Zamboanga in 1861 by its zoologist, Eduard von Martens; these collections were the subject of a publication by Eduard's father, Georg von Martens (1868). In 1874–1875, H.N. Moseley, the naturalist of the Challenger Expedition, collected algae at the Gigantes Islands (Iloilo), Mactan I. (Cebu), and Zamboanga, which were recorded by Dickie (1874a, 1876a, 1876b, 1877). Cesare Marcacci, lieutenant on board the *Vettor Pisani,* collected algae at Ticao Island (Masbate) and Cavite during the circumnavigation of that ship in 1884. They were published on by Piccone (1886, 1889). The most important expedition, by far, was the Siboga Expedition to the Indonesian region, which made extensive collections in 1899 in the Sulu Archipelago. These collections contributed significantly to monographs of *Halimeda* (Barton, 1901), the Codiaceae (Gepp and Gepp, 1911), and the Corallinaceae (Foslie, 1904; Weber-van Bosse, 1904b). The entire phycological harvest of the expedition was treated by Weber-van Bosse (1913a, 1921, 1923, 1928).

In the Commonwealth period, Elmer Drew Merrill was impartial in his messianic pursuit of Philippine botany during 20 years of service to the Bureau of Agriculture, the Bureau of Forestry, the Bureau of Science, and the University of the Philippines (Quisumbing, 1957). Although primarily interested in vascular plants, he caused the Bureau of Science to assemble a large collection of algae. These were sent for study in 1911–1913 to M.A. Howe at the New York Botanical Garden and to W.A. Setchell at the University of California at Berkeley. No systematic study was made of these specimens at that time, but in 1951 the Chlorophyceae and Phaeophyceae at Berkeley were loaned to W.R. Taylor of the University of Michigan, who ultimately published on them (Taylor, 1966b). The all-important University of Michigan connection was established in 1935–1936, when H.H. Bartlett, Chairman of its Department of Botany, was an exchange professor at the University of the Philippines (Voss, 1961). A man of wide interests and great energy, he made massive collections of plants, including many algae, throughout the archipelago. These were sent to Ann Arbor, where the algae were studied by Taylor and his students. Bartlett returned to the Philippines under the auspices of the United States Department of Agriculture in 1940–1941, making further collections of algae in Mindanao. His collections have been cited in numerous papers, including Chou (1945, 1947) on *Galaxaura,* Gilbert (1942, 1943, 1947) on Chlorophyceae, Taylor (1964, 1966b) on Chlorophyceae and Phaeophyceae, and Tseng and Gilbert (1942) on *Codium.*

In the period of the Republic, Philippine phycology has come to share the dramatic surge of interest and activity in the science that initially was centered in the industrial nations. The leader and catalyst has been Gregorio T. Velasquez, Professor Emeritus of Botany, University of the Philippines, who received his doctorate at the University of Michigan in 1939, working on the viability of algae obtained from the digestive tract of a fresh-water fish. Although primarily interested in Cyanophyceae, Velasquez has had a profound influence on all aspects of Philippine phycology. The productivity of his academic offspring has created an urgent need for this catalog.

Awareness of benthic marine algae in the Philippines has been greatly heightened by the successful efforts to grow certain of them commercially (*Eucheuma, Gracilaria,* and *Caulerpa*). Not only has the welfare of many coastal communities been improved, but the nation as a whole has benefited from increased exports. Most phycological publications in the past two decades have been floristic, and critical taxonomic studies must now be given high priority. It is essential that the rapidly accumulating information on algal ecology, physiology, and biochemistry, much of which is of potential economic importance, be attached to correct names.

Scope of Catalog

To avoid the difficulty of having to assess each paper for its worthiness of inclusion, we have been comprehensive rather than selective, citing every reference to Philippine benthic marine algae that we could find, regardless of information content. Publications dealing with biochemical, physiological, ecological, and economic features supplement the basic core of taxonomic and morphological literature. Previous compilations were included. Twenty species that were erroneously cited by Velasquez, Trono, and Doty (1975) have been omitted from this catalog. Most of these erroneous records were taken from various reports of the

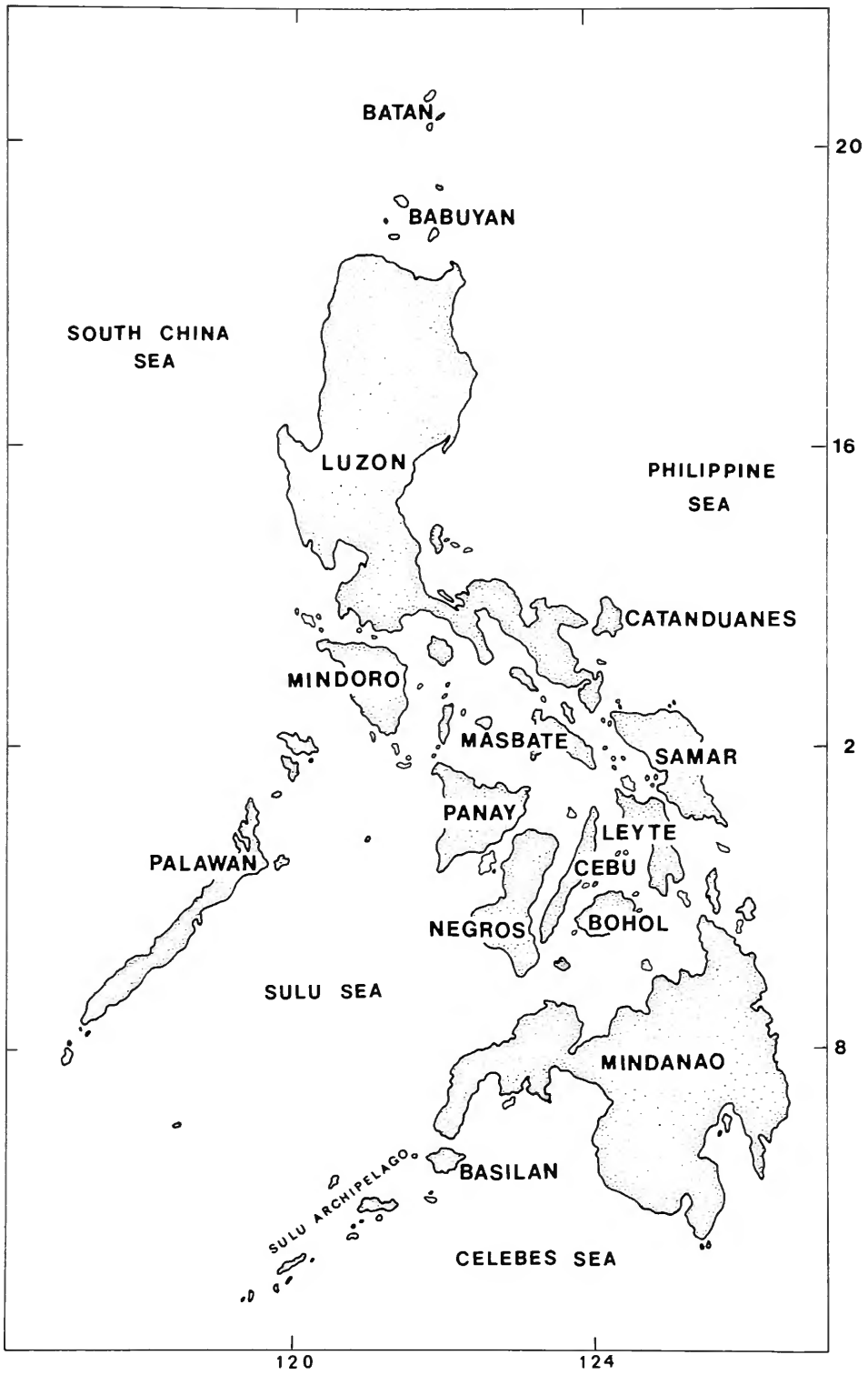

FIGURE 1.—Map of the Philippines showing major islands.

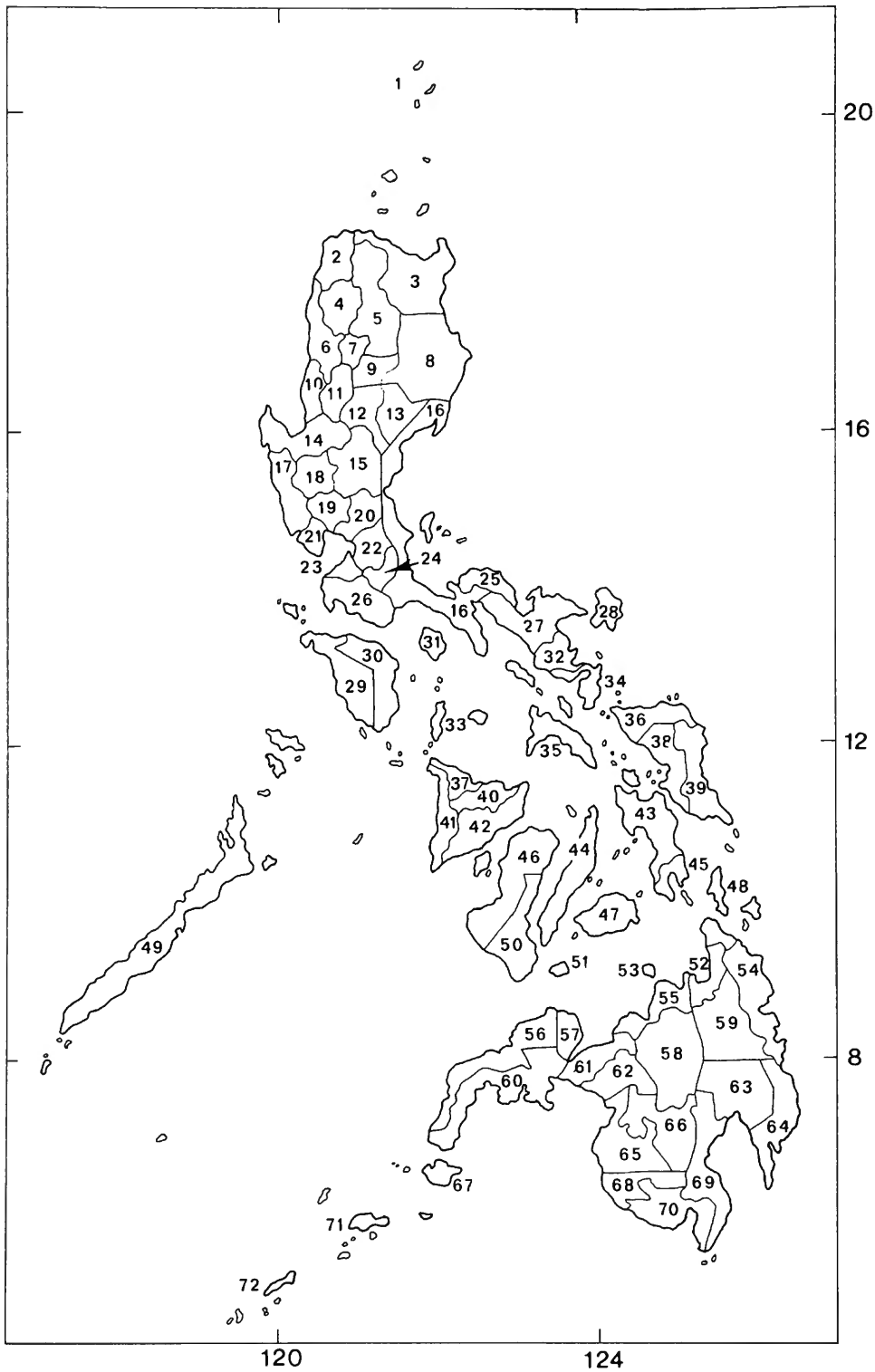

FIGURE 2.—Map of the Philippines with the provinces designated by number. See Table 1 for a key to the numbers. (Redrawn from Vreeland et al., (second edition) 1976:25, fig. 4.)

Siboga Expedition and based on collections from the Talud Islands and Kawio Islands, both groups belonging to Indonesia. Species were also erroneously included on the basis of collections from Borneo, Java, and Mangaia (Cook Islands).

The following is a list of species excluded from this catalog:

Cyanophyceae
Oscillatoria brevis Kützing
Rhodophyceae
Cheilosporum spectabile Harvey
Coriophyllum setchellii Weber-van Bosse
Cruoriella lemoineae Weber-van Bosse
Eucheuma dichotomum Weber-van Bosse
Galaxaura sibogae Weber-van Bosse
Gelidium anthoninii Lamouroux ex C. Agardh
Herposiphonia prorepens (Harvey) Schmitz
Laurencia pinnatifida (Hudson) Lamouroux
Liagora pulverulenta C. Agardh
Mastophora macrocarpa Montagne
Nitophyllum tongatense Grunow
Polycoelia vanhoevelii Weber-van Bosse
Polysiphonia pentamera Hollenberg
Phaeophyceae
Sphacelaria pulvinata J. Hooker and Harvey
Chlorophyceae
Boodlea vanbosseae Reinbold
Chaetomorpha clavata (C. Agardh) Kützing
Cladophora aegagropila [error in citation for *Cladophora (Aegagropila) sibogae* Reinbold]
Microdictyon umbilicatum (Velley) Setchell
Microdictyon vanbosseae Setchell

Special problems relating to the compilation of records of Cyanophyceae are discussed in the introduction to that group. Brackish-water records from lagoons, canals, and swamps connecting with the sea or adjacent to it were included for all groups.

Format of Catalog

The sequence of taxa follows an assumed phylogenetic scheme to the rank of family. Genera within a family are listed alphabetically, as are species within a genus. Appended to the catalog is a list of citations of undescribed or undetermined species, assigned only to genus. An attempt was made to include in this list only those citations that are accompanied by at least some description or collection data.

In the process of constructing the taxonomic framework of this catalog, the need for various nomenclatural changes arose. Documentation for these changes is given in an appendix to avoid disruption of the catalog.

For each accepted name, synonym, and basionym at the rank of species or below, the author and the place of valid publication are given, followed by a chronological list of references to Philippine records under that name. The type locality of each basionym is indicated. When the location of the holotype or lectotype specimen is given (as in the reconciliation of the Geitlerian and Drouetian classifications of Cyanophyceae), the herbarium is indicated by the code prescribed by the Index Herbariorum (Holmgren et al., 1981). If the original publication of a name includes a Philippine record, an appropriate annotation is added unless the name has a Philippine type, in which case the name is preceded by an asterisk (*).

Nomenclatural synonyms are listed before taxonomic synonyms. The authority for taxonomic synonymy is given in an accompanying note. This innovative feature enables the user to consult and assess a taxonomic opinion as originally proposed.

Unusual nomenclatural situations are also explained in accompanying notes. A particularly troublesome and frequently encountered situation arises when the intended basionym of a binomial is shown to be a later homonym. Because, according to Article 45.3 of the International Code of Botanical Nomenclature (ICBN; Voss et al., 1983), only legitimate names are taken into consideration for purposes of priority, a later homonym (which is illegitimate according to Article 64.1 of the ICBN) cannot serve as a basionym and its author should not be placed in parentheses. The first transfer of the basionym to a different genus, however, results in a binomial that is treated as a nomen novum in accordance with Article 72, Note 1. The

TABLE 1.—List of Philippine provinces with numerical designation.

No.	Province	No.	Province
1	Batanes	37	Aklan
2	Ilocos Norte	38	Samar
3	Cagayan	39	Eastern Samar
4	Abra	40	Capiz
5	Kalinga-Apayao	41	Antique
6	Ilocos Sur	42	Iloilo
7	Mountain	43	Leyte
8	Isabela	44	Cebu
9	Ifugao	45	Southern Leyte
10	La Union	46	Negros Occidental
11	Benguet	47	Bohol
12	Nueva Vizcaya	48	Surigao del Norte
13	Quirino	49	Palawan
14	Pangasinan	50	Negros Oriental
15	Nueva Ecija	51	Siquijor
16	Quezon	52	Agusan del Norte
17	Zambales	53	Camiguin
18	Tarlac	54	Surigao del Sur
19	Pampanga	55	Misamis Oriental
20	Bulacan	56	Zamboanga del Norte
21	Bataan	57	Misamis Occidental
22	Rizal	58	Bukidnon
23	Cavite	59	Agusan del Sur
24	Laguna	60	Zamboanga del Sur
25	Camarines Norte	61	Lanao del Norte
26	Batangas	62	Lanao del Sur
27	Camarines Sur	63	Davao
28	Catanduanes	64	Davao Oriental
29	Occidental Mindoro	65	Maguindanao
30	Oriental Mindoro	66	North Cotabato
31	Marinduque	67	Basilan
32	Albay	68	Sultan Kudarat
33	Romblon	69	Davao del Sur
34	Sorsogon	70	South Cotabato
35	Masbate	71	Sulu
36	Northern Samar	72	Tawitawi

nomen novum serves as the basionym (unless it too is a later homonym). *Gracilaria lichenoides,* for example, is usually attributed to (Turner) Greville, but *Fucus lichenoides* Turner, the intended basionym, is a later homonym, and hence not priorable. The first generic placement outside *Fucus* was to *Gigartina* by Lamouroux. *Gigartina lichenoides* Lamouroux thus is treated as a nomen novum and serves as the basionym of *Sphaerococcus lichenoides* and *Gracilaria lichenoides.*

Geographic distribution is indicated primarily by island or island group (Figure 1), secondarily by province within the island or island group (Figure 2). The islands or island groups are listed in four successive northwest–southeast sweeps, thus: BATANES, LUZON, CATANDUANES; MINDORO, MARINDUQUE, ROMBLON, MASBATE, SAMAR, LEYTE; PANAY, GUIMARAS, NEGROS, CEBU, SIQUIJOR, BOHOL, CAMIGUIN, MINDANAO, BASILAN; PALAWAN, SULU. Within Luzon, the provinces are listed from north to south, first on the west coast (from Cagayan to Batangas), then on the east coast (from Isabela to Sorsogon). When appropriate, certain minor islands (arbitrarily limited to those labeled on United States Hydrographic Office Chart 14,200) are indicated parenthetically within provinces.

Cordero (1977a) has classified the Philippine Archipelago into four marine floristic regions, namely, the South China Sea region (Batanes, northwestern Luzon, and Mindoro), the Pacific Ocean region (northeastern Luzon, Marinduque, and Romblon), the Sulu Sea–Celebes Sea region (Palawan, Sulu Archipelago, Basilan, and the southern tip of Zamboanga del Sur), and the inland water region (all Visayan provinces and most of Mindanao). While we appreciate this attempt to bring phytogeographical order to the physiographic chaos presented by the 7,100 islands of the Philippine Archipelago, we believe that the purposes of this catalog are better served by an essentially linear sequence of localities. This sequence obviates the complication of listing Luzon in three regions and Mindanao in two regions. (In fact, the east coast of Mindanao, not specified by Cordero, should be included in the Pacific Ocean region, giving a total of three regions for that island.) It also avoids the arbitrary placement of Cagayan Province in the Pacific Ocean region. (The Babuyan Islands, which are politically part of Cagayan Province, are influenced equally by the South China Sea and the Pacific Ocean, as are the Batan Islands, which Cordero places in the South China Sea region.)

Catalog

Class CYANOPHYCEAE

Blue-green algae stand at a conspicuous distance from red, brown, and green seaweeds, both taxonomically and ecologically. Nonetheless, because they frequently are encountered by marine phycologists and preserved as herbarium specimens, they are included in this catalog. Most marine floristic accounts omit them, reflecting either insufficient interest on the part of the author or a desire to avoid numerous uncertainties peculiar to the group. When dealing with organisms that are tolerant over extremely broad physico-chemical ranges, a collector should document each collection with adequate data—including salinity or pH (whichever is appropriate) and temperature. Most herbarium specimens of blue-green algae are accompanied by meager ecological information, if any, and such indications as "along Narvacan Beach" are ambiguous when the user is faced with deciding whether the alga should be considered marine. It could have been growing in a freshwater pool next to the beach, on rocks far above high-tide mark and splashed by seawater with uncertain frequency, or on intertidal rocks. Alternatively, it could have lain free on the mud at low tide, having originated in a nearby freshwater stream or in offshore plankton. Even when critical information is given on the specimen, it is frequently omitted by the recording author.

Deciding which records of blue-green algae should be considered marine and benthic is only the first obstacle. This group is plagued with other uncertainties. Its taxonomy has been polarized between the Geitlerian and Drouetian schools. Geitler (1942), building on the monographs of Bornet and Flahault (1886–1888) and Gomont (1892–1893), recognized 4 orders, 22 families, 140 genera, and more than 1200 species, while Drouet (1981) recognized 2 orders, 6 families, 24 genera, and 61 species. Recently, microbiologists have proposed a system of classification based solely on characters revealed in pure cultures (Rippka et al., 1979).

Having delineated the taxonomic units, one is then faced with the problem of determining their correct names. This is a critical process that is complicated in the case of blue-green algae by the provision of the International Code of Botanical Nomenclature that nomenclature of the Nostocales begins with the monographs of Bornet and Flahault and of Gomont. For reasons discussed in the appended Nomenclatural Notes, later starting points are ignored in this catalog.

All names recorded for the Philippines except the few published by Dickie (1876a, 1877) essentially follow Bornet and Flahault for heterocystous Nostocales and Gomont for homocystous Nostocales. For this reason, the records have been arranged according to those monographs rather than being integrated into the Drouetian system. A few records appear under two names, one given by Velasquez or another Filipino worker, the other by Drouet. These instances of duplication are noted. The catalog of blue-green algal records is followed by a reconciliation of the two systems.

As though the foregoing ecological, taxonomic, and nomenclatural uncertainties were not enough, recently the inclusion of these organisms in the algae has been questioned. Placing greater importance on the lack of membrane-bounded organelles than on the presence of oxygen-evolving photosynthesis, certain workers (led by the late Roger Stanier) treat these organisms as bacteria (Cyanobacteria). Some of these workers appear to have little faith in their decision, however, as they publish articles on Cyanobacteria in phycological journals!

Order CHROOCOCCALES

Family CHROOCOCCACEAE

Anacystis Meneghini

Anacystis aeruginosa (Zanardini) Drouet and Daily

Palmogloea aeruginosa Zanardini, 1872:162, pl. IX.D [type locality: Cape Datu (Tandjoeng Datoek), boundary between Sarawak, Malaysia and West Kalimantan, Indonesia].

Anacystis aeruginosa (Zanardini) Drouet and Daily, 1948:77.—Velasquez, 1950:312.—Drouet and Daily, 1956:77.—Velasquez and Soriano, 1957:486.—Velasquez, 1962a:279, pl. 1: fig. 7.—Velasquez, Trono, and Doty, 1975:127.—Cordero, 1976c:10, 12.—Reyes, 1978:139, pl. 1: figs. 1, 2.—Martinez, 1984:24.

PHILIPPINE DISTRIBUTION.—BATANES. MINDORO: Oriental Mindoro. SIQUIJOR. PALAWAN.

Family ENTOPHYSALIDACEAE

Entophysalis Kützing

Entophysalis conferta (Kützing) Drouet and Daily

Palmella conferta Kützing, 1845:149 [type locality: Cuxhaven, West Germany].

Entophysalis conferta (Kützing) Drouet and Daily, 1948:79; 1956:118.—Velasquez, 1962a:281, pl. 1: fig. 9.—Velasquez, Trono, and Doty, 1975:143.—Martinez, 1984:36.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal, Manila.

Order NOSTOCALES

Family NOSTOCACEAE

Anabaina Bory de Saint-Vincent

This generic name is usually spelled *Anabaena,* an orthographic variant used by Bornet and Flahault (1888 [1886–1888]:224).

Anabaina pseudoscillatoria Bory de Saint-Vincent

Anabaina pseudoscillatoria Bory de Saint-Vincent, 1822:308 [*"pseudo-oscillatoria"*] [type locality: not specified; Everquem, near Gent, Belgium fide Drouet, 1978:157, 186].

Anabaina oscillarioides Bory de Saint-Vincent, 1831:29 [explanation of pl. LII: figs. 7*a–c*].—Drouet, 1978:195.—Cordero, 1981d:62, fig. 1.—Martinez, 1984:22.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. PANAY: Aklan. PALAWAN (incl. Cuyo I.).

NOTE.—Bory de Saint-Vincent changed the epithet of this specific name without explanation. He has been followed in this regard by all subsequent authors. The Oriental Mindoro record (*Velasquez 1045*) was previously published under *Hormothamnium enteromorphoides* (Velasquez, 1962a:351), while the Palawan records (*Velasquez 3019* and *Merrill 9158*) were previously published under *H. solutum* (Velasquez, 1955:175 and 1962a:351, respectively).

Hormothamnium Grunow

The variant spelling *Hormothamnion* was initiated by Bornet and Flahault (1888 [1886–1888]:259) and has been used by all subsequent authors.

Hormothamnium enteromorphoides Grunow

Hormothamnium enteromorphoides Grunow, 1867:31, pl. I: fig. 25 [type locality: Guadeloupe].—Velasquez, 1950:323; 1962a:350, pl. 10: fig. 120.—Reyes, 1978:141, pl. 2: figs. 5, 6.—Martinez, 1984:39.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. SIQUIJOR.

NOTE.—Drouet (1978:165, 195), after examining the holotype of this species (in W), assigned it to *Anabaina oscillarioides* Bory de Saint-Vincent (= *A. pseudoscillatoria* Bory de Saint-Vincent).

Hormothamnium solutum Bornet and Grunow

Hormothamnium solutum Bornet and Grunow in Bornet and Flahault, 1888 [1886–1888]:259 [lectotype locality: Nouméa, New Caledonia fide Drouet, 1978:166, 198].—Velasquez, 1955:175, pl. III: fig. 45; 1962a:351, pl. 10: figs. 121, 121*a*.—Martinez, 1984:39.

PHILIPPINE DISTRIBUTION.—PALAWAN (incl. Cuyo I.).

NOTE.—Drouet, after choosing and examining the lectotype of this species (in PC), assigned it to *Anabaina oscillarioides* Bory de Saint-Vincent (= *A. pseudoscillatoria* Bory de Saint-Vincent).

Family OSCILLATORIACEAE

Hydrocoleum Kützing

Hydrocoleum cantharidosmum (Montagne) Gomont

Lyngbya? cantharidosma Montagne, 1841 [1839–1842]:188 [type locality: Islas Canarias].

Hydrocoleum cantharidosmum (Montagne) Gomont, 1890:353.—Velasquez, 1950:319; 1962a:335, pl. 7: fig. 93.—Martinez, 1984:40.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:266, 297), after examining the holotype of this species (in PC), assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Hydrocoleum comoides (Harvey) Gomont

Calothrix comoides Harvey, 1863:lxii [lectotype locality: Port Phillip Heads, Victoria, Australia fide Drouet, 1968:276, 308; 1973:207].

Hydrocoleum comoides (Harvey) Gomont, 1892[1892–1893]:335.—Velasquez, 1962a:335.—Martinez, 1984:40.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—Although Harvey gave Cape Riche [Western Australia] as the only locality for *Calothrix comoides,* he cited two of his collections, numbers 597 and 598. The latter is from Port Phillip Heads and that specimen (in BM) was chosen as lectotype by Drouet, who assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Hydrocoleum glutinosum (C. Agardh) Gomont

Lyngbya glutinosa C. Agardh, 1824:73 [type locality: "In sinu Codano" (Kattegat, between Denmark and Sweden)].

Hydrocoleum glutinosum (C. Agardh) Gomont, 1890:353.—Velasquez, 1950:319; 1962a:334, pl. 7: fig. 92.—Martinez, 1984:40.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:263), incorrectly treating *Lyngbya glutinosa* as a nomenclatural synonym of *Conferva majuscula* Dillwyn (1809 [1802–1809]:40, suppl. pl. A), referred this species to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan on the basis of the Dillwyn type. In fact, C. Agardh (1824:73, 74) cited "*Osc. majuscula,* Lyngb. & fl. D. t. 1549. f. 1" under *Lyngbya glutinosa,* intending this citation to refer to a circumscription (Lyngbye, 1819:91) that

excluded the type of *Conferva majuscula,* which he cited in the synonymy of *Lyngbya crispa* (C. Agardh) C. Agardh, as "*Oscill. majuscula,* Dillw. t. A."

Hydrocoleum lyngbyaceum Kützing

Hydrocoleum lyngbyaceum Kützing, 1849:259 [lectotype locality: Cherbourg, France fide Drouet, 1968:272, 296].—Velasquez, 1950:318.—Agor, 1962:34.—Velasquez, 1962a:336, pl. 7: fig. 94.—Vannajan and Trono, 1977:36, fig. 4.—Fortes, 1981b:396.—Martinez, 1984:40.

Microcoleus lyngbyaceus (Kützing) P. Crouan and H. Crouan, 1867:114.—Drouet, 1968:306–307.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.), Ilocos Sur, Pangasinan, Manila. MINDORO: Oriental Mindoro. CEBU. SULU: Tawitawi.

NOTE.—Drouet (1968:224–225) placed *Hydrocoleum* and *Lyngbya,* among other genera, in the synonymy of *Microcoleus.* The records for Ilocos Sur, Cebu, and Tawitawi, which were added by Drouet, are based on collections previously reported under *Phormidium ambiguum* (Velasquez, 1962a:306), *Lyngbya confervoides* (Velasquez, 1940:271; 1962a:321), and *L. majuscula* (Velasquez, 1955:167), respectively.

Lyngbya C. Agardh

Lyngbya aestuarii (Mertens) Liebman

Conferva aestuarii Mertens in Jürgens, 1816: decade 2, no. 8 [type locality: "Dynastia Jeverana" (Oldenburg, West Germany)].

Lyngbya aestuarii (Mertens) Liebman, 1839:492.—Velasquez, 1941:193; 1955:166, pl. II: fig. 25; 1962a:317, pl. 3: fig. 65.—Cordero, 1976c:14; 1979b:278; 1981d:62, fig. 2.—Martinez, 1984:41.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Pangasinan, Rizal. PANAY: Aklan. PALAWAN (Cuyo I.).

NOTE.—Drouet (1968:263, 292) chose a specimen in L as the lectotype of this species and assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Lyngbya confervoides C. Agardh

Lyngbya confervoides C. Agardh, 1824:73 [lectotype locality: Spain (probably Cádiz) fide Drouet, 1968:264].—Velasquez, 1940:271; 1950:318.—Agor, 1962:33; Velasquez, 1962a:321, pl. 3: fig 67.—Reyes, 1978:139, pl. 1: figs. 9, 10.—Saraya and Trono, 1980:6.—Velasquez, 1980:127, table 1.—Fortes, 1981b:396.—Martinez, 1984:41.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro. CEBU. SIQUIJOR.

NOTE.—Drouet (1968:264, 296) chose a specimen in LD as the lectotype of this species and assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Lyngbya ferruginea C. Agardh

Lyngbya ferruginea C. Agardh, 1824:73 [type locality: "In sinu ad Hofmansgave Fioniae" (Fyn, Denmark)].—Dickie, 1877:489.—Velasquez, Trono, and Doty, 1975:152.—Martinez, 1984:42.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

NOTE.—Drouet (1968:264, 292), after examining the holotype of this species (in LD) assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Lyngbya infixa Frémy

Lyngbya infixa Frémy, 1932:1414 [type locality: Banyuls-sur-Mer, Pyrénées-Orientales, France].—Cordero, 1976c:14.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—Drouet (1968:52, 73) chose a specimen in the personal herbarium of J. Feldmann as the lectotype of this species and assigned it to *Schizothrix calcicola* (C. Agardh) Gomont.

Lyngbya lutea (C. Agardh) J.E. Areschoug

Oscillatoria lutea C. Agardh, 1824:68 [type locality: Hälsingborg, Sweden].

Lyngbya lutea (C. Agardh) J.E. Areschoug, 1850:443.—Fortes and Trono, 1980:53.—Martinez, 1984:42.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:185, 188), after examining the holotype of this species (in LD), retained its original disposition, as *Oscillatoria lutea* C. Agardh.

Lyngbya majuscula (Dillwyn) Harvey

Conferva majuscula Dillwyn, 1809 [1802–1809]:40, suppl. pl. A [lectotype locality: England fide Drouet, 1968:263].

Lyngbya majuscula (Dillwyn) Harvey, 1833:370.—Dickie, 1876a:245.—Velasquez, 1940:271; 1950:317; 1955:167, pl. II: fig. 26.—Velasquez and Soriano, 1957:486.—Agor, 1962:33.—Velasquez, 1962a:319, pl. 4: fig. 68; 1971:428, fig. 3.—Cornejo and Velasquez, 1972:171, pl. 1: fig. 1; pl. 4: fig. 28.—Reyes, 1972:135.—Velasquez, Trono, and Doty, 1975:152.—Cordero, 1976c:10, 14, fig. A.—Vannajan and Trono, 1977:37.—Reyes, 1978:139, pl. 1: figs. 7, 8.—Trono, 1978:2.—Saraya and Trono, 1980:6.—Liao and Sotto, 1980:94.—Chan, 1981:387, 389.—Fortes, 1981b:396.—Trono and Ang, 1982:2.—Martinez, 1984:42.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Pangasinan, Bataan, Cavite, Batangas. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. NEGROS: Negros Oriental. CEBU. SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (incl. Bugsuk I., Cuyo I.). SULU: Sulu (Tapul Group), Tawitawi.

NOTE.—Drouet (1968:263, 295) chose a specimen in LD as the lectotype of this species and assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Lyngbya martensiana Meneghini

Lyngbya martensiana Meneghini, 1837:330 [type locality: Euganean thermal springs, Veneto, Italy].—Agor, 1962:33.—Velasquez, 1980:127, table 1.—Martinez, 1984:43.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:266, 295), after examining the holotype of this species (in FI), assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Lyngbya mesotricha Skuja

Lyngbya mesotricha Skuja, 1949:54 [type locality: Burma (Rangoon fide Drouet, 1968:54, 87)]—Fortes and Trono, 1980:53.—Martinez, 1984:43.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:54, 87) chose a specimen in PH as the lectotype of this species and assigned it to *Schizothrix calcicola* (C. Agardh) Gomont.

Lyngbya rosea W.R. Taylor

Lyngbya rosea W.R. Taylor, 1928:45, pl. 1: fig. 22 [type locality: Dry Tortugas, Florida, USA].—Vannajan and Trono, 1977:37.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

NOTE.—Drouet (1968:91, 95), after examining the holotype of this species (in the personal herbarium of W.R. Taylor), assigned it to *Schizothrix mexicana* Gomont.

Lyngbya semiplena (C. Agardh) J. Agardh

Calothrix semiplena C. Agardh, 1827:634 [type locality: Trieste, Italy].
Lyngbya semiplena (C. Agardh) J. Agardh, 1842:11.—Agor, 1962:33.—Velasquez, 1962a:319, pl. 3: fig. 66.—Reyes, 1978:140, pl. 1: figs. 11, 12.—Martinez, 1984:44.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro. SIQUIJOR.

NOTE.—Drouet (1968:264–265, 295), after examining the holotype of this species (in LD), assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Lyngbya sordida Gomont

Lyngbya sordida Gomont, 1893[1892–1893]:126, pl. 2: fig. 21 [lectotype locality: Dalmatian coast of Yugoslavia; see Note].—Velasquez, 1940:270; 1962a:316, pl. 3: fig. 64.—Cordero, 1976c:14, fig. B.—Martinez, 1984:44.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.). MINDORO: Oriental Mindoro. CEBU.

NOTE.—Drouet (1968:88) treated *Lyngbya sordida* Gomont as a nomenclatural synonym of *Leibleinia capillacea* Kützing (1843b:221), which he referred to *Schizothrix mexicana* Gomont. When establishing *Lyngbya sordida,* however, Gomont listed *Leibleinia capillacea* as a *species inquirenda,* so that the two names do not share the same type. For the distribution of *Lyngbya sordida,* Gomont gave several localities in the North Atlantic Ocean and Mediterranean Sea as well as the Antilles and Tonga. When later starting points in Cyanophyceae are abandoned, as in the present catalog, *L. sordida* is seen to be a superfluous name, since Gomont included in its synonymy several legitimate names, the earliest being *Leibleinia polychroa* and *L. violacea,* both published by Meneghini (1844:304) and both transferred to *Lyngbya* by Rabenhorst (1847:83 and 1865:144, respectively). The type specimens of the Meneghini species should be in his herbarium in FI, but Drouet chose specimens distributed by Meneghini and housed in L. We herewith choose the type of *Leibleinia polychroa* as the lectotype of *Lyngbya sordida.* Gomont did not purposely by-pass Meneghini's names; rather, he thought that *Calothrix sordida* Zanardini (1843:63) was an earlier available name. That name was published without a description, however, and is thus invalid. Moreover, *Lyngbya sordida* Gomont is a later homonym of *L. sordida* P. Crouan and H. Crouan (in Mazé and Schramm, 1878:21), based on *Leibleinia sordida* Kützing (1845:179), an illegitimate substitute name for *Calothrix luteofusca* C. Agardh (1827:635).

Microcoleus Desmazières

Microcoleus acutissimus Gardner

Microcoleus acutissimus Gardner, 1927a:55, pl. 11: fig. 2 [type locality: Sabana Grande, Puerto Rico].—Velasquez, 1962a:332, pl. 6: figs. 89, 89a.—Fortes and Trono, 1980:54.—Fortes, 1981b:396.—Martinez, 1984:47.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:135, 139), after examining the holotype of this species (in NY), assigned it to *Schizothrix tenerrima* (Gomont) Drouet.

Microcoleus tenerrimus Gomont

Microcoleus tenerrimus Gomont, 1892[1892–1893]:355, pl. 14: figs. 9–11 [lectotype locality: Guadeloupe fide Drouet, 1968:135, 139].
Schizothrix tenerrima (Gomont) Drouet, 1968:135 [including Philippine record on page 140].

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—This record (*Velasquez 723*) had previously been published under *Microcoleus acutissimus* (Velasquez, 1962a:332).

Oscillatoria Vaucher

Oscillatoria bonnemaisonii (P. Crouan and H. Crouan) P. Crouan and H. Crouan

Oscillaria bonnemaisonii P. Crouan and H. Crouan in Desmazières, 1858: no. 537 [type locality: passage de Plougastel, Finistère, France].
Oscillatoria bonnemaisonii (P. Crouan and H. Crouan) P. Crouan and H. Crouan, 1860:371.—Velasquez, 1950:315; 1962a:288, pl. 1: fig. 16.—Cordero, 1976c:10, 15, figs. C, D.—Velasquez, 1980:127, table 1.—Martinez, 1984:57.

PHILIPPINE DISTRIBUTION.—BATANES. MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:274, 296) chose a specimen in PC as the lectotype of this species and assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Oscillatoria corallinae (Kützing) Gomont

Leibleinia corallinae Kützing, 1849:276 [type locality: "ad oras gallicas boreales" (Arromanches-les-Bains, Calvados, France fide Drouet, 1968:272, 296)].
Oscillatoria corallinae (Kützing) Gomont, 1893[1892–1893]:218.—Velasquez, 1962a:288, pl. 1: fig. 17.—Fortes, 1981b:396.—Martinez, 1984:59.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan. MINDANAO: Zamboanga.

NOTE.—Drouet (1968:272, 296), after examining the holotype of this species (in L), assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Oscillatoria curviceps C. Agardh

Oscillatoria curviceps C. Agardh, 1824:68 [type locality: "In stagnis Scaniae" (near Lund, Sweden fide Drouet, 1968:264, 291)].—Fortes and Trono, 1980:52.—Fortes, 1981b:396.—Martinez, 1984:59.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:264, 291), after examining the holotype of this species (in LD), assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Oscillatoria margaritifera (Kützing) Gomont

Oscillaria margaritifera Kützing, 1847b:31, pl. 43: fig. X [type locality: Calvados, France].
Oscillatoria margaritifera (Kützing) Gomont, 1893[1892–1893]:216.—Velasquez, 1962a:293, pl. 2: fig. 23.—Vannajan and Trono, 1977:36, fig. 1b.—Saraya and Trono, 1980:6.—Chan, 1981:387, 389.—Martinez, 1984:62.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite. MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:270, 296), after examining the holotype of this species (in L), assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Oscillatoria nigroviridis Thwaites

Oscillatoria nigroviridis Thwaites in Harvey, 1849 [1847–1851]: pl. CCL1:A ["*nigro-viridis*"] [type locality: Shirehampton near Bristol, England].—Velasquez, 1962a:293, pl. 2: fig. 24.—Fortes and Trono, 1980:52.—Fortes, 1981b:396.—Martinez, 1984:63.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal. MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:145, 154) chose a specimen in K (now in BM) as the lectotype of this species and assigned it to *Porphyrosiphon notarisii* (Meneghini) Kützing.

Oscillatoria sancta (Kützing) Gomont

Oscillaria sancta Kützing, 1847b:30, pl. 42: fig. VII [type locality: "In der 'Acqua santa'" (near Roma, Italy fide Drouet, 1968:270, 294)].
Oscillatoria sancta (Kützing) Gomont, 1893[1892–1893]:209.—Fortes and Trono, 1980:53, fig. 1.—Fortes, 1981b:396.—Martinez, 1984:65.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:270, 294), after examining the holotype of this species (in L), assigned it to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Phormidium Kützing

Phormidium ambiguum Gomont

Amphithrix amoena Kützing, 1843b:220 [type locality: Nordhausen, East Germany].
Phormidium ambiguum Gomont, 1893[1892–1893]:178, pl. 5: fig. 10.—Velasquez, 1962a:306, pl. 3: fig. 50.—Martinez, 1984:68.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Sur.

NOTE.—*Phormidium ambiguum* was proposed as a substitute name for *Amphithrix amoena* Kützing in consideration of the prior existence of *P. amoenum* Kützing (1843b:192). Drouet (1968:232, 246), after examining the holotype of *A. amoena* (in L), assigned it to *Microcoleus vaginatus* (Vaucher) Gomont. The Ilocos Sur record, however, was referred by Drouet (1968:307) to *Microcoleus lyngbyaceus* (Kützing) P. Crouan and H. Crouan.

Phormidium crosbyanum Tilden

Phormidium crosbyanum Tilden, 1909: no. 645 [type locality: Waianae, Oahu, Hawaiian Is.].—Velasquez, 1940:271; 1950:316; 1955:165, pl. 1: fig. 20; 1962a:304, pl. 2: fig. 46; 1971:427, fig. 2.—Reyes, 1972:135.—Velasquez, Trono, and Doty, 1975:159.—Cordero, 1976c:10, 15; 1981d:63, fig. 3.—Martinez, 1984:68.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. MINDORO: Oriental Mindoro. PANAY: Aklan. NEGROS: Negros Oriental. SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—Drouet (1968:48, 83), after examining the holotype of this species (in MIN), assigned it to *Schizothrix calcicola* (C. Agardh) Gomont.

Phormidium laysanense Lemmermann

Phormidium laysanense Lemmermann, 1905:619, pl. VII: figs. 4, 5 [type locality: Laysan Islet, Hawaiian Is.].—Agor, 1962:33.—Martinez, 1984:69.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—Drouet (1968:213), on the basis of the original description, assigned this species to *Oscillatoria erythraea* (Ehrenberg) Drouet. Although the latter species (better known as *Trichodesmium erythraeum* Ehrenberg) is generally planktonic, Agor (l.c.) reported his material as being epiphytic on brown algae.

Phormidium penicillatum Gomont

Phormidium penicillatum Gomont, 1893:LXXXVIII, pl. IV: figs. 5–7; in Jadin, 1893:CLIX ["*penicellatum*"] [type locality: Saint-Gilles, Réunion].—Velasquez, 1962a:306.—Martinez, 1984:70.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.). MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:204, 212), after examining the holotype of this species (in PC), assigned it to *Oscillatoria submembranacea* (Ardissone and Strafforello) Drouet.

Phormidium persicinum (Reinke) Gomont

Lyngbya persicina Reinke, 1889:91 [type locality: Kieler Bucht, West Germany].

Phormidium persicinum (Reinke) Gomont, 1893[1892–1893]:164.—Velasquez, 1962a:301, pl. 2: fig. 41.—Reyes, 1978:139, pl. 1: figs. 5, 6.—Martinez, 1984:70.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. SIQUIJOR.

NOTE.—Drouet (1968:43, 68) chose a specimen in PC as the lectotype of this species and assigned it to *Schizothrix calcicola* (C. Agardh) Gomont.

Phormidium submembranaceum (Ardissone and Strafforello) Gomont

Oscillaria submembranacea Ardissone and Strafforello, 1877:65 [type locality: Porto Maurizio, Liguria, Italy].

Phormidium submembranaceum (Ardissone and Strafforello) Gomont, 1893[1892–1893]:180.

Oscillatoria submembranacea (Ardissone and Strafforello) Drouet, 1968: 203 [including Philippine records on page 212].

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.). MINDORO: Oriental Mindoro.

NOTE.—These records were previously published as *Phormidium penicillatum* Gomont by Velasquez (1962a:306).

Phormidium tinctorium Kützing

Phormidium tinctorium Kützing, 1847b:35, pl. 49: fig. III [type locality: Falaise, Calvados, France].—Cornejo and Velasquez, 1972:171, pl. 1: fig. 2.—Velasquez, Trono, and Doty, 1975:159.—Martinez, 1984:71.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

NOTE.—Drouet (1968:100, 105), after examining the holotype of this species (in L), assigned it to *Schizothrix friesii* (C. Agardh) Gomont.

Phormidium valderiae (Delponte) Schmidle

Leptothrix valderiae Delponte in Garelli, 1857:35 ["*valderia*"] [type locality: Valdieri, Piemonte, Italy].

Phormidium valderiae (Delponte) Schmidle, 1901:100, footnote.

Phormidium valderianum Gomont, 1893[1892–1893]:167—Velasquez, 1955:164, pl. I: fig. 19; 1962a:305, pl. 3: fig. 48.—Martinez, 1984:72.

PHILIPPINE DISTRIBUTION.—PALAWAN.

NOTE.—*Phormidium valderianum* was proposed as a substitute name for *Leptothrix valderiae*. When later starting points are abandoned, the correct name for this species becomes *P. valderiae*. Drouet (1968:38, 71) chose a specimen in PC as the lectotype of this species and assigned it to *Schizothrix calcicola* (C. Agardh) Gomont.

Schizothrix Kützing

Schizothrix mexicana Gomont

Schizothrix mexicana Gomont, 1892[1892–1893]:304 [type locality: Río Guatulco, Oaxaca, Mexico].—Drouet, 1968:98.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. CEBU.

NOTE.—The Mindoro records (*Velasquez 871, 988*) had previously been published under *Lyngbya majuscula* (Velasquez, 1962a:320) and *L. sordida* (Velasquez, 1962a:317), respectively.

Sirocoleum Kützing

Sirocoleum kurzii (Zeller) Gomont

Chthonoblastus kurzii Zeller, 1873:178 [type locality: Elephant Point, Pegu, Burma].

Sirocoleum kurzii (Zeller) Gomont, 1892[1892–1893]:349.

Porphyrosiphon kurzii (Zeller) Drouet, 1968:162 [including Philippine record on page 164].

PHILIPPINE DISTRIBUTION.—LUZON: Rizal.

Spirulina Turpin

Spirulina major Kützing

Spirulina major Kützing, 1843b:183 [lectotype locality: Weissenfels, East Germany fide Drouet, 1968:17, 20].—Velasquez, 1980:127, table 1.—Martinez, 1984:82.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1968:17, 20) chose a specimen in L as the lectotype of this species and assigned it to *Spirulina subsalsa* Oersted.

Symploca Kützing

Symploca howei Gardner

Symploca howei Gardner, 1932:283, fig. 1, pl. 2: fig. 9 [type locality: Cayo Don Luis near Point Montalva, Puerto Rico].—Velasquez and Soriano, 1957:486.—Reyes, 1972:135.—Velasquez, Trono, and Doty, 1975: 163.—Reyes, 1978:140, pl. 2: fig. 1, 2.—Martinez, 1984:85.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental. SIQUIJOR.

NOTE.—Drouet (1968:92, 95), after examining the holotype of this species (in NY), assigned it to *Schizothrix mexicana* Gomont.

Symploca hydnoides (Harvey) Kützing

Calothrix hydnoides Harvey, 1833:368 [type locality: Appin, Argyll, Scotland].
Symploca hydnoides (Harvey) Kützing, 1849:272.—Velasquez, 1962a:312, pl. 3: fig. 59.—Reyes, 1972:136.—Velasquez, Trono, and Doty, 1975:164.—Reyes, 1978:140, pl. 1: figs. 13, 14.—Saraya and Trono, 1980:7.—Liao and Sotto, 1980:94.—Martinez, 1984:85.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.), Pangasinan. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental. CEBU. SIQUIJOR.

NOTE.—Drouet (1968:310; 1973:177, 185) chose a specimen in LD as the lectotype of this species and assigned it to *Calothrix crustacea* Thuret.

Symploca laeteviridis Gomont

Symploca laeteviridis Gomont, 1893[1892–1893]:109, pl. 2: figs. 6–8 [type locality: Key West, Florida, USA].—Velasquez, 1955:168, pl. II: fig. 28; 1962a:311, pl. 3: fig. 58.—Martinez, 1984:85.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. SULU: Tawitawi.

NOTE.—Drouet (1968:111, 118), after examining the holotype of this species (in PC), assigned it to *Schizothrix arenaria* (Berkeley) Gomont.

Family RIVULARIACEAE

Calothrix C. Agardh

Calothrix aeruginea (Kützing) Thuret

Leibleinia aeruginea Kützing, 1843b:221 [type locality: Trieste, Italy].
Calothrix aeruginea (Kützing) Thuret, 1875:381.—Fortes and Trono, 1980:54, fig. 2.—Fortes, 1981b:396.—Martinez, 1984:28.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1973:168, 184), after examining the holotype of this species (in L), assigned it to *Calothrix crustacea* Thuret.

Calothrix confervicola (Dillwyn) C. Agardh

Conferva confervicola Dillwyn, 1802 [1802–1809]: pl. 8 [lectotype locality: Aberystwyth, Wales fide Drouet, 1973:164].
Calothrix confervicola (Dillwyn) C. Agardh, 1824:70.—Velasquez, 1962a:353, pl. 10: fig. 125.—Martinez, 1984:28.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.).

NOTE.—Drouet (1973:163–164) chose a specimen in OXF as the lectotype of this species and assigned it to *Calothrix crustacea* Thuret.

Calothrix contarenii (Zanardini) Bornet and Flahault

Rivularia contarenii Zanardini, 1840a:134 [lectotype locality: Venezia, Italy fide Drouet, 1973:167, 184].
Calothrix contarenii (Zanardini) Bornet and Flahault, 1886a [1886–1888]:355.—Saraya and Trono, 1980:7.—Martinez, 1984:29.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—Drouet (1973:166–167, 184) chose a specimen in PC as the lectotype of this species and assigned it to *Calothrix crustacea* Thuret.

Calothrix crustacea Thuret

Calothrix crustacea Thuret in Bornet and Thuret, 1876:13, pl. IV: figs. 1–6 [lectotype locality: Tangiers, Morocco fide Drouet, 1973:175, 186].—Fan, 1956:176.—Drouet, 1973:194.—Martinez, 1984:29.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.), Ilocos Sur. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. PALAWAN. SULU: Tawitawi.

NOTE.—These records have also been reported as follows: Cagayan under *Calothrix confervicola* (Velasquez, 1962a:353), Ilocos Sur under *C. parietina* (Fan, 1956:168), Oriental Mindoro (*Velasquez 1076*) under *Brachytrichia maculans* (Velasquez, 1962a: 356), Palawan under *Rivularia bullata* (Velasquez, 1962a:355), and Tawitawi under *Calothrix pilosa* (Velasquez, 1955:181).

Calothrix epiphytica W. West and G.S. West

Calothrix epiphytica W. West and G.S. West, 1897:240 [type locality: Mossâmedes, Angola].—Cornejo and Velasquez, 1972:172, pl. 1: fig. 6.—Velasquez, Trono, and Doty, 1975:130.—Martinez, 1984:29.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

NOTE.—Drouet (1973:121, 150) chose a specimen in UC as the lectotype of this species and assigned it to *Calothrix parietina* (Nägeli ex Kützing) Thuret.

Calothrix parietina (Nägeli ex Kützing) Thuret

Schizosiphon parietinus Nägeli ex Kützing, 1849:327 [type locality: Zürich, Switzerland].
Calothrix parietina (Nägeli ex Kützing) Thuret, 1875:381.—Fan, 1956: 168.—Martinez, 1984:29.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Sur.

NOTE.—This record has also been reported under *Phormidium ambiguum* (Velasquez, 1962a:306) and *Calothrix crustacea* (Drouet, 1973:194).

Calothrix pilosa Harvey

Calothrix pilosa Harvey, 1858:106, pl. XLVIII.c [type locality: Key West, Florida, USA].—Velasquez, 1940:269; 1950:323; 1955:181, pl. V: figs. 57*a*, 57*b*.—Fan, 1956:171–172.—Velasquez, 1962a:353, pl. 10: figs. 123, 123*a*.—Martinez, 1984:29.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon. MINDORO: Oriental Mindoro. LEYTE (Biliran I.). SULU: Tawitawi.

NOTE.—Drouet (1973:39, 77) chose a specimen in K (in BM) as the lectotype of this species and assigned it to *Scytonema hofmannii* C. Agardh [= *S. hofman-bangii* C. Agardh].

Calothrix robusta Setchell and Gardner

Calothrix robusta Setchell and Gardner in Gardner, 1918:473, pl. 40: fig. 22 [type locality: Cypress Point, Monterey County, California, USA].—Velasquez, 1950:324.—Martinez, 1984:30.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1973:177, 190), after examining the holotype of this species (in UC), assigned it to *Calothrix crustacea* Thuret.

Calothrix scopulorum (Weber and Mohr) C. Agardh

Conferva scopulorum Weber and Mohr, 1804:195, pl. 3: fig. 3 [type locality: Varberg, Sweden].

Calothrix scopulorum (Weber and Mohr) C. Agardh, 1824:70.—Fortes and Trono, 1980:54.—Fortes, 1981b:396.—Martinez, 1984:30.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1973:164, 183) chose a specimen in K (in BM) as the lectotype of this species and assigned it to *Calothrix crustacea* Thuret.

Calothrix viguieri Frémy

Calothrix viguieri Frémy, 1930:252, fig. 226 [type locality: Gabon].—Cornejo and Velasquez, 1972:172, pl. 1: fig. 5.—Velasquez, Trono, and Doty, 1975:130.—Martinez, 1984:30.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

NOTE.—Drouet (1973:131), on the basis of the original description, assigned this species to *Calothrix parietina* (Nägeli ex Kützing) Thuret.

Dichothrix Zanardini

Dichothrix gypsophila (Kützing) Bornet and Flahault

Schizosiphon gypsophilus Kützing, 1843b:234, pl. 6: fig. II [type locality: "An Gypswänden des südlichen Harzes" (Sachswerfen, near Nordhausen, East Germany fide Drouet, 1973:104)].

Dichothrix gypsophila (Kützing) Bornet and Flahault, 1886a [1886–1888]:377.—Cornejo and Velasquez, 1972:172, pl. 1: fig. 4.—Velasquez, Trono, and Doty, 1975:140.—Martinez, 1984:35.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

NOTE.—Drouet (1973:103–104, 145), after examining the holotype of this species (in L), assigned it to *Calothrix parietina* (Nägeli ex Kützing) Thuret.

Gardnerula De Toni f.

Gardnerula corymbosa (Harvey) De Toni f.

Microcoleus corymbosus Harvey, 1858:109, pl. XLVIII:B [type locality: Key West, Florida, USA].

Gardnerula corymbosa (Harvey) De Toni f., 1936:[5].—Velasquez, 1940:270; 1950:327; 1962a:355, pl. 10: figs. 128, 128*a*, 128*b*.—Reyes, 1978:142, pl. 2: figs. 14–17.—Martinez, 1984:37.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon. MINDORO: Oriental Mindoro. SIQUIJOR.

NOTE.—Drouet (1973:173, 189), after examining the holotype of this species (in TCD), assigned it to *Calothrix crustacea* Thuret.

Rivularia C. Agardh

Rivularia bullata (Poiret) Berkeley

Ulva bullata Poiret, 1808:175 [type locality: Siriac, Bretagne, France].

Rivularia bullata (Poiret) Berkeley, 1833:8.—Velasquez, 1962a:355, pl. 10: fig. 127.—Reyes, 1978:141, pl. 2: figs. 12, 13.—Martinez, 1984:75.

PHILIPPINE DISTRIBUTION.—SIQUIJOR. PALAWAN.

NOTE.—Drouet (1973:165, 185), after examining the holotype of this species (in PC), assigned it to *Calothrix crustacea* Thuret.

Rivularia mesenterica (Kützing) Thuret

Heteractis mesenterica Kützing, 1843b:236 [type locality: Pula, Yugoslavia].

Rivularia mesenterica (Kützing) Thuret, 1875:382.—Reyes, 1978:141, pl. 2: figs. 7–9.—Martinez, 1984:76.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

NOTE.—Drouet (1973:168–169, 184), after examining the holotype of this species (in L), assigned it to *Calothrix crustacea* Thuret.

Rivularia nitida C. Agardh

Rivularia nitida C. Agardh, 1812 [1810–1812]:44 [type locality: Stockholm, Sweden].—Fortes and Trono, 1980:55, fig. 3.—Fortes, 1981b: 396.—Martinez, 1984:76.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1973:165, 183), being unable to find original material of this species, chose a specimen in LD (from Båstad, Sweden) as a neotype and assigned it to *Calothrix crustacea* Thuret.

Rivularia polyotis (J. Agardh) Hauck

Diplotrichia polyotis J. Agardh, 1842:10 [type locality: Pag I., Yugoslavia].
Rivularia polyotis (J. Agardh) Hauck, 1884 [1883–1885]:495.—Reyes, 1978:141, pl. 2: figs. 10, 11.—Martinez, 1984:76.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

NOTE.—Drouet (1973:167–168, 184), after examining the holotype of this species (in LD), assigned it to *Calothrix crustacea* Thuret.

Family SCYTONEMATACEAE

Scytonema C. Agardh

Scytonema hofman-bangii C. Agardh

Scytonema hofman-bangii C. Agardh, 1812 [1810–1812]:39 [*"hoffman-bangii"*] [type locality: Jäder, Västmanland, Sweden].
Scytonema hofmanii C. Agardh, 1817:117 [*"hofmannii"*].—Velasquez, 1950:325; 1962a:363, pl. 12: fig. 138.—Drouet, 1973:91–92.—Martinez, 1984:79.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon. MINDORO: Oriental Mindoro.

NOTE.—*Scytonema hofmannii* was proposed as a substitute name for *S. hoffman-bangii*. Both epithets commemorate the Danish botanist, Niels Hofman Bang (for whom the red alga *Bangia* is also named), so that neither is correctly spelled. When later starting points are abandoned, the correct name for this species becomes *Scytonema hofman-bangii*. The Quezon record was previously published under *Calothrix pilosa* (Velasquez, 1940:270).

Order STIGONEMATALES

Family MASTIGOCLADACEAE

Brachytrichia Zanardini

Brachytrichia maculans Gomont

Brachytrichia maculans Gomont, 1901:210, pl. 5: figs. 5–7 [type locality: Lem Dan, Ko Chang Archipelago, Thailand].—Velasquez, 1962a: 356.—Martinez, 1984:28.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Drouet (1973:177, 194), after examining the holotype of this species (in PC), assigned it to *Calothrix crustacea* Thuret.

Brachytrichia quoyi (C. Agardh) Bornet and Flahault

Nostoc quoyi C. Agardh, 1824:22 [*"quoji"*] [type locality: Mariana Is.].
Brachytrichia quoyi (C. Agardh) Bornet and Flahault, 1886b [1886–1888]:373.—Velasquez, 1940:270; 1950:325; 1955:180, pl. V: fig. 55.—Velasquez and Soriano, 1957:486.—Velasquez, 1962a:356, pl. 11: fig. 129.—Villones and Magdamo, 1968:11, fig. 2.—Velasquez, 1971:428, fig. 4.—Reyes, 1972:135.—Velasquez, Trono, and Doty, 1975:130.—Drouet, 1981:107.—Fortes, 1981b:396.—Cordero, 1984a:69.—Marcos-Agngarayngay, 1983:65, fig. 3.—Cordero, 1984b:57.—Martinez, 1984:28.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Ilocos Sur, Batangas, Quezon, Albay. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental. PALAWAN (incl. Cuyo I.).

RECONCILIATION WITH THE DROUETIAN SYSTEM

Philippine Cyanophyceae arranged according to the Drouetian classification (synonyms indented beneath accepted names):

Order Chroococcales
  Family Chamaesiphonaceae
    Entophysalis conferta (Kützing) Drouet and Daily
  Family Chroococcaceae
    Anacystis aeruginosa (Zanardini) Drouet and Daily
Order Hormogonales
  Family Nostocaceae
    Anabaina oscillarioides Bory de Saint-Vincent
      Anabaina pseudoscillatoria Bory de Saint-Vincent
      Hormothamnium enteromorphoides Grunow
      H. solutum Bornet and Grunow
    Calothrix crustacea Thuret
      Brachytrichia maculans Gomont
      Calothrix aeruginea (Kützing) Thuret
      C. confervicola (Dillwyn) C. Agardh
      C. contarenii (Zanardini) Bornet and Flahault
      C. robusta Setchell and Gardner
      C. scopulorum (Weber and Mohr) C. Agardh
      Gardnerula corymbosa (Harvey) De Toni f.
      Rivularia bullata (Poiret) Berkeley
      R. mesenterica (Kützing) Thuret
      R. nitida C. Agardh
      R. polyotis (J. Agardh) Hauck
      Symploca hydnoides (Harvey) Kützing
    Calothrix parietina (Nägeli ex Kützing) Thuret
      Calothrix epiphytica W. West and G.S. West
      C. viguieri Frémy
      Dichothrix gypsophila (Kützing) Bornet and Flahault
    Scytonema hofmannii C. Agardh [= *S. hofman-bangii* C. Agardh]
      Calothrix pilosa Harvey
  Family Oscillatoriaceae
    Microcoleus lyngbyaceus (Kützing) P. Crouan and H. Crouan
      Hydrocoleum lyngbyaceum Kützing
      H. cantharidosmum (Montagne) Gomont
      H. comoides (Harvey) Gomont
      H. glutinosum (C. Agardh) Gomont
      Lyngbya aestuarii (Mertens) Liebman
      L. confervoides C. Agardh
      L. ferruginea C. Agardh
      L. majuscula (Dillwyn) Harvey

L. martensiana Meneghini
L. semiplena (C. Agardh) J. Agardh
Oscillatoria bonnemaisonii (P. Crouan and H. Crouan) P. Crouan and H. Crouan
O. corallinae (Kützing) Gomont
O. curviceps C. Agardh
O. margaritifera (Kützing) Gomont
O. sancta (Kützing) Gomont
M. vaginatus (Vaucher) Gomont
Phormidium ambiguum Gomont
Oscillatoria erythrea (Ehrenberg) Drouet
Phormidium laysanense Lemmermann
O. lutea C. Agardh
Lyngbya lutea (C. Agardh) J.E. Areschoug
O. submembranacea (Ardissone and Strafforello) Drouet
Phormidium submembranaceum (Ardissone and Strafforello) Gomont
P. penicillatum Gomont
Porphyrosiphon kurzii (Zeller) Drouet
Sirocoleum kurzii (Zeller) Gomont
P. notarisii (Meneghini ex Kützing) Kützing
Oscillatoria nigroviridis Thwaites
Schizothrix arenaria (Berkeley) Gomont
Symploca laeteviridis Gomont
S. calcicola (C. Agardh) Gomont
Lyngbya infixa Frémy
L. mesotricha Skuja
Phormidium crosbyanum Tilden
P. persicinum (Reinke) Gomont
P. valderiae (Delponte) Schmidle
S. friesii (C. Agardh) Gomont
Phormidium tinctorium Kützing
S. mexicana Gomont
Lyngbya rosea W.R. Taylor
L. sordida Gomont [uncertain; see entry in Catalog]
Symploca howei Gardner
S. tenerrima (Gomont) Drouet
Microcoleus tenerrimus Gomont
M. acutissimus Gardner
Spirulina subsalsa Oersted
Spirulina major Kützing
Family Stigonemataceae
Brachytrichia quoyi (C. Agardh) Bornet and Flahault

Class RHODOPHYCEAE

Subclass BANGIOPHYCIDAE

Order GONIOTRICHALES

Family GONIOTRICHACEAE

Chroodactylon Hansgirg

Chroodactylon ornatum (C. Agardh) Basson

Conferva ornata C. Agardh, 1824:104 [type locality: Lake Mälaren, Stockholm, Sweden].
Asterocytis ornata (C. Agardh) Hamel, 1924:451.—Meñez and Calumpong, 1981:380 [*"Asterocystis"*].—Saraya and Trono, 1982:25.
Chroodactylon ornatum (C. Agardh) Basson, 1979:67.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CENTRAL VISAYAS.

Goniotrichum Kützing

Goniotrichum alsidii (Zanardini) Howe

Bangia alsidii Zanardini, 1840a:136 [type locality: Trieste, Italy].
Goniotrichum alsidii (Zanardini) Howe, 1914:75.—Meñez and Calumpong, 1981:380.
Bangia elegans Chauvin, 1842:33 [type locality: Arromanches-les-Bains, Calvados, France].
Goniotrichum elegans (Chauvin) Zanardini, 1847:249.—Weber-van Bosse, 1921:187.—Velasquez, Trono, and Doty, 1975:146.—Chan, 1981: 387.—Saraya and Trono, 1982:25, pl. I: fig. 1.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CENTRAL VISAYAS. SULU: Tawitawi (Sangasiapu I.)

NOTE.—The conspecificity of *Bangia alsidii* and *Goniotrichum elegans* was proposed by Zanardini (1873:457), who, however, considered *B. alsidii* a variety of *G. elegans*. The varietal distinction is not usually recognized, but if it is, *G. elegans* must be subordinated to *G. alsidii*.

Order BANGIALES

Family ERYTHROPELTIDACEAE

Erythrocladia Rosenvinge

Erythrocladia irregularis Rosenvinge

Erythrocladia irregularis Rosenvinge, 1909:72, figs. 11, 12 [type locality: Mølegrund off Hirshals, Denmark].
Erythrocladia subintegra Rosenvinge, 1909:73, figs. 13, 14 [syntype localities: two, off Hirshals, Denmark].—Vannajan and Trono, 1978:15, fig. 14.—Saraya and Trono, 1982:26.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Manila.

NOTE.—The conspecificity of *Erythrocladia irregularis* and *E. subintegra* was proposed by Heerebout (1968:141). The latter species was treated as a forma of *E. irregularis* by Garbary, Hansen, and Scagel (1981:154).

Erythrocladia pinnata W.R. Taylor

Erythrocladia pinnata W.R. Taylor, 1942:75, pl. 2: figs. 1, 2 [type locality: Tobago I., West Indies].—Meñez and Calumpong, 1981:380.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Erythrotrichia J.E. Areschoug

Erythrotrichia bangioides Levring

Erythrotrichia bangioides Levring, 1955:410, fig. 1 [syntype localities: various, all in New Zealand].—Saraya and Trono, 1982:26.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Erythrotrichia biseriata Tanaka

Erythrotrichia biseriata Tanaka, 1944:86, fig. 8 [syntype localities: Kashoto, Taiwan; Hachijo-jima, Japan].—Cordero, 1977a:33, figs. 1, 2.—Saraya and Trono, 1982:26.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas.

Erythrotrichia parietalis Tanaka

Erythrotrichia parietalis Tanaka, 1952:18, fig. 10 [type locality: Takamatsu, Japan].—Cordero, 1977a:34, fig. 3.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:380.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite (Corregidor I.). CENTRAL VISAYAS.

Family BANGIACEAE

Bangia Lyngbye

Bangia atropurpurea (Roth) C. Agardh

Conferva atropurpurea Roth, 1806:208, pl. VI [type locality: Bremen, West Germany].
Bangia atropurpurea (Roth) C. Agardh, 1824:76.
Conferva fuscopurpurea Dillwyn, 1807 [1802–1809]: pl. 92 [*"fusco-purpurea"*] [type locality: Dunraven Castle, Glamorganshire, Wales].

Bangia fuscopurpurea (Dillwyn) Lyngbye, 1819:83, pl. 24:C.—Meñez and Calumpong, 1981:380.—Calumpong, 1982:145.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental (Apo I.).

NOTE.—The conspecificity of *Bangia fuscopurpurea* (marine) and *B. atropurpurea* (freshwater) was proposed by den Hartog (1972) and Geesink (1973).

Bangia yamadae Tanaka

Bangia yamadae Tanaka, 1944:84, figs. 6, 7 ["*yamadai*"] [type locality: Hoko-to (P'eng-hu), Taiwan].—Cordero, 1977a:34, figs. 4, 5.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite (Corregidor I.).

NOTE.—In forming an epithet intended to commemorate a personal name ending in the letter *a*, the letter *e* is added regardless of gender. Thus Yamada yields *yamadae* and Okamura yields *okamurae* (used in several species in this catalog).

Porphyra C. Agardh

Porphyra atropurpurea (Olivi) De Toni

Ulva atropurpurea Olivi, 1794:153, pls. I–III ["*atro-purpurea*"] [type locality: Venezia, Italy].
Porphyra atropurpurea (Olivi) De Toni, 1897:17.—Zaneveld, 1956:24; 1959:105.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos.

Porphyra crispata Kjellman

Porphyra crispata Kjellman, 1897a:15, pl. 1: figs. 4, 5; pl. 3: figs. 5–7; pl. 5: fig. 15 [type locality: Goto, Japan].—Domantay, 1962:293.—Galutira and Velasquez, 1964:501, pl. 3: figs. 8*a–c;* pl. 7: figs. 27*a,b.*—Velasquez, 1968a:121, fig. 6.—De Leon and Domantay, 1971:5, 8.—Velasquez, 1971:446, fig. 25; 1972:63.—Cordero, 1974c:138, fig. 2.—Velasquez, Trono, and Doty, 1975:161.—Cordero, 1977a:36, figs. 6–8; 1979a:21, fig. 1.—Velasquez, 1979b:230.—Cordero, 1980b:38, fig. 4.—Trono and Fortes, 1980:67.—Trono, Velasquez, and Guevarra, 1980:78.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:149.—Cordero, 1984a:86.—Marcos-Agngarayngay, 1984a:17; 1984b:124.—Tungpalan, 1984:140.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan, Batangas.

Porphyra denticulata Levring

Porphyra denticulata Levring, 1953:467, figs. 5, 6A–G [syntype localities: various, all in Queensland, Australia].—Quisumbing, 1951:1011.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte.

**Porphyra marcosii* Cordero

Porphyra marcosii Cordero, 1976b:15, figs. A–H, pl. 1 [type locality: Dirique Bay, Burgos, Ilocos Norte Prov., Luzon].—Cordero, 1974c:139, fig. 4 [*Porphyra* sp.]; 1977a:36, figs. 9, 9*a*, pl. I:A; 1979a:22, fig. 2; 1980b:38, fig. 5, pl. 25; 1984a:87.—Marcos-Agngarayngay, 1984a:19; 1984b: 124.—Tungpalan, 1984:140.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Porphyra suborbiculata Kjellman

Porphyra suborbiculata Kjellman, 1897a:10, pl. 1: figs. 1–3; pl. 2: figs. 5–9; pl. 5: figs. 4–7 [type locality: Goto, Japan].—Cordero, 1974c:138, fig. 3; 1977a:37, figs. 10, 11; 1979a:23, fig. 3; 1980b:39, fig. 6, pls. 26, [55].—Trono and Fortes, 1980:67.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:149.—Cordero, 1984a:86.—Marcos-Agngarayngay, 1984a:19, fig. 14; 1984b:124.—Tungpalan, 1984:140.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte, Cavite (Corregidor I.).

Porphyra variegata (Kjellman) Kjellman

Diploderma variegatum Kjellman, 1889:33, pl. II: figs. 1–4 [type locality: Bering I., USSR].
Porphyra variegata (Kjellman) Kjellman in Hus, 1900:69.—Velasquez et al., 1973:25, pl. 9: fig. 43.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan.

Subclass FLORIDEOPHYCIDAE

Order ACROCHAETIALES

Family ACROCHAETIACEAE

Deliberations leading to the choice of the classification of acrochaetioid algae employed here are given in the appended Nomenclatural Notes.

Acrochaetium Nägeli

Acrochaetium gracile Bφrgesen

Acrochaetium gracile Bφrgesen, 1915:26, figs. 19, 20 [type locality: St. Thomas, Virgin Is.].—Abbott, 1962:115, fig. 17.—Velasquez, Trono, and Doty, 1975:126.—Cordero, 1977a:38, fig. 12.—Vannajan and Trono, 1978:15.—Chan, 1981:387. —Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite. PALAWAN (Balabac I.).

Acrochaetium hallandicum (Kylin) Hamel

Chantransia hallandica Kylin, 1906:123, fig. 8 [type locality: Halland coast of Sweden].
Acrochaetium hallandicum (Kylin) Hamel, 1927:20, 82.
Acrochaetium sargassi Bφrgesen, 1915: 17, figs. 7–10 [type locality: St. Thomas, Virgin Is.].—Meñez and Calumpong, 1981:380.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

NOTE.—The conspecificity of *Chantransia hallandica* and *Acrochaetium sargassi* was proposed by Woelkerling (1973:84).

Acrochaetium hancockii (Dawson) Papenfuss

Rhodochorton hancockii Dawson, 1944:255, pl. 41: figs. 4–6 [type locality: Puerto Refugio, Isla Ángel de la Guarda, Baja California Norte, Mexico].
Acrochaetium hancockii (Dawson) Papenfuss, 1945:306.—Cornejo and Velasquez, 1972:178, pl. 2: fig. 16; pl. 4: fig. 33.—Velasquez, Trono, and Doty, 1975:126.—Saraya and Trono, 1982:27, pl. I: fig. 2.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas.

Acrochaetium liagorae Bφrgesen

Acrochaetium liagorae Bφrgesen, 1915:57, figs. 60–62 [type locality: St. Croix, Virgin Is.].—Abbott, 1962:100, figs. 8*a,d,j*, 9.—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—PALAWAN (Balabac I.). SULU: Sulu (Cagayan Sulu Is.).

**Acrochaetium nitidulum* Abbott

Acrochaetium nitidulum Abbott, 1962:95, fig. 6 [type locality: Gnat Reef, Balabac I., Palawan Prov.].—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—As above.

**Acrochaetium papenfussii* Abbott

Acrochaetium papenfussii Abbott, 1962:97, fig. 7 [type locality: Cagayan Sulu I., Palawan Prov.].—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—As above.

Acrochaetium robustum Bφrgesen

Acrochaetium robustum Bφrgesen, 1915:40, figs. 38–40 [type locality: St. Thomas, Virgin Is.].—Cordero, 1977a:38, figs. 13, 14.—Liao and Sotto, 1980:98.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. CEBU (Mactan I.).

Acrochaetium seriatum Bφrgesen

Acrochaetium seriatum Bφrgesen, 1915:32, figs. 25–28 [syntype localities: various, all in Virgin Is.].—Abbott, 1962:113, fig. 15.—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—PALAWAN (Balabac I.).

Acrochaetium sinicola (Dawson) Papenfuss

Rhodochorton sinicola Dawson, 1944:256, pl. 41: figs. 1, 2 [type locality: Isla Turner, near Isla Tiburón, Sonora, Mexico].—Cornejo and Velasquez, 1972:177, pl. 2: fig. 15.—Velasquez, Trono, and Doty, 1975:161.
Acrochaetium sinicola (Dawson) Papenfuss, 1945:317 [*"sinicolum"*].

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

Acrochaetium trichogloeae Bφrgesen

Acrochaetium trichogloeae Bφrgesen, 1952:13, figs. 6, 7 [type locality: Barkly I., Mauritius].—Abbott, 1962:93, figs. 5*b–i*.—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Cagayan Sulu Is.).

Acrochaetium tuticorinense Bφrgesen

Acrochaetium tuticorinense Bφrgesen, 1937:30, figs. 15, 16 [type locality: Tuticorin, India].—Abbott, 1962:114, fig. 16.—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—PALAWAN (Balabac I.).

Order PALMARIALES

Family PALMARIACEAE

Palmaria Stackhouse

Palmaria palmata (Linnaeus) Kuntze

Fucus palmatus Linnaeus, 1753:1162 [type locality: "in Oceano"].
Palmaria palmata (Linnaeus) Kuntze, 1891:909.—Cordero, 1977a:173; 1978a:43.

PHILIPPINE DISTRIBUTION.—BATANES.

Order NEMALIALES

Family NEMALIACEAE

Trichogloea Kützing

Trichogloea requienii (Montagne) Kützing

Batrachospermum requienii Montagne, 1843b:355 [type locality: Red Sea].
Trichogloea requienii (Montagne) Kützing, 1847a:54.—Cordero, 1977a: 48, fig. 26, pl. I:c; 1984a:87.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Quezon.

Family DERMONEMATACEAE

Dermonema Harvey ex Heydrich

Dermonema frappieri (Montagne and Millardet) Bφrgesen

Cladosiphon frappieri Montagne and Millardet, 1862:20, pl. XXVI: fig. 1 [type locality: Réunion].
Dermonema frappieri (Montagne and Millardet) Bφrgesen, 1942:42.—Cordero, 1977a:40.

PHILIPPINE DISTRIBUTION.—BATANES.

Liagoropsis Yamada

Liagoropsis schrammii (Bφrgesen) Doty and Abbott

Nemalion schrammii Bφrgesen, 1909:4, fig. 3, pl. 1 [*"schrammi"*] [type locality: St. Croix, Virgin Is.] [*Helminthocladia schrammi* Crouan frères in Mazé and Schramm, 1878:177, nomen subnudum].
Liagoropsis schrammii (Bφrgesen) Doty and Abbott, 1964:443 [including Philippine record, pages 445-448].—Trono, 1973a:129, fig. 14.—Velasquez, Trono, and Doty, 1975:152.

PHILIPPINE DISTRIBUTION.—LUZON: Albay, Sorsogon.

Yamadaella Abbott

**Yamadaella caenomyce* (Decaisne) Abbott

Liagora caenomyce Decaisne, 1842:119 [type locality: Manila, Luzon].—Montagne, 1844a:659.—Martens, 1868:88–89.—J. Agardh, 1876:518.—Villones and Magdamo, 1968:29, fig. 32.—Cornejo and Velasquez, 1972:178.—Reyes, 1972:151.—Velasquez et al., 1973:25, pl. 9: fig. 44.—Velasquez, Trono, and Doty, 1975:151.—Reyes, 1980:128, pl. 5: fig. 1.—Marcos-Agngarayngay, 1984b:125.
Yamadaella caenomyce (Decaisne) Abbott, 1970:117 [*"cenomyce"*] [including Philippine records].—Cordero, 1977a:48, fig. 16; 1979b:287; 1980b:43, fig. 7.—Meñez and Calumpong, 1981:380.—Hurtado-Ponce, 1983:127.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Batangas, Quezon, Albay. CATANDUANES. MINDORO: Oriental Mindoro. PANAY: Aklan. NEGROS: Negros Oriental. SIQUIJOR. MINDANAO (Agonoy I.).

Family HELMINTHOCLADIACEAE

Helminthocladia J. Agardh

Helminthocladia australis Harvey

Helminthocladia australis Harvey, 1863: pl. CCLXXII [type locality: Fremantle, Western Australia, Australia].—Cordero, 1977a:40, fig. 15.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan.

Liagora Lamouroux

Liagora boergesenii Yamada

Liagora boergesenii Yamada, 1938a:11, figs. 5, 6, pl. 2 [syntype localities: Yonakuni-jima, Ryukyu-retto, Japan; Kasho-to, Taiwan].—Reyes, 1972:151.—Velasquez, Trono, and Doty, 1975:151.—Cordero, 1977a:43, pl. II:A; 1980b:41.—Reyes, 1980:128, pl. 5: fig. 4.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Quezon. CATANDUANES. NEGROS: Negros Oriental. SIQUIJOR. PALAWAN. SULU.

Liagora canariensis Bφrgesen

Liagora canariensis Bφrgesen, 1927:48, figs. 25–29 [syntype localities: Orotava and Santa Cruz, Isla Tenerife, Islas Canarias].—Cordero, 1977a:43, fig. 18, pl. II:B.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Liagora ceranoides Lamouroux

Liagora ceranoides Lamouroux, 1816:239 [type locality: St. Thomas, Virgin Is.].—Reyes, 1972:151.—Trono, 1973d:14, pl. 7: fig. 27.—Velasquez et al., 1973:25, pl. 9: fig. 46.—Velasquez, Trono, and Doty, 1975:151.—Cordero, 1976c:6; 1977a:44, figs. 17, 20, 21, pl. I:B; 1978a:13; 1979b:287.—Puig and Cordero, 1979:34 [*"charoides"*].—Cordero, 1980b:41, fig. 8.—Liao and Sotto, 1980:98.—Reyes, 1980:128, pl. 5: fig. 3.—Meñez and Calumpong, 1981:380.—Trono and De Lara, 1981: 11.—Saraya and Trono, 1982:28.—Hurtado-Ponce, 1983:127.—Cordero, 1984a:87.—Hurtado-Ponce, 1984:180.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Batangas, Quezon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SAMAR: Eastern Samar. PANAY: Aklan. LEYTE (Biliran I.). NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR.

Liagora ceranoides Lamouroux f. *leprosa* (J. Agardh) Yamada

Liagora leprosa J. Agardh, 1847:8 [type locality: Veracruz, Mexico].
Liagora ceranoides Lamouroux f. *leprosa* (J. Agardh) Yamada, 1938a:21.—Domantay, 1962:273.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Liagora divaricata Tseng

Liagora divaricata Tseng, 1941:268, figs. 2–4 [type locality: Tsinglan-Kang, Wenchang, Hainan, China].—Domantay, 1962:292.—Velasquez, Trono, and Doty, 1975:152.—Cordero, 1977a:45, fig. 19, pl. III:B; 1980b:42, fig. 9.—Saraya and Trono, 1982:29, pl. I: fig. 3.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas. MINDORO: Oriental Mindoro. SIQUIJOR.

Liagora farinosa Lamouroux

Liagora farinosa Lamouroux, 1816:240 [type locality: Suez, Egypt].—Reyes, 1972:151.—Cordero, 1973b:27.—Velasquez et al., 1973:25, pl.

9: fig. 45.—Westernhagen, 1973a:65.; 1974:112 (table 1).—Velasquez, Trono, and Doty, 1975:152.—Cordero, 1976c:8; 1977a:45, figs. 23–25, pl. III:A; 1978a:14.—Trono and Tuason, 1978:13.—Cordero, 1979b:287; 1980b:43, fig. 10, pl. 27.—Reyes, 1980:128, pl. 5: fig. 2.—Trono and Fortes, 1980:69.—Ganzon-Fortes, 1981:22.—Trono and De Lara, 1981:11, pl. VII: fig. 4.—Trono and Fortes, 1982:149.—Saraya and Trono, 1982:27, pl. II: fig. 4.—Hurtado-Ponce, 1983:126.—Marcos-Agngarayngay, 1984a:19, fig. 15; 1984b:125.

Ganonema farinosum (Lamouroux) Fan and Wang, 1974:492 [*"farinosa"*].—Meñez and Calumpong, 1981:380 [*"farinosa"*].

Liagora cheyneana Harvey, 1855:552 [*"cheyniana"*] [type locality: Cape Riche, Western Australia, Australia].—Seale, 1911:309.—Wester, 1916:159; 1921:224; 1924:21.—G. Blanco, 1938:513.—Quisumbing, 1951: 1011.—Montilla and Blanco, 1953:166.

Liagora farinosa Lamouroux var. *cheyneana* (Harvey) Zaneveld, 1956:45 [including Philippine records].—Zaneveld, 1959:105.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Pangasinan, La Union, Bataan, Batangas, Quezon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. LEYTE (incl. Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. PALAWAN.

NOTE.—*Liagora farinosa* was placed in its own genus, *Ganonema*, by Fan and Wang (1974) on the basis of the carpogonial branch in that species, which was said to be borne on a special short filament rather than directly on an ordinary vegetative filament. Abbott (1984), pointing out the inconstancy of this character, returned the species to *Liagora*. *Liagora cheyneana* is included as a synonym on the authority of Howe (1920:554).

Liagora hawaiiana Butters

Liagora hawaiiana Butters, 1911:169, pl. XXIV: figs. 8, 9 [type locality: Laie Point, Koolauloa, Oahu, Hawaiian Is.].—Meñez, 1961:69, pl. 7: figs. 81, 82.—Velasquez, Trono, and Doty, 1975:152.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Liagora japonica Yamada

Liagora japonica Yamada, 1938a:16, figs. 9, 10, pl. 4: fig. 1 [syntype localities: various, all in Japan].—Domantay, 1962:292.—Velasquez, Trono, and Doty, 1975:152.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Liagora orientalis J. Agardh

Liagora orientalis J. Agardh, 1896:99 [type locality: Sri Lanka].—Cordero, 1977a:47.—Meñez and Calumpong, 1981:380.—Saraya and Trono, 1982:27.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CATANDUANES. CENTRAL VISAYAS.

Liagora robusta Yamada

Liagora robusta Yamada, 1938a:8, figs. 3, 4, pl. 12: fig. 1 [syntype localities: Chichi-jima and Haha-jima, Ogasawara-gunto (Bonin Is.), Japan].—Cordero, 1977a:47, fig. 20.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. LEYTE.

Liagora segawae Yamada

Liagora segawae Yamada, 1938a:18, figs. 11, 12, pl. 5, [*"segawai"*] [syntype localities: Chichi-jima, Ogasawara-gunto (Bonin Is.), and Okinawa-jima, Ryukyu-retto, Japan].—Cordero, 1973b:27.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. LEYTE (Biliran I.).

Liagora setchellii Yamada

Liagora setchellii Yamada, 1938a:13, figs. 7, 8, pl. 3: fig. 2 [syntype localities: Ogasawara-gunto (Bonin Is.) and Ryukyu-retto, Japan; Kashoto, Taiwan].—Saraya and Trono, 1982:28, pl. I: fig. 4.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Liagora tenuis J. Agardh

Liagora tenuis J. Agardh, 1896:101 [syntype localities: West Indies; Florida, USA].—Meñez and Calumpong, 1981:380.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Liagora valida Harvey

Liagora valida Harvey, 1853:138, pl. XXXI:A [type locality: Sand Key, Florida, USA].—Velasquez et al., 1973:26, pl. 9: fig. 47.—Meñez and Calumpong, 1981:380.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. CENTRAL VISAYAS.

Order BONNEMAISONIALES

Family BONNEMAISONIACEAE

Asparagopsis Montagne

Asparagopsis taxiformis (Delile) Trevisan

Fucus taxiformis Delile, 1813:151, 295, pl. 57: fig. 2 [type locality: Alexandria, Egypt].

Asparagopsis taxiformis (Delile) Trevisan, 1845:45.—Velasquez, 1971:446, fig. 27.—Trono and Biña, 1973:2.—Cordero, 1976c:8; 1977a:69, pl. XI:B; 1978a:20; 1979b:276; 1980b:44.—Trono and Fortes, 1980:69.—Ganzon-Fortes, 1981:22.—Trono and De Lara, 1981:14, pl. IX: fig. 2.—Calumpong, 1982:145.—Saraya and Trono, 1982:32, pl. III: fig. 3.—Trono and Fortes, 1982:149.—Cordero, 1984a:92.

Dasya delilei Montagne, 1841 [1839–1842]:166, pl. 8: fig. 6.

Asparagopsis delilei (Montagne) Montagne, 1841 [1839–1842]:XIV.—Montagne, 1844a:662.—Kützing, 1849:802.—J. Agardh, 1852 [1851–1863]:776.—Montagne, 1856:428.—Martens, 1868:98–99.—Dickie, 1874a:192.—Velasquez, Trono, and Doty, 1975:128.

Asparagopsis sanfordiana Harvey, 1855:544 [syntype localities: Garden I. and Rottnest I., Western Australia, Australia].—Quisumbing, 1951:1007.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasi-

nan, Quezon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. PANAY: Aklan, Antique. NEGROS: Negros Oriental (incl. Apo I.). CEBU (Sumilon I.). PALAWAN.

NOTE.—The conspecificity of *Asparagopsis sanfordiana* and *A. taxiformis* was proposed by J. Feldmann and G. Feldmann (1943:81). *Dasya delilei* Montagne is a superfluous and hence illegitimate substitute name for *Fucus taxiformis* Delile.

Family GALAXAURACEAE

An explanation of the replacement of Chaetangiaceae by Galaxauraceae is given in the appended Nomenclatural Notes.

Actinotrichia Decaisne

Actinotrichia fragilis (Forsskål) Børgesen

Fucus fragilis Forsskål, 1775:190 [type locality: Mokha, Yemen].

Actinotrichia fragilis (Forsskål) Børgesen, 1932:6.—Villones and Magdamo, 1968:28, fig. 24.—Reyes, 1972:152.—Trono and Biña, 1973:2.—Cordero, 1973b:28.—Westernhagen, 1973a:64.—Ortega, Alcala, and Reyes, 1974:186–188 (tables 2–4) [*"fragilissima"*].—Trono, 1974b:84.—Westernhagen, 1974:112 (table I).—Cordero, 1975:272, figs. 2, 3.—Velasquez, Trono, and Doty, 1975:126.—Cordero, 1977a:50, figs. 28, 202, pl. 1V:A.—Trono and Young, 1977:59.—Trono, 1978:15.—Trono and Tuason, 1978:14.—Cordero, 1979b:287.—Puig and Cordero, 1979:35.—Liao and Sotto, 1980:98.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:380.—Trono and De Lara, 1981:13.—Saraya and Trono, 1982:31, pl. III: fig. 2.—Hurtado-Ponce, 1983:127.—Cordero, 1984a:88; 1984b:63; 1984c:54.—Marcos-Agngarayngay, 1984a:22, fig. 17.

Galaxaura rigida Lamouroux, 1816:265, pl. VIII: fig. 4 [type locality: "la mer des Indes"].

Actinotrichia rigida (Lamouroux) Decaisne, 1842:118.—Montagne, 1844a:659.—Dickie, 1874a:196.—Dickie, 1876a:244.—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte, Pangasinan, Bataan, Cavite (Corregidor I.), Batangas, Quezon, Manila Bay. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. SAMAR: Western Samar, Eastern Samar. LEYTE (incl. Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga, Davao. PALAWAN. SULU: Sulu (Siasi I.).

NOTE.—The synonymy was proposed by Børgesen (1932:6).

Galaxaura Lamouroux

Kjellman (1900), using anatomy as a primary criterion, recognized 62 species of *Galaxaura,* 47 of which were new. Certain sections and subsections contained only tetrasporophytes or only sexual plants. Efforts to match tetrasporophytes with sexual plants and otherwise to reduce the number of recognized species have been made by subsequent workers, notably Howe, Børgesen, Chou, and Papenfuss. The greatest reduction of species is to be found in the monograph by Papenfuss, Mshigeni, and Chiang (1982). Many taxonomic decisions incorporated in that paper do not agree with those of previous workers. In none of these investigations has static comparative morphology been supported by culture studies. In a recent paper, Magruder (1984) determined by culture studies that *G. oblongata* had a life cycle involving a small filamentous tetrasporophyte. Magruder's discovery, while not affecting this catalog directly, emphasizes the need to broaden the scope of taxonomic study in *Galaxaura.* Meanwhile, the taxonomic scheme of Papenfuss, Mshigeni, and Chiang provides a useful framework.

Galaxaura apiculata Kjellman

Galaxaura apiculata Kjellman, 1900:74, pl. 12: figs. 13–26; pl. 20: fig. 36 [type locality: Ski, Japan].—Chou, 1945:51, pl. V: figs. 13–19; pl. IX: fig. 1.—Meñez, 1961:71, pl. 7: figs. 69–72.—Trono and Santiago, 1970:73. pl. III: figs. 3–7.—Cornejo and Velasquez, 1972:178.—Trono, 1974b:85.—Velasquez, Trono, and Doty, 1975:144.—Saraya and Trono, 1982:29, pl. II: fig. 2.

Galaxaura acuminata Kjellman ex Butters, 1911:180, pl. XXIV: figs. 17–19 [type locality: Waianae, Oahu, Hawaiian Is.].—Cordero, 1977a:52, fig. 31, pl. IX:A.—Puig and Cordero, 1979:36.—Cordero, 1984a:88.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Batangas. MINDORO: Oriental Mindoro. SAMAR: Eastern Samar. LEYTE (incl. Biliran I.). SULU: Sulu (Siasi I.).

NOTE.—The synonymy was proposed by Chou (1945:51).

Galaxaura arborea Kjellman

Galaxaura arborea Kjellman, 1900:72, pl. 11: figs. 1–11; pl. 20: fig. 39 [type locality: Australia].—Chou, 1945:50, pl. V: figs. 1–5; pl. X: figs. 1, 2.—Meñez, 1961:70, pl. 7: figs. 76, 78.—Velasquez, Trono, and Doty, 1975:144.—Cordero, 1976c:8; 1977a:54, fig. 29, pl. X:A; 1978a:15.—Meñez and Calumpong, 1981:380.—Hurtado-Ponce, 1983:128.—Cordero, 1984a:88.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Dalupiri I.), Ilocos Norte, Pangasinan, MINDORO: Occidental Mindoro. CENTRAL VISAYAS.

Galaxaura contigua Kjellman

Galaxaura contigua Kjellman, 1900:78, pl. 17: figs. 1–14; pl. 20: fig. 23 [type locality: Hawaiian Is.].—Cordero, 1977a:54, fig. 36, pl. VIII:C; 1984a:89.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. SAMAR: Eastern Samar.

Galaxaura falcata Kjellman

Galaxaura falcata Kjellman, 1900:73, pl. 11: figs. 12–21; pl. 12: figs. 1–4; pl. 20: fig. 33 [type locality: Enoshima, Kanagawa Prefecture,

Japan].—Westernhagen, 1973a:65; 1974:112 (table I).—Cordero, 1977a:57, fig. 32, pl. X:B.—Hurtado-Ponce, 1983:128.—Cordero, 1984a:89.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. MINDORO: Oriental Mindoro. CEBU (Mactan I.).

Galaxaura fasciculata Kjellman

Galaxaura fasciculata Kjellman, 1900:53, pl. 5: figs. 1–9. pl. 20: fig. 14 [type locality: Celebes, Indonesia].—Chou, 1945:44, pl. II: fig. 2; pl. VIII: fig. 1.—Trono and Santiago, 1970:73, pl. III: fig. 2; pl. IV: fig. 1.—Reyes, 1972:152.—Ortega, Alcala, and Reyes, 1974:186, 188.—Velasquez, Trono, and Doty, 1975:144.—Cordero, 1976c:10; 1977a:57, fig. 33, pl. VI:B.—Cordero, 1978a:16.—Trono, 1978:15.—Trono and Tuason, 1978:14.—Cordero, 1979b:288.—Liao and Sotto, 1980:98.—Meñez and Calumpong, 1981:380.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Manila, Quezon. CATANDUANES. MINDORO: Oriental Mindoro. MARINDUQUE. LEYTE. PANAY: Aklan. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). MINDANAO: Davao. PALAWAN (incl. Culion I.).

Galaxaura filamentosa Chou

Galaxaura filamentosa Chou in W.R. Taylor, 1945:139 [type locality: Isla Clarión, Islas Revillagigedo, Mexico].—Cordero, 1976c:10; 1977a:58, fig. 35, pl. IV:B; 1978a:17; 1984a:90.

Galaxaura rudis [misapplied name].—Meñez and Calumpong, 1981:380.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Quezon. SAMAR: Eastern Samar. CENTRAL VISAYAS. SIQUIJOR.

NOTE.—Chou (1945:39) noted that certain records of *Galaxaura rudis* from China and Japan were representative of her new species, *G. filamentosa*. Cordero (1977a:58; 1978a:17), apparently misinterpreting Chou, listed *G. rudis* Kjellman (1900:43, pl. 2: figs. 1–9; pl. 20: fig. 11) as a taxonomic synonym of *G. filamentosa*. According to Papenfuss, Mshigeni, and Chiang (1982:407), *G. rudis* is a taxonomic synonym of *G. lapidescens* (Ellis and Solander) Lamouroux.

**Galaxaura kjellmanii* Weber-van Bosse

Galaxaura kjellmanii Weber-van Bosse, 1921:217, fig. 66 [type locality: North Ubian I., Sulu Archipelago].—Cordero, 1973b:29.—Velasquez, Trono, and Doty, 1975:145.—Cordero, 1977a:60, fig. 38, pl. IX:C.—Puig and Cordero, 1979:36.—Cordero, 1984a:90.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte. LEYTE (Biliran I.). SULU: Sulu (North Ubian I.).

NOTE.—According to Puig and Cordero (1979:36), part or all of the treatment of *Galaxaura elongata* by Cordero (1977a) applies to *G. kjellmanii*.

Galaxaura marginata (Ellis and Solander) Lamouroux

Corallina marginata Ellis and Solander, 1786:115, pl. 22: fig. 6 [type locality: Bahama Is.].

Galaxaura marginata (Ellis and Solander) Lamouroux, 1816:264.—Papenfuss, Mshigeni, and Chiang, 1982:411, 415.

Galaxaura clavigera Kjellman, 1900:76, pl. 13: figs. 1–13; pl. 20: fig. 25 [type locality: Lasgori (Las Khoreh), Somalia].—Cordero, 1976c:9; 1978a:15.

Galaxaura tenera Kjellman, 1900:77, pl. 14: figs. 10–19; pl. 20: fig. 32 [type locality: Mombasa, Kenya].—Cordero, 1977a:67, fig. 45, pl. IX:B; 1984a:91.

Galaxaura veprecula Kjellman, 1900:80, pl. 16: figs. 17–33; pl. 20: fig. 32 [type locality: Malagasy Republic].—Chou, 1947:16, pl. VI: figs. 1–8; pl. XII: fig. 1.—Velasquez, Trono, and Doty, 1975:145.—Cordero, 1976c:8, 9; 1978a:19.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Dalupiri I.). MINDORO: Oriental Mindoro. MINDANAO: Surigao.

NOTE.—This synonymy was proposed by Papenfuss, Mshigeni, and Chiang (1982:41).

Galaxaura oblongata (Ellis and Solander) Lamouroux

Corallina oblongata Ellis and Solander, 1786:114, pl. 22: fig. 1 [type locality: West Indies].

Galaxaura oblongata (Ellis and Solander) Lamouroux, 1816:262.—Chou, 1947:7, pls. II, III, IX.—Villones and Magdamo, 1968:28, fig. 26.—Trono and Santiago, 1970:76, pl. I: figs. 1–12; pl. IV: figs. 4–6.—Velasquez, 1971:446, fig. 26.—Reyes, 1972:152.—Velasquez et al., 1973:26, pl. 10: fig. 48.—Westernhagen, 1973a:65.—Ortega, Alcala, and Reyes, 1974:187, 188.—Trono, 1974b:85.—Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:145.—Cordero, 1976c:9, 10; 1977a:60, fig. 34, pls. V:B, VII:B.—Trono and Young, 1977:59.—Trono, 1978:15.—Trono and Tuason, 1978:14.—Cordero, 1979b:276, 288.—Puig and Cordero, 1979:36.—Liao and Sotto, 1980:98.—Reyes, 1980:128, pl. 5: fig. 5.—Trono and Ganzon-Fortes, 1980:61, fig. [s.n.].—Meñez and Calumpong, 1981:380.—Trono and De Lara, 1981:12, pl. VIII: figs. 1, 3.—Montaño, Laserna, and Cajipe, 1982:39.—Papenfuss, Mshigeni, and Chiang, 1982:415, 418.—Saraya and Trono, 1982:29, pl. II: fig. 3.—Hurtado-Ponce, 1983:129.—Cordero, 1984a:90; 1984b:64.—Marcos-Agngaraynay, 1984a:24, fig. 18.

Corallina cylindrica Ellis and Solander, 1786:114, pl. 22: fig. 4 [type locality: West Indies].

Galaxaura cylindrica (Ellis and Solander) Lamouroux, 1821:22.—Chou, 1947:5, pl. I; pl. VIII: fig. 1.—Velasquez et al., 1973:26, pl. 10: fig. 50.—Velasquez, Trono, and Doty, 1975:144.—Cordero, 1979b:276.

**Galaxaura fastigiata* Decaisne, 1842:116 [lectotype locality: Manila, Luzon fide Svedelius, 1945:32.].—Montagne, 1844a:659.—Martens, 1868:86–87.—Dickie, 1874a:195.—Grunow, 1874:37.—Kjellman, 1900:64, pl. 9: figs. 1–3.—De Toni, 1924:126.—Howe, 1932:169.—Domantay, 1962:289.—De Leon and Domantay, 1971:5, 8.—Velasquez et al., 1973:26, pl. 10: fig. 49.—Cordero, 1973b:28.—Velasquez, Trono, and Doty, 1975:145.—Cordero, 1976c:8; 1978a:16.—Reyes, 1980:129, pl. 5: fig. 6.—Cordero, 1984a:89.

Galaxaura constipata Kjellman, 1900:63, pl. 8: figs. 29–33; pl. 20: fig. 5 [type locality: Veracruz, Mexico].—Meñez, 1961:70.—Velasquez, Trono, and Doty, 1975:144.

Galaxaura dimorpha Kjellman, 1900:63, pl. 8: figs. 23–28; pl. 20: fig. 3 [type locality: Timor, Indonesia].—Meñez, 1961:70, pl. 7: figs. 65–68, 73–75.—Velasquez, Trono, and Doty, 1975:144.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Ilocos Sur, Pangasinan, Zambales, Bataan, Batangas, Quezon, Albay, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Ori-

ental Mindoro. MARINDUQUE. SAMAR: Northern Samar, Western Samar, Eastern Samar. LEYTE (incl. Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Surigao, Misamis Oriental. PALAWAN. SULU: Sulu (Siasi I.).

NOTE.—The synonymy was proposed by Papenfuss, Mshigeni, and Chiang (1982:415). Svedelius (1945:32) selected Cuming 2241 as the lectotype collection of *Galaxaura fastigiata.* Kjellman (1900:65) stated that this specimen was from the Moluccas, an error that originated with Decaisne (1842:116), who wrote "Hab. in Moluccis (Manilla)".

Galaxaura obtusata (Ellis and Solander) Lamouroux

Corallina obtusata Ellis and Solander, 1786:113, pl. 22: fig. 2 [type locality: Bahama Is.].

Galaxaura obtusata (Ellis and Solander) Lamouroux, 1816:262.—Trono and Santiago, 1970:74, pl. II; pl. IV: fig. 2.—Cordero, 1977a:62, fig. 37, pl. VIII:A,B; 1978a:17.—Vannajan and Trono, 1978:15, fig. 15.—Cordero, 1984a:90.

Tubularia umbellata Esper, [1805–1812]: 125, pl. Tubularia XVII [type locality: probably West Indies; see Note].

Galaxaura umbellata (Esper) Lamouroux, 1816:262.—Chou, 1947:14, pl. V; pl. XI: fig. 1.—Trono and Santiago, 1970:75, pl. I: figs. 13–20.—Velasquez, Trono, and Doty, 1975:145.

Galaxaura robusta Kjellman, 1900:85, pl. 18: figs. 19–32; pl. 20: fig. 42 [type locality: Nosy-Bé, Malagasy Republic].—Cordero, 1978a:19.—Liao and Sotto, 1980:98.—Meñez and Calumpong, 1981:380.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Manila, Cavite, Batangas. MINDORO: Oriental Mindoro. CEBU (Mactan I.).

NOTE.—The synonymy was proposed by Papenfuss, Mshigeni, and Chiang (1982:418). For the provenance of *Tubularia umbellata,* Esper wrote: "gleichfalls in den ostindischen Gewässern." Because "gleichfalls" (i.e., "likewise") refers to *T. obtusata,* which is from the West Indies, it seems likely that "ostindischen" was an error for "westindischen."

Galaxaura rugosa (Ellis and Solander) Lamouroux

Corallina rugosa Ellis and Solander, 1786:115, pl. 22: fig. 3 [type locality: Jamaica].

Galaxaura rugosa (Ellis and Solander) Lamouroux, 1816:263.—Chou, 1947:13, pl. IV: figs. 12, 13; pl. X: fig. 2.—Cordero, 1977a:63, fig. 39, pl. VI:A.

Galaxaura elongata J. Agardh, 1876:529 [syntype localities: Tonga; northeastern Australia].—Cordero, 1973b:28; 1976c:9, 10.; 1977a:54, figs. 30, 37, pl. V:A, pl. VI:C; 1978a:15.—Liao and Sotto, 1980:98.—Hurtado-Ponce, 1983:128.—Cordero, 1984a:89; 1984b:64.—Marcos-Agngarayngay, 1984a:24, fig. 19.

Galaxaura squalida Kjellman, 1900:55, pl. 6: figs. 1–12; pl. 20: fig. 9 [type locality: St. Croix, Virgin Is.].—Chou, 1947:9, pl. IV: figs. 1–11; pl. VIII: fig. 2.—Domantay, 1962:290.—Velasquez, Trono, and Doty, 1975:145.

Galaxaura glabriuscula Kjellman, 1900:56, pl. 7: figs. 1, 2; pl. 20: fig. 26 [type locality: Tahiti].—Puig and Cordero, 1979:36.

Galaxaura cucullígera Kjellman, 1900:58, pl. 6: figs. 22–30; pl. 20: fig. 30 [type locality: Goto, Japan].—Cordero, 1976c:9.

Galaxaura pacifica Tanaka, 1935:55, figs. 5, 6, pl. 17: fig. 2 [syntype localities: Haha-jima, Ogasawara-gunto [Bonin Is.], Japan; Garan-bi, Taiwan].—Cordero, 1976c:8, 9; 1977a:63; 1978a:18.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan. MINDORO: Occidental Mindoro. SAMAR: Eastern Samar. LEYTE (Biliran I.). CEBU (incl. Mactan I.). PALAWAN.

NOTE.—The synonymy was proposed by Papenfuss, Mshigeni, and Chiang (1982:421–422). According to Puig and Cordero (1979:36), part or all of the treatment of *Galaxaura elongata* by Cordero (1977a) applies to *G. kjellmanii.*

Galaxaura striata Kjellman

Galaxaura striata Kjellman, 1900:66, pl. 9: figs. 18–38; pl. 20: fig. 7 [type locality: Marquesas Is.].—Cordero, 1977a:64, figs. 40–42, pl. IV:C.

PHILIPPINE DISTRIBUTION.—BATANES.

Galaxaura subfruticulosa Chou

Galaxaura subfruticulosa Chou in W.R. Taylor, 1945:140 [type locality: Isla Clarión, Islas Revillagigedo, Mexico].—Domantay, 1962:290.—Cordero, 1973b:29; 1976c:9; 1977a:65, fig. 44, pl. V:C; 1978a:18; 1979b:289.—Puig and Cordero, 1979:36.—Meñez and Calumpong, 1981:380.—Saraya and Trono, 1982:30, pl. III: fig. 1.—Marcos-Agngarayngay, 1984a:25, fig. 20.

Galaxaura fruticulosa Kjellman, 1900:51, pl. 4: figs. 4–16; pl. 20: fig. 19 [type locality: Nomo-zaki, Nagasaki Prefecture, Japan] [intended nomenclatural synonym].—Velasquez, Trono, and Doty, 1975:145.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Quezon. SAMAR: Western Samar, Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan.

NOTE.—Chou intended to propose a new name for *Galaxaura fruticulosa* Kjellman, a later homonym of *G. fruticulosa* (Ellis and Solander) Lamouroux (1816:264), but designated a new type and thus effectively published a new species. Whether *G. fruticulosa* and *G. subfruticulosa* are conspecific remains to be determined.

Galaxaura subverticillata Kjellman

Galaxaura subverticillata Kjellman, 1900:48, pl. 3: figs. 12–14; pl. 20: fig. 17 [type locality: St. Croix, Virgin Is.].—Chou, 1945:45, pl. II: fig. 1; pl. VIII: fig. 2.—Trono and Santiago, 1970:74, pl. III: fig. 1; pl. IV: fig. 3.—Velasquez, Trono, and Doty, 1975:145.—Cordero, 1977a:65, fig. 47, pl. VII:A.—Puig and Cordero, 1979:37.—Trono and De Lara, 1981:13, pl. VIII: fig. 2.—Saraya and Trono, 1982:30, pl. II: fig. 1.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SAMAR: Eastern Samar. LEYTE (Biliran I.).

Scinaia Bivona-Bernardi

Scinaia hormoides Setchell

Scinaia hormoides Setchell, 1914:106, 125, pl. 12: figs. 33–35; pl. 13: figs. 36, 37 [including Philippine record] [type locality: Haleiwa, Oahu, Hawaiian Is.].—De Toni, 1924:101.—Velasquez, Trono, and Doty, 1975:163.—Trono and Fortes, 1980:69.—Saraya and Trono, 1982:31.

PHILIPPINE DISTRIBUTION.—LUZON: La Union, Pangasinan.

Scinaia latifrons Howe

Scinaia latifrons Howe, 1911:500, fig. 1, pl. 28 [type locality: La Paz, Baja California Sur, Mexico].—Vannajan and Trono, 1978:16.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

Scinaia moniliformis J. Agardh

Scinaia moniliformis J. Agardh, 1885:72 [type locality: Port Phillip, Victoria, Australia].—Cordero, 1977a:68, fig. 46, pl. XI:A; 1980b:44, pl. 28; 1982a:61, fig. 9; 1984a:91.—Marcos-Agngarayngay, 1984a:21, fig. 16.—Tungpalan, 1984:140.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Cagayan, Quezon.

Order GELIDIALES

Family GELIDIACEAE

Beckerella Kylin

**Beckerella scalaramosa* Kraft

Beckerella scalaramosa Kraft, 1976:85, figs. 1–15 [type locality: Bulusan, Sorsogon Prov., Luzon].

PHILIPPINE DISTRIBUTION.—As above.

NOTE.—The type collection of *Beckerella scalaramosa* had previously been recorded as *Beckerella* [*"Becherella"*] sp. by Trono (1973a:130, figs. 18, 19).

Gelidiella Feldmann and Hamel

Gelidiella acerosa (Forsskål) Feldmann and Hamel

Fucus acerosus Forsskål, 1775:190 [type locality: Mokha, Yemen].

Gelidiella acerosa (Forsskål) Feldmann and Hamel, 1934:533.—Domantay, 1962:290.—Galutira and Velasquez, 1964:502, pl. 3: figs. 9*a,b;* pl. 7: fig. 28.—Velasquez, 1971:446, fig. 28.—Cornejo and Velasquez, 1972:179.—Reyes, 1972:152.—Trono, 1972a:103.—Velasquez, 1972:63.—Cordero, 1973b:29.—Trono, 1973d:15, pl. 7: fig. 26.—Trono and Biña, 1973:3.—Velasquez et al., 1973:27.—Westernhagen, 1973a:65.—De Leon, 1974:31, 33, photo [s.n.], fig. [s.n.].—Ortega, Alcala, and Reyes, 1974:187, 188.—Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:145.—Cordero, 1976c:9, 10; 1977a:70; 1978a:20.—Tahil, 1978:52.—Cordero, 1979b:276.—Garcia, 1979:45 (table 1).—Puig and Cordero, 1979:37.—Velasquez, 1979b:230.—Cordero, 1980b:45, pl. 29.—Fortes and Trono, 1980:59.—Liao and Sotto, 1980:98.—Reyes, 1980:129, pl. 6: fig. 1.—Trono and Fortes, 1980:70.—Trono and Ganzon-Fortes, 1980:63, fig. [s.n.].—Velasquez, 1980:127.—Chan, 1981:387.—Ganzon-Fortes, 1981:22.—Guzman, 1981:42, 45, 50.—Laserna et al., 1981:443.—Meñez and Calumpong, 1981:380.—Trono and De Lara, 1981:14, pl. IX: fig. 4.—Calumpong, 1982:145.—Cordero, 1982a:60, 61, fig. 12.—Saraya and Trono, 1982:32.—Trono and Fortes, 1982:150.—Hurtado-Ponce, 1983:129.—Cordero, 1984a:92; 1984c:54.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984a:27, fig. 21 (captions for figs. 21 and 22 interchanged); 1984b:125.—Tungpalan, 1984:140.—Trono and Ganzon-Fortes, 1985:67.

Fucus rigidus Vahl, 1802:46 [type locality: St. Croix, Virgin Is.].

Sphaerococcus rigidus C. Agardh, 1822a:285.

Gelidium rigidum (C. Agardh) Greville, 1830:lvii.—Martens, 1868:92–93.—Dickie, 1876a:243, 244.—Howe, 1932:169.—Zaneveld, 1956:34.—Velasquez, Trono, and Doty, 1975:145.

Gelidiopsis rigida (C. Agardh) Weber-van Bosse, 1904a:104 [*"rigidum"*].—Zaneveld, 1959:116.—Cordero, 1976c:9, 10; 1977a:122; 1978a:22.

Fucus spiniformis Lamouroux, 1805:77, pl. XXXVI: figs. 3, 4 [*"spinaeformis"*] [syntype localities: Malagasy Republic; Mauritius].

Gelidium spiniforme (Lamouroux) Lamouroux, 1813:129.—Montagne, 1844a:662.—Velasquez, Trono, and Doty, 1975:145.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Bataan, Batangas, Quezon, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MASBATE. SAMAR: Western Samar, Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan, Capiz. GUIMARAS. NEGROS: Negros Occidental (incl. Ilacaon I., Suyac I.), Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Surigao del Sur, Zamboanga. PALAWAN. SULU: Tawitawi.

NOTE.—*Fucus rigidus* Vahl, the intended basionym of *Gelidium rigidum* (and other combinations), is a later homonym of *F. rigidus* Turra (1780:68) and hence not priorable. *Sphaerococcus rigidus* C. Agardh is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN. *Fucus spiniformis* is included as a synonym on the authority of C. Agardh (1822a:285), *Sphaerococcus rigidus* on the authority of Bφrgesen (1932:5).

Gelidiella adnata Dawson

Gelidiella adnata Dawson, 1954b:4 [type locality: Nha Trang, Vietnam].—Fortes and Trono, 1980:58.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Gelidiella taylorii Joly

Gelidiella taylorii Joly, 1957:102, fig. 1, pl. IX: figs. 5, 5*a;* pl. XII: fig. 3 [*"taylori"*] [type locality: São Vicinte, São Paulo, Brazil].—Westernhagen, 1973a:65.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Gelidium Lamouroux

Gelidium amansii (Lamouroux) Lamouroux

Fucus amansii Lamouroux, 1805:48, pl. XXVI: figs. 2–5 [syntype localities: Malagasy Republic; Mauritius].
Gelidium amansii (Lamouroux) Lamouroux, 1813:129.—Martens, 1868:94–95.—Zaneveld, 1956:34; 1959:115.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Gelidium capense (S.G. Gmelin) P.C. Silva, new combination

Fucus capensis S.G. Gmelin, 1768:157, pl. XVII: fig. 1 [type locality: Cape of Good Hope, South Africa].
Gelidium cartilagineum [misapplied name fide Dixon, 1967].—J. Agardh, 1852 [1851–1863]:473.—De Toni, 1897:152

PHILIPPINE DISTRIBUTION.—Locality not specified.

NOTE.—This species, which is common at wave-swept sites on cold-water shores of South Africa, probably does not occur in the Philippines. Dixon (1967) showed that *Fucus cartilagineus* Linnaeus (1753:1161), a name traditionally applied to this species, should be typified with a specimen referable to *Plocamium*. *Fucus capensis* and *F. versicolor* S.G. Gmelin (1768:158, pl. XVII: fig. 2) have long been considered conspecific with the alga traditionally called *Gelidium cartilagineum* (Linnaeus) Gaillon (see Turner, 1809:138 and J. Agardh 1852 [1851–1863]:473). With the removal of *Fucus cartilagineus* from consideration, Dixon (1967:58) adopted *Gelidium versicolor* (S.G. Gmelin) Lamouroux (1813:129) as the correct name for the South African alga. *Fucus versicolor,* however, is a superfluous name for *F. abrotanifolius* Linnaeus (1753:1161), which Gmelin cited as a synomym, and hence is illegitimate. (*Fucus abrotanifolius* is referable to *Cystoseira.*) The earliest available basionym for the South African alga thus appears to be *Fucus capensis* S.G. Gmelin.

Gelidium coulteri Harvey

Gelidium coulteri Harvey, 1853:117 [type locality: Monterey Peninsula, California, USA].—Olea and De Leon, 1956:104.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Gelidium crinale (Turner) Gaillon

Fucus crinalis Turner, 1815 [1815–1819]:4, pl. 198: figs. *a–c, e–g* [syntype localities: England; Northern Ireland].
Gelidium crinale (Turner) Gaillon, 1828:362.—Trono and Fortes, 1980: 70.—Fortes, 1981b:396.—Ganzon-Fortes, 1981:22.—Calumpong, 1982:145.—Trono and Fortes, 1982:150.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Occidental (Ilacaon I.), Negros Oriental (incl. Apo I.). CEBU (incl. Pescador I.).

Gelidium crinale (Turner) Gaillon var. *perpusillum* Piccone et Grunow

Gelidium crinale (Turner) Gaillon var. *perpusillum* Piccone et Grunow in Piccone, 1884a:317 [*"perpusilla"*] [type locality: Massawa, Ethiopia].—Trono, 1973a:131.—Cordero, 1977a:72, fig. 49, pl. XXV:c.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. CENTRAL VISAYAS.

Gelidium divaricatum Martens

Gelidium divaricatum Martens, 1868:30, pl. VIII: fig. 4 [type locality: Hong Kong].—Cordero, 1977a:73; 1978a:23.

PHILIPPINE DISTRIBUTION.—BATANES.

Gelidium isabelae W.R. Taylor

Gelidium isabelae W.R. Taylor, 1945:154, pl. 5: figs. 8–12 [type locality: Isla Isabela, Galápagos].—Cordero, 1977a:73, fig. 50; 1978a:23.

PHILIPPINE DISTRIBUTION.—BATANES.

Gelidium kintaroi Yamada

Gelidium clavatum Okamura, 1934:61, pl. 28; pl. 32: figs. 4–6 [syntype localities: Hoko-to (P'eng-hu), Taiwan; Amoy, China] [replaced name].—Cordero, 1977a:72, fig. 48.
Gelidium kintaroi Yamada, 1941a:201.

PHILIPPINE DISTRIBUTION.—CATANDUANES. MINDORO: Oriental Mindoro.

NOTE.—*Gelidium kintaroi* is a substitute name for *G. clavatum* Okamura, a later homonym of *G. clavatum* (Lamouroux) Lamouroux (1813:129).

Gelidium pulchellum (Turner) Kützing

Fucus corneus Hudson var. *pulchellus* Turner, 1819 [1815–1819]:146, pl. 257: fig. *p* [syntype localities: Bantry Bay, Eire; Sidmouth and Isle of Portland, England].
Gelidium pulchellum (Turner) Kützing, 1868:18.—Domantay, 1962:290.—De Leon and Domantay, 1971:5, 10.—Velasquez, Trono, and Doty, 1975:145.—Trono and Fortes, 1980:70.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:150.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas.

Gelidium pusillum (Stackhouse) Le Jolis

Fucus pusillus Stackhouse, 1795 [1795–1801]:16, pl. vi [type locality: Sidmouth, Devonshire, England].
Acrocarpus pusillus (Stackhouse) Kützing, 1849:762.—Martens, 1868:30, 92–93.—Velasquez, Trono, and Doty, 1975:126.
Gelidium pusillum (Stackhouse) Le Jolis, 1863:139.—Trono, 1973d:15.—Cordero, 1977a:74, fig. 51.—Vannajan and Trono, 1978:16.—Reyes, 1980:130, pl. 6: fig. 5.—Trono and Fortes, 1980:70.—Fortes,

1981b:396.—Ganzon-Fortes, 1981:22.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.—Saraya and Trono, 1982:32.—Trono and Fortes, 1982:150.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite. MINDORO: Oriental Mindoro. NEGROS: Negros Occidental, Negros Oriental (incl. Apo I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN.

Gelidium pusillum (Stackhouse) Le Jolis var. *pacificum* W.R. Taylor

Gelidium pusillum (Stackhouse) Le Jolis var. *pacificum* W.R. Taylor, 1945:153, pl. 5: fig. 7; pl. 33: fig. 1 [type locality: Isla Santa María, Galápagos].—Cordero, 1977a:74.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Gelidium rigens (C. Agardh) Greville ex Kützing

Sphaerococcus rigens C. Agardh, 1822a:332 [type locality: Sea of Japan].
Gelidium rigens (C. Agardh) Greville ex Kützing, 1849:767.—Martens, 1868:94–95.—Velasquez, Trono, and Doty, 1975:145.—Trono and Fortes, 1980:70.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:150.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Pterocladia J. Agardh

Pterocladia caloglossoides (Howe) Dawson

Gelidium caloglossoides Howe, 1914:96, pl. 34: fig. 7; pl. 35 [type locality: Isla San Lorenzo, Peru].
Pterocladia caloglossoides (Howe) Dawson, 1953:76, pl. 6: fig. 1.
Pterocladia parva Dawson, 1953:77, pl. 6: fig. 2 [type locality: San Felipe, Baja California Norte, Mexico).—Meñez and Calumpong, 1981:381.—Calumpong, 1982:147.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental (incl. Apo I.). CEBU (Sumilon I.).

NOTE.—The conspecificity of *Pterocladia parva* and *P. caloglossoides* was proposed by Stewart and Norris (1981:281). The generic position of *P. caloglossoides,* however, is uncertain. Cystocarpic plants have not been reported from the type locality (Peru). On the basis of cystocarpic material from Mexico, Dawson transferred the species to *Pterocladia,* but abandoned this stance when treating the seaweeds of Peru (Dawson, Acleto, and Foldvik, 1964:37).

Pterocladia capillacea (S.G. Gmelin) Bornet

Fucus capillaceus S.G. Gmelin, 1768:146, pl. XV: fig. 1 [type locality: Mediterranean Sea].
Pterocladia capillacea (S.G. Gmelin) Bornet in Bornet and Thuret, 1876:57, pl. XX: figs. 1–7.—Cordero, 1977a:75.—Hurtado-Ponce, 1983:130.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Pterocladia densa Okamura

Pterocladia densa Okamura, 1934:63, pl. 30: figs. 1, 2; pl. 33: figs. 4–8 [syntype localities: various, all in Japan].—Hurtado-Ponce, 1983:130.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Pterocladia nana Okamura

Pterocladia nana Okamura, 1931 [1929–1932]:53, pl. CCLXXVIII: figs. 1–14 [syntype localities: various, all in Japan].—Cordero, 1977a:75, fig. 52.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan.

Order CRYPTONEMIALES

Family ENDOCLADIACEAE

Gloiopeltis J. Agardh

Gloiopeltis complanata (Harvey) Yamada

Endocladia complanata Harvey, 1860a:333 [type locality: Shimoda, Shizuoka Prefecture, Japan.
Gloiopeltis complanata (Harvey) Yamada, 1932a:117.—Cordero, 1977a:114.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Gloiopeltis tenax (Turner) Decaisne

Fucus tenax Turner, 1806:376, pl. 13 [type locality: China Sea].
Gloiopeltis tenax (Turner) Decaisne, 1842:360.—De Leon, 1974:31, 32, photo [s.n.].—Cordero, 1977a:114, fig. 90.

PHILIPPINE DISTRIBUTION.—PALAWAN.

NOTE.—This species is traditionally accredited to (Turner) J. Agardh, the combination supposedly having been made at the time the generic name was proposed (J. Agardh, 1842:68, footnote). Agardh, however, merely referred to "Typo *Fuco tenaci* Turn. tab. 125," and the combination was not made until a few months later, by Decaisne.

Family PEYSSONNELIACEAE

Peyssonnelia Decaisne

Peyssonnelia calcea Heydrich

Peyssonnelia calcea Heydrich, 1897a:10 [type locality: Tami I., Papua New Guinea].—Domantay, 1962:293.—Velasquez, Trono, and Doty, 1975:159.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Peyssonnelia conchicola Piccone and Grunow

Peyssonnelia conchicola Piccone and Grunow in Piccone, 1884a:317, pl. VII: figs. 5–8 [type locality: Massawa, Ethiopia].—Weber-van Bosse, 1921:272.—Velasquez, Trono, and Doty, 1975:159.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Peyssonnelia distenta (Harvey) Yamada

Galaxaura distenta Harvey, 1860a:331 [type locality: O-shima, Amamigunto, Japan].
Peyssonnelia distenta (Harvey) Yamada, 1930b:30, pl. VI: fig. 7.—Cordero, 1976c:9; 1977a:78, figs. 57, 58, pl. XIII:A; 1978a:24; 1984a:93.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte.

**Peyssonnelia evae* Weber-van Bosse

Peyssonnelia evae Weber-van Bosse, 1921:279, fig. 95 [type locality: Pearl Bank, Tawitawi Prov., Sulu Archipelago].—De Toni, 1924:593.—Velasquez, Trono, and Doty, 1975:159.

PHILIPPINE DISTRIBUTION.—As above.

**Peyssonnelia foveolata* (Weber-van Bosse) Denizot

Cruoriella foveolata Weber-van Bosse, 1921:294, figs. 105, 106 [syntype localities: Muaras Reef, East Kalimantan, Indonesia; North Ubian I. and Pearl Bank, Sulu Archipelago].—De Toni, 1924:588.—Velasquez, Trono, and Doty, 1975:138.
Peyssonnelia foveolata (Weber-van Bosse) Denizot, 1968:113, 310.

PHILIPPINE DISTRIBUTION.—As above.

**Peyssonnelia indica* (Weber-van Bosse) Denizot

Cruoriella indica Weber-van Bosse, 1921:283, figs. 97 [syntype localities: various in Indonesia; Tongquil I. and Capual I., Sulu Prov., Sulu Archipelago].—Velasquez, Trono, and Doty, 1975:138.
Peyssonnelia indica (Weber-van Bosse) Denizot, 1968:123, 310.

PHILIPPINE DISTRIBUTION.—As above.

**Peyssonnelia luzonensis* Cordero

Peyssonnelia luzonensis Cordero, 1977a:80, fig. 61, pl. XII:B [type locality: Quezon I., Hundred Is., Pangasinan Prov., Luzon].

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan.

**Peyssonnelia mariti* (Weber-van Bosse) Denizot

Cruoriella mariti Weber-van Bosse, 1921:288, fig. 101 [syntype localities: Sebangkaitan I., Little Paternoster Is. and Flores, Indonesia; Tongquil I., Sulu Prov., Sulu Archipelago].—De Toni, 1924:587.—Velasquez, Trono, and Doty, 1975:138.
Peyssonnelia mariti (Weber-van Bosse) Denizot, 1968:122, 310.

PHILIPPINE DISTRIBUTION.—As above.

**Peyssonnelia obscura* Weber-van Bosse

Peyssonnelia obscura Weber-van Bosse, 1921:274, fig. 92 [syntype localities: various in Indonesia; Capual I. and North Ubian I., Sulu Prov., Sulu Archipelago.—De Toni, 1924:592.—Velasquez, Trono, and Doty, 1975:159.

PHILIPPINE DISTRIBUTION.—As above.

Peyssonnelia rubra (Greville) J. Agardh

Zonaria rubra Greville, 1827:340, pl. 3: fig. 3 [type locality: Ionian Islands, Greece].
Peyssonnelia rubra (Greville) J. Agardh, 1851 [1851–1863]:502.—Dickie, 1876a:245.—Velasquez, Trono, and Doty, 1975:159.—Liao and Sotto, 1980:98.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.). MINDANAO: Zamboanga.

**Peyssonnelia rubra* (Greville) J. Agardh f. *orientalis* Weber-van Bosse

Peyssonnelia rubra (Greville) J. Agardh f. *orientalis* Weber-van Bosse, 1921:270, 272, fig. 89 [syntype localities: various in Indonesia; North Ubian I., Sulu Prov., Sulu Archipelago].—Cordero, 1976c:10 [var. *orientalis*]; 1977a:78, fig. 56, pl. XIII:C [var. *orientalis*].—Saraya and Trono, 1982:34, pl. IV: fig. 2 [var. *orientalis*].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PALAWAN. SULU: Sulu (North Ubian I.).

Peyssonnelia squamaria (S.G. Gmelin) Decaisne

Fucus squamarius S.G. Gmelin, 1768:171, pl. XX: fig. 1 [type locality: Mediterranean Sea].
Peyssonnelia squamaria (S.G. Gmelin) Decaisne, 1842:360.—Cordero, 1977a:80; 1978a:25.—Marcos-Agngarayngay, 1984a:30, fig. 24.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte.

Polystrata Heydrich

Polystrata dura Heydrich

Polystrata dura Heydrich, 1905:35, pl. 1 [type locality: Tami I., Papua New Guinea].
Cruoriella dura (Heydrich) Weber-van Bosse, 1921:293, pl. VIII: fig. 3 [including Philippine record].—De Toni, 1924:585.—Velasquez, Trono, and Doty, 1975:138.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Tongquil I.).

Family CRYPTONEMIACEAE

Carpopeltis Schmitz

Carpopeltis affinis (Harvey) Okamura

Gigartina affinis Harvey, 1860a:332 [type locality: Hakodate, Hokkaido, Japan].
Carpopeltis affinis (Harvey) Okamura, 1934 [1933–1942]:30, pl. 316: figs. 4–11.—Cordero, 1976c:8; 1977a:100, fig. 79; 1978a:31.—Hurtado-Ponce, 1983:135; 1984:180.—Marcos-Agngarayngay, 1984a:37, fig. 30.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. SIQUIJOR. PALAWAN.

Carpopeltis angusta (Harvey) Okamura

Gymnogongrus ligulatus Harvey ex Kützing var. *angustus* Harvey, 1860a:332 [type locality: Shimoda, Shizuoka Prefecture, Japan].
Carpopeltis angusta (Harvey) Okamura, 1909 [1909–1912]:66, pl. LXVII.—Cordero, 1976c:8, 10; 1977a:100, fig. 78, pl. XVI:A; 1978a: 32.—Hurtado-Ponce, 1983:135.—Marcos-Agngarayngay, 1984a: 39, fig. 31.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte.

Carpopeltis articulata (Okamura) Okamura

Prionitis articulata Okamura, 1899a:5, pl. 1: figs. 3, 4 [syntype localities: various, all in Japan].
Carpopeltis articulata (Okamura) Okamura, 1909 [1909–1912]:70, pl. LXVIII.—Cordero, 1977a:101, pl. XV:B.—Hurtado-Ponce, 1983:135.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte. MINDORO: Oriental Mindoro. PALAWAN.

Carpopeltis capitellata (Sonder) Schmitz

Cryptonemia capitellata Sonder, 1871:62 [type locality: Cape York, Queensland, Australia].
Carpopeltis capitellata (Sonder) Schmitz in Schmitz and Hauptfleisch, 1897 [1896–1897]:514.—Weber-van Bosse, 1921:246.—Velasquez, Trono, and Doty, 1975:130.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

Carpopeltis crispata Okamura

Carpopeltis crispata Okamura, 1934 [1933–1942]:32, pl. 317: figs. 6–11 [syntype localities: various, all in Japan].—Cordero, 1976c:8, 10; 1977a:101; 1978a:32 [*C. crispata* prox.]; 1984b:65.—Tungpalan, 1984:140.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. PALAWAN.

Carpopeltis divaricata Okamura

Carpopeltis divaricata Okamura, 1934 [1933–1942]:31, pl. 317: figs. 1–5 [syntype localities: various, all in Japan].—Cordero, 1977a:103, fig. 77, pl. XV:C; 1978a:32.—Hurtado-Ponce, 1983:137.—Cordero, 1984a: 96.—Tungpalan, 1984:140.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. MINDORO: Oriental Mindoro. SAMAR: Eastern Samar.

Carpopeltis formosana Okamura

Carpopeltis formosana Okamura, 1931:110, pl. 12 [type locality: Kotosho (Hung-t'ou), Taiwan].—Cordero, 1976c:6, 8, 9, 10; 1977a:104, fig. 80, pl. XV:A; 1978a:33.

PHILIPPINE DISTRIBUTION.—BATANES.

Carpopeltis maillardii (Montagne and Millardet) Chiang

Phyllophora maillardii Montagne and Millardet, 1862:8, pl. XXIV [type locality: Réunion].
Carpopeltis maillardii (Montagne and Millardet) Chiang, 1970: 68, pl. 5*c*.—Reyes, 1980:132, pl. 8: fig. 2.
Cryptonemia rigida Harvey ex J. Agardh, 1876:163 [type locality: Sri Lanka].
Carpopeltis rigida (Harvey ex J. Agardh) Schmitz, 1895:168.—Cordero, 1976c:9; 1978a:33.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—BATANES. SIQUIJOR.

NOTE.—The conspecificity of *Phyllophora maillardii* and *Cryptonemia rigida* was proposed by Schmitz (1895:167), who, however, incorrectly adopted the later of the two names.

Carpopeltis prolifera (Hariot) Kawaguchi and Masuda

Gigartina prolifera Hariot, 1891:220 [type locality: Yokosuka, Kanagawa Prefecture, Japan].
Carpopeltis prolifera (Hariot) Kawaguchi and Masuda, 1984:232.
Grateloupia flabellata Holmes, 1896:254, pl. 9: figs. 3*a-c* [type locality: Enoshima, Kanagawa Prefecture, Japan].
Carpopeltis flabellata (Holmes) Okamura, 1934 [1933–1942]:39, pl. 321: figs. 1–6.—Cordero, 1976c:10, 1977a:103, pl. XVI:B; 1978a:33.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—The conspecificity of *Gigartina prolifera* and *Grateloupia flabellata* was proposed by Kawaguchi and Masuda (1984.)

Cryptonemia J. Agardh

Cryptonemia crenulata (J. Agardh) J. Agardh

Phyllophora crenulata J. Agardh, 1841:18 [type locality: Bahia, Brazil].
Cryptonemia crenulata (J. Agardh) J. Agardh, 1851 [1851–1863]:225.—Cordero, 1977a:104, fig. 81, pl. XVI:C.—Meñez and Calumpong, 1981:381.—Hurtado-Ponce, 1983:136.—Cordero, 1984a:97.—Tungpalan, 1984:140.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Batangas. CENTRAL VISAYAS.

Cryptonemia luxurians (C. Agardh) J. Agardh

Sphaerococcus lactuca C. Agardh var. *luxurians* C. Agardh, 1822a:232 [type locality: Brazil].
Cryptonemia luxurians (C. Agardh) J. Agardh, 1851 [1851–1863]:228.—Cordero, 1976c:8, 9, 10; 1977a:105; 1978a:34.

PHILIPPINE DISTRIBUTION.—BATANES.

Cryptonemia schmitziana (Okamura) Okamura

Prionitis schmitziana Okamura, 1899a:6 [syntype localities: various, all in Japan].
Cryptonemia schmitziana (Okamura) Okamura, 1910 [1909–1912]:77.—Cordero, 1978a:34.

PHILIPPINE DISTRIBUTION.—BATANES.

Grateloupia C. Agardh

Grateloupia conferta (Kützing) Kützing

Grateloupia filicina (Lamouroux) C. Agardh var. *conferta* Kützing, 1849:730 [type locality: Java, Indonesia].—Martens, 1868:30, 90–91.
Grateloupia conferta (Kützing) Kützing, 1867:7, pl. 23: figs. *a, b.*

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Grateloupia dichotoma J. Agardh

Grateloupia dichotoma J. Agardh, 1842:103 [syntype localities: various, all in Mediterranean France].—Velasquez et al., 1973:29.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

Grateloupia divaricata Okamura

Grateloupia divaricata Okamura, 1895:482, pl. IX: figs. 1, 2 [syntype localities: various, all in Japan].—Cordero, 1977a:106; 1982a:61.—Hurtado-Ponce, 1983:137; 1984:180.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte.

Grateloupia doryphora (Montagne) Howe

Halymenia (?) doryphora Montagne, 1839:21 [type locality: Callao, Peru].
Grateloupia doryphora (Montagne) Howe, 1914:169 [*"doryophora"*].
Grateloupia californica Kylin, 1941:9, fig. 2B, pl. 1: figs. 1, 2 [type locality: La Jolla, California, USA].—Cordero, 1977a:106, pl. XVII:A; 1980b:46.—Hurtado-Ponce, 1983:136; 1984:180.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

NOTE.—The synonymy was proposed by Hollenberg and Abbott (1966:67).

Grateloupia filicina (Lamouroux) C. Agardh

Fucus filicinus Wulfen in Jacquin, 1789:157, pl. 15: fig. 2 [type locality: Trieste, Italy].
Delesseria filicina Lamouroux, 1813:125.
Grateloupia filicina (Lamouroux) C. Agardh, 1822a:223.—Martens, 1868:30, 46, 88–89.—Zaneveld, 1956:40; 1959:120.—Reyes, 1972:154.—Trono, 1973a:131, figs. 10–12.—Velasquez, Trono, and Doty, 1975:147.—Cordero, 1977a:107.—Vannajan and Trono, 1978:17, fig. 23.—Cordero, 1980b:47, pl. [47].—Trono and Fortes, 1980:75.—Ganzon-Fortes, 1981:23.—Cordero, 1982a:61.—Trono and Fortes, 1982:154.—Hurtado-Ponce, 1983:137; 1984:180.—Marcos-Agngarayngay, 1984b:125.—Tungpalan, 1984:140.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Rizal, Sorsogon. NEGROS: Negros Oriental. MINDANAO: Zamboanga.

NOTE.—*Fucus filicinus* Wulfen, the intended basionym of *Grateloupia filicina*, is a later homonym of *F. filicinus* Hudson (1762:473) and hence not priorable. *Delesseria filicina* Lamouroux is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Grateloupia ramosissima Okamura

Grateloupia ramosissima Okamura, 1913 [1913–1915]:60, pl. CXVII: figs. 1–11 [syntype localities: various, all in Japan].—Cordero, 1977a:107; 1980b:47; 1982a:61.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan. SIQUIJOR.

Halymenia C. Agardh

Halymenia acuminata (Holmes) Okamura

Grateloupia acuminata Holmes, 1896:254, pl. 10: figs. 2*a–c* [type locality: Enoshima, Kanagawa Prefecture, Japan].
Halymenia acuminata (Holmes) Okamura, 1908 [1907–1909]:174, pl. XXXV: figs. 6–12.—Cordero, 1977a:108, fig. 83.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PANAY: Iloilo. PALAWAN.

Halymenia dilatata Zanardini

Halymenia dilatata Zanardini, 1851:35 [type locality: Red Sea].—Domantay, 1962:291.—Velasquez, Trono, and Doty, 1975:149.—Cordero, 1977a:109, figs. 84, 85, pl. XVIII:B.—Vannajan and Trono, 1978:18.—Puig and Cordero, 1979:39.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Bataan, Cavite, Batangas. MINDORO: Oriental Mindoro. LEYTE (Biliran I.). PANAY: Capiz. NEGROS: Negros Oriental (Apo I.). CEBU (Sumilon I.).

Halymenia durvillaei Bory de Saint-Vincent

Halymenia durvillaei Bory de Saint-Vincent, 1828 [1827–1829]:180, pl. 15 [type locality: New Ireland, Papua New Guinea].—Martens, 1868:29, 88–89.—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Galutira and Velasquez, 1964:504, pl. 3: fig. 10; pl. 8: fig. 29.—Domantay, 1968:26.—De Leon and Domantay, 1971:5, 10.—Velasquez, 1971:448, fig. 30.—Reyes, 1972:154.—Velasquez, 1972:63.—Velasquez et al., 1973:28, pl. 12: fig. 56.—Ortega, Alcala, and Reyes, 1974:188.—Velasquez, Trono, and Doty, 1975:149.—Cordero, 1977a:111, fig. 86, pl. XVII:B.—Trono and Young, 1977:59.—Cordero, 1979b:276, 290, fig. 1.—Velasquez, 1979b:231.—Cordero, 1980b:48, fig. 11A, pl. 30.—Guzman, 1981:43, 51.—Liao and Sotto, 1980:99.—Reyes, 1980:133, pl. 8: fig. 5.—Trono and Fortes, 1980:75.—Ganzon-Fortes, 1981:23.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.—Cordero, 1982a:60, fig. 13.—Trono and Fortes, 1982:154.—Hurtado-Ponce, 1983:137.—Cordero, 1984a:96; 1984b:65.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984a:36, fig. 29; 1984b:126.—Tungpalan, 1984:141.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Bataan, Cavite (Corregidor I.), Batangas, Quezon, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. SAMAR: Western Samar, Eastern Samar. PANAY: Aklan. GUIMARAS. NEGROS: Negros Occidental, Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN. SULU.

Halymenia floresia (Clemente y Rubio) C. Agardh

Fucus floresius Clemente y Rubio, 1807:312 [type locality: Sanlúcar de Barrameda, Spain].
Halymenia floresia (Clemente y Rubio) C. Agardh, 1817:xix.—Tungpalan, 1984:141.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Halymenia formosa Harvey ex Kützing

Halymenia formosa Harvey ex Kützing, 1866:33, pl. 91: figs. *g,h* [syntype localities: Tonga; Australia].—Seale, 1911:309.—Wester, 1916:159; 1921:224; 1924:21.—G. Blanco, 1938:513.—Quisumbing, 1951:1010 [*"formosana"*].—Montilla and Blanco, 1953:fig. 5: 2.—Domantay, 1962:291.—Velasquez, Trono, and Doty, 1975:149.—Cordero, 1982a:60.
Halymenia durvillaei Bory de Saint-Vincent var. *formosa* (Harvey ex Kützing) Weber-van Bosse, 1921:235.—Zaneveld, 1956:41; 1959:120.—Cordero, 1976c:8; 1978a:31.—Cordero, 1984a:96 ["var. *formosana* Yamada"].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, La Union, Pangasinan, Manila Bay.

Halymenia harveyana J. Agardh

Halymenia harveyana J. Agardh, 1892:55 [type locality: Port Phillip Heads, Victoria, Australia].—Meñez, 1961:72.—Velasquez, Trono, and Doty, 1975:149.—Cordero, 1977a:112, pl. XVIII:c.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan.

Halymenia japonica

Halymenia japonica.—Domantay, 1968:26.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.
NOTE.—Domantay did not give an author for this name and we have been unable to find its place of publication.

Halymenia maculata J. Agardh

Halymenia maculata J. Agardh, 1885:12 [type locality: Mauritius].—Domantay, 1962:291.—Velasquez, Trono, and Doty, 1975:149.—Trono and Ang, 1982:16.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PALAWAN (Bugsuk I.).

**Halymenia microcarpa* (Montagne) P.C. Silva, new combination

Mesogloia microcarpa Montagne, 1844a:660 [*"Mesogloea"*] [type locality: "in insulis Philippinensibus"].—J. Agardh, 1848:59.—Kützing, 1849: 546.—Montagne, 1856:400.—Martens, 1868:68–69.—Velasquez, Trono, and Doty, 1975:153.
Halymenia ceylanica Harvey ex Kützing, 1866:33, pl. 93: figs. *a, b* [type locality: Sri Lanka].—Grunow, 1874:32.
Halymenia durvillaei Bory de Saint-Vincent var. *ceylanica* (Harvey ex Kützing) Weber-van Bosse, 1921:235.—Trono, 1973d:17.—Trono and Biña, 1973:6.—Trono, 1974b:87.—Vannajan and Trono, 1978:17, fig. 22.—Trono and Ganzon-Fortes, 1980:71, fig. [s.n.].—Trono and De Lara, 1981:17, pl. XI: fig. 2.—Saraya and Trono, 1982:36.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite, Batangas, Quezon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MINDANAO: Zamboanga. SULU: Sulu (Siasi I.).

NOTE.—The conspecificity of *Mesogloia microcarpa* and *Halymenia ceylanica* was proposed by Grunow (1874:32).

Prionitis J. Agardh

Prionitis cornea (Okamura) Dawson

Grateloupia cornea Okamura, 1913 [1913–1915]:63, pl. CXVIII [syntype localities: various, all in Japan].
Carpopeltis cornea (Okamura) Okamura, 1942 [1933–1942]:100.—Cordero, 1977a:101.
Prionitis cornea (Okamura) Dawson, 1958:71.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Thamnoclonium Kützing

**Thamnoclonium procumbens* Weber-van Bosse

Thamnoclonium procumbens Weber-van Bosse, 1921:251, figs. 78, 79 [syntype localities: various in Indonesia; Capual I., Sulu Prov., Sulu Archipelago].—Velasquez, Trono, and Doty, 1975:165.

PHILIPPINE DISTRIBUTION.—As above.

**Thamnoclonium treubii* Weber-van Bosse

Thamnoclonium treubii Weber-van Bosse, 1910:587, pl. XVI: fig. 1 [type locality: North Ubian I., Sulu Prov., Sulu Archipelago].—Weber-van Bosse, 1921:250.—Velasquez, Trono, and Doty, 1975:165.

PHILIPPINE DISTRIBUTION.—As above.

Family KALLYMENIACEAE

Callophyllis Kützing

Callophyllis adhaerens Yamada

Callophyllis adhaerens Yamada, 1932b:273, pl. VI:*a* [syntype localities: various, all in Japan].—Velasquez et al., 1973:29, pl. 12: fig. 57.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

Callophyllis adnata Okamura

Callophyllis adnata Okamura, 1932 [1929–1932]:79, pl. CCLXXXIX [type locality: Enoshima, Kanagawa Prefecture, Japan].—Velasquez et

al., 1973:29, pl. 12: fig. 58.—Cordero, 1980c:71, fig. 3.—Hurtado-Ponce, 1983:138; 1984:180.—Marcos-Agngarayngay, 1984b:126.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Bataan.

Callophyllis okamurae P.C. Silva, new name

Pugetia japonica Kylin, 1941:16 [type locality: Chiba Prefecture, Japan].
Callophyllis chilensis [misapplied name fide Kylin, 1941:15–16].—Cordero, 1977a:115.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

NOTE.—Norris (1957:298) suggested that *Pugetia japonica* was referable to *Callophyllis*. Because of the existence of *C. japonica* Okamura (in De Toni and Okamura, 1895:77, pl. 16: figs. 13–17), a new epithet must be chosen. *Pugetia japonica* is validated by Kylin's reference to Howe (1914:117), who distinguished the Japanese plant from *Callophyllis chilensis* without giving it a name.

Kallymenia J. Agardh

Kallymenia callophylloides Okamura and Segawa

Kallymenia callophylloides Okamura and Segawa in Segawa, 1935:78, fig. 1., pl. 19: fig. 1 [type locality: Susaki, Shizuoka Prefecture, Japan].—Cordero, 1977a:116, fig. 94, pl. XXV:A.—Marcos-Agngarayngay, 1984a:39, fig. 33.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Kallymenia pacifica Kylin

Meredithia californica J. Agardh, 1899:49 [type locality: San Diego, California, USA].
Kallymenia pacifica Kylin, 1956:233 ["*Callymenia*"].—Cordero, 1981b:24, fig. 1.

PHILIPPINE DISTRIBUTION.—PANAY: Iloilo.

NOTE.—When transferring *Meredithia californica* to *Kallymenia,* Kylin was obliged to change the epithet by the prior existence of *K. californica* Farlow (1877:241).

Kallymenia sessilis Okamura

Kallymenia sessilis Okamura, 1934 [1933–1942]:20, pl. 312 [type locality: Tateyama, Japan].—Velasquez et al., 1973:29, pl. 12: fig. 59.—Cordero, 1981b:26, fig. 2.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas, Bataan. PANAY: Iloilo.

Order CORALLINALES

Family CORALLINACEAE

Amphiroa Lamouroux

Amphiroa anastomosans Weber-van Bosse

Amphiroa anastomosans Weber-van Bosse, 1904b:91, pl. XVI: figs. 3, 4 [syntype localities: Borneo Bank and Flores, Indonesia].—Cordero, 1977a:82.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Sorsogon. MINDORO: Oriental Mindoro. SAMAR: Western Samar. CENTRAL VISAYAS.

Amphiroa anceps (Lamarck) Decaisne

Corallina anceps Lamarck, 1815:238 [type locality: "les mers Australes ou de la Nouv. Holl."].
Amphiroa anceps (Lamarck) Decaisne, 1842:125.—Cordero, 1977a:81, pl. XIV:A.—Hurtado-Ponce, 1983:131.—Cordero, 1984a:94.
Amphiroa dilatata Lamouroux, 1816:299 [type locality: "Australasie"].—Garcia, 1979:44 (table 1).—Cordero, 1984a:94.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. SIQUIJOR. MINDANAO.

NOTE.—The synonymy was proposed by Weber-van Bosse (1904b:93).

Amphiroa annulata Lemoine

Amphiroa annulata Lemoine, 1929:78, fig. 34, pl. IV: fig. 1 [type locality: James I. [Isla San Salvador or Santiago], Galápagos].—Domantay, 1962:288.—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Amphiroa beauvoisii Lamouroux

Amphiroa beauvoisii Lamouroux, 1816:299 [type locality: Portugal].—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

**Amphiroa cumingii* Montagne

Amphiroa cumingii Montagne, 1844a:662 [type locality: "in insulis Philippinensibus"].—Kützing, 1849:702.—Areschoug, 1852:541.—Montagne, 1856:430.—Martens, 1868:86–87.—Dickie, 1876a:244.—Velasquez, Trono, and Doty, 1975:126.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Amphiroa ephedraea (Lamarck) Decaisne

Corallina ephedraea Lamarck, 1815:238 [type locality: "les mers Australes ou de la Nouv. Holl."].
Amphiroa ephedraea (Lamarck) Decaisne, 1842:124.—Cordero, 1973b:30

[*A. ephedraea* prox.]; 1976c:8; 1977a:82; 1978a:27.—Puig and Cordero, 1979:38.—Cordero, 1984c:54.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. MASBATE. LEYTE (Biliran I.). MINDORO: Oriental Mindoro. PALAWAN.

Amphiroa foliacea Lamouroux

Amphiroa foliacea Lamouroux in Quoy and Gaimard, 1824:628, pl. 93: figs. 2, 3 [type locality: Mariana Is.].—Cornejo and Velasquez, 1972:181.—Trono and Biña, 1973:4.—Velasquez et al., 1973:27, pl. 11: fig. 52.—Cordero, 1977a:84.—Trono and Young, 1977:59.—Puig and Cordero, 1979:38.—Liao and Sotto, 1980:98.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.—Trono and De Lara, 1981:15, pl. X: fig. 4.—Saraya and Trono, 1982:34a, pl. IV: fig. 1.—Hurtado-Ponce, 1983:131.—Cordero, 1984a:94; 1984b:64; 1984c:54.—Marcos-Agngarayngay, 1984a:32, fig. 26.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Bataan, Batangas, Quezon, Albay. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MASBATE. SAMAR: Western Samar, Eastern Samar. LEYTE (incl. Biliran I.). CEBU (Mactan I.). PALAWAN.

**Amphiroa foliacea* Lamouroux f. *erecta* Weber-van Bosse

Amphiroa foliacea Lamouroux f. *erecta* Weber-van Bosse, 1904b:93, pl. XIV: figs. 2–8 [syntype localities: various in Indonesia; North Ubian I., Sulu Prov., and Sangasiapu I., Tawitawi Prov., Sulu Archipelago].—Velasquez, Trono, and Doty, 1975:127 [without designation of forma].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—As above.

Amphiroa fragilissima (Linnaeus) Lamouroux

Corallina fragilissima Linnaeus, 1758:806 [type locality: Jamaica].

Amphiroa fragilissima (Linnaeus) Lamouroux, 1816:298.—Dickie, 1876a:243.—Weber-van Bosse, 1904b:90 [f. *fragilissima*].—Howe, 1932:170.—Domantay, 1962:288.—Cornejo and Velasquez, 1972: 182.—Reyes, 1972:153.—Trono, 1972a:103; 1973d:16.—Trono and Biña, 1973:4 [f. *fragilissima*].—Velasquez et al., 1973:28, pl. 11: fig. 53.—Ortega, Alcala, and Reyes, 1974:185–188 (tables 1–4, 7).—Trono, 1974b:86 [f. *fragilissima*].—Velasquez, Trono, and Doty, 1975:127.—Cordero, 1976c:8; 1977a:85, figs. 62, 63; 1977a:85, pl. XIV:B [var. *fragilissima*]; 1978a:28.—Trono, 1978:16.—Vannajan and Trono, 1978:16, fig. 16.—Cordero, 1979b:289.—Puig and Cordero, 1979:38.—Liao and Sotto, 1980:98.—Reyes, 1980:130, pl. 6: fig. 6.—Trono and Ganzon-Fortes, 1980:67, fig. [s.n.].—Chan, 1981:387.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.—Trono and De Lara, 1981:16, pl. X: fig. 3.—Saraya and Trono, 1982:34a, pl. V: fig. 2.—Hurtado-Ponce, 1983:132.—Cordero, 1984a:95; 1984c:54.—Marcos-Agngarayngay, 1984a:34, fig. 27.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Bataan, Cavite, Batangas, MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Occidental, Negros Oriental. CEBU (Mactan I.). SIQUIJOR. PALAWAN. SULU: Sulu (Siasi I.), Tawitawi (incl. Sangasiapu I.).

Amphiroa fragilissima (Linnaeus) Lamouroux f. *cyathifera* (Lamouroux) Weber-van Bosse

Amphiroa cyathifera Lamouroux, 1824:627 [type locality: Moluccas, Indonesia].

Amphiroa fragilissima (Linnaeus) Lamouroux f. *cyathifera* (Lamouroux) Weber-van Bosse, 1904b:90 [including Philippine record].—Trono and Biña, 1973:4.—Trono, 1974b:86.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. SULU: Sulu (Siasi I.), Tawitawi (Sangasiapu I.).

Amphiroa hancockii W.R. Taylor

Amphiroa hancockii W.R. Taylor, 1942:95, pl. 13 [type locality: Caledonia, Atlantic Panama].—Velasquez et al., 1973:28, pl. 11: fig. 54.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan.

Amphiroa pacifica Kützing

Amphiroa pacifica Kützing, 1858:20. pl. 43: fig. 1 [type locality: Peru].—Martens, 1868:28, 84–85.—Velasquez, Trono, and Doty, 1975:127.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Amphiroa rigida Lamouroux

Amphiroa rigida Lamouroux, 1816:297, pl. XI: fig. 1 [type locality: Mediterranean Sea].—Cordero, 1977a:86.—Meñez and Calumpong, 1981:381.—Meñez, Phillips, and Calumpong, 1983:23.—Meñez and Calumpong, 1984:105.

PHILIPPINE DISTRIBUTION.—SAMAR: Western Samar. CENTRAL VISAYAS. PALAWAN.

Amphiroa subcylindrica Dawson

Amphiroa subcylindrica Dawson, 1953:139, pl. 29: fig. 1 [type locality: Guaymas, Sonora, Mexico].—Domantay, 1962:288.—Velasquez, Trono, and Doty, 1975:127.—Saraya and Trono, 1982:34b, pl. V: fig. 1.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Amphiroa tribulus (Ellis and Solander) Lamouroux

Corallina tribulus Ellis and Solander, 1786:124, pl. 21: fig. *e* [type locality: West Indies].

Amphiroa tribulus (Ellis and Solander) Lamouroux, 1816:302.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Amphiroa valonioides Yendo

Amphiroa valonioides Yendo, 1902:5, pl. I: figs. 1–3; pl. IV: fig. 1 [syntype localities: various, all in Japan].—Cordero, 1977a:86, fig. 60, pl. XIII:B.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon. SAMAR: Eastern Samar. LEYTE.

Amphiroa zonata Yendo

Amphiroa zonata Yendo, 1902:10, pl. I: figs. 11–14; pl. IV: fig. 9 [syntype localities: various, all in Japan].—Cordero, 1977a:86.—Hurtado-Ponce, 1983:132.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. MINDORO: Oriental Mindoro. SIQUIJOR.

Cheilosporum (Decaisne) Zanardini

Cheilosporum cultratum (Harvey) J.E. Areschoug

Amphiroa cultrata Harvey, 1849 [1847–1849]:102, pl. XXXIX [in part] [lectotype locality: Port Natal (Durban), South Africa fide Johansen, 1977:175].
Cheilosporum cultratum (Harvey) J.E. Areschoug, 1852:545.—Domantay, 1962:288.—Meñez, 1961:71.—Trono, 1973a:133, fig. 9.—Velasquez, Trono, and Doty, 1975:134.—Cordero, 1977a:88, figs. 64, 65.—Saraya and Trono, 1982:36, pl. V: fig. 4.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Sorsogon. SAMAR: Western Samar, Eastern Samar.

Cheilosporum jungermannioides Ruprecht ex J.E. Areschoug

Cheilosporum jungermannioides Ruprecht ex J.E. Areschoug, 1852:546 [type locality: Tahiti]; 1976c:9; 1977a:88, figs. 66, 68; 1978a:28 [*C. jungermannioides* prox.].—Hurtado-Ponce, 1983:132.—Cordero, 1984a:95; 1984b:64.—Marcos-Agngarayngay, 1984a:34, fig. 28.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan. MINDORO: Oriental Mindoro. LEYTE. PALAWAN.

Cheilosporum sagittatum (Lamouroux) J.E. Areschoug

Corallina sagittata Lamouroux in Quoy and Gaimard, 1824:625, pl. 95: figs. 11, 12 [type locality: Mauritius].
Cheilosporum sagittatum (Lamouroux) J.E. Areschoug, 1852:545.—Trono and De Lara, 1981:16, pl. X: fig. 2.

PHILIPPINE DISTRIBUTION.—MINDORO: Occidental Mindoro (Lubang Is.).

Corallina Linnaeus

Corallina frondescens Postels and Ruprecht

Corallina frondescens Postels and Ruprecht, 1840:20, pl. XL: fig. 103 [type locality: Unalaska I., Aleutian Is.].

Corallina pinnatifolia (Manza) Dawson var. *digitata* Dawson, 1953:125, pl. 9: figs. 14–20; pl. 30: fig. 1 [type locality: Guaymas, Sonora, Mexico].—Cordero, 1976c:8, 9, 10; 1977a:90; 1978a:28.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—The synonymy was proposed by Johansen (1976:403).

Fosliella Howe

Fosliella farinosa (Lamouroux) Howe

Melobesia farinosa Lamouroux, 1816:315, pl. XII: fig. 3 [type locality: not specified (Mediterranean Sea fide Chamberlain, 1983:343)].—Piccone, 1889:51, 59.—Foslie, 1904:55.—Domantay, 1962:293.—Velasquez, Trono, and Doty, 1975:153.
Fosliella farinosa (Lamouroux) Howe, 1920:587.—Cordero, 1977a:90.—Trono, 1978:17.—Reyes, 1980:132.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MARINDUQUE. SAMAR: Eastern Samar. SIQUIJOR. SULU: Sulu (North Ubian I.).

Haliptilon (Decaisne) Lindley

Haliptilon cubense (Montagne ex Kützing) Garbary and Johansen

Jania cubensis Montagne ex Kützing, 1849:709 [type locality: Cuba].
Corallina cubensis (Montagne ex Kützing) Kützing, 1858:37, pl. 77: fig. II.—Meñez and Calumpong, 1981:381.
Haliptilon cubense (Montagne ex Kützing) Garbary and Johansen, 1982:218.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Hydrolithon (Foslie) Foslie

Hydrolithon reinboldii (Weber-van Bosse and Foslie) Weber-van Bosse

Lithophyllum reinboldii Weber-van Bosse and Foslie in Foslie, 1901c:5 [lectotype locality: Muaras Reef, East Kalimantan, Indonesia fide Adey and Lebednik, 1967:32].
Goniolithon reinboldii (Weber-van Bosse and Foslie) Weber-van Bosse and Foslie in Foslie, 1904:49 [including Philippine records].—Velasquez, Trono, and Doty, 1975:146.
Hydrolithon reinboldii (Weber-van Bosse and Foslie) Weber-van Bosse and Foslie in Foslie, 1909:55.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.), Tawitawi (Sangasiapu I.).

Jania Lamouroux

Jania adhaerens Lamouroux

Jania adhaerens Lamouroux, 1816:270 [type locality: "Méditerranée?"].—Cordero, 1976c:9, 10; 1977a:91, fig. 73; 1978a:29.—Chan, 1981:387, 389.—Meñez and Calumpong, 1981:381.—Hurtado-Ponce, 1983:

133.—Meñez, Phillips, and Calumpong, 1983:23.—Meñez and Calumpong, 1984:105.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. SAMAR: Eastern Samar. NEGROS: Negros Oriental. SIQUIJOR. PALAWAN.

Jania capillacea Harvey

Jania capillacea Harvey, 1853:84 [type locality: Bahia Honda, Florida, USA].—Trono, 1972a:103; 1973d:16.—Trono and Biña, 1973:5.—Westernhagen, 1973a:65.—Trono, 1974b:85.—Westernhagen, 1974:112 (table 1).—Cordero, 1976c:9; 1977a:91, figs. 67, 69; 1978a:29.—Trono, 1978:17.—Fortes and Trono, 1980:60, 66.—Liao and Sotto, 1980:99.—Trono and Ganzon-Fortes, 1980:69, fig. [s.n.].—Chan, 1981:387, 389.—Fortes, 1981b:396.—Trono and De Lara, 1981:16, pl. X: fig. 1.—Saraya and Trono, 1982:35.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Batangas. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. LEYTE. PANAY: Iloilo. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. SULU: Sulu (Siasi I.), Tawitawi.

Jania decussato-dichotoma (Yendo) Yendo

Corallina decussato-dichotoma Yendo, 1902:25, pl. III: figs. 1–3: pl. VII: figs. 3, 4 [syntype localities: various, all in Japan].

Jania decussato-dichotoma (Yendo) Yendo, 1905b:37.—Cordero, 1973b:31 [*J. decussato-dichotoma* prox.]; 1976c:8; 1978a:29.—Fortes, 1981b: 396.—Saraya and Trono, 1982:35.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. LEYTE (Biliran I.).

NOTE.—Cordero (1976c) recognized both *J. adhaerens* and *J. decussato-dichotoma* from the Batan Islands, but later (1977a) he merged the two species. While all Philippine reports under the two names may be referable to a single species, it seems likely that this species will prove to be distinct from *J. adhaerens,* in which case it would be called *J. decussato-dichotoma.*

Jania longiarthra Dawson

Jania longiarthra Dawson, 1953:119, pl. 9: fig. 4; pl. 27: fig. 4 [type locality: Isla Espíritu Santo, Baja California Sur, Mexico].—Trono, 1978:17.

PHILIPPINE DISTRIBUTION.—MARINDUQUE.

Jania micrarthrodia Lamouroux

Jania micrarthrodia Lamouroux, 1816:271, pl. 9: fig. 5 [type locality: "Australasie"].

Jania tenuissima Sonder, 1848 [1846–1848]:186 [type locality: Western Australia, Australia (mouth of Swan River fide Harvey, 1849 [1847–1849]:106)].—Piccone, 1886:67, 90.—Velasquez, Trono, and Doty, 1975:151.

PHILIPPINE DISTRIBUTION.—MASBATE (Ticao I.).

NOTE.—The synonymy was proposed by Areschoug (1852:555).

Jania pacifica J.E. Areschoug

Jania pacifica J.E. Areschoug, 1852:556 [type locality: Guatulco, Oaxaca, Mexico].

Jania mexicana W.R. Taylor, 1945:197, pl. 60 [type locality: Bahía Petatlán, Guerrero, Mexico].—Cordero, 1977a:92, fig. 74.—Chan, 1981:387.—Saraya and Trono, 1982:36, pl. V: fig. 3.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PALAWAN.

NOTE.—The conspecificity of *Jania mexicana* and *J. pacifica* became obvious to one of us (PCS) after collecting in Pacific tropical Mexico, the type locality for both species.

Jania pumila Lamouroux

Jania pumila Lamouroux, 1816:269, pl. IX: fig. 2 [syntype localities: Red Sea; "Indes Orientales"].—Velasquez et al., 1973:28, pl. 11: fig. 55.—Cordero, 1977a:92, figs. 70–72.—Chan, 1981:387, 389.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Bataan, Batangas.

Jania rubens (Linnaeus) Lamouroux

Corallina rubens Linnaeus, 1758:806 [type locality: Europe].

Jania rubens (Linnaeus) Lamouroux, 1816:272, pl. IX: fig. 6, 7.—Meñez, 1961:71, pl. 8: figs. 89, 90.—Reyes, 1972:153.—Velasquez, Trono, and Doty, 1975:150.—Reyes, 1980:131, pl. 7: figs. 4*a,b*.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. NEGROS: Negros Oriental. SIQUIJOR.

Jania tenella (Kützing) Grunow

Corallina tenella Kützing, 1858:41, pl. 85: fig. 11 [syntype localities: Napoli, Italy; Mexico].

Jania tenella (Kützing) Grunow, 1874:42.—Cornejo and Velasquez, 1972:183, pl. 3: fig. 27 [var. *tenella*].—Velasquez, Trono, and Doty, 1975:150.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

Jania tenella (Kützing) Grunow var. *zacae* Dawson

Jania tenella (Kützing) Grunow var. *zacae* Dawson, 1953:121, pl. 8: fig. 3; pl. 31: fig. 1 [type locality: Bahía Piedra Blanca, Pacific Costa Rica].—Domantay, 1962:292.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Jania ungulata (Yendo) Yendo

Corallina ungulata Yendo, 1902:26, pl. III: figs. 7, 8; pl. VII: fig. 8 [syntype localities: various, all in Japan].

Jania ungulata (Yendo) Yendo, 1905b:38.—Vannajan and Trono, 1978:17, fig. 17.—Chan, 1981:387, 389.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite.

Jania ungulata (Yendo) Yendo f. *brevior* (Yendo) Yendo

Corallina ungulata Yendo f. *brevior* Yendo, 1902:27, pl. III: fig. 9; pl. VII: fig. 9 [type locality: Chiba Prefecture, Japan].
Jania ungulata (Yendo) Yendo f. *brevior* (Yendo) Yendo, 1905b:38.—Trono, 1973d:16 [var. *brevior*].—Cordero, 1977a:94, figs. 75, 76, pl. XIV:c [var. *brevior*]; 1978a:30 [var. *brevior*].—Liao and Sotto, 1980:99 [var. *brevior*].—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381 [var. *brevior*].—Saraya and Trono, 1982:35 [var. *brevior*].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. SIQUIJOR. CEBU (Mactan I.).

Lithophyllum Philippi

Lithophyllum byssoides (Lamarck) Foslie

Nullipora byssoides Lamarck, 1801:374 [type locality: Mediterranean Sea].
Lithothamnion byssoides (Lamarck) Philippi, 1837:388.—Dickie, 1877: 489.—Velasquez, Trono, and Doty, 1975:152.
Lithophyllum byssoides (Lamarck) Foslie, 1900d:20.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Lithophyllum moluccense (Foslie) Foslie

Lithothamnion moluccense Foslie, 1897:12 [type locality: Moluccas, Indonesia].
Lithophyllum moluccense (Foslie) Foslie, 1901a:12 [including Philippine record].—Foslie, 1904:67, pl. XII: fig. 8 [f. *typica*].—Velasquez, Trono, and Doty, 1975:152.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Lithophyllum pallescens (Foslie) Foslie

Lithothamnion pallescens Foslie, 1895:4, pl. 1: figs. 11–13 [type locality: Isla Espíritu Santo, Baja California Sur, Mexico].
Lithophyllum pallescens (Foslie) Foslie, 1900d:20.
Lithophyllum okamurae Foslie, 1900c:4 ["*okamurai*"] [type locality: Kanagawa Prefecture, Japan].—Foslie, 1904:59, pl. XI: fig. 17.—Domantay, 1962:292.—Velasquez, Trono, and Doty, 1975:152 ["*okamurai*" and "*okamura*"].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. SULU: Sulu (North Ubian I., Tongquil I.), Tawitawi (Sangasiapu I.).

NOTE.—The synonymy was proposed by Adey, Townsend, and Boykins (1982:40).

Lithoporella (Foslie) Foslie

Lithoporella indica (Foslie) Adey

Litholepis indica Foslie, 1907:21 [type locality: Réunion].
Lithoporella indica (Foslie) Adey, 1970:15.

PHILIPPINE DISTRIBUTION.—See "*Litholepsis indica* Foslie f. *philippinensis* Foslie."

TAXON OF UNCERTAIN VALUE

Philippine records for *Lithoporella indica* are under the following infraspecific taxon, which has not been formally transferred to it.

**Litholepsis indica* Foslie f. *philippinensis Foslie*

Litholepsis indica Foslie f. *philippinensis* Foslie, 1908:9 [type locality: Adiagñao, Camarines Sur Prov., Luzon].—De Toni, 1924:655.

PHILIPPINE DISTRIBUTION.—As above.

Lithoporella melobesioides (Foslie) Foslie

Mastophora melobesioides Foslie, 1903:24 [type locality: Maldives].—Foslie, 1904:73.—Velasquez, Trono, and Doty, 1975:153.
Lithoporella melobesioides (Foslie) Foslie, 1909:59.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Capual I., Tongquil I.), Tawitawi (Sangasiapu I.).

Lithothamnion Heydrich

Woelkerling (1983b:193), after discovering that none of the five original species of *Lithothamnium* Philippi (1837:387) conforms to any modern concept of the genus, proposed the conservation of that generic name as treated by Heydrich (1897c:412), lectotypified by *L. muelleri* Lenormand ex Rosanoff. Heydrich spelled the name *Lithothamnion*, the spelling that has been proposed for conservation.

**Lithothamnion australe* Foslie f. *brachiatum* Foslie

Lithothamnion australe Foslie f. *brachiatum* Foslie, 1904:24, pl. II: figs. 25–38 ["*brachiata*"] [syntype localities: Semau I. and Timor, Indonesia; North Ubian I. and Tongquil I., Sulu Prov., Sulu Archipelago].—Foslie, 1929: pl. XVII: figs. 51–54.

PHILIPPINE DISTRIBUTION.—As above.

**Lithothamnion australe* Foslie f. *minutulum* Foslie

Lithothamnion australe Foslie f. *minutulum* Foslie, 1904:24, pl. II: figs. 39–62 ["*minutula*"] [syntype localities: Tual, Kai Is., Moluccas, Indonesia; Tongquil I., Sulu Prov., Sulu Archipelago].—Foslie, 1929: pl. XVII: figs. 59–70.

PHILIPPINE DISTRIBUTION.—As above.

**Lithothamnion australe* Foslie f. *ubianum* Foslie

Lithothamnion australe Foslie f. *ubianum* Foslie, 1904:24, fig. 12, pl. II: figs. 18–24 ["*ubiana*"] [syntype localities: Celebes, Indonesia; Capual I., North Ubian I., and Tongquil I., Sulu Prov., Sulu Archipelago].—Foslie, 1929: pl. XVII: figs. 40–44.

PHILIPPINE DISTRIBUTION.—As above.

NOTE.—The typification of *Lithothamnion australe* is discussed by Adey, Townsend, and Boykins (1982:57).

Lithothamnion indicum Foslie f. *subtile* Foslie

Lithothamnion indicum Foslie f. *subtile* Foslie, 1907:7 ["*subtilis*"] [syntype localities: Indian and Pacific oceans].—Foslie, 1929: pl. XIII: fig. 26.

Lithothamnion fruticulosum (Kützing) Foslie f. *clavulatum* [misapplied name fide Foslie, 1907:7].—Foslie, 1904:20, pl. II: figs. 6, 7, 9 ["*clavulata*"].—Velasquez, Trono, and Doty, 1975:152 [without designation of forma].

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Capual I., Tongquil I.), Tawitawi (Sangasiapu I.).

Mastophora Decaisne

Mastophora rosea (C. Agardh) Setchell

Zonaria rosea C. Agardh, 1824:264 [type locality: Guam, Mariana Is.].

Mastophora rosea (C. Agardh) Setchell, 1943:129.—Domantay, 1962:292.—Velasquez, 1971:453, fig. 39.—Reyes, 1972:153.—Trono, 1972a:103.—Cordero, 1973b:31.—Trono, 1973d:16, pl. 9: fig. 2.—Trono and Biña, 1973:5.—Westernhagen, 1973a:65.—Ortega, Alcala, and Reyes, 1974:187, 188.—Trono, 1974b:87.—Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:153.—Cordero, 1976c:8, 9, 10; 1977a:94, pl. XIV:D; 1978a:30.—Trono, 1978:18.—Cordero, 1979b:276, 289.—Garcia, 1979:45 (table 1).—Puig and Cordero, 1979:38.—Liao and Sotto, 1980:99.—Reyes, 1980:131, pl. 7: fig. 5.—Meñez and Calumpong, 1981:381.—Trono and De Lara, 1981:15, pl. IX: fig. 1.—Saraya and Trono, 1982:34, pl. IV: fig. 4.—Hurtado-Ponce, 1983:133.—Cordero, 1984a:93; 1984b:65.—Marcos-Agngarayngay, 1984a:32, fig. 25.

**Mastophora licheniformis* Decaisne, 1842:359, pl. 17: fig. 11 [type locality: Manila, Luzon].—Montagne, 1844a:662.—Velasquez, Trono, and Doty, 1975:153.

Mastophora decaisnei Kützing, 1849:697.—Martens, 1868:84–85.—Velasquez, Trono, and Doty, 1975:152.

Melobesia foliacea Kützing, 1843b:385 [type locality: Mariana Is.].—Dickie, 1876a:244 [with query].—Velasquez, Trono, and Doty, 1975:153.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan, Manila, Batangas, Quezon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. SAMAR: Western Samar. LEYTE (Biliran I.). PANAY: Aklan, Capiz, Iloilo. GUIMARAS. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN. SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—The synonymy was proposed by Setchell (1943:129). *Mastophora decaisnei* Kützing is a superfluous and hence illegitimate substitute name for *Mastophora licheniformis* Decaisne.

Mesophyllum Lemoine

Mesophyllum erubescens (Foslie) Lemoine

Lithothamnion erubescens Foslie, 1900a:9 [type locality: Ilha Fernando de Noronha, Brazil].—Foslie, 1904:31.—Velasquez, 1971:448, fig. 29.—Velasquez et al., 1973:27.

Mesophyllum erubescens (Foslie) Lemoine, 1928:252.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. MINDORO: Oriental Mindoro. MINDANAO: Davao. SULU: Tawitawi (Sangasiapu I.).

Mesophyllum imbricatum (Dickie) Adey

Lithothamnion imbricatum Dickie, 1877:486 [type locality: Tahiti].

Mesophyllum imbricatum (Dickie) Adey, 1970:24.

Lithothamnion dickiei Foslie, 1900a:7 [including Philippine record].—Foslie, 1904:30.

Lithothamnion polymorphum [misapplied name fide Foslie, 1900a:7].—Dickie, 1876b:455.—Piccone, 1889:45, 53.—Velasquez, Trono, and Doty, 1975:152.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

NOTE.—*Lithothamnion dickiei* Foslie is a superfluous and hence illegitimate substitute name for *L. imbricatum* Dickie.

Mesophyllum pulchrum (Weber-van Bosse and Foslie) Lemoine

Lithothamnion pulchrum Weber-van Bosse and Foslie in Foslie, 1901c:3 [type locality: Sailus Besar, Great Paternoster Is., Indonesia].—Foslie, 1904:36, pl. IV: fig. 11.—Velasquez, Trono, and Doty, 1975:152.

Mesophyllum pulchrum (Weber-van Bosse and Foslie) Lemoine, 1928:252.

PHILIPPINE DISTRIBUTION.—SULU.

Mesophyllum siamense (Foslie) Adey

Lithothamnion siamense Foslie, 1901b:19 [type locality: various, all in Ko Chang Archipelago, Thailand].—Foslie, 1904:10, pl. 1: figs. 1, 2.—De Toni, 1924:611.—Velasquez, Trono, and Doty, 1975:152.

Mesophyllum siamense (Foslie) Adey, 1970:26.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Tongquil I.).

NOTE.—Foslie (1901b:19) originally described *Lithothamnion siamense* as comprising two formae, f. *minutum* and f. *simulans*. Upon elevating the latter to specific rank, Foslie

(1904:16) lectotypified *L. siamense* with f. *minutum*, which he then called f. *typicum*. In the same work, Foslie (1904:10) described *L. siamense* f. *pseudoramosum*. Tongquil I. is in the list of localities for the species, but to which forma it pertains is not indicated.

Mesophyllum simulans (Foslie) Lemoine

Lithothamnion siamense Foslie f. *simulans* Foslie, 1901b:19 [type locality: Ko Sarlak, Ko Chang Archipelago, Thailand].
Lithothamnion simulans (Foslie) Foslie, 1904:16, pl. I: figs. 21–25 [including Philippine record].—Velasquez, Trono, and Doty, 1975:152.
Mesophyllum simulans (Foslie) Lemoine, 1928:252.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Neogoniolithon Setchell and Mason

Neogoniolithon frutescens (Foslie) Setchell and Mason

Goniolithon frutescens Foslie, 1900b:9 [type locality: Funafuti, Ellice Is. (Tuvalu)].—Foslie, 1904:53.
Neogoniolithon frutescens (Foslie) Setchell and Mason, 1943:91.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Neogoniolithon megalocystum (Foslie) Setchell and Mason

Goniolithon megalocystum Foslie, 1904:48, fig. 20, pl. IX: figs. 8, 9 [including Philippine record] [type locality: Karkaralong Is., Indonesia].—De Toni, 1924:663.
Neogoniolithon megalocystum (Foslie) Setchell and Mason, 1943:90.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Phymatolithon Foslie

Phymatolithon has earlier taxonomic synomyms, but has been proposed for conservation by Woelkerling and Irvine (1986).

Phymatolithon calcareum (Pallas) Adey and McKibbin

Millepora calcarea Pallas, 1766:265 [syntype localities: North Atlantic Ocean and Mediterranean Sea].
Lithothamnion calcareum (Pallas) J.E. Areschoug, 1852:523.—Velasquez, 1953b:206.—Velasquez, Trono, and Doty, 1975:152.
Phymatolithon calcareum (Pallas) Adey and McKibbin, 1970:100.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Phymatolithon purpureum (P. Crouan and H. Crouan) Woelkerling and L. Irvine

Lithothamnion purpureum P. Crouan and H. Crouan, 1867:150, pl. 20: fig. 133 bis:1–5 [lectotype locality: Mingant, near Brest, Finistère, France fide Woelkerling and Irvine, 1986:69, 71].
Phymatolithon purpureum (P. Crouan and H. Crouan) Woelkerling and L. Irvine, 1986:71.
Lithothamnion polymorphum [misapplied name; see Note].—Piccone, 1889:51, 59.

PHILIPPINE DISTRIBUTION.—Locality not specified.

NOTE.—*Millepora polymorpha* Linnaeus (1767:1285) is a superfluous and hence illegitimate substitute name for *M. calcarea* Pallas (1766:265). Nonetheless, the two names have traditionally been applied to separate species. According to Woelkerling and Irvine (1986), the species traditionally but incorrectly known as *Lithothamnion polymorphum* (Linnaeus) J.E. Areschoug (1852:524) or *Phymatolithon polymorphum* (Linnaeus) Foslie (1898:4) is conspecific with *L. purpureum* P. Crouan and H. Crouan.

Porolithon (Foslie) Foslie

Porolithon onkodes (Heydrich) Foslie

Lithothamnion onkodes Heydrich, 1897a:6, pl. I: fig. 11 [type locality: Tami I., Papua New Guinea].
Lithophyllum onkodes (Heydrich) Heydrich, 1901:533.—Foslie, 1904:57.
Porolithon onkodes (Heydrich) Foslie, 1909:57 [*"oncodes"*].

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Sporolithon Heydrich

Sporolithon erythraeum (Rothpletz) Kylin

Lithothamnion erythraeum Rothpletz, 1893:5 [type locality: Red Sea].
Sporolithon erythraeum (Rothpletz) Kylin, 1956:205.
Sporolithon ptychoides Heydrich f. *durum* Heydrich, 1897b:67, pl. III: figs. 20–23 [*"dura"*] [type locality: Tor, Sinai Peninsula, Egypt].
Archaeolithothamnion erythraeum (Rothpletz) Foslie f. *durum* (Heydrich) Foslie, 1900d:8 [*"dura"*].—Foslie, 1904:38, pl. V: figs. 8, 9.—Velasquez, Trono, and Doty, 1975:128 [without designation of forma].

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

TAXON OF UNCERTAIN VALUE

The following infraspecific taxon is related to *Sporolithon erythraeum* but has not been formally transferred to it.

Archaeolithothamnion erythraeum (Rothpletz) Foslie f. *molle* (Heydrich) Foslie

Sporolithon ptychoides Heydrich f. *molle* Heydrich, 1897b:67, pl. III: figs. 15–19 [*"mollis"*] [type locality: Tor, Sinai Peninsula, Egypt].
Archaeolithothamnion erythraeum (Rothpletz) Foslie f. *molle* (Heydrich) Foslie, 1900d:8 [*"mollis"*].—Foslie, 1904:38, pl. VI: figs. 2–4, 7, 9.—Velasquez, Trono, and Doty, 1975:128 [without designation of forma].

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I., Tongquil I.), Tawitawi (Pearl Bank, Sangasiapu I.).

NOTE.—When establishing *Sporolithon ptychoides*, Heydrich divided the species into two formae, *durum* and *molle*.

Later, Heydrich (1897c:415–416) elevated f. *molle* to specific rank and thus lectotypified *S. ptychoides* with f. *durum*. Foslie (1900d:8) proposed the conspecificity of *Lithothamnion erythraeum* and both forms of *Sporolithon ptychoides*. We are not convinced of the usefulness of giving taxonomic recognition to forma *molle*.

Sporolithon schmidtii (Foslie) Gordon, Masaki, and Akioka

Archaeolithothamnion schmidtii Foslie, 1901b:16 [type locality: Ko Kahdat, Ko Chang Archipelago, Thailand].—Foslie, 1904:43, pl. VIII: fig. 16.—De Toni, 1924:603.—Foslie, 1929:pl. XLIV: fig. 16.—Velasquez, Trono, and Doty, 1975:128.
Sporolithon schmidtii (Foslie) Gordon, Masaki, and Akioka, 1976:250.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Pearl Bank).

**Sporolithon sibogae* (Weber-van Bosse and Foslie) P.C. Silva, new combination

Archaeolithothamnion sibogae Weber-van Bosse and Foslie in Foslie, 1901c:3 [type locality: Pearl Bank, Tawitawi Prov., Sulu Archipelago].—Foslie, 1904:41, pl. VII.—De Toni, 1924:604.—Foslie, 1929:pl. XLIII: figs. 5–15.—Velasquez, Trono, and Doty, 1975:128.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.), Tawitawi (Pearl Bank).

Sporolithon timorense (Foslie) P.C. Silva, new combination

Archaeolithothamnion timorense Foslie, 1904:42, pl. VIII: figs. 1–14 [lectotype locality: Sailus Besar, Great Paternoster Is., Indonesia fide Adey and Lebednik, 1967:85] [including Philippine record].—Velasquez, Trono, and Doty, 1975:128.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

Order GIGARTINALES

Family RHIZOPHYLLIDACEAE

Portieria Zanardini

The complicated nomenclature of this genus is discussed in the appended Nomenclatural Notes.

Portieria hornemannii (Lyngbye) P.C. Silva, new combination

Desmia hornemannii Lyngbye, 1819:35, pl. 7:c [*"hornemanni"*] [type locality: probably Red Sea].—Reyes, 1972:154.—Trono, 1973d:15, pl. 10: fig. 6.—Trono and Biña, 1973:5.—Trono, 1974b:88.—Velasquez, Trono, and Doty, 1975:140.—Cordero, 1976c:8.—Trono and Tuason, 1978:15.—Cordero, 1979b:276.—Reyes, 1980:132, pl. 8: fig. 1.—Trono and Ganzon-Fortes, 1980:65, fig. [s.n.].—Trono and De Lara, 1981:15, pl. IX: fig. 3.—Saraya and Trono, 1982:33, pl. III: fig. 4.
Chondrococcus hornemannii (Lyngbye) Schmitz, 1895:170 [*"hornemanni"*].—Meñez, 1961:73.—Villones and Magdamo, 1968:28, fig. 25.—Cornejo and Velasquez, 1972:182.—Westernhagen, 1973a:64.—Ortega, Alcala, and Reyes, 1974:188.—Westernhagen, 1974:112 (table 1).—Velasquez, Trono, and Doty, 1975:135.—Cordero, 1976c:8, 10, 11; 1977a:96, fig. 53; 1978a:26; 1979b:289.—Garcia, 1979:44 (table 1).—Puig and Cordero, 1979:39.—Liao and Sotto, 1980:98.—Meñez and Calumpong, 1981:381.—Hurtado-Ponce, 1983:133.—Cordero, 1984a:92; 1984b:66.—Marcos-Agngarayngay, 1984a:28, fig. 22 [captions for figs. 21 and 22 interchanged].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Cavite, Batangas, Quezon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan, Iloilo. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO. PALAWAN. SULU: Sulu (Siasi I.).

Portieria japonica (Harvey) P.C. Silva, new combination

Desmia japonica Harvey, 1860a:331 [type locality: Shimoda, Shizuoka Prefecture, Japan].
Chondrococcus japonicus (Harvey) De Toni, 1895a:39.—Cordero, 1977a:97; 1984a:93.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Bataan, Cavite, Quezon. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental.

Family POLYIDACEAE

Rhodopeltis Harvey

Rhodopeltis borealis Yamada

Rhodopeltis borealis Yamada, 1931a:75, pl. XIX: fig. 1 [syntype localities: Ryukyu-retto, Japan; Kotosho (Hung-t'ou), Taiwan].—Meñez, 1961:72.—Domantay, 1962:293.—Velasquez, Trono, and Doty, 1975:161.—Cordero, 1976c:8; 1977a:98, fig. 59, pl. XII:c; 1978a:25.—Saraya and Trono, 1982:33, pl. IV: fig. 3.—Hurtado-Ponce, 1983:134.—Marcos-Agngarayngay, 1984a:28, fig. 23.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan.

Rhodopeltis gracilis Yamada and Tanaka

Rhodopeltis gracilis Yamada and Tanaka in Yamada, 1935:30, fig. 1, pl. 15: fig. 2 [syntype localities: Chichi-jima, Ogasawara-gunto (Bonin Is.), Japan; Kotosho (Hung-t'ou), Taiwan].—Meñez, 1961:72, pl. 7: figs. 78–80.—Velasquez, Trono, and Doty, 1975:161.—Cordero, 1976c:9, 10; 1977a:98, figs. 54, 55; 1978a:26.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. LEYTE.

Family NEMASTOMATACEAE

Titanophora (J. Agardh) J. Feldmann

Titanophora incrustans (J. Agardh) Bφrgesen

Halymenia incrustans J. Agardh, 1885:15 [type locality: Florida, USA].
Titanophora incrustans (J. Agardh) Bφrgesen, 1949:4.—Velasquez et al., 1973:30, pl. 13: fig. 60.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan, Batangas.

Titanophora weberae Bφrgesen

Titanophora weberae Bφrgesen, 1943:39, fig. 13 [type locality: Salee Strait, Irian Barat, Indonesia].—Domantay, 1962:293.—Velasquez, Trono, and Doty, 1975:165.—Cordero, 1977a:118, figs. 91–93, 95, pl. XIX:A.—Meñez and Calumpong, 1981:381.—Hurtado-Ponce, 1983: 139.—Cordero, 1984b:65.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas, Quezon, MINDORO: Oriental Mindoro. SAMAR: Eastern Samar. CENTRAL VISAYAS. PALAWAN.

Family SEBDENIACEAE

Sebdenia (J. Agardh) Berthold

Sebdenia limensis (Kützing) Howe

Euhymenia limensis Kützing, 1849:743 [type locality: Callao, Peru].—Martens, 1868:90–91 [with query].—Velasquez, Trono, and Doty, 1975:143.
Sebdenia limensis (Kützing) Howe, 1914:160.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Sebdenia yamadae Okamura and Segawa

Sebdenia yamadae Okamura and Segawa in Segawa, 1938:144, fig. 6, pl. 34: fig. 1 ["*yamadai*"] [syntype localities: various, all in Japan].—Cordero, 1977a:150, fig. 143, pl. XXI:C.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Family GRACILARIACEAE

Ceratodictyon Zanardini

Ceratodictyon spongiosum Zanardini

Ceratodictyon spongiosum Zanardini, 1878:37 [type locality: Aru Is., Indonesia].—Trono, 1972a:104; 1973d:19.—Trono and Biña, 1973:9.—Cordero, 1979b:291.—Puig and Cordero, 1979:41.—Liao and Sotto, 1980:99.—Trono and Ganzon-Fortes, 1980:85, fig. [s.n.].—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:42.—Trono and Ang, 1982:20.—Cordero, 1984a:100.—Marcos-Agngarayngay, 1984a:51, fig. 42.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Batangas, Quezon. MINDORO: Oriental Mindoro. PANAY: Aklan. LEYTE (Biliran I.). CEBU (Mactan I.). PALAWAN (Bugsuk I.). SULU: Tawitawi.

Gelidiopsis Schmitz

Gelidiopsis intricata (C. Agardh) Vickers

Sphaerococcus intricatus C. Agardh, 1822a:333 [syntype localities: Mauritius; Hawaiian Is.; "Ravak" (Lawak), Waigeo I., Moluccas, Indonesia].
Gelidiopsis intricata (C. Agardh) Vickers, 1905:61.—Reyes, 1972:152.—Trono, 1972a:104; 1973d:19.—Trono and Biña, 1973:3.—Velasquez, Trono, and Doty, 1975:145.—Cordero, 1976c:10; 1977a:119, figs. 99, 100; 1978a:21.—Trono and Ganzon-Fortes, 1980:87, fig. [s.n.].—Meñez and Calumpong, 1981:381.—Trono and De Lara, 1981:18, pl. XI: fig. 1.—Calumpong, 1982:145.—Saraya and Trono, 1982:30.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Batangas, Quezon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. NEGROS: Negros Oriental. SIQUIJOR. SULU: Tawitawi.

Gelidiopsis repens (Kützing) Weber-van Bosse

Gelidium repens Kützing, 1868:21, pl. 60: figs. *a, b* [type locality: New Caledonia].
Gelidiopsis repens (Kützing) Weber-van Bosse, 1928:425.—Cordero, 1976c:8, 9, 10; 1977a:121, figs. 98, 267; 1978a:22, 53; 1980b:54, fig. 19B, pl. 36; 1984c:55.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Zambales. MINDORO: Oriental Mindoro. MASBATE. SAMAR: Western Samar, Eastern Samar. PANAY: Aklan. NEGROS: Negros Oriental. SIQUIJOR. PALAWAN.

Gelidiopsis variabilis (J. Agardh) Schmitz

Gelidium variabile J. Agardh, 1851 [1851–1863]:468 [type locality: India].
Gelidiopsis variabilis (J. Agardh) Schmitz, 1895:148.—Cordero, 1977a: 122 ["*Gelidiopsis repens*" in error].

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Gracilaria Greville

Gracilaria arcuata Zanardini

Gracilaria arcuata Zanardini, 1858:265, pl. V: fig. 2 [type locality: Aqaba, Jordan].—Weber-van Bosse, 1928:429, fig. 173.—Velasquez, Trono, and Doty, 1975:146.—Cordero, 1977a:124, fig. 101, pl. XX:B; 1980b:55, fig. 18, pl. [49].—Trono and Fortes, 1980:73.—Trono and Ganzon-Fortes, 1980:95, fig. [s.n.].—Ganzon-Fortes, 1981:22.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.—Trono and Fortes, 1982:152.—Hurtado-Ponce, 1983:140.—Cordero, 1984a: 100; 1984c:55.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984b:126.—Tungpalan, 1984:138.—Abbott, 1985:89, fig. 17.—Trono and Ganzon-Fortes, 1985:66.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte, Batangas. MINDORO: Oriental Mindoro. MASBATE.

NEGROS: Negros Occidental (incl. Ilacaon I., Suyac I.), Negros Oriental (incl. Apo I.). SIQUIJOR. MINDANAO: Davao. PALAWAN. SULU: Sulu (Tongquil I.).

Gracilaria arcuata Zanardini var. *snackeyi* Weber-van Bosse

Gracilaria arcuata Zanardini var. *snackeyi* Weber-van Bosse, 1928:430, fig. 173 [type locality: Macassar, Celebes, Indonesia].—Trono, Azanza-Corrales, and Manuel, 1983:32, fig. 7.—Abbott, 1985:89.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas.

Gracilaria blodgettii Harvey

Gracilaria blodgettii Harvey, 1853:111 [type locality: Key West, Florida, USA].—Cordero, 1977a:124, figs. 102, 103, 105, 112, pl. XIX:B; 1979b:292; 1980b:56, fig. 19A.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.—Meñez, Phillips, and Calumpong, 1983:18.—Cordero, 1984c:55.—Marcos-Agngarayngay, 1984a:46, fig. 38.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. MASBATE. SAMAR: Western Samar. PANAY: Aklan. NEGROS: Negros Oriental (Apo I.). CEBU. SIQUIJOR. PALAWAN.

Gracilaria bursa-pastoris (S.G. Gmelin) P.C. Silva

Fucus bursa-pastoris S.G. Gmelin, 1768:121, pl. VIII: fig. 3 [type locality: Mediterranean Sea].
Gracilaria bursa-pastoris (S.G. Gmelin) P.C. Silva, 1952a:265.—Cordero, 1977a:125, fig. 106.
Sphaerococcus compressus C. Agardh, 1822a:308 [syntype localities: Cádiz, Spain; Oneglia, Liguria, Italy].
Gracilaria compressa (C. Agardh) Greville, 1830:liv.—Howe, 1932:169.—Meñez, 1961:74.—Velasquez, Trono, and Doty, 1975:146.—Trono and Fortes, 1980:73.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:152.—Abbott, 1985:89.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas, Quezon, Albay. MINDORO: Oriental Mindoro. SAMAR: Eastern Samar. PANAY. NEGROS: Negros Oriental. PALAWAN.

NOTE.—The synonymy was proposed by J. Agardh (1852 [1851–1863]:593).

Gracilaria canaliculata Sonder

Sphaerococcus canaliculatus Kützing, 1868:29, pl. 82: figs. *d, e* [type locality: Wagap, New Caledonia].
Gracilaria canaliculata Sonder, 1871:56.—Cantoria, Valenzuela, and Velasquez, 1951:187, fig. 2.—Cantoria, Velasquez, and Valenzuela, 1951:297, 298.—Velasquez, Trono, and Doty, 1975:146.—Abbott, 1985:89, fig. 43.
Corallopsis opuntia J. Agardh, 1872:40 [type locality: Sri Lanka].—Westernhagen, 1973a:65; 1974:112 (table I).
Gracilaria crassa Harvey ex J. Agardh, 1876:417 [type locality: Sri Lanka].—Seale, 1911:309.—Wester, 1916:159; 1921:224; 1924:21.—G. Blanco, 1938:513.—Quisumbing, 1951:1010.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:38; 1959:118.—Domantay, 1962:291.—Velasquez, Trono, and Doty, 1975:146.—Cordero, 1977a:127, figs. 108–110; 1978a:36.—Trono and Azanza-Corrales, 1979:26.—Cordero, 1980b:56, fig. 20, pl. [48].—Trono and Fortes, 1980:73.—Ganzon-Fortes, 1981:22.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.—Cordero, 1982a:60, 61.—Saraya and Trono, 1982:41.—Trono and Fortes, 1982:152.—Marcos-Agngarayngay, 1984b:127.—Abbott, 1985:89.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, La Union, Pangasinan, Manila Bay. MINDORO: Oriental Mindoro. SAMAR: Western Samar. NEGROS: Negros Oriental (incl. Apo I.). CEBU (Mactan I.). SIQUIJOR. MINDANAO: Davao.

NOTE.—The synonymy was proposed by Newton (1953:412). *Sphaerococcus canaliculatus* Kützing, the intended basionym of *Gracilaria canaliculata,* is a later homonym of *S. canaliculatus* C. Agardh (1822a:260) and hence not priorable. *Gracilaria canaliculata* Sonder is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Gracilaria coronopifolia J. Agardh

Gracilaria coronopifolia J. Agardh, 1852 [1851–1863]:592 [type locality: Oahu, Hawaiian Is.].—Galutira and Velasquez, 1964:508, pl. 5: fig. 14; pl. 9: fig. 34.—Velasquez, 1972:63.—Cordero, 1977a:127, figs. 104, 104*a*, pl. XX:A; 1978a:35.—Trono and Azanza-Corrales, 1979:26.—Velasquez, 1979b:231.—Liao and Sotto, 1980:99.—Trono and Fortes, 1980:73.—Trono and Ganzon-Fortes, 1980:89, fig. [s.n.].—Ganzon-Fortes, 1981:22.—Guzman, 1981:42, 44 [*"coronipifolia"*].—Laserna et al., 1981:443.—Trono, 1981b:55 (table 1).—Trono and Azanza-Corrales, 1981:743.—Trono and De Lara, 1981:18.—Cordero, 1982a:60, 61.—Luistro, Cajipe, and Laserna, 1982:46.—Trono and Ang, 1982:19.—Trono and Fortes, 1982:152.—Hurtado-Ponce, 1983:140.—Trono, Azanza-Corrales, and Manuel, 1983:20, figs. 2, 9*b*.—Cordero, 1984a:101; 1984b:66; 1984c:55.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984b:127.—Tungpalan, 1984:138.—Abbott, 1985:89, fig. 46.
Gracilaria lichenoides (Lamouroux) Greville f. *coronopifolia* (J. Agardh) May, 1948:37.—Zaneveld, 1956:39; 1959:119.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Ilocos Sur, Pangasinan, Cavite, Batangas, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. SAMAR: Eastern Samar. NEGROS: Negros Oriental. CEBU. SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (incl. Bugsuk I.). SULU: Sulu (Lapac I., Siasi I.).

Gracilaria cylindrica Børgesen

Gracilaria cylindrica Børgesen, 1920:375, figs. 364, 365 [type locality: St. Jan (St. John), Virgin Is.].—Westernhagen, 1973a:65; 1974:112 (table 1).—Reyes, 1980:135, pl. 10, fig. 1.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.). SIQUIJOR.

Gracilaria damaecornis J. Agardh

Gracilaria damaecornis J. Agardh, 1852 [1851–1863]:597 [type locality: Atlantic North America].—Westernhagen, 1973a:65; 1974:112 (table 1).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Gracilaria disticha (J. Agardh) J. Agardh

Sphaerococcus distichus J. Agardh, 1837:172 [type locality: Ethiopia].
Gracilaria disticha (J. Agardh) J. Agardh, 1852 [1851–1863]:594.—Abbott, 1985:89, fig. 56.

PHILIPPINE DISTRIBUTION.—ROMBLON (Sibuyan I.).

Gracilaria edulis (S.G. Gmelin) P.C. Silva

Fucus edulis S.G. Gmelin, 1768:113 [syntype localities: various, all in "India Orientalis" (Indonesia)].
Gracilaria edulis (S.G. Gmelin) P.C. Silva, 1952a:293.—Cordero, 1977a:128, fig. 111.—Hurtado-Ponce, 1983:140.—Cordero, 1984a: 101.—Hurtado-Ponce, 1984:180.—Abbott, 1985:89, figs. 55, 58.
Fucus lichenoides Turner, 1809:124, pl. 118: figs. *a–c, e–i* [superfluous name].
Gigartina lichenoides Lamouroux, 1813:137.
Sphaerococcus lichenoides (Lamouroux) C. Agardh, 1817:xvii.—Martens, 1868:31, 94–95.—Velasquez, Trono, and Doty, 1975:163.
Gracilaria lichenoides (Lamouroux) Greville, 1830:liv.—Seale, 1911:309.—Wester, 1916:159; 1921:224; 1924:21.—Collado, 1926:129 [with query].—Howe, 1932:169.—G. Blanco, 1938:513.—Cantoria, Valenzuela, and Velasquez, 1951:187, fig. 3.—Cantoria, Velasquez, and Valenzuela, 1951:297, 298 [f. *lichenoides*].—Quisumbing, 1951:50.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:38; 1959:119.—Domantay, 1962:290.—De Leon and Domantay, 1971:5.—Velasquez, Trono, and Doty, 1975:146.—Trono and Fortes, 1980:73.—Ganzon-Fortes, 1981:22.—Cordero, 1982a:60, 61.—Trono and Fortes, 1982:153.—Abbott, 1985:89.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (incl. Babuyan Is.), Ilocos, La Union, Pangasinan, Manila Bay, Sorsogon. MINDORO: Oriental Mindoro. PANAY. MINDANAO: Zamboanga.

NOTE.—*Fucus lichenoides* Turner, the intended basionym of *Gracilaria lichenoides* (and other combinations), is a later homonym of *F. lichenoides* S.G. Gmelin (1768:120, pl. VIII: figs. 1, 2) and hence not priorable. *Gigartina lichenoides* Lamouroux is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN. *Fucus lichenoides* Turner is not only a later homonym, but also superfluous, since its protologue included the citation of *F. edulis* S.G. Gmelin.

Gracilaria eucheumoides Harvey

Gracilaria eucheumoides Harvey, 1860a:331 [*"eucheumioides"*] [syntype localities: various, all in Ryukyu-retto, Japan].—Dickie, 1876a:243.—Seale, 1911:309.—Wester, 1916:159; 1921:224; 1924:21.—G. Blanco, 1938:513.—Quisumbing, 1951:1010.—Montilla and Blanco, 1953: 166.—Zaneveld, 1956:38; 1959:118.—Domantay, 1962:290.—De Leon and Domantay, 1971:5, 9.—Cornejo and Velasquez, 1972: 182, 183.—Reyes, 1972:155.—Trono, 1972a:104.—Bersamin et al., 1973:187.—Trono, 1973d:18, pl. 9: fig. 1.—Trono and Biña, 1973:9.—Velasquez et al., 1973:31, pl. 13: fig. 63.—Westernhagen, 1973a:65.—Ortega, Alcala, and Reyes, 1974:186, 187, 188.—Trono, 1974b:90; 1974e:18.—Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:146.—Cordero, 1976c:10; 1977a:129, figs. 113, 113*a*, 114, pls. X, XX; 1978a:37; 1979b:292, fig. 4.—Puig and Cordero, 1979:40.—Cordero, 1980b:57, fig. 21, pl. 37.—Liào and Sotto, 1980:99.—Reyes, 1980:135, pl. 9: fig. 5.—Trono and Fortes, 1980:73.—Trono and Ganzon-Fortes, 1980:91, fig. [s.n.].—Chan, 1981:387.—Ganzon-Fortes, 1981:22.—Guzman, 1981:43, 51.—Meñez and Calumpong, 1981:381.—Trono and De Lara, 1981:18.—Calumpong, 1982:145.—Cordero, 1982a:60, 61.—Saraya and Trono, 1982:40, pl. VI: fig. 4.—Trono and Ang, 1982:19.—Trono and Fortes, 1982:153.—Hurtado-Ponce, 1983:141.—Trono, Azanza-Corrales, and Manuel, 1983:27, fig. 5.—Cordero, 1984a:101.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984a:48, fig. 39; 1984b:127.—Tungpalan, 1984:138.—Abbott, 1985:89.—Trono and Ganzon-Fortes, 1985:66.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Ilocos Sur, La Union, Pangasinan, Bataan, Batangas, Quezon, Sorsogon. MARINDUQUE. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SAMAR: Northern Samar, Western Samar, Eastern Samar. LEYTE (incl. Biliran I.). PANAY: Aklan. NEGROS: Negros Occidental (incl. Ilacaon I.), Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.), Misamis Occidental. PALAWAN (incl. Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi.

Gracilaria foliifera (Forsskål) Bφrgesen

Fucus foliifer Forsskål, 1775:191 [type locality: Mokha, Yemen].
Gracilaria foliifera (Forsskål) Bφrgesen, 1932:7.
Fucus lacinulatus Vahl, 1802:39 [type locality: St. Croix, Virgin Is.].
Gracilaria lacinulata (Vahl) Howe, 1920:562.—Weber-van Bosse, 1928:434.—Velasquez, Trono, and Doty, 1975:146.—Trono and Fortes, 1980:73.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:153.—Abbott, 1985:89.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

NOTE.—The synonymy was proposed by Bφrgesen (1932:7).

Gracilaria foliifera (Forsskål) Bφrgesen f. *aeruginosa* (Turner) Bφrgesen

Fucus aeruginosus Turner, 1811:29, pl. 147 [syntype localities: Portugal; Red Sea].
Gracilaria foliifera (Forsskål) Bφrgesen f. *aeruginosa* (Turner) Bφrgesen, 1938:226.
Gracilaria multipartita (Clemente y Rubio) Harvey var. *aeruginosa* (Turner) J. Agardh, 1852 [1851–1863]:601.—Grunow, 1867:83.

PHILIPPINE DISTRIBUTION.—LUZON.

Gracilaria gigas Harvey

Gracilaria gigas Harvey, 1860a:331 [type locality: Shimoda, Shizuoka Prefecture, Japan].—Kraft, 1972:332.—Trono, Azanza-Corrales, and Manuel, 1983:31, figs. 6, 11*a*.—Abbott, 1985:89, fig. 39.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Sorsogon.

Gracilaria incurvata Okamura

Gracilaria incurvata Okamura, 1931 [1929–1932]:41, pl. CCLXXIII: figs. 1–6 [syntype localities: various, all in Japan].—Cordero, 1984a:101.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Gracilaria minor (Sonder) Durairatnam

Corallopsis salicornia (C. Agardh) Greville var. *minor* Sonder, 1871:56, pl. III: figs. 6–11 [type locality: Cape York, Queensland, Australia].
Corallopsis minor (Sonder) J. Agardh, 1876:409.—Piccone, 1886:68, 90.—Velasquez, Trono, and Doty, 1975:138.
Gracilaria minor (Sonder) Durairatnam, 1961:64.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

Gracilaria papenfussii Abbott

Gracilaria papenfussii Abbott, 1983:562, figs. 1–3 [type locality: La Jolla, California, USA].
Gracilaria andersonii [misapplied name fide Abbott, 1983:562].—Cordero, 1977a:123, figs. 96, 97.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

**Gracilaria salicornia* (C. Agardh) Dawson

Sphaerococcus salicornia C. Agardh, 1820a: pl. VIII [type locality: said to be Unalaska, Aleutian Is., but probably Manila, Luzon].
Corallopsis salicornia (C. Agardh) Greville, 1830:liii.—Cantoria, Velasquez, and Valenzuela, 1951:296, footnote.
Gracilaria salicornia (C. Agardh) Dawson, 1954a:4, fig. 3 [including Philippine record].—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Galutira and Velasquez, 1964:506, pl. 5: figs. 15*a*, 15*b*; pl. 8: figs. 32*a*, 32*b*.—Velasquez, 1968a:121, fig. 7.—Villones and Magdamo, 1968:28, fig. 28.—Velasquez, 1971:448, fig. 31.—Reyes, 1972:155.—Trono, 1972a:104.—Velasquez, 1972:63.—Trono, 1973d:18, pl. 9: fig. 3.—Trono and Biña, 1973:9.—Velasquez et al., 1973:30, pl. 13: fig. 62.—De Leon, 1974:31, 33, photo [s.n.], fig. [s.n.].—Ortega, Alcala, and Reyes, 1974:185.—Trono, 1974b:90; 1974e:18.—Velasquez, Trono, and Doty, 1975:146.—Cordero, 1977a:132, figs. 116–118, pl. XIX:c.—Tahil, 1978:52.—Vannajan and Trono, 1978:22, fig. 24.—Cordero, 1979b:276.—Puig and Cordero, 1979:41.—Trono and Azanza-Corrales, 1979:26.—Velasquez, 1979b:231.—Cordero, 1980b:57, fig. 22, pl. 38.—Fortes and Trono, 1980:60.—Liao and Sotto, 1980:99.—Reyes, 1980:135, pl. 9: fig. 4.—Trono and Fortes, 1980:73.—Trono and Ganzon-Fortes, 1980:93, fig. [s.n.].—Trono, Velasquez, and Guevarra, 1980:78.—Ganzon-Fortes, 1981:22.—Guzman, 1981:43.—Meñez and Calumpong, 1981:381.—Trono, 1981b:55 (table 1).—Trono and Azanza-Corrales, 1981:743.—Trono and De Lara, 1981:18.—Calumpong, 1982:145.—Cordero, 1982a:60, 61.—Trono and Fortes, 1982:153.—Hurtado-Ponce, 1983:141.—Trono, Azanza-Corrales, and Manuel, 1983:23, figs. 3, 4*b*.—Cordero, 1984a:102; 1984c:55.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984a:48, fig. 40; 1984b:127.—Abbott, 1985:89, fig. 42.—Trono and Ganzon-Fortes, 1985:66.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte, Pangasinan, Zambales, Bataan, Rizal, Cavite, Quezon, Batangas, Sorsogon. MINDORO: Occidental Mindoro (incl. Lubang Is.), Oriental Mindoro. MASBATE. SAMAR: Western Samar, Eastern Samar. LEYTE (incl. Biliran I.). PANAY: Aklan, Iloilo. NEGROS: Negros Occidental (incl. Ilacaon I., Suyac I.), Negros Oriental (incl. Apo I.). CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.), Misamis Occidental, Surigao del Sur, Davao (incl. Samal I.). PALAWAN (incl. Cuyo I.). SULU: Sulu (Siasi I.).

NOTE.—The type specimen of *Sphaerococcus salicornia* was said by Agardh to have been collected by Chamisso at Unalaska (during the voyage of the *Rurik*), but Dawson (1954a:5) showed that the provenance probably was Manila. The *Rurik* remained at Manila from 17 December 1817 to 29 January 1818, following its voyage from Unalaska by way of Hawaii and Guam.

Gracilaria spinigera Dawson

Gracilaria spinigera Dawson, 1949a:24, pl. 8: figs. 1–3, 5; pl. 9: figs. 1–3 [type locality: Guaymas, Sonora, Mexico].—Cordero, 1977a:134, fig. 119, pl. XXI:A; 1980b:58, fig. 23, pl. [52]; 1984a:102.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Gracilaria spinulosa (Okamura) Chang and Xia

Rhodymenia spinulosa Okamura, 1934 [1933–1942]:33, pl. 318: figs. 1–6 [type locality: Tainan, Taiwan].—Meñez, 1961:78.—Velasquez, Trono, and Doty, 1975:162.—Meñez and Calumpong, 1981:381.
Gracilaria spinulosa (Okamura) Chang and Xia, 1976:148.
Gracilaria purpurascens J. Agardh, 1885:63 [type locality: Sri Lanka].—Cordero, 1977a:130, fig. 115.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. NEGROS: Negros Oriental. CENTRAL VISAYAS.

NOTE.—*Rhodymenia spinulosa* was referred to *Gracilaria* by Yamada (1941a:204) as a form of *G. purpurascens* J. Agardh. The latter name, however, is a later homonym of *G. purpurascens* Greville (1830:liv) and must be replaced.

Gracilaria textorii (Suringar) De Toni

Sphaerococcus textorii Suringar, 1867:259 [type locality: Japan].
Gracilaria textorii (Suringar) De Toni, 1895a:27.—Cordero, 1977a:135; 1980b:59, pl. [58] [*G. textorii* prox.]; 1984a:102.—Marcos-Agngarayngay, 1984b:128 [*G. textorii* prox.].—Tungpalan, 1984:138.—Abbott, 1985:90, fig. 26.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Gracilaria turgida Dawson

Gracilaria turgida Dawson, 1949a:14, pl. 21; pl. 24: fig. 1 [type locality: Newport-Balboa, Orange County, California, USA].—Saraya and Trono, 1982:40, pl. VI: fig. 3.—Abbott, 1985:90.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Gracilaria venezuelensis W.R. Taylor

Gracilaria venezuelensis W.R. Taylor, 1942:110, pl. 3: fig. 10 [type locality: Isla Cubagua, Venezuela].—Westernhagen, 1973a:65; 1974:112 (table I).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Gracilaria verrucosa (Hudson) Papenfuss

Fucus verrucosus Hudson, 1762:470 [type locality: England].

Gracilaria verrucosa (Hudson) Papenfuss, 1950:195.—Galutira and Velasquez, 1964:507, pl. 4: fig. 13; pl. 8: fig. 33.—Velasquez, 1968a:121, fig. 8.—Villones and Magdamo, 1968:29, fig. 29.—De Leon and Domantay, 1971:5, 9.—Velasquez, 1971:448, fig. 32.—Cornejo and Velasquez, 1972:180.—Reyes, 1972:155.—Velasquez, 1972:63.—Cordero, 1973b:33.—Velasquez et al., 1973:30, pl. 13: fig. 61.—Westernhagen, 1973a:65.—Trono, 1974e:18.—Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:146.—Cordero, 1976c:8, 10; 1977a:135; 1978a:37.—Vannajan and Trono, 1978:22, fig. 18.—Laserna et al., 1978:111.—Cordero, 1979b:276, 292.—Garcia, 1979: 45 (table 1).—Puig and Cordero, 1979:41.—Trono and Azanza-Corrales, 1979:26.—Velasquez, 1979b:231.—Cordero, 1980b:59, pl. 39.—Liao and Sotto, 1980:99.—Reyes, 1980:135, pl. 9: fig. 6.—Trono and Fortes, 1980:74.—Trono, Velasquez, and Guevarra, 1980:78.—Ganzon-Fortes, 1981:22.—Guzman, 1981:42, 46, 47.—Laserna et al., 1981:443.—Meñez and Calumpong, 1981:381.—Trono, 1981b: 55 (table 1).—Trono and Azanza-Corrales, 1981:743.—Calumpong, 1982:145.—Cordero, 1982a:60, 61.—Luistro, Cajipe, and Laserna, 1982:46.—Trono and Fortes, 1982:153.—Hurtado-Ponce, 1983:142.—Trono, Azanza-Corrales, and Manuel, 1983:17, figs. 1, 4a.—Cordero, 1984a:102.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984a:50, fig. 41; 1984b:128.—Tungpalan, 1984: 138.—Abbott, 1985:90, fig. 9.—Trono and Ganzon-Fortes, 1985: 64, 66.

Fucus confervoides Linnaeus, 1763:1629 [type locality: England].

Ceramium confervoides Wiggers, 1780:91.

Sphaerococcus confervoides (Wiggers) Stackhouse, 1797 [1795–1801: xxiv.—Martens, 1868:94–95.—Velasquez, Trono, and Doty, 1975: 163.

Gracilaria confervoides (Wiggers) Greville, 1830:liv.—Montagne, 1844a:662.—Seale, 1911:309.—Wester, 1916:158; 1921:224; 1924:21.—G. Blanco, 1938:512.—De Leon, Leyva, and Martinez-Pesigan, 1947:381.—Abagon, Buñag, and De Vera, 1951:41.—Quisumbing, 1951:1010.—Montilla and Blanco, 1953:166.—Velasquez, 1953a:100; 1953b:206.—Villaluz, 1953:186, 187.—Sulit, Salcedo, and Panganiban, 1956:280.—Zaneveld, 1956:36; 1959:117.—Domantay, 1968:25.—De Leon and Domantay, 1971:5, 9.—Bersamin et al., 1973:186.—Sulit, Salcedo, and Panganiban, 1973:177–182.—Westernhagen, 1973a:65; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:146.—Abbott, 1985:89.

**Fucus gulaman* M. Blanco, 1837:839 [syntype localities: Tambobo ("Tambobon") and Parañaque, Rizal Prov., Luzon] [probable taxonomic synonym].—Montilla and Blanco, 1953:166.—Velasquez, Trono, and Doty, 1975:144.

Fucus edulis [probable misapplied name fide Merrill, 1918:41].—M. Blanco, 1845:580; 1879:260.—Velasquez, Trono, and Doty, 1975:144.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Pangasinan, Bataan, Pampanga, Bulacan, Rizal, Manila, Cavite, Batangas, Quezon, Albay (Batan I.). MINDORO: Occidental Mindoro, Oriental Mindoro. SAMAR: Western Samar, Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN. SULU.

NOTE.—The synonymy was proposed by Papenfuss (1950:195). *Fucus confervoides* Linnaeus, the intended basionym of *Gracilaria confervoides* (and other combinations), is a later homonym of *F. confervoides* Hudson (1762:474) and hence not priorable. *Ceramium confervoides* Wiggers is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN. Although the Tagalog word "gulaman" is applied to various red algae that are rich in hydrocolloids, Blanco's description of *F. gulaman* appears to apply, at least in part, to the stringy *Gracilaria* currently called *G. confervoides* or *G. verrucosa*. Martens (1868:45–46) thought that it applied to two species, *Sphaerococcus gelatinus* (= *Eucheuma gelatinum*) and *S. lichenoides* (= *Gracilaria edulis*), while Seale (1911:309) and Quisumbing (1951:1007) thought that it applied to a species of *Agardhiella*. In the absence of authentic specimens, a definitive placement is impossible.

Gracilaria vieillardii P.C. Silva, new name

Sphaerococcus denticulatus Kützing, 1869:19, pl. 51: figs. *e–g* [type locality: New Caledonia].

Gracilaria denticulata (Kützing) Weber-van Bosse, 1928:432 [replaced name].—Cordero, 1976c:10; 1977a:128, fig. 109; 1978a:36.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—*Gracilaria vieillardii* is proposed as a substitute name for *G. denticulata* (Kützing) Weber-van Bosse, a later homonym of *G. denticulata* Schmitz ex Mazza (1907:138).

Polycavernosa Chang and Xia

Polycavernosa debilis (Forsskål) Fredericq and J. Norris

Fucus debilis Forsskål, 1775:191 [type locality: Mokha, Yemen].

Gracilaria debilis (Forsskål) Bφrgesen, 1932:7.—Taylor, 1977b:13.

Polycavernosa debilis (Forsskål) Fredericq and J. Norris, 1985:152.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

NOTE.—Xia and Abbott (1985) support the segregation of *Polycavernosa* from *Gracilaria* on the basis of the origin of the compound spermatangial conceptacles from inner or medullary cells and the indirect origin of the gonimoblast from the fusion cell.

Family PLOCAMIACEAE

Plocamium Lamouroux

Plocamium costatum (C. Agardh) J. Hooker and Harvey

Delesseria plocamium (S.G. Gmelin) C. Agardh var. *costata* C. Agardh, 1822a:181 [type locality: Western Australia, Australia].

Plocamium costatum (C. Agardh) J. Hooker and Harvey, 1847:404.—Cordero, 1977a:140, fig. 127, pl. XXI:B.

PHILIPPINE DISTRIBUTION.—BATANES.

**Plocamium patens* Martens

Plocamium patens Martens, 1868:32 [type locality: Zamboanga, Mindanao].—Velasquez, Trono, and Doty, 1975:160.

PHILIPPINE DISTRIBUTION.—As above.

**Plocamium serrulatum* Okamura var. *pectinatum* Cordero

Plocamium serrulatum Okamura var. *pectinatum* Cordero, 1977a:140, figs. 128, 129 [type locality: Batan I., Batanes Prov., Luzon].—Cordero, 1978a:38 (as unnamed variety).

PHILIPPINE DISTRIBUTION.—As above.

NOTE.—This name was previously published without a description by Cordero (1976c:8, 9, 11 ["*pectinata*"]).

Plocamium telfairiae (W. Hooker and Harvey) Harvey ex Kützing

Thamnophora telfairiae W. Hooker and Harvey in Harvey, 1834a:149, pl. CXXV [type locality: Cap Malheureux, Mauritius].
Plocamium telfairiae (W. Hooker and Harvey) Harvey ex Kützing, 1849:885.—Cordero, 1977a:141; 1978a:38.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Bataan, Batangas. MINDORO: Oriental Mindoro. PALAWAN.

Family SARCODIACEAE

Sarcodia J. Agardh

Sarcodia montagneana (J. Hooker and Harvey) J. Agardh

Rhodymenia montagneana J. Hooker and Harvey, 1845b:544 ["*Rhodomenia*"] [type locality: Bay of Islands, New Zealand].
Sarcodia montagneana (J. Hooker and Harvey) J. Agardh, 1852 [1851–1863]:623.
Sarcodia ceylanica Harvey ex Kützing, 1869:12, pl. 33: figs. *a, b* [type locality: Sri Lanka].—Cordero, 1977a:116.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—The synonymy was proposed by Yendo (1917:82) and maintained by Bφrgesen (1954:28).

Family SOLIERIACEAE

Callophycus Trevisan

Callophycus serratus (Harvey ex Kützing) P.C. Silva

Thysanocladia serrata Harvey ex Kützing, 1869:10, pl. 29: figs. *a, b* [type locality: Tonga].
Callophycus serratus (Harvey ex Kützing) P.C. Silva, 1957:143.—Kraft, 1984:54, 56, figs. 3–5, 7, 10–16.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon.

Eucheuma J. Agardh

Eucheuma alvarezii Doty

Eucheuma alvarezii Doty, 1985:37, figs. 1–6 [including Philippine record] [type locality: Creagh Reef, Sabah, Malaysia].

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi.

**Eucheuma alvarezii* Doty var. *ajakii-assii* Doty

Eucheuma alvarezii Doty var. *ajakii-assii* Doty, 1985:42, fig. 8 ["*ajak-assi*"] [type locality: Tumindao I., Tawitawi Prov.].

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi.

**Eucheuma alvarezii* Doty var. *tambalangii* Doty

Eucheuma alvarezii Doty var. *tambalangii* Doty, 1985:41, fig. 7 ["*tambalang*"] [type locality: Calatagan, Batangas Prov.].

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. SULU: Tawitawi.

NOTE.—The varietal epithets of the two foregoing taxa commemorate three persons named Ajak, Assi, and Tambalang and therefore are to be written *ajakii-assii* and *tambalangii* in accordance with Article 73.10 of the ICBN. We doubt the wisdom or usefulness of giving formal taxonomic recognition to horticultural strains, which these varieties seem to be.

Eucheuma arnoldii Weber-van Bosse

Eucheuma arnoldii Weber-van Bosse, 1928:421, pl. XIII: fig. 1 [type locality: Gisser (Gesser) I., near Ceram, Indonesia].—Kraft, 1972:318–334, figs. 1–18.—Trono, 1973d:19; 1974c:328, 333; 1974d:4; 1974e:18.—Cordero, 1977a:151, fig. 144, pl. XXIV:D.—Smith and Pestaño-Smith, 1980:7.—Trono and Fortes, 1980:72.—Ganzon-Fortes, 1981:22.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.—Saraya and Trono, 1982:38.—Trono and Ang, 1982:17.—Trono and Fortes, 1982:151.
Eucheuma cupressoideum Weber-van Bosse, 1928:421, pl. XIV: fig. 3 [type locality: Torres Strait].—Kraft, 1972:321, 323.—Cordero, 1977a:153, figs. 147, 150; 1984a:98.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan. MINDORO: Oriental Mindoro. NEGROS: Negros Occidental (Ilacaon I.), Oriental Mindoro. CEBU. BOHOL. PALAWAN (Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—The synonymy was proposed by Kraft (1972).

**Eucheuma arnoldii* Weber-van Bosse var. *alcyonida* Kraft

Eucheuma arnoldii Weber-van Bosse var. *alcyonida* Kraft, 1972: 323, figs. 5, 11 [type locality: Bulusan, Sorsogon Prov., Luzon].

PHILIPPINE DISTRIBUTION.—As above.

Eucheuma cottonii Weber-van Bosse

Eucheuma cottonii Weber-van Bosse, 1913b:115, pl. 12: fig. 2 [syntype localities: Saya de Malha and Cargados Carajos, Indian Ocean].—Doty, 1969:4, figs. A, D.—De Leon and Domantay, 1971:5, 11.—Velasquez, 1971:449.—Kraft, 1972:326, 327, 329, 332.—Cordero, 1973b:32.—Trono, 1973d:19, pl. 12: figs. 13, 15.—Trono and Biña, 1973:7.—Westernhagen, 1973a:65.—Trono, 1974b:92; 1974c:333; 1974d:4; 1974e:18, 19.—Westernhagen, 1974:112 (table I).—Cordero, 1979b:276.—Ricohermoso and Deveau, 1979:525.—Smith and Pestaño-Smith, 1980:7.—Trono and Fortes, 1980:72.—Donaire, 1981:166.—Ganzon-Fortes, 1981:22.—Meñez and Calumpong, 1981:381.—Laite and Ricohermoso, 1981:595.—Calumpong, 1982:145.—Saraya and Trono, 1982:38.—Trono and Ang, 1982:17.—Trono and Fortes, 1982:151.—Doty and Norris, 1985:figs. 5, 6.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Sorsogon. MINDORO: Oriental Mindoro. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Occidental (Ilacaon I.). CEBU (Mactan I.). BOHOL. MINDANAO: Zamboanga. PALAWAN (Bugsuk I., Cabulauan I.). SULU: Sulu (Siasi I.), Tawitawi.

Eucheuma cottonii var. *erecta*

Eucheuma cottonii var. *erecta*—De Leon, 1974:30, 32, photo [s.n.].

PHILIPPINE DISTRIBUTION.—PALAWAN.

NOTE.—De Leon did not give an author for this name and we have been unable to find its place of publication.

Eucheuma crassum Zanardini

Eucheuma crassum Zanardini, 1878:36 [type locality: Aru Is., Indonesia].—Westernhagen, 1973a:65.—Cordero, 1977a:151, fig. 145, pl. XXIII:A.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.—Cordero, 1984a:97 [with query].

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. NEGROS: Negros Oriental. CEBU (Mactan I.).

Eucheuma crustiforme Weber-van Bosse

Eucheuma crustiforme Weber-van Bosse, 1928:415, fig. 165 ["*crustaeforme*"] [type locality: Great Sangir (Sangihe) I., Indonesia].—Westernhagen, 1973a:65; 1974:112 (table I).—Cordero, 1977a:153, fig. 146.—Puig and Cordero, 1979:39.—Cordero, 1984a:98 [*"(?) cristaeforme"*].

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Batangas. LEYTE (incl. Biliran I.). CEBU (Mactan I.).

Eucheuma denticulatum (N.L. Burman) Collins and Hervey

Fucus denticulatus N.L. Burman, 1768:28 [bis] [type locality: said to be Cape of Good Hope, South Africa, but probably in error].—Velasquez, Trono, and Doty, 1975:144.

Eucheuma denticulatum (N.L. Burman) Collins and Hervey, 1917:106.—Pelayo and Lantican, 1981:3.

Fucus spinosus Linnaeus, 1771:313 [superfluous name].

Eucheuma spinosum J. Agardh, 1847:16 ["*spinosa*"].—Heydrich, 1894:293.—Seale, 1911:309.—Wester, 1916:159; 1921:224; 1924:21.—G. Blanco, 1938:512.—Quisumbing, 1951:1010.—Montilla and Blanco, 1953:166.—Domantay, 1962:289.—Doty, 1969:6, figs. B, C.—DeLeon and Domantay, 1971:5, 12.—Velasquez, 1971:449.—Trono, 1972a:105.—Westernhagen, 1973a:65.—Parker, 1974:434 (table I).—Trono, 1974b:92.; 1974c:328, 333; 1974d:4; 1974e:18.—Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:143.—Laserna et al., 1978:111.—Ricohermoso and Deveau, 1979:525.—Liao and Sotto, 1980:99.—Smith and Pestaño-Smith, 1980:7.—Trono and Fortes, 1980:72.—Veroy et al., 1980:59.—Donaire, 1981:166.—Ganzon-Fortes, 1981:22.—Guzman, 1981:43.—Laite and Ricohermoso, 1981:595.—Laserna et al., 1981:445.—Lim and Porse, 1981:603.—Trono, 1981b:53.—Uyenco, Saniel, and Jacinto, 1981a:69.—Uyenco [Uyengco], Saniel, and Jacinto, 1981b:627.—Saraya and Trono, 1982:37.—Trono and Fortes, 1982:152.—Trono and Ganzon-Fortes, 1985:62, 64, 65, fig. [s.n.].

Fucus muricatus S.G. Gmelin, 1768:111, pl. VI: fig. 4 [type locality: "Oceanus Indicus"].

Eucheuma muricatum (S.G. Gmelin) Weber-van Bosse, 1928:413 [including Philippine record].—Howe, 1932:169.—Zaneveld, 1956:31; 1959:111.—Domantay, 1962:289.—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Galutira and Velasquez, 1964:505, pl. 4: fig. 11; pl. 8: fig. 30.—Velasquez, 1968a:122, fig. 10; 1971:448, fig. 33; 1972:63.—Velasquez et al., 1973:31, pl. 13: fig. 64.—De Leon, 1974:30, 33, photo [s.n.], 2 figs. [s.n.].—Velasquez, Trono, and Doty, 1975:143.—Cordero, 1977a:156, fig. 154.—Velasquez, 1979b:231.—Cordero, 1980b:50, fig. 14, pls. 32, [54].—Trono, Velasquez, and Guevarra, 1980:79.—Cordero, 1982a:60, 61, fig. 11.—Trono and Ang, 1982:17.—Hurtado-Ponce, 1983:143.—Cordero, 1984a:98.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984a:43, fig. 35; 1984b:129.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, La Union, Pangasinan, Bataan. MINDORO: Occidental Mindoro. PANAY: Aklan. CEBU (Mactan I.). SIQUIJOR. BOHOL. MINDANAO: Zamboanga, Davao. PALAWAN (Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—*Fucus spinosus* Linnaeus, the intended basionym of *Eucheuma spinosum,* is a later homonym of *F. spinosus* S.G. Gmelin (1768:161, pl. XVIII: fig. 3) and hence not priorable. *Eucheuma spinosum* J. Agardh is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN. *Fucus spinosus* Linnaeus is not only a later homonym, but also an illegitimate substitute for *F. denticulatus* N.L. Burman. The conspecificity of *F. denticulatus* and *E. muricatum* was first proposed by C. Agardh (1822a:271). Both names were published in 1768, with the Burman publication having priority (1 March–6 April vs. after 1 May). The specimen figured by Cordero (1980b: pl. 32) with the caption "*E. muricatum* var." is listed under *E. gelatinae* in the text.

TAXA OF UNCERTAIN VALUE

The following two infraspecific taxa are probably related to *Eucheuma denticulatum* but have not been formally transferred to it.

Eucheuma muricatum (S.G. Gmelin) Weber-van Bosse f. *depauperatum* Weber-van Bosse

Eucheuma muricatum (S.G. Gmelin) Weber-van Bosse f. *depauperatum* Weber-van Bosse, 1928:415, pl. XII: fig. 5 ["*depauperata*"] [type locality:

Ryukyu-retto, Japan].—Domantay, 1962:289.—Cordero, 1977a:156, fig. 155.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan. SIQUIJOR.

Eucheuma muricatum (S.G. Gmelin) Weber-van Bosse f. *incrassatum* Yamada

Eucheuma muricatum (S.G. Gmelin) Weber-van Bosse f. *incrassatum* Yamada, 1936a:124, figs. 4, 5, pl. 23: fig. 1 [*"incrassata"*] [syntype localities: Miyako-jima and Okinawa-jima, Ryukyu-retto, Japan].—Cordero, 1977a:158, figs. 156, 157, pl. XXIII:B; 1980b:50, fig. 15, pl. 33.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Cagayan.

Eucheuma edule (Kützing) Weber-van Bosse

Chondrus edulis Kützing, 1867:19, pl. 63: figs. *c–e* [type locality: New Caledonia].

Eucheuma edule (Kützing) Weber-van Bosse, 1926:136.—Meñez, 1961:73.—Westernhagen, 1973a:65; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:143.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CEBU (Mactan I.).

Eucheuma gelatinum (Esper) J. Agardh

Fucus gelatinus Esper, 1800:188, pl. CI [type locality: not specified].

Sphaerococcus gelatinus (Esper) C. Agardh, 1822a:270.—Martens, 1868:46, 94–95.—Velasquez, Trono, and Doty, 1975:163.

Eucheuma gelatinum (Esper) J. Agardh, 1847:16 [*"gelatinae"*].—Zaneveld, 1956:31; 1959:111.—Domantay, 1962:289.—De Leon and Domantay, 1971:5, 11.—Westernhagen, 1973a:65 [with query]; 1974:112 (table I) [with query].—Velasquez, Trono, and Doty, 1975:143.—Cordero, 1976c:10; 1977a:153, figs. 151, 152, pl. XXIV:C; 1978a:39; 1980b:49, fig. 13, pl. [53].—Guzman, 1981:44 [*"galatinae"*].—Cordero, 1984a:98.—Marcos-Agngarayngay, 1984a:41, fig. 34; 1984b:128.—Tungpalan, 1984:145.

Gigartina gelatinosa Endlicher, 1843:42 [illegitimate nomenclatural synonym].—Montagne, 1844a:662.—Velasquez, Trono, and Doty, 1975:145.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Rizal. CEBU (Mactan I.). MINDANAO: Zamboanga.

NOTE.—When establishing the genus *Eucheuma*, J. Agardh (1847:16) treated the name as feminine. Later (J. Agardh, 1852 [1851–1863]:624), he treated it as neuter, the gender most often assigned to it by subsequent authors. The neuter ending of the adjective *gelatinus* is *gelatinum*. J. Agardh's incorrect spelling *gelatinae* has persisted to the present.

Eucheuma horridum J. Agardh

Eucheuma horridum J. Agardh, 1852 [1851–1863]:625 [type locality: Mauritius].—Cordero, 1977a:155, figs. 148, 149.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Eucheuma isiforme (C. Agardh) J. Agardh

Sphaerococcus isiformis C. Agardh, 1822a:271 [type locality: West Indies].

Eucheuma isiforme (C. Agardh) J. Agardh, 1847: 16 [*"isiformis"*].—Reyes, 1972:157.—Velasquez, Trono, and Doty, 1975:143.—Cordero, 1977a:155, fig. 153, pl. XXIV:B; 1982a:60, 61.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental. SULU.

Eucheuma leeuwenii Weber-van Bosse

Eucheuma leeuwenii Weber-van Bosse, 1928:410, figs. 161, 162 [type locality: Nusa Kembangan, Java, Indonesia].—Westernhagen, 1973a:65; 1974:112 (table I).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Eucheuma okamurae Yamada

Eucheuma okamurae Yamada, 1936a:125, figs. 8, 9, pls. 26, 27 [*"okamurai"*] [type locality: Miyako-jima, Ryukyu-retto, Japan].—Domantay, 1962:289.—De Leon and Domantay, 1971:5, 10.—Velasquez, Trono, and Doty, 1975:143. —Cordero, 1977a:159, fig. 158, pl. XXII:B.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

**Eucheuma procrusteanum* Kraft

Eucheuma procrusteanum Kraft, 1970:215, figs. 1–7 [type locality: Semirara Is., Antique Prov., Panay].—Trono, 1974c:328, 333; 1974d:4; 1974e:17, 18.—Velasquez, Trono, and Doty, 1975:143.—Trono and Fortes, 1980:72.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:151.

PHILIPPINE DISTRIBUTION.—PANAY: Antique (Semirara Is.). SULU: Sulu (Siasi I.).

Eucheuma serra (J. Agardh) J. Agardh

Sphaerococcus serra J. Agardh, 1841:17 [type locality: "in mari Indiae orientalis"].

Eucheuma serra (J. Agardh) J. Agardh, 1847:16.—Cordero, 1973b:32.—Trono, 1973d:19, pl. 12: fig. 14.—De Leon, 1974:30, 31, photo [s.n.], fig. [s.n.].—Trono, 1974c:333; 1974d:4; 1974e:17, 18.—Cordero, 1976c:10; 1977a:159, fig. 165; 1978a:39.—Puig and Cordero, 1979:40.—Trono and Fortes, 1980:72.—Ganzon-Fortes, 1981:22.—Trono and Ang, 1982:16.—Trono and Fortes, 1982:151.—Cordero, 1984c:55.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Sorsogon. MASBATE. LEYTE (Biliran I.). PALAWAN (Bugsuk I.).

Eucheuma striatum Schmitz

Eucheuma striatum Schmitz, 1895:151 [*"striata"*] [type locality: Zanzibar, Tanzania].—Domantay, 1962:289.—Trono, 1972a:105.—Doty and Alvarez, 1973: fig. 2.—Westernhagen, 1973a:65 [with query].—Colina, 1974:109.—De Leon, 1974:30, 31, photo [s.n.].—Parker, 1974:434 (table I).—Trono, 1974b:91; 1974c:328, 333; 1974d:4; 1974e:18, 19.—Westernhagen, 1974:112 (table I) [with query].—Colina,

1975:125.—Velasquez, Trono, and Doty, 1975:143.—Colina, 1976:50.—Cordero, 1976c:10; 1977a:160, fig. 159; 1978a:39.—Laserna et al., 1978:111.—Garcia, 1979:45 (table 1).—Cordero, 1980b:51, fig. 16, pl. [59].—Liao and Sotto, 1980:99.—Trono and Fortes, 1980:72.—Trono and Ganzon-Fortes, 1980:75, fig. [s.n.].—Veroy et al., 1980:59.—Donaire, 1981:166.—Doty and Alvarez, 1981:688.—Ganzon-Fortes, 1981:22.—Guzman, 1981:43.—Laserna et al., 1981:445.—Lim and Porse, 1981:603.—Pelayo and Lantican, 1981:3.—Trono, 1981b:53.—Uyenco, Saniel, and Jacinto, 1981a:69.—Uyenco [Uyengco], Saniel, and Jacinto, 1981b:627.—Luistro, Cajipe, and Laserna, 1982:46.—Cordero, 1982a:60, 61.—Trono and Ang, 1982:17.—Trono and Fortes, 1982:152.—Cordero, 1984a:99; 1984c:55.—Marcos-Agngarayngay, 1984a:43, fig. 36; 1984b:129.—Tungpalan, 1984:145.—Trono and Ganzon-Fortes, 1985:62, 64, 65, fig. [s.n.].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Batangas. MASBATE. CEBU (incl. Mactan I.). BOHOL. MINDANAO: Zamboanga. PALAWAN (Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi.

Meristotheca J. Agardh

Meristotheca papulosa (Montagne) J. Agardh

Kallymenia papulosa Montagne, 1850:246 ["*Callymenia*"] [type locality: Hodeida, Yemen].
Meristotheca papulosa (Montagne) J. Agardh, 1872:37.—Velasquez et al., 1973:31, pl. 14: fig. 56.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan.

Solieria J. Agardh

Solieria dura (Zanardini) Schmitz

Rhabdonia dura Zanardini, 1858:278, pl. X1: fig. 1 [syntype localities: Hodeida and Mokha, Yemen].—Piccone, 1886:78, 90.—Velasquez, Trono, and Doty, 1975:161.
Solieria dura (Zanardini) Schmitz, 1895:139.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

Family CAULACANTHACEAE

Catenella Greville

Catenella caespitosa (Withering) L. Irvine

Ulva caespitosa Withering, 1776:735 [type locality: Anglesey, Wales].
Catenella caespitosa (Withering) L. Irvine, 1976:590.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.
Fucus opuntia Goodenough and Woodward, 1797:107, 219 [type locality: Tenby, Wales].
Catenella opuntia (Goodenough and Woodward) Greville, 1830:lxiii.—Post, 1936:73, 76, 78; 1939:34.—Cordero, 1977a:163, figs. 168, 169.—Fortes and Trono, 1980:59.—Reyes, 1980:134, pl. 9: fig. 3.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon. MINDORO: Oriental Mindoro. SIQUIJOR. PALAWAN.

NOTE.—The synonymy was proposed by Irvine (1976).

Catenella impudica (Montagne) J. Agardh

Lomentaria impudica Montagne, 1840:197 [type locality: Cayenne, French Guiana].
Catenella impudica (Montagne) J. Agardh, 1852 [1851–1863]:701.—Post, 1936:66, 68; 1938:213.—Cordero, 1977a:163, fig. 161.—Vannajan and Trono, 1978:18, fig. 19.—Trono and Fortes, 1980:71.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:151.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Rizal, Manila. SULU: Sulu.

Catenella nipae Zanardini

Catenella nipae Zanardini, 1872:143, pl. VI:A [type locality: Sarawak, Malaysia].—Post, 1938:214.—Quisumbing, 1951:1007.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal. PANAY: Iloilo.

Family CYSTOCLONIACEAE

Rhodophyllis Kützing

Rhodophyllis peltata Grunow var. *lacunosa* Grunow

Rhodophyllis peltata Grunow var. *lacunosa* Grunow, 1874:34 [type locality: Tongatapu, Tonga].—Weber-van Bosse, 1928:403.—Velasquez, Trono, and Doty, 1975:161 [without designation of variety].

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Capual I.).

Family HYPNEACEAE

Hypnea Lamouroux

Hypnea boergesenii Tanaka

Hypnea boergesenii Tanaka, 1941:233, figs. 6–8, pl. 53: fig. 1 [syntype localities: Keelung (Chi-lung) and Tairi, Taiwan].—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Hypnea cenomyce J. Agardh

Hypnea cenomyce J. Agardh, 1851 [1851–1863]:452 [type locality: "ad oras Novae Hollandiae" (Australia)].—Zaneveld, 1956:41; 1959:121.—Cordero, 1977a:143, fig. 130; 1979b:291; 1980b:52.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro. PANAY: Aklan. SIQUIJOR.

**Hypnea cenomyce* J. Agardh var. *tenuis* Weber-van Bosse

Hypnea cenomyce J. Agardh var. *tenuis* Weber-van Bosse, 1928:456, fig. 194 [syntype localities: Muaras Reef, East Kalimantan, Indonesia; Sangasiapu I., Tawitawi Prov., Sulu Archipelago].

PHILIPPINE DISTRIBUTION.—As above.

Hypnea cervicornis J. Agardh

Hypnea cervicornis J. Agardh, 1851 [1851–1863]:451 [syntype localities: Brazil; West Indies; Mexico; Mauritius].—Weber-van Bosse, 1928:454.—Zaneveld, 1956:42; 1959:121.—Velasquez et al., 1973:31, pl. 14: fig. 66.—Westernhagen, 1973a:65; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:150.—Cordero, 1977a:143, figs. 131, 132; 1978a:40.—Trono, 1978:18.—Vannajan and Trono, 1978:21, fig. 21 [miscited as 20].—Cordero, 1979b:276, 290; 1980b:52, pl. 34.—Reyes, 1980:136, pl. 10: figs. 2*a,b*.—Trono and Fortes, 1980:70.—Trono and Ganzon-Fortes, 1980:77, fig. [s.n.].—Chan, 1981:387.—Cordero, 1981d:65, fig. 6.—Ganzon-Fortes, 1981:22.—Laserna et al., 1981:445.—Meñez and Calumpong, 1981:381.—Trono and De Lara, 1981:17.—Cordero, 1982a: fig. 10.—Saraya and Trono, 1982:39.—Trono and Ang, 1982:18.—Trono and Fortes, 1982:150.—Hurtado-Ponce, 1983:142; 1984:180.—Tungpalan, 1984:141.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Bataan, Cavite, Batangas, Quezon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. SAMAR: Eastern Samar. PANAY: Aklan. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Surigao del Sur, Davao. PALAWAN (incl. Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi (Sangasiapu I.).

Hypnea charoides Sonder

Hypnea charoides Sonder, 1848 [1846–1848]:189 [type locality: Western Australia, Australia].—Meñez, 1961:74, pl. 8: fig. 91.—Galutira and Velasquez, 1964:505, pl. 4: fig. 12; pl. 8: fig. 31.—Villones and Magdamo, 1968:29, fig. 30.—Velasquez, 1971:449, fig. 33.—Reyes, 1972:156.—Velasquez, 1972:63.—Westernhagen, 1973a:65; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:150.—Cordero, 1976c:10; 1977a:144, fig. 133; 1978a:58.—Puig and Cordero, 1979:40.—Velasquez, 1979b:231.—Cordero, 1980b:53, fig. 12, pl. 35.—Liao and Sotto, 1980:99.—Guzman, 1981:42, 45, 49.—Cordero, 1982a:60.—Hurtado-Ponce, 1983:142.—Cordero, 1984a:99; 1984b: 66.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984a:45, fig. 37; 1984b:128.—Tungpalan, 1984:141.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Cavite, Batangas, Quezon. CATANDUANES. MINDORO: Oriental Mindoro. SAMAR: Eastern Samar. LEYTE (Biliran I.). NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. PALAWAN.

NOTE.—*Hypnea charoides* is traditionally accredited to Lamouroux (1813:132, pl. 10: figs. 1–3), but that author did not provide a validating description. C. Agardh (1828:141), after having examined a specimen sent to him by Lamouroux, assigned the name to *Ceramium filamentosum* (= *Spyridia filamentosa*). Nonetheless, Sonder (1848 [1846–1848]) apparently believed that Lamouroux's illustration was representative of another alga since he applied the name to a plant collected by Preiss in Western Australia. Sonder provided a diagnosis so that the name must be ascribed to him and dated from 1848.

Hypnea cornuta (Kützing) J. Agardh

Chondroclonium cornutum Kützing, 1849:741 [type locality: "Locus natalis ignotus" ("ad oras Guineae" fide J. Agardh, 1852 [1851–1863]:449)].—Martens, 1868:90–91.—Velasquez, Trono, and Doty, 1975:135.

Hypnea cornuta (Kützing) J. Agardh, 1851 [1851–1863]:449.—Reyes, 1972:156.—Trono, 1973d:17; 1974e:18.—Velasquez, Trono, and Doty, 1975:150.—Meñez and Calumpong, 1981:381.—Trono and Ang, 1982:18.

PHILIPPINE DISTRIBUTION.—LUZON: Manila. NEGROS: Negros Oriental. SIQUIJOR. PALAWAN (Bugsuk I.).

**Hypnea cornuta* (Kützing) J. Agardh var. *stellulifera* J. Agardh

Hypnea cornuta (Kützing) J. Agardh var. *stellulifera* J. Agardh, 1852 [1851–1863]:449 [syntype localities: "ad oras Cochinchinae" (Vietnam); Manila].

PHILIPPINE DISTRIBUTION.—LUZON: Manila.

Hypnea divaricata (C. Agardh) Greville

Fucus divaricatus Brown ex Turner, 1811:110, pl. 181 [type locality: "coast of New Holland" (Australia)].

Sphaerococcus divaricatus C. Agardh, 1817:xvii.

Hypnea divaricata (C. Agardh) Greville, 1830:lix.—Martens, 1868:30, 92–93.—Dickie, 1874a:194.—Piccone, 1886:77, 90.—Zaneveld, 1956:42; 1959:121.—Velasquez, Trono, and Doty, 1975:150.—Cordero, 1977a:146, fig. 134.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite, Quezon. MINDANAO: Zamboanga. SULU.

NOTE.—*Fucus divaricatus* Brown ex Turner, the intended basionym of *Hypnea divaricata,* is a later homonym of *F. divaricatus* Linnaeus (1753:1159) and hence not priorable. *Sphaerococcus divaricatus* C. Agardh is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Hypnea musciformis (Wulfen) Lamouroux

Fucus musciformis Wulfen in Jacquin, 1789:154, pl. 14: fig. 3 [type locality: Trieste, Italy].

Hypnea musciformis (Wulfen) Lamouroux, 1813:131.—Howe, 1932:170.—Velasquez, 1953a:100; 1953b:206.—Zaneveld, 1956:42; 1959:121.—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Velasquez, 1971:449.—Westernhagen, 1973a:65; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:150.—Cordero, 1977a:148, fig. 136, pl. XXII:A.—Trono and Fortes, 1980:70.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:150.—Cordero, 1984a:100.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Rizal, Manila. NEGROS: Negros Occidental. CEBU (Mactan I.).

Hypnea musciformis (Wulfen) Lamouroux var. *esperi* J. Agardh

Hypnea musciformis (Wulfen) Lamouroux var. *esperi* J. Agardh, 1851 [1851–1863]:442 [syntype localities: Brazil; Chile; Australia; Mauritius].—Reyes, 1972:156.—Trono, 1972a:105.—Cordero, 1977a:146, fig. 135.—Meñez and Calumpong, 1981:381.—Trono and Ang, 1982:19.

Hypnea esperi [misapplied name; see Note].—Reyes, 1972:156.—Trono,

1973d:17.—Trono and Biña, 1973:8.—Velasquez, Trono, and Doty, 1975:150.—Cordero, 1980b:53.—Reyes, 1980:136, pl. 10: figs. 3*a,b*.—Trono and Fortes, 1980:70.—Trono and Ganzon-Fortes, 1980:79, fig. [s.n.].—Chan, 1981:387.—Saraya and Trono, 1982:38.—Trono and Fortes, 1982:150.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas, Quezon. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental. SIQUIJOR. PALAWAN (Bugsuk I.). SULU: Tawitawi.

NOTE.—*Hypnea esperi* Bory de Saint-Vincent (1828 [1826–1829]:157) was superfluous when published, being a substitute name for *Fucus nootkanus* Esper (1802:30, pl. CXXV). If the entity currently passing under this name is recognized at the level of species, it must receive a different name. It was first given a valid name, at varietal level, by J. Agardh, who made it clear that he was describing the material in Bory de Saint-Vincent's hands and excluding *Fucus nootkanus*.

Hypnea musciformis (Wulfen) Lamouroux var. *hippuroides* (Kützing) Weber-van Bosse

Hypnea hippuroides Kützing, 1868:7, pl. 21: figs. *a, b* [type locality: Celebes, Indonesia].

Hypnea musciformis (Wulfen) Lamouroux var. *hippuroides* (Kützing) Weber-van Bosse, 1928:445.—Cantoria, Valenzuela, and Velasquez, 1951:187, fig. 1.—Cantoria, Velasquez, and Valenzuela, 1951:296, 298.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal.

Hypnea nidulans Setchell

Hypnea nidulans Setchell, 1924:161, fig. 30 [type locality: Tutuila I., American Samoa].—Weber-van Bosse, 1928:454.—Meñez, 1961:74, pl. 7: figs. 85, 86.—Domantay, 1962:291.—Westernhagen, 1973a:65; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:150.—Cordero, 1977a:148, figs. 138, 139.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas. MINDORO: Oriental Mindoro. CENTRAL VISAYAS. CEBU (Mactan I.). SULU: Sulu (Jolo I.).

Hypnea pannosa J. Agardh

Hypnea pannosa J. Agardh, 1847:14 [type locality: "St. Augustin" (Oaxaca, Mexico)].—Trono, 1972a:105; 1973d:17, pl. 7: fig. 25; 1974e:18.—Trono and Biña, 1973:8.—Trono, 1978:19.—Liao and Sotto, 1980:99.—Trono and Fortes, 1980:71.—Trono and Ganzon-Fortes, 1980:81, fig. [s.n.].—Ganzon-Fortes, 1981:22.—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:39.—Trono and Fortes, 1982:151.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas. MINDORO: Oriental Mindoro. MARINDUQUE. CEBU (Mactan I.). SULU: Tawitawi.

Hypnea saidana Holmes

Hypnea saidana Holmes, 1896:256, pl. 11: figs. 3*a,b* [type locality: Enoshima, Kanagawa Prefecture, Japan].—Cordero, 1977a:149, fig. 140; 1979b:291; 1984c:55.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite (Corregidor I.). MINDORO: Oriental Mindoro. MASBATE. PANAY: Aklan.

Hypnea spinella (C. Agardh) Kützing

Sphaerococcus spinellus C. Agardh, 1822a:323 [type locality: West Indies].

Hypnea spinella (C. Agardh) Kützing, 1847a:23.—Dickie, 1876a:244.—Westernhagen, 1973a:65; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:150.—Trono and Fortes, 1980:70.—Trono and Fortes, 1982:150.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.). MINDANAO: Zamboanga.

Hypnea valentiae (Turner) Montagne

Fucus valentiae Turner, 1809:17, pl. 78 [type locality: Red Sea].

Hypnea valentiae (Turner) Montagne, 1841 [1839–1842]:161; 1844a:662.—Martens, 1868:92–93.—Dickie, 1874a:194.—Domantay, 1962:291.—Trono, 1972a:105; 1974e:18.—Velasquez, Trono, and Doty, 1975:150.—Vannajan and Trono, 1978:21, fig. 20 [miscited 21].—Trono and Fortes, 1980:71.—Trono and Ganzon-Fortes, 1980:83, fig. [s.n.].—Chan, 1981:387, 389.—Ganzon-Fortes, 1981:22.—Meñez and Calumpong, 1981:381.—Trono and De Lara, 1981:17, pl. XI: fig. 4.—Saraya and Trono, 1982:39.—Trono and Ang, 1982:18.—Trono and Fortes, 1982:151.—Meñez, Phillips, and Calumpong, 1983:18, 23.—Meñez and Calumpong, 1984:105.

Hypnea hamulosa [misapplied name fide Papenfuss, 1958:105–106].—Cordero, 1976c:9, 10; 1977a:146, fig. 137; 1978a:40.—Meñez and Calumpong, 1981:381.—Trono and Ang, 1982:19.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Batangas, Cavite. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (incl. Bugsuk I.). SULU: Tawitawi.

NOTE.—The name *Hypnea hamulosa* is traditionally attributed to (Turner) Montagne and applied in accordance with a concept derived from Turner's treatment of *Fucus hamulosus* (1809: pl. 79). As pointed out by Papenfuss (l.c.), however, Turner did not describe his plant as new, but identified it with *Fucus hamulosus* Esper (1800:169 [129 misprint], pl. LXXXIX), based on a collection from the Malabar coast of India. Esper's plant was referred by J. Agardh (1852 [1851–1863]:444), with a query, to *Hypnea nigrescens* Greville ex J. Agardh (1852 [1851–1863]:443) while Turner's plant is generally considered to be referable to *H. valentiae* (see Kützing, 1849:758; Hauck, 1887 [1886–1887]:20; Bφrgesen, 1943:59).

Family PHYLLOPHORACEAE

Ahnfeltia E.M. Fries

Ahnfeltia concinna J. Agardh

Ahnfeltia concinna J. Agardh, 1851 [1851–1863]:312 [syntype localities: Hawaiian Is.; Chincha Is., Peru].—Cordero, 1977a:164.

PHILIPPINE DISTRIBUTION.—BATANES. SIQUIJOR. PALAWAN.

Ahnfeltia furcellata Okamura

Ahnfeltia furcellata Okamura, 1933 [1933–1942]:16, pl. 310: figs, 6–10 [syntype localities: various, all in Japan].—Cordero, 1977a:165; 1978a:42.

PHILIPPINE DISTRIBUTION.—BATANES.

Gymnogongrus Martius

Gymnogongrus dilatatus (Turner) J. Agardh

Fucus dilatatus Turner, 1819 [1815–1819]:57, pl. 219 [type locality: Cape of Good Hope, South Africa].
Gymnogongrus dilatatus (Turner) J. Agardh, 1851 [1851–1863]:326.—Dickie, 1876a:246.—Velasquez, Trono, and Doty, 1975:147.

PHILIPPINE DISTRIBUTION.—PANAY: Iloilo (Gigantes Is.).

Gymnogongrus divaricatus Holmes

Gymnogongrus divaricatus Holmes, 1896:255, pl. 8: figs. 3*a,b* [type locality: Shimoda, Shizuoka Prefecture, Japan].—Cordero, 1977a:165; 1978a:41.

PHILIPPINE DISTRIBUTION.—BATANES.

Gymnogongrus flabelliformis Harvey

Gymnogongrus flabelliformis Harvey, 1857:332 [type locality: Shimoda, Shizuoka Prefecture, Japan].—Cordero, 1977a:166, fig. 170.—Hurtado-Ponce, 1983:143; 1984:180.—Marcos-Agngarayngay, 1984a:51, fig. 43.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte.

Gymnogongrus pygmaeus J. Agardh

Gymnogongrus pygmaeus J. Agardh, 1851 [1851–1863]:317 [type locality: "ad oras Hindostaniae" (India)].—Martens, 1868:31, 96–97.—Velasquez, Trono, and Doty, 1975:147.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Phyllophora Greville

Phyllophora submaritima Dawson

Phyllophora submaritima Dawson, 1949b:6, figs. 17, 18 [*"submaritimus"*] [type locality: Cortes Bank, southern California, USA].—Cordero, 1977a:168, fig. 173.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental.

Family GIGARTINACEAE

Gigartina tenella Harvey

Gigartina tenella Harvey, 1860a:332 [type locality: Kikai-jima, Amamigunto, Ryukyu-retto, Japan].—Cordero, 1977a:169.—Tahil, 1978:52.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. CEBU (Mactan I.).

Order RHODYMENIALES

Family RHODYMENIACEAE

Botryocladia (J. Agardh) Kylin

Botryocladia botryoides (Wulfen) J. Feldmann

Fucus botryoides Wulfen in Jacquin, 1789:146, pl. 13: fig. 1 [type locality: Adriatic Sea].
Botryocladia botryoides (Wulfen) J. Feldmann, 1941:90.
Chrysymenia uvaria J. Agardh, 1842:106.—Dickie, 1876a:245.—Velasquez, Trono, and Doty, 1975:135.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

NOTE.—The nomenclature of this species is discussed by Silva (1980:124). *Chondria uvaria* C. Agardh (1822a:347), the intended basionym of *Chrysymenia uvaria*, is a superfluous name for *Fucus botryoides* and hence not priorable. *Chrysymenia uvaria* J. Agardh, while treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN, is equally superfluous.

Botryocladia pyriformis (Bφrgesen) Kylin

Chrysymenia pyriformis Bφrgesen, 1910:187, figs. 8, 9 [type locality: St. Jan (St. John), Virgin Is.].
Botryocladia pyriformis (Bφrgesen) Kylin, 1931:18.—Reyes, 1980:137, pl. 11: fig. 2.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Botryocladia skottsbergii (Børgesen) Levring

Chrysymenia skottsbergii Børgesen, 1924:307, figs. 49, 50 [type locality: Easter I.].
Botryocladia skottsbergii (Børgesen) Levring, 1941:645, footnote.
Chrysymenia kuckuckii Weber-van Bosse, 1928:466, fig. 199 [syntype localities: various, all in Indonesia].
Botryocladia kuckuckii (Weber-van Bosse) Yamada and Tanaka, 1938:77.—Meñez, 1961:78.—Velasquez, Trono, and Doty, 1975:130.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—The conspecificity of *Chrysymenia kuckuckii* and *C. skottsbergii* was proposed by G. Feldmann (1945:55–56) and Børgesen (1950:42–44).

Botryocladia uvarioides Dawson

Botryocladia uvarioides Dawson, 1944:306, pl. 45: figs. 8–10; pl. 75: fig. 1 [type locality: San José del Cabo, Baja California Sur, Mexico].—Trono, 1973a:134, figs. 6, 8; 1974b:88.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon. SULU: Sulu (Siasi I.).

Coelothrix Børgesen

Coelothrix irregularis (Harvey) Børgesen

Cordylecladia ? irregularis Harvey, 1853:156 [type locality: Key West, Florida, USA].
Coelothrix irregularis (Harvey) Børgesen, 1920:389.—Trono, 1972a:103; 1974b:89.—Saraya and Trono, 1982:43, pl. VII: figs. 1, 4.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. SULU: Sulu (Siasi I.), Tawitawi.

Erythrocolon J. Agardh

Erythrocolon podagricum J. Agardh

Erythrocolon podagricum J. Agardh in Grunow, 1874:33 [syntype localities: Tongatapu and Haafeva I., Tonga; Ovalau I., Fiji].—Cordero, 1977a:169, fig. 174, pl. XXIV:A.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas, Quezon.

Fauchea Montagne and Bory

Fauchea leptophylla Segawa

Fauchea leptophylla Segawa, 1941:264, fig. 10, pl. 58: fig. 1 [type locality: Kozu-shima, Izu-shoto, Japan].—Cordero, 1977a:170, fig. 171.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Gloiocladia J. Agardh

Gloiocladia ramellifera Hauck

Gloiocladia ramellifera Hauck, 1886 [1886–1887]:219 [type locality: Meith [Maidh], Somalia].—Weber-van Bosse, 1928:457, pl. XI: fig. 1.—Velasquez, Trono, and Doty, 1975:145.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Pearl Bank).

Hymenocladia J. Agardh

Hymenocladia dactyloides (Sonder) J. Agardh

Gracilaria dactyloides Sonder, 1845:55 [type locality: Western Australia, Australia].—Dickie, 1876a:245.—Velasquez, Trono, and Doty, 1975:146.—Abbott, 1985:89.
Hymenocladia dactyloides (Sonder) J. Agardh, 1870:454.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Rhodymenia Greville

Rhodymenia californica Kylin

Rhodymenia californica Kylin, 1931:21, pl. 9: fig. 22 [type locality: Pacific Grove, California, USA].—Cordero, 1977a:170, fig. 175.

PHILIPPINE DISTRIBUTION.—PALAWAN.

Rhodymenia coacta Okamura and Segawa

Rhodymenia coacta Okamura and Segawa in Segawa, 1935:84, pl. 20: fig. 1 [type locality: Shikine-jima, Izu-shoto, Japan].—Cordero, 1977a:172, fig. 176.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. CENTRAL VISAYAS.

Rhodymenia decumbens W.R. Taylor

Rhodymenia decumbens W.R. Taylor, 1945:251, pl. 84: fig. 1 [type locality: Isla Baltra, Galápagos].—Cordero, 1977a:172 [*R. procumbens*, in error].

PHILIPPINE DISTRIBUTION.—BATANES.

Rhodymenia intricata (Okamura) Okamura

Phyllophora intricata Okamura, 1921:129, pl. CLXXXII: figs. 1–8 [syntype localities: various, all in Japan].—Cordero, 1977a:168, fig. 172, pl. XXV:B.
Rhodymenia intricata (Okamura) Okamura, 1930 [1929–1932]:31 ["23"], pl. CCLXVII.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Family LOMENTARIACEAE

Lomentaria Lyngbye

Lomentaria articulata (Hudson) Lyngbye

Ulva articulata Hudson, 1762:476 [type locality: Cornwall, England].
Lomentaria articulata (Hudson) Lyngbye, 1819:101.—Cordero, 1976c:10; 1977a:177; 1978a:44.

PHILIPPINE DISTRIBUTION.—BATANES.

Lomentaria baileyana (Harvey) Farlow

Chylocladia baileyana Harvey, 1853:185, pl. XX:C: fig. 1 [syntype localities: various, in Massachusetts, Rhode Island, and New York, USA].
Lomentaria baileyana (Harvey) Farlow, 1876:698.—Cordero, 1976c:6.

PHILIPPINE DISTRIBUTION.—BATANES.

Lomentaria hakodatensis Yendo

Lomentaria hakodatensis Yendo, 1920:6 [syntype localities: various, all in Japan].—Cordero, 1976c:9; 1977a:177; 1978a:44.

PHILIPPINE DISTRIBUTION.—BATANES.

Lomentaria pinnata Segawa

Lomentaria pinnata Segawa, 1938:148, fig. 7 [type locality: Miyake-jima, Izu-shoto, Japan].—Cordero, 1977a:177; 1984a:103.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Family CHAMPIACEAE

Champia Desvaux

Champia bifida Okamura

Champia bifida Okamura, 1901 [1900–1902]:67, pl. XXIV [syntype localities: Enoshima and Misaki, Kanagawa Prefecture, Japan].—Cordero, 1977a:173, fig. 178.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Champia caespitosa Dawson

Champia caespitosa Dawson, 1944:311, pl. 46: figs. 3, 4 [type locality: Isla Pond (Estanque), Baja California Norte, Mexico].—Cornejo and Velasquez, 1972:178, pl. 4: figs. 34, 34*a*.—Velasquez, Trono, and Doty, 1975:134.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

Champia compressa Harvey

Champia compressa Harvey, 1838:402 [type locality: Muizenberg, Cape Province, South Africa].—Dickie, 1876a:244.—Velasquez, Trono, and Doty, 1975:134.

Champia vieillardii Kützing, 1866:14, pl. 37: figs. *e, f* [type locality: not specified (New Caledonia fide Grunow, 1874:34)].—Saraya and Trono, 1982:42.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDANAO: Zamboanga.

NOTE.—The synonymy was proposed by Grunow (1874:34).

Champia disticha Dawson

Champia disticha Dawson, 1944:310, pl. 46: fig. 5 [type locality: Isla San Esteban, Sonora, Mexico].—Cordero, 1977a:174.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Champia japonica Okamura

Champia japonica Okamura, 1931 [1929–1932]:49, pl. CCLXXVI: figs. 1–6 [syntype localities: various, all in Japan].—Cordero, 1977a:174; 1978a:45.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Batangas.

Champia parvula (C. Agardh) Harvey

Chondria parvula C. Agardh, 1824:207 [type locality: Cádiz, Spain].

Champia parvula (C. Agardh) Harvey, 1853:76.—Reyes, 1972:157.—Trono and Biña, 1973:10.—Ortega, Alcala, and Reyes, 1974:187, 188.—Trono, 1974b:89.—Velasquez, Trono, and Doty, 1975:134.—Cordero, 1976c:10; 1977a:175, fig. 179.—Taylor, 1977b:13.—Cordero, 1978a:45.—Liao and Sotto, 1980:99.—Chan, 1981:387.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:42, pl. VI: figs. 1, 2.—Meñez, Phillips, and Calumpong, 1983:23.—Meñez and Calumpong, 1984:105.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Quezon. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. SULU: Sulu (Siasi I.). PALAWAN.

Champia salicornoides Harvey

Champia salicornoides Harvey, 1853:76, pl. XIX:B [type locality: Key West, Florida, USA].—Weber-van Bosse, 1928:477.—Velasquez, Trono, and Doty, 1975:130.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS. SULU: Sulu (North Ubian I.), Tawitawi (Pearl Bank).

**Champia spathulata* Weber-van Bosse

Champia spathulata Weber-van Bosse, 1928:477, pl. XVI: fig. 6 [type locality: North Ubian I., Sulu Prov., Sulu Archipelago].—Velasquez, Trono, and Doty, 1975:134.

PHILIPPINE DISTRIBUTION.—As above.

Order CERAMIALES

Family CERAMIACEAE

Anotrichium Nägeli

Anotrichium tenue (C. Agardh) Nägeli

Griffithsia tenuis C. Agardh, 1828:131 [*"Griffitsia"*] [type locality: Venezia, Italy].—Fortes and Trono, 1980:60.—Chan, 1981:387, 389.—Fortes, 1981b:396.—Saraya and Trono, 1982:47.

Anotrichium tenue (C. Agardh) Nägeli, 1862:399.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas.

Antithamnion Nägeli

Antithamnion antillanum Bφrgesen

Antithamnion antillanum Bφrgesen, 1917:226, figs. 213–216 [type locality: St. Thomas, Virgin Is.].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Antithamnion lherminieri Nasr

Antithamnion lherminieri Nasr, 1941:66, figs. 9, 10 [type locality: Abu Sadaf Reef, Red Sea, Egypt].—Cordero, 1977a:178, figs. 181, 182.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS. PALAWAN.

NOTE.—Nasr appears to be the first author to have supplied a validating description for this species, which traditionally is accredited to (P. Crouan and H. Crouan)

Bornet. Its morphology, taxonomy, and nomenclature are treated by Abbott (1979:215).

Balliella Itono and Tanaka

Balliella subcorticata (Itono) Itono and Tanaka

Antithamnion subcorticatum Itono, 1969:40, fig. 7 [type locality: Yoronjima, Okinawa-gunto, Ruykyu-retto, Japan].—Cordero, 1983:189, fig. 1.
Balliella subcorticata (Itono) Itono and Tanaka, 1973:250.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Centroceras Kützing

Centroceras apiculatum Yamada

Centroceras apiculatum Yamada, 1944:42 [type locality: Ant Atoll, near Ponape, Caroline Is.].—Saraya and Trono, 1982:44.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Centroceras clavulatum (C. Agardh) Montagne

Ceramium clavulatum C. Agardh, 1822b:2 [type locality: Callao, Peru].
Centroceras clavulatum (C. Agardh) Montagne, 1846b:140.—Reyes, 1972:158.—Ortega, Alcala, and Reyes, 1974:186, 187.—Velasquez, Trono, and Doty, 1975:133.—Cordero, 1976c:9; 1977a:179, figs. 183, 184; 1978a:47.—Vannajan and Trono, 1978:23, fig. 29.—Reyes, 1980:138, pl. 11: figs. 5*a,b*.—Chan, 1981:387.—Meñez and Calumpong, 1981:381.—Trono and De Lara, 1981:19, pl. XII: fig. 4.—Cordero, 1984a:104.
Centroceras cryptacanthum Kützing, 1841:741 [type locality: Antilles].
Centroceras clavulatum (C. Agardh) Montagne var. *cryptacanthum* (Kützing) Grunow, 1867:65.—Piccone, 1886:54, 90.
Centroceras hyalacanthum Kützing, 1841:742 [type locality: "Wahrscheinlich aus Westindien"].—Martens, 1868:28, 84–85.—Velasquez, Trono, and Doty, 1975:133.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Manila, Cavite. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. NEGROS: Negros Oriental. SIQUIJOR. MINDANAO: Zamboanga. PALAWAN.

NOTE.—The synonymy was proposed by J. Agardh (1851 [1851–1863]:148–149).

Centroceras minutum Yamada

Centroceras minutum Yamada, 1944:42 [type locality: Ant Atoll, near Ponape, Caroline Is.].—Trono, 1973d:20.—Cordero, 1977a:180, fig. 185.—Fortes, 1981b:396.—Saraya and Trono, 1982:43, pl. VII: fig. 3.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. SIQUIJOR. MINDANAO: Zamboanga.

Ceramiella Bφrgesen

Hommersand (1963:238) retained *Ceramiella* within the circumscription of *Ceramium*, but Díaz-Piferrer (1969a:202) argued in support of its distinctness.

Ceramiella procumbens (Setchell and Gardner) Díaz-Piferrer

Ceramium procumbens Setchell and Gardner, 1924a:772, pl. 27: figs. 51–54 [type locality: Isla Partida, Baja California Norte, Mexico].—Fortes, 1981b:396.
Ceramiella procumbens (Setchell and Gardner) Díaz-Piferrer, 1969c:203.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Ceramium Roth

Ceramium affine Setchell and Gardner

Ceramium affine Setchell and Gardner, 1930:172 [type locality: Isla Guadalupe, Pacific Mexico].—Fortes and Trono, 1980:59 [var. *affine*].—Fortes, 1981b:396.—Saraya and Trono, 1982:44, pl. VIII: fig. 2 [var. *affine*].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas.

Ceramium cruciatum Collins and Hervey

Ceramium cruciatum Collins and Hervey, 1917:144, pl. IV: figs. 27, 28 [type locality: Bermuda].—Westernhagen, 1973a:64; 1974:112 (table 1).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Ceramium equisetoides Dawson

Ceramium equisetoides Dawson, 1944:320, pl. 51: fig. 1 [type locality: Puerto San Carlos, near Guaymas, Sonora, Mexico].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Ceramium fastigiatum (Wulfen ex Roth) Harvey

Conferva fastigiata Wulfen ex Roth, 1800b:224 [type locality: Adriatic Sea].
Ceramium fastigiatum (Wulfen ex Roth) Harvey, 1834b:303.—Vannajan and Trono, 1978:24, fig. 31.—Chan, 1981:387.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Manila, Cavite.

NOTE.—*Ceramium fastigiatum* (Roth) Harvey is a later homonym of *C. fastigiatum* (Linnaeus) Wiggers (1780:91), *C. fastigiatum* Roth (1800a:463), and *C. fastigiatum* Roussel (1806:87). Its correct name probably will be found among taxonomic synonyms.

Ceramium flaccidum (Harvey ex Kützing) Ardissone

Hormoceras flaccidum Harvey ex Kützing, 1862:21, pl. 69: figs. *a–d* [type locality: Kilkee, County Clare, Eire].
Ceramium flaccidum (Harvey ex Kützing) Ardissone, 1871:40.
Ceramium byssoideum Harvey, 1853:218 [type locality: Key West, Florida, USA].
Ceramium gracillimum (Kützing) Zanardini var. *byssoideum* (Harvey) Mazoyer, 1938:323.—Cordero, 1976c:9; 1977a:180, fig. 186; 1978a:47.—

Vannajan and Trono, 1978:24.—Fortes and Trono, 1980:61.—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:45, pl. VIII: fig. 1 [*"byssoideure"* p. 45].

Ceramium fimbriatum Setchell and Gardner, 1924a:777, pl. 26: figs. 43, 44 [type locality: near La Paz, Baja California Sur, Mexico].—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:44.

Ceramium masonii Dawson, 1950c:126, figs. 11, 12 [type locality: Cabeza Ballena, Baja California Sur, Mexico].—Liao and Sotto, 1980:99.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Cavite. CEBU (Mactan I.).

NOTE.—The synonymy was proposed by Womersley (1978:234). *Ceramium byssoideum* Harvey is treated as a homonym of *C. byssoides* Ducluzeau (1805:66) in accordance with Article 64.2, Ex. 8, of the ICBN.

Ceramium gracillimum (Kützing) Zanardini

Hormoceras gracillimum Kützing, 1841:733 [type locality: Trieste, Italy].

Ceramium gracillimum (Kützing) Zanardini, 1847:223.—Chan, 1981:387, 389.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—Fortes cited the binomial without an author, and it is uncertain whether it should be referred to *Hormoceras gracillimum.* The combination is traditionally (but incorrectly) accredited to (Kützing) Griffiths and Harvey in Harvey (1848 [1847–1851]: pl. CCVI). According to Womersley (1978:234), Harvey had *Ceramium flaccidum* in hand. A further consideration is that *Ceramium gracillimum* (Kützing) Zanardini is a later homonym of *C. gracillimum* C. Agardh (1824:140), a name that has disappeared from the literature.

Ceramium loureiri C. Agardh

Ceramium loureiri C. Agardh, 1824:137 [type locality: "Ad rupes marinas Cochinchinae" (Vietnam)].—Martens, 1868:82–83.—Velasquez, Trono, and Doty, 1975:133.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Ceramium luetzelburgii O.C. Schmidt

Ceramium luetzelburgii O.C. Schmidt, 1924:98, fig. 6 [type locality: Cabo Branco, Paraiba, Brazil].—Fortes and Trono, 1980:59.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Ceramium marshallense Dawson

Ceramium marshallense Dawson, 1957:120, figs. 27*a,b* [type locality: Rigili I., Eniwetok Atoll, Marshall Is.].—Fortes and Trono, 1980:60.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Ceramium maryae Weber-van Bosse

Ceramium maryae Weber-van Bosse, 1923:324, figs. 117, 118 [type locality: Kawasa I., Paternoster Is. (Kepulauan Tengah), Indonesia].—Domantay, 1962:288.—Velasquez, Trono, and Doty, 1975:133.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Ceramium mazatlanense Dawson

Ceramium mazatlanense Dawson, 1950c:130, pl. 2: figs. 14, 15 [type locality: Mazatlan, Sinaloa, Mexico].—Cornejo and Velasquez, 1972:182, pl. 5: fig. 40.—Velasquez, Trono, and Doty, 1975:133.—Chan, 1981:387, 389.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:45.—Meñez, Phillips, and Calumpong, 1983:23.—Meñez and Calumpong, 1984:105.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas. CENTRAL VISAYAS. PALAWAN.

Ceramium multijugum Jaasund

Ceramium multijugum Jaasund, 1970:68, figs. 1C–E,H, 2 [intended type locality: Tanzania].—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

NOTE.—*Ceramium multijugum* is an invalid name because Jaasund failed to indicate a type, as required by Article 37 of the ICBN.

Ceramium nitens (C. Agardh) J. Agardh

Ceramium rubrum (Hudson) C. Agardh var. *nitens* C. Agardh, 1824:136 [type locality: Antilles].

Ceramium nitens (C. Agardh) J. Agardh, 1851 [1851–1863]:130.—Westernhagen, 1973a:64; 1974:112 (table 1).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Ceramium personatum Setchell and Gardner

Ceramium personatum Setchell and Gardner, 1930:171, pl. 6: figs. 21, 22 [type locality: Isla Guadalupe, Pacific Mexico].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Ceramium serpens Setchell and Gardner

Ceramium serpens Setchell and Gardner, 1924a:775, pl. 27: fig. 58 [type locality: La Paz, Baja California Sur, Mexico].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Ceramium sinicola Setchell and Gardner

Ceramium sinicola Setchell and Gardner, 1924a:773, pl. 25: figs. 40, 41; pl. 75 [type locality: Ensenada, Baja California Norte, Mexico].—Fortes and Trono, 1980:60 [var. *sinicola*].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—PANAY: Iloilo.

Ceramium taylorii Dawson

Ceramium taylorii Dawson, 1950c:127, figs. 13, 31–33 [type locality: Cabeza Ballena, Baja California Sur, Mexico].—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Ceramium tenerrimum (Martens) Okamura

Hormoceras tenerrimum Martens, 1868:146, pl. VIII: fig. 2 [type locality: Nagasaki, Japan].
Ceramium tenerrimum (Martens) Okamura, 1921:112.—Cordero, 1977a: 181, fig. 187.

PHILIPPINE DISTRIBUTION.—LUZON: Manila Bay.

Ceramium tenuissimum (Roth) J.E. Areschoug

Ceramium diaphanum (Lightfoot) Roth var. *tenuissimum* Roth, 1806:156 [type locality: not specified].
Ceramium tenuissimum (Roth) J.E. Areschoug, 1847:322.—Cornejo and Velasquez, 1972:182, pl. 3: fig. 25.—Velasquez, Trono, and Doty, 1975:133.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

NOTE.—This species is usually attributed either to (Lyngbye) J. Agardh (1851 [1851–1863]:120) or to (Roth) J. Agardh (1851 [1851–1863]:120). In the first instance, the basionym is cited as *Ceramium diaphanum* var. *tenuissimum* Lyngbye (1819:120, pl. 37:B.4), but Lyngbye accredited the variety to Roth. Areschoug was the first to elevate it to specific rank. Regardless, the name is untenable because it is a later homonym of *C. tenuissimum* Bonnemaison (1828:132) from Atlantic France, which is referable to *Aglaothamnion*. The correct name probably will be found among taxonomic synonyms.

Ceramium vagans P.C. Silva, new name

Ceramium vagabundum Dawson, 1957:121, fig. 27*e* [*"vagabunde"*] [type locality: Parry I., Eniwetok Atoll, Marshall Is.] [replaced name].—Vannajan and Trono, 1978:24, fig. 32.—Chan, 1981:387.—Saraya and Trono, 1982:45, pl. VII: fig. 2 [*"vugabunde"* p. 45].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite.

NOTE.—*Ceramium vagans* is proposed as a substitute name for *C. vagabundum* Dawson, a later homonym of *C. vagabundum* (Linnaeus) Roth (1800a:465).

Ceramium zacae Setchell and Gardner

Ceramium zacae Setchell and Gardner, 1937:89, pl. 8: figs. 22*a*–22*c* [type locality: Bahía San Bartolomé (Bahía Tortugas), Baja California Sur, Mexico].—Fortes and Trono, 1980:60, fig. 11.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Crouania J. Agardh

Crouania attenuata (C. Agardh) J. Agardh

Mesogloia attenuata C. Agardh, 1824:51 [type locality: "In mari Atlantico"].
Crouania attenuata (C. Agardh) J. Agardh, 1842:83.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Crouania minutissima Yamada

Crouania minutissima Yamada, 1944:40 [type locality: Ant Atoll, near Ponape, Caroline Is.].—Vannajan and Trono, 1978:25, fig. 33.—Fortes and Trono, 1980:65.—Fortes, 1981b:396.—Saraya and Trono, 1982:46.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite. PALAWAN.

Dasyphila Sonder

Dasyphila plumarioides Yendo

Dasyphila plumarioides Yendo, 1920:7 [type locality: Kotosho (Hung-t'ou), Taiwan].—Berdach, 1980:101, fig. 2.

PHILIPPINE DISTRIBUTION.—PANAY: Aklan.

Gordoniella Itono

Gordoniella yonakuniensis (Yamada and Tanaka) Itono

Spermothamnion yonakuniense Yamada and Tanaka, 1938:79, figs. 12, 13 [*"yonakuniensis"*] [type locality: Yonakuni-jima, Sakishima-gunto, Ryukyu-retto, Japan].—Cordero, 1976c:9; 1977a:183, figs. 189, 190; 1978a:46.
Gordoniella yonakuniensis (Yamada and Tanaka) Itono, 1977:54.

PHILIPPINE DISTRIBUTION.—BATANES.

Griffithsia C. Agardh

Griffithsia ovalis Harvey

Griffithsia ovalis Harvey, 1855:559 [type locality: King George Sound, Western Australia, Australia].—Cornejo and Velasquez, 1972:179, pl. 2: figs. 18, 18*a*.—Velasquez, Trono, and Doty, 1975:147.—Chan, 1981:387.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas. CENTRAL VISAYAS.

Griffithsia rhizophora Grunow ex Weber-van Bosse

Griffithsia rhizophora Grunow ex Weber-van Bosse, 1923:313 [syntype localities: various, in Indonesia and Sri Lanka].—Saraya and Trono, 1982:46, pl. VIII: fig. 4.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Gymnothamnion J. Agardh

Gymnothamnion elegans (Schousboe ex C. Agardh) J. Agardh

Callithamnion elegans Schousboe ex C. Agardh, 1828:162 [type locality: Tangier, Morocco].
Gymnothamnion elegans (Schousboe ex C. Agardh) J. Agardh, 1892:178 ["*rlegans*"].—Saraya and Trono, 1982:48.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Haloplegma Montagne

Haloplegma duperreyi Montagne

Haloplegma duperreyi Montagne, 1842d:258, pl. 7: fig. 1 [type locality: Martinique].—Berdach, 1980:101, fig. 1 ["*Haploplegma*"].—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—PANAY: Aklan.

Microcladia Greville

Microcladia elegans Okamura

Microcladia elegans Okamura, 1907 [1907–1909]:1, pl. 1: figs. 1–10 [syntype localities: various, all in Japan].—Cordero, 1976c:11; 1977a:181, pl. XII:A.; 1978a:48; 1984a:104.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan. CATANDUANES. MINDANAO: Davao.

Microcladia glandulosa (Solander ex Turner) Greville

Fucus glandulosus Solander ex Turner, 1808:81, pl. 38 [syntype localities: various, in England and Atlantic Spain].
Microcladia glandulosa (Solander ex Turner) Greville, 1830:l ["el"].—Domantay, 1962:293.—Velasquez, Trono, and Doty, 1975:153.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Pleonosporium (Nägeli) Nägeli ex Hauck

Pleonosporium globuliferum Levring

Pleonosporium globuliferum Levring, 1941:647, fig. 19 [type locality: Más Afuera, Islas Juan Fernández, Chile].—Saraya and Trono, 1982:46.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Ptilothamnion Thuret

Ptilothamnion cladophorae (Yamada and Tanaka) Feldmann-Mazoyer

Spermothamnion cladophorae Yamada and Tanaka, 1934:342, figs. 1, 2 [syntype localities: Garan-bi (O-luan) and Kasho-to, Taiwan].
Ptilothamnion cladophorae (Yamada and Tanaka) Feldmann-Mazoyer, 1941:375, footnote.—Cordero, 1976c:9; 1977a:183, fig. 188; 1978a:46.

PHILIPPINE DISTRIBUTION.—BATANES.

Spyridia Harvey

Spyridia filamentosa (Wulfen) Harvey

Fucus filamentosus Wulfen, 1803:64 [type locality: Adriatic Sea].
Spyridia filamentosa (Wulfen) Harvey, 1833:337.—Weber-van Bosse, 1923:320.—Howe, 1932:170.—Reyes, 1972:158.—Trono, 1972a: 106; 1973a:140; 1973d:20, pl. 11: fig. 12.—Trono and Biña, 1973: 11.—Trono, 1974b:95.—Velasquez, Trono, and Doty, 1975: 164.—Cordero, 1977a:184, figs. 191, 192.—Reyes, 1980:138, pl. 11: figs. 4*a,b*.—Chan, 1981:387.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:47.—Trono and Ang, 1982:20.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan. MINDORO: Oriental Mindoro. NEGROS: Negros Occidental, Negros Oriental. SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (Bugsuk I.). SULU: Sulu (Capual I., Siasi I.), Tawitawi.

Spyridia velasquezii Trono

Spyridia velasquezii Trono, 1972b:53, pl. 9: figs. 1, 2; pl. 10: fig. 3 [type locality: Koror I., Palau Group (Belau), Caroline Is.].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Wrangelia C. Agardh

Wrangelia argus (Montagne) Montagne

Griffithsia argus Montagne, 1841 [1839–1842]:176, pl. 8: fig. 4 [type locality: Roque del Gando, Islas Canarias].
Wrangelia argus (Montagne) Montagne, 1856:444.—Cordero, 1977a:186, figs. 195–198.—Saraya and Trono, 1982:47, pl. IX: fig. 3.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan. Pangasinan.

Wrangelia bicuspidata Bφrgesen

Wrangelia bicuspidata Bφrgesen, 1916:118, figs. 127–130 [type locality: between St. Jan (St. John) and St. Thomas, Virgin Is.].—Fortes, 1981b:396.—Trono and Ang, 1982:21.

PHILIPPINE DISTRIBUTION.—PALAWAN (Bugsuk I.).

Wrangelia penicillata (C. Agardh) C. Agardh

Griffithsia penicillata C. Agardh, 1824:143 ["*Griffitsia*"] [type locality: "Ad oras Italiae"].
Wrangelia penicillata (C. Agardh) C. Agardh, 1828:138.—Fortes and Trono, 1980:61, fig. 8.—Saraya and Trono, 1982:48, pl. VIII: fig. 3.—Trono and Ang, 1982:21.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CEBU (Mactan I.). PALAWAN (Bugsuk I.).

Family DELESSERIACEAE

Botryocarpa Greville

Botryocarpa prolifera Greville

Fucus botryocarpus Turner, 1819 [1815–1819]:115, pl. 246 [type locality: Cape of Good Hope, South Africa].
Botryocarpa prolifera Greville, 1830:xlix.—Dickie, 1876a:245.—Velasquez, Trono, and Doty, 1975:130.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

NOTE.—Greville, when establishing the genus *Botryocarpa* on the basis of *Fucus botryocarpus* Turner, was obliged to change the epithet in order to avoid the creation of a tautonym, which is proscribed by Article 23.4 of the ICBN.

Caloglossa (Harvey) J. Agardh

Caloglossa adnata (Zanardini) De Toni

Delesseria adnata Zanardini, 1872:141, pl. V:B [type locality: Sarawak, Malaysia].
Caloglossa adnata (Zanardini) De Toni, 1900:730.—Post, 1938:211.—Fortes and Trono, 1980:61.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal. MINDORO: Oriental Mindoro.

Caloglossa leprieurii (Montagne) J. Agardh

Delesseria leprieurii Montagne, 1840:196, pl. 5: fig. 1 [type locality: near Cayenne, French Guiana].
Caloglossa leprieurii (Montagne) J. Agardh, 1876:499.—Fortes and Trono, 1980:61, fig. 7.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. CENTRAL VISAYAS.

Caloglossa leprieurii (Montagne) J. Agardh var. *hookeri* Post

Caloglossa leprieurii (Montagne) J. Agardh var. *hookeri* Post, 1936:53 [type locality: Bay of Islands, New Zealand].—Post 1938:211, 212.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal.

Caloglossa ogasawaraensis Okamura

Caloglossa ogasawaraensis Okamura, 1897:12, figs. A–D [type locality: Ogasawara-gunto (Bonin Is.), Japan].—Fortes and Trono, 1980:62.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Claudea Lamouroux

**Claudea batanensis* Tanaka

Claudea batanensis Tanaka, 1967:18, figs. 6–8, pl. II:B [type locality: Batan I., Batanes Prov., Luzon].—Velasquez, Trono, and Doty, 1975:136.—Cordero, 1977a:198; 1978a:48.

PHILIPPINE DISTRIBUTION.—BATANES.

Claudea multifida Harvey

Claudea multifida Harvey, 1854:145, pl. VI [type locality: Belligam (Weligama), Sri Lanka].—Cordero, 1977a:199, fig. 215, pl. XXVI:B–Liao and Sotto, 1980:99.—Meñez and Calumpong, 1981:381.—Cordero, 1984a:106.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Batangas. MINDORO: Oriental Mindoro. PANAY: Aklan, Iloilo. GUIMARAS. CEBU (Mactan I.). SIQUIJOR.

Cottoniella Bφrgesen

Cottoniella filamentosa (Howe) Bφrgesen

Sarcomenia filamentosa Howe, 1905:571, pl. 27; pl. 29: figs. 1–11 [type locality: Biscayne Key, Florida, USA].
Cottoniella filamentosa (Howe) Bφrgesen, 1920:478.—Westernhagen, 1973a:65; 1974:112 (table I).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Hypoglossum Kützing

Hypoglossum attenuatum Gardner

Hypoglossum attenuatum Gardner, 1927b:104, pl. 20: fig. 3; pls. 35, 36 [type locality: Puerto Libertad, Sonora, Mexico].—Domantay, 1962:291.—Trono, 1973a:141, fig. 22.—Velasquez, Trono, and Doty, 1975:150.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Sorsogon.

Hypoglossum serrulatum J. Agardh

Hypoglossum serrulatum J. Agardh, 1898:186 [type locality: Port Jackson, New South Wales, Australia].—Weber-van Bosse, 1923:389.—Velasquez, Trono, and Doty, 1975:150.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

Hypoglossum spathulatum (Sonder) Kützing

Delesseria spathulata Sonder, 1845:57 [type locality: Western Australia, Australia].
Hypoglossum spathulatum (Sonder) Kützing, 1849:877.—Weber-van Bosse, 1923:389.—Velasquez, Trono, and Doty, 1975:150.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

Martensia Hering

Martensia flabelliformis Harvey ex J. Agardh

Martensia flabelliformis Harvey ex J. Agardh, 1863 [1851–1863]:826 [type locality: Tonga].—Westernhagen, 1973a:65; 1974:112 (table 1).—Cordero, 1977a:222.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.). SIQUIJOR.

Martensia speciosa Zanardini

Martensia speciosa Zanardini, 1874:488 [type locality: Lord Howe I.].—Weber-van Bosse, 1923:385.—Velasquez, Trono, and Doty, 1975:152.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Pearl Bank).

Opephyllum Schmitz

**Opephyllum martensii* Schmitz

Opephyllum martensii Schmitz in Schmitz and Hauptfleisch, 1897 [1896–1897]:410 [type locality: "an der Küste der Philippinen" (Zamboanga)].—De Toni, 1900:620; 1924:321.—Kylin, 1956:449.—Velasquez, Trono, and Doty, 1975:158.

Pollexfenia pedicellata [misapplied name fide Schmitz, l.c.].—Martens, 1868:32, 100–101.—Velasquez, Trono, and Doty, 1975:160.

PHILIPPINE DISTRIBUTION.—As above.

Taenioma J. Agardh

Taenioma perpusillum (J. Agardh) J. Agardh

Polysiphonia perpusilla J. Agardh, 1847:16 [type locality: "St. Augustin" (Oaxaca, Mexico)].

Taenioma perpusillum (J. Agardh) J. Agardh, 1863 [1851–1863]:1257.—Fortes and Trono, 1980:65.—Fortes, 1981b:396.—Saraya and Trono, 1982:48, pl. IX: figs. 1, 4.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PALAWAN (Bugsuk I.).

Vanvoorstia Harvey

Vanvoorstia spectabilis Harvey

Vanvoorstia spectabilis Harvey, 1854:144, pl. V [type locality: Belligam (Weligama), Sri Lanka].—Weber-van Bosse, 1923:390.—Trono, 1973d:20, pl. 10: fig. 5.—Ortega, Alcala, and Reyes, 1974:186.—Trono, 1974b:94.—Velasquez, Trono, and Doty, 1975:169.—Cordero, 1977a:230, pl. XXVIII:B.—Liao and Sotto, 1980:99.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon. NEGROS: Negros Oriental. SIQUIJOR. CEBU (Mactan I.). SULU: Sulu (North Ubian I., Siasi I.), Tawitawi.

Zellera Martens

Zellera tawallina Martens

Zellera tawallina Martens, 1868:33, pl. VIII: fig. 3 [type locality: Little Tawali I., Moluccas, Indonesia].—Reyes, 1980:139, pl. 12: fig. 2.—Saraya and Trono, 1982:48.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. SIQUIJOR.

Family DASYACEAE

Dasya C. Agardh

Dasya adhaerens Yamada

Dasya adhaerens Yamada, 1944:43, pl. 7: fig. 1 [type locality: Ant Atoll, near Ponape, Caroline Is.].—Cordero, 1977a:231, fig. 261; 1978a:49.

PHILIPPINE DISTRIBUTION.—BATANES.

Dasya baillouviana (S.G. Gmelin) Montagne

Fucus baillouviana S.G. Gmelin, 1768:165 [type locality: Mediterranean Sea].

Dasya baillouviana (S.G. Gmelin) Montagne, 1841 [1839–1842]:165.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Dasya mollis Harvey

Dasya mollis Harvey, 1853:62 [type locality: Key West, Florida, USA].—Vannajan and Trono, 1978:25, fig. 37.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

Dasya ocellata (Grateloup) Harvey

Ceramium ocellatum Grateloup, 1806: pl. [1]: fig. II [type locality: Sète, Hérault, France].

Dasya ocellata (Grateloup) Harvey, 1833:335.—Cordero, 1977a:231, fig. 262; 1978a:49.

PHILIPPINE DISTRIBUTION.—BATANES.

Dasya punicea (Zanardini) Meneghini

Baillouviana punicea Zanardini, 1840b:204 [type locality: Chioggia, Italy]

Dasya punicea (Zanardini) Meneghini in Zanardini, 1841:168.—Cordero, 1977a:232, fig. 263; 1978a:49.

PHILIPPINE DISTRIBUTION.—BATANES.

Dasya sessilis Yamada

Dasya sessilis Yamada, 1928:524, fig. 19 [syntype localities: various, all in Japan].—Cordero, 1977a:234, figs. 264, 265; 1984a:105.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan.

Eupogodon Kützing

The reason for adopting *Eupogodon* for the genus currently known as *Dasyopsis* is given in the appended Nomenclatural Notes.

Eupogodon antillarum (Howe) P.C. Silva, new combination

Dasyopsis antillarum Howe, 1920:577 [type locality: Fort George Cay, Caicos Is., Bahama Is.].—Trono and Ang, 1982:22.

PHILIPPINE DISTRIBUTION.—PALAWAN (Bugsuk I.).

Eupogodon pilosus (Weber-van Bosse) P.C. Silva, new combination

Dasyopsis pilosa Weber-van Bosse, 1923:377, fig. 137 [syntype localities: Indonesia: Waroe, Ceram I., Moluccas; Atja Tuning (Attiatti Onin), Irian Barat].—Cordero, 1977a:234, fig. 266.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental.

Heterosiphonia Montagne

Heterosiphonia crispella (C. Agardh) Wynne

Callithamnion crispellum C. Agardh, 1828:183 [lectotype locality: near Cádiz, Spain fide Wynne, 1985b:86].
Heterosiphonia crispella (C. Agardh) Wynne, 1985b:87.
Dasya wurdemannii Bailey ex Harvey, 1853:64, pl. XV:c ["*wurdemanni*"] [type locality: Key West, Florida, USA].
Heterosiphonia wurdemannii (Bailey ex Harvey) Falkenberg in Schmitz and Hauptfleisch, 1897 [1896–1897]:473 ["*wurdemanni*"].—Vannajan and Trono, 1978:25, fig. 38.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

NOTE.—The conspecificity of *Callithamnion crispellum* and *Dasya wurdemannii* was proposed by Wynne (1985b).

Heterosiphonia crispella (C. Agardh) Wynne var. laxa (Bφrgesen) Wynne

Heterosiphonia wurdemannii (Bailey ex Harvey) Falkenberg var. *laxa* Bφrgesen, 1919:327, figs. 327, 328 [type locality: St. Croix, Virgin Is.].—Fortes, 1981b:396.
Heterosiphonia crispella (C. Agardh) Wynne var. *laxa* (Bφrgesen) Wynne, 1985b:87.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Heterosiphonia muelleri (Sonder) De Toni

Dasya muelleri Sonder, 1855:525 [type locality: Port Phillip, Victoria, Australia].
Heterosiphonia muelleri (Sonder) De Toni, 1903:1237.—Weber-van Bosse, 1923:380.—Velasquez, Trono, and Doty, 1975:150.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).
NOTE.—Parsons (1975:627) expressed doubt that tropical records of *Heterosiphonia muelleri* (including Weber-van Bosse's record from Sulu) are referable to this species.

Tapeinodasya Weber-van Bosse

**Tapeinodasya bornetii* Weber-van Bosse

Tapeinodasya bornetii Weber-van Bosse, 1904a:96, figs. 1, 2 ["*borneti*"] [syntype localities: Saleyer (Selajar) I., Celebes, Indonesia; Sulu Archipelago].—Weber-van Bosse, 1923:381, figs. 138, 139, pl. X: figs. 1–4.—Velasquez, Trono, and Doty, 1975:165.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Pearl Bank, Sangasiapu I.).

Family RHODOMELACEAE

Acanthophora Lamouroux

Acanthophora aokii Okamura

Acanthophora aokii Okamura, 1934 [1933–1942]:35, pl. 318: figs. 15–17 ["*aoki*"] [syntype localities: Tainan and Kotosho (Hung-t'ou), Taiwan].—Cordero, 1977a:187, figs. 199, 200, 207; 1978a:48, 56; 1980b:60.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte. MINDORO: Oriental Mindoro. SAMAR: Western Samar, Eastern Samar. PANAY: Aklan.

Acanthophora muscoides (Linnaeus) Bory de Saint-Vincent

Fucus muscoides Linnaeus, 1753:1161 [type locality: Ascension I.].
Acanthophora muscoides (Linnaeus) Bory de Saint-Vincent, 1828 [1826–1829]:156.—Westernhagen, 1973a:64; 1974:112 (table 1).—Cordero, 1977a:189, fig. 204; 1980b:61.—Trono and Ganzon-Fortes, 1980:97, fig. [s.n.].—Ganzon-Fortes, 1981:22.—Laserna et al., 1981:445.—Meñez and Calumpong, 1981:381.—Calumpong, 1982:145.—Cordero, 1984a:105.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Batangas, Quezon. NEGROS: Negros Oriental (Apo I.). CEBU (Mactan I.). SIQUIJOR.

Acanthophora spicifera (Vahl) Bφrgesen

Fucus spiciferus Vahl, 1802:44 [type locality: St. Croix, Virgin Is.].
Acanthophora spicifera (Vahl) Bφrgesen, 1910:201.—Weber-van Bosse, 1923:347.—Cantoria, Velasquez, and Valenzuela, 1951:296, footnote.—Domantay, 1962:287.—Galutira and Velasquez, 1964:510, pl. 5: fig. 18; pl. 9: figs. 37*a,b*.—Velasquez, 1968a:122, fig. 9.—Villones and Magdamo, 1968:27, fig. 23.—Velasquez, 1971:449, fig. 36.—Reyes, 1972:158.—Trono, 1972a:106.—Velasquez, 1972:63.—Trono, 1973d:20, pl. 11: fig. 10.—Trono and Biña, 1973:11.—Velasquez et al., 1973:32, pl. 14: fig. 67.—Westernhagen, 1973a:64.—Ortega, Alcala, and Reyes, 1974:185, 186, 187.—Trono, 1974b:96.—

Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:125.—Cordero, 1977a:189, figs. 201, 203, pl. XXVI:A; 1978a:56.—Vannajan and Trono, 1978:25, fig. 36.—Trono, 1978:19.—Cordero, 1979b:295.—Puig and Cordero, 1979:42.—Velasquez, 1979b:230.—Cajipe et al., 1980:69.—Cordero, 1980b:61, pl. 40.—Liao and Sotto, 1980:99.—Moreland, 1980:43, 46.—Reyes, 1980:139, pl. 12: fig. 3.—Trono and Fortes, 1980:74.—Trono and Ganzon-Fortes, 1980:99, fig. [s.n.].—Trono, Velasquez, and Guevarra, 1980:79.—Ganzon-Fortes, 1981:22.—Guzman, 1981:42.—Laserna et al., 1981:445.—Meñez and Calumpong, 1981:381.—Trono and Azanza-Corrales, 1981:744.—Trono and De Lara, 1981:19.—Calumpong, 1982:145.—Cordero, 1982a:60, 61.—Saraya and Trono, 1982:49.—Trono and Fortes, 1982:153.—Buchan-Antalan and Trono, 1983:19, fig. 2.—Hurtado-Ponce, 1983:144.—Cordero, 1984a:105; 1984b:66; 1984c:55.—Hurtado-Ponce, 1984:180.—Marcos-Agngarayngay, 1984a:58, fig. 48; 1984b:129.—Tungpalan, 1984:141.—Trono and Ganzon-Fortes, 1985:63.

Fucus acanthophorus Lamouroux, 1805:61, pl. XXX; pl. XXXI: fig. 1 [type locality: "Amérique septentrionale"].

Acanthophora thierryi Lamouroux, 1813:132 [*"thierii"*]—Montagne, 1844a:662.—Martens, 1868:100–101.—Velasquez, Trono, and Doty, 1975:125.

**Acanthophora orientalis* J. Agardh, 1863 [1851–1863]:820 [syntype localities: Marianas; "ad Manillam," Luzon].—Piccone, 1886:81, 90.—Heydrich, 1894:296.—Mazza, 1909:16.—De Toni, 1924:380.—Collado, 1926:129.—Howe, 1932:169, 170.—G. Blanco, 1938:512.—Montilla and Blanco, 1953:166.—Domantay, 1962:288.—Westernhagen, 1973a:64; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:125.

Acanthophora spicifera (Vahl) Bφrgesen f. *orientalis* (J. Agardh) Weber-van Bosse, 1923:348.—Zaneveld, 1956:25 [var. *orientalis*]; 1959:106 [var. *orientalis*].—Bersamin et al., 1973:184 [var. *orientalis*].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Ilocos Sur, Pangasinan, Rizal, Manila, Cavite, Batangas, Quezon, Albay. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. SAMAR: Western Samar, Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. GUIMARAS. NEGROS: Negros Occidental (incl. Ilacaon I.), Negros Oriental (incl. Apo I.). CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga, Surigao del Sur, Davao. PALAWAN. SULU: Sulu (incl. Siasi I.) Tawitawi.

NOTE.—The conspecificity of *Fucus spiciferus* and *Acanthophora thierryi* was proposed by Bφrgesen (1910:201). *Acanthophora orientalis* was added as a synonym by Weber-van Bosse (1923:348). Lamouroux, when establishing the genus *Acanthophora* on the basis of *Fucus acanthophorus* Lamouroux, was obliged to change the epithet in order to avoid the creation of a tautonym, which is proscribed by Article 23.4 of the ICBN. The new epithet was chosen to commemorate "M. Thierry fils, professeur de physique et de chimie à . . . Caen". Lamouroux's incorrect original spelling is automatically correctable in accordance with Article 73.1 of the ICBN.

Acrocystis Zanardini

Acrocystis nana Zanardini

Acrocystis nana Zanardini, 1872:145, pl. VIII:A [type locality: "Tangion Datu" (Cape Datu), boundary between Sarawak, Malaysia and West Kalimantan, Indonesia].—Cordero, 1981a:173, fig. 2.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. CENTRAL VISAYAS.

Alsidium C. Agardh

Alsidium pusillum Dawson

Alsidium pusillum Dawson, 1963:20, pl. 3: figs. 1–4 [type locality: Academy Bay, Isla Santa Cruz, Galápagos].—Vannajan and Trono, 1978:28, fig. 34 [*A. pusillum* prox.].

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

Amansia Lamouroux

Amansia glomerata C. Agardh

Amansia glomerata C. Agardh, 1822a:194 [syntype localities: Hawaiian Is.; "Ravak" (Lawak), Waigeo I., Moluccas, Indonesia].—J. Agardh, 1863 [1851–1863]:1111.—Domantay, 1962:288.—Reyes, 1972:159.—Trono, 1972a:108; 1973a:139, fig. 21.—Westernhagen, 1973a:64; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:126.—Cordero, 1976c:8; 1977a:192, figs. 205, 268; 1978a:54.—Trono, 1978:19.—Trono and Tuason, 1978:15.—Liao and Sotto, 1980:99.—Reyes, 1980:140, pl. 12: fig. 5.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:49, pl. IX: fig. 2.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Quezon, Sorsogon. CATANDUANES. MARINDUQUE. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. BASILAN. PALAWAN. SULU: Tawitawi.

Bostrychia Montagne

Bostrychia binderi Harvey

Bostrychia binderi Harvey, 1849 [1847–1849]:68, pl. XXVIII [in part] [type locality: Port Natal (Durban), South Africa].—Post, 1936:28, 30, 33; 1939:23.—Villones and Magdamo, 1968:28, fig. 27.—Trono, 1973a:138.—Cordero, 1977a:193, figs. 206, 208, 209.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:381.—Saraya and Trono, 1982:49, pl. X: figs. 1–3.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Pangasinan, Batangas, Quezon. MINDORO: Oriental Mindoro. SIQUIJOR. PALAWAN.

Bostrychia calliptera (Montagne) Montagne

Rhodomela calliptera Montagne, 1840:197, pl. 5: fig. 2 [type locality: Cayenne, French Guiana].

Bostrychia calliptera (Montagne) Montagne, 1842b:661.—Post, 1938:206.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon.

Bostrychia intricata (Bory de Saint-Vincent) Montagne

Scytonema intricatum Bory de Saint-Vincent, 1829 [1826–1829]:225 [*"intricata"*] [lectotype locality: Falkland Is. fide Post, 1936:36, 40].

Bostrychia intricata (Bory de Saint-Vincent) Montagne, 1852:317.
Bostrychia mixta J. Hooker and Harvey, 1845a:270 [type locality: Bay of Islands, New Zealand].

NOTE.—The conspecificity of *Bostrychia intricata* and *B. mixta* was proposed by Post (1936:10, 36, 40), who adopted the later of the two names without comment. As pointed out by Papenfuss (1964:59), *Scytonema intricatum* is invalid because the generic name *Scytonema* is invalid (Articles 13.2 and 43 of the ICBN), being originally applied to a group of Cyanophyceae (Nostocaceae heterocysteae) with an 1886 starting point (Article 13.1(e)). With the abandonment of later starting points in the Cyanophyceae, however, *Scytonema intricatum* becomes available.

TAXON OF UNCERTAIN VALUE

Philippine records for *Bostrychia intricata* are under the following infraspecific taxon, which has not been formally transferred to it.

Bostrychia mixta J. Hooker and Harvey f. *inermis* Post

Bostrychia mixta J. Hooker and Harvey f. *inermis* Post, 1936: 7, 42 [syntype localities: Indonesia; Queensland, Australia].—Post, 1938:211.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal.

Bostrychia kelanensis Grunow

Bostrychia kelanensis Grunow in Post, 1936:20 [type locality: Kelana, Papua New Guinea].—Post, 1936:20, 21, 22; 1938:205.—Tanaka, 1967:20, figs. 9, 10, pl. II:A.—Velasquez, Trono, and Doty, 1975:129.—Cordero, 1977a:193.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Rizal. SULU: Sulu.

Bostrychia moritziana (Sonder ex Kützing) J. Agardh

Polysiphonia (?) moritziana Sonder ex Kützing, 1849:838 [syntype localities: Antilles; Cayenne, French Guiana].
Bostrychia moritziana (Sonder ex Kützing) J. Agardh, 1863 [1851–1863]:862.—Post, 1938:204; 1939:15.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal, Quezon.

Bostrychia radicans (Montagne) Montagne

Rhodomela radicans Montagne, 1840:198, pl. 5: fig. 3 [type locality: Cayenne, French Guiana].
Bostrychia radicans (Montagne) Montagne, 1842b:661.—Post, 1938:205; 1939:15, 16.—Hamoy and Garciano, 1975:71.—Fortes and Trono, 1980:65, fig. 9.—Trono and Fortes, 1980:74.—Fortes, 1981b:396.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:153.
Bostrychia rivularis Harvey, 1853:57, pl. XIV:C [syntype localities: various, all in Atlantic USA].—Hamoy and Garciano, 1975:71.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal, Quezon. MINDORO: Oriental Mindoro. CEBU.

NOTE.—The synonymy was proposed by Post (1936:13–19).

Bostrychia simpliciuscula Harvey ex J. Agardh

Bostrychia simpliciuscula Harvey ex J. Agardh, 1863 [1851–1863]:854 [type locality: Tonga].
Bostrychia tenuis Post f. *simpliciuscula* (Harvey ex J. Agardh) Post, 1936:23.—Post, 1938:205; 1939:16.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal, Quezon.

NOTE.—Post (1936:22) erred in establishing a new species, *Bostrychia tenuis,* to which she assigned two existing species, *B. simpliciuscula* and *B. andoi* Okamura 1907.

Bostrychia tenella (Lamouroux) J. Agardh

Fucus tenellus Vahl, 1802:45 [type locality: St. Croix, Virgin Is.].
Plocamium tenellum Lamouroux, 1813:138.
Bostrychia tenella (Lamouroux) J. Agardh, 1863 [1851–1863]:869.—Post, 1936:25, 26; 1938:206.—Trono, 1973a:138.—Cordero, 1976c:10; 1977a:195, fig. 210; 1978a:52; 1979b:295.—Reyes, 1980:140, pl. 12, fig. 6.—Meñez and Calumpong, 1981:381.—Cordero, 1984b:67.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Quezon. MINDORO: Oriental Mindoro. PANAY: Aklan. SIQUIJOR. PALAWAN.

NOTE.—*Fucus tenellus* Vahl, the intended basionym of *Bostrychia tenella,* is a later homonym of *F. tenellus* Esper (1800:197, pl. CIX) and hence not priorable. *Plocamium tenellum* Lamouroux is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Chondria C. Agardh

Chondria armata (Kützing) Okamura

Lophura armata Kützing, 1866:2, pl. 3: figs. *a, b* [type locality: New Caledonia].
Chondria armata (Kützing) Okamura, 1907 [1907–1909]:69.—Quisumbing, 1951:1008.—Cordero, 1977a:195, fig. 211, pl. XXVI:C; 1980b:62.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Quezon, Sorsogon. CENTRAL VISAYAS.

Chondria crassicaulis Harvey

Chondria crassicaulis Harvey, 1860a:330 [syntype localities: Shimoda and Hakodate, Japan].—Cordero, 1977a:196, fig. 212.

PHILIPPINE DISTRIBUTION.—PALAWAN.

Chondria curvilineata Collins and Hervey

Chondria curvilineata Collins and Hervey, 1917:120, pl. II: figs. 10, 11 [type locality: Heron Bay, Bermuda].—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Chondria dasyphylla (Woodward) C. Agardh

Fucus dasyphyllus Woodward, 1794:239, pl. 23: figs. 1–3 [syntype localities: Cromer and Yarmouth, Norfolk, England].
Chondria dasyphylla (Woodward) C. Agardh, 1817:xviii.—Weber-van Bosse, 1923:352.—Velasquez, Trono, and Doty, 1975:135.—Cordero, 1977a:196, fig. 213; 1978a:55.—Chan, 1981:387.—Cordero, 1984a:106.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan. LEYTE. SULU: Sulu (North Ubian I.).

Chondria polyrhiza Collins and Hervey

Chondria polyrhiza Collins and Hervey, 1917:121, pl. II: fig. 12 [type locality: Shelly Bay, Bermuda].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Chondria repens Bφrgesen

Chondria repens Bφrgesen, 1924:299, figs. 40, 41 [type locality: Isla de Pascua (Easter Island)].—Cordero, 1977a:198, fig. 214; 1980b:63.—Saraya and Trono, 1982:50.—Cordero, 1984a:106.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Cavite (Corregidor I.). SIQUIJOR.

Chondria sedifolia Harvey

Chondria sedifolia Harvey, 1853:19, pl. XVIII:G [type locality: Key West, Florida, USA].—Reyes, 1980:141, pl. 13, fig. 5.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Chondria seticulosa (Forsskål) C. Agardh

Conferva seticulosa Forsskål, 1775:188 [type locality: Mokha, Yemen].
Chondria seticulosa (Forsskål) C. Agardh, 1822a:345.
Laurencia seticulosa (Forsskål) Greville, 1830:lii.—Quisumbing, 1951:1010.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte.

**Chondria sibogae* Weber-van Bosse

Chondria sibogae Weber-van Bosse, 1923:350, fig. 134. [syntype localities: Lombok I. and Borneo Bank, Indonesia; North Ubian I., Sulu Prov., Sulu Archipelago].—Velasquez, Trono, and Doty, 1975:135.

PHILIPPINE DISTRIBUTION.—As above.

Digenea C. Agardh

Digenea simplex (Wulfen) C. Agardh

Conferva simplex Wulfen, 1803:17 [type locality: Trieste, Italy].
Digenea simplex (Wulfen) C. Agardh, 1822a:389.—G. Blanco, 1938: 512.—Quisumbing, 1951:49.—Sulit, Navarro, and San Juan, 1952: 167.—Montilla and Blanco, 1953:166, fig. 5:3.—Antonio, 1962: 13.—Domantay, 1968:26.—Velasquez, 1971:449, fig. 35.—Trono, 1973a:140, fig. 16.—Cordero, 1976c:6, 8, 10; 1977a:200, figs. 216, 217; 1978a:52; 1980b:63, fig. 24, pl. 41.—Moreland, 1980:51.—Trono and Fortes, 1980:74.—Ganzon-Fortes, 1981:22.—Trono and Fortes, 1982:153.—Tungpalan, 1984:138.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Bataan, Manila, Batangas, Quezon, Sorsogon. PALAWAN.

Enantiocladia Falkenberg

Enantiocladia okamurae Yamada

Enantiocladia okamurae Yamada, 1930b:27 [*"okamurai"*] [syntype localities: various, all in Japan.]—Cordero, 1977a:201, fig. 220.—Marcos-Agngarayngay, 1984a:60, fig. 50.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Endosiphonia Zanardini

Endosiphonia spinuligera Zanardini

Endosiphonia spinuligera Zanardini, 1878:35 [type locality: Wokam I., Aru Is., Indonesia].—Weber-van Bosse, 1923:354.—Velasquez, Trono, and Doty, 1975:142.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Pearl Bank, Sangasiapu I.).

Exophyllum Weber-van Bosse

**Exophyllum wentii* Weber-van Bosse

Exophyllum wentii Weber-van Bosse, 1911:29 [syntype localities: Savu I. and Borneo Bank, Indonesia; North Ubian I., Sulu Prov., Sulu Archipelago].—Weber-van Bosse, 1928:478.—Velasquez, Trono, and Doty, 1975:144

PHILIPPINE DISTRIBUTION.—As above.

NOTE.—This alga, long considered of uncertain taxonomic position, was assigned to the Rhodomelaceae by Hollenberg (1968d:81) on the basis of newly discovered spermatangial plants.

Herposiphonia Nägeli

Herposiphonia crassa Hollenberg

Herposiphonia crassa Hollenberg, 1968c:539, figs. 12, 13 [type locality: Kahakuloa Bay, Maui, Hawaiian Is.].—Saraya and Trono, 1982:51.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Herposiphonia delicatula Hollenberg

Herposiphonia delicatula Hollenberg, 1968c:540, figs. 1A,B, 2H, 3 [including Philippine record] [type locality: Falas I., Truk Is., Caroline Is.].—Velasquez, Trono, and Doty, 1975:149.

PHILIPPINE DISTRIBUTION.—MINDANAO: Davao.

Herposiphonia dendroidea Hollenberg

Herposiphonia dendroidea Hollenberg, 1968c:543, figs. 1C–E, 9 [type locality: Raroia Atoll, Tuamotu Archipelago].—Fortes and Trono, 1980:65, fig. 12.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LEYTE (Biliran I.).

Herposiphonia dendroidea var. *minor* Hollenberg

Herposiphonia dendroidea var. *minor* Hollenberg, 1968c:543, figs. 7, 24 [type locality: Raroia Atoll, Tuamotu Archipelago].—Fortes and Trono, 1980:66, fig. 14.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—SAMAR: Eastern Samar (Manicani I.). CEBU.

Herposiphonia nuda Hollenberg

Herposiphonia nuda Hollenberg, 1968c:548, figs. 2E,F, 8 [type locality: Ilio Point, Molokai, Hawaiian Is.].—Chan, 1981:387.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Herposiphonia obscura Hollenberg

Herposiphonia obscura Hollenberg, 1968c:549, fig. 25 [type locality: Ewa Beach, Oahu, Hawaiian Is.].—Fortes and Trono, 1980:66, fig. 13.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—CEBU.

Herposiphonia pacifica Hollenberg

Herposiphonia pacifica Hollenberg, 1968c:549, figs. 2A,B, 4, 19 [including Philippine record] [type locality: Maalea, Maui, Hawaiian Is.].—Velasquez, Trono, and Doty, 1975:149.

PHILIPPINE DISTRIBUTION.—MINDANAO: Surigao.

Herposiphonia parca Setchell

Herposiphonia parca Setchell, 1926:103, pl. 20: fig. 2 [type locality: Arue Reef, Tahiti].—Hollenberg, 1968c:552.—Velasquez, Trono, and Doty, 1975:149.—Fortes and Trono, 1980:66.—Chan, 1981:387.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. LEYTE. MINDANAO: Davao. PALAWAN (Balabac I.). SULU: Sulu (Cagayan Sulu I., Siasi I.).

Herposiphonia plumula (J. Agardh) Falkenberg

Polysiphonia plumula J. Agardh, 1885:99 [type locality: Santa Barbara, California, USA].
Herposiphonia plumula (J. Agardh) Falkenberg, 1901:728.—Marcos-Agngarayngay, 1984a:60, fig. 51 [miscited fig. 53].

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Herposiphonia secunda (C. Agardh) Ambronn

Hutchinsia secunda C. Agardh, 1824:149 [type locality: Mediterranean Sea].
Herposiphonia secunda (C. Agardh) Ambronn, 1880:197.
Herposiphonia tenella (C. Agardh) Ambronn f. *secunda* (C. Agardh) Hollenberg, 1968c:556.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS. MINDANAO: Surigao.

Herposiphonia secunda (C. Agardh) Ambronn f. *tenella* (C. Agardh) Wynne

Hutchinsia tenella C. Agardh, 1828:105 [type locality: Sicily].
Herposiphonia tenella (C. Agardh) Ambronn, 1880:197.—Hollenberg, 1968c:555.—Cornejo and Velasquez, 1972:181, pl. 3: fig. 22.—Velasquez, Trono, and Doty, 1975:149.—Vannajan and Trono, 1978:26.—Chan, 1981:387, 389.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:382.—Saraya and Trono, 1982:50, pl. X: fig. 4.
Herposiphonia secunda (C. Agardh) Ambronn f. *tenella* (C. Agardh) Wynne, 1985a:173.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite, Batangas. CENTRAL VISAYAS. PALAWAN (Balabac I.). SULU: Sulu (Siasi I.).

NOTE.—Hollenberg (1968c:556) reduced *Herposiphonia secunda* to the rank of a form of *Herposiphonia tenella.* Because *Hutchinsia secunda* C. Agardh (1824:149), the basionym of *Herposiphonia secunda,* is older than *Hutchinsia tenella* C. Agardh (1828:105), the basionym of *Herposiphonia tenella,* the relationship of the two taxa must be reversed.

Herposiphonia subdisticha Okamura

Herposiphonia subdisticha Okamura, 1899a:37, pl. I: figs. 12–14 [syntype localities: Enoshima, Kanagawa Prefecture and "Boshu" (Chiba Prefecture), Japan].—Cordero, 1976c:8, 10; 1977a:202, figs. 218, 219; 1978a:53; 1984a:106.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte.

Herposiphonia trichia Hollenberg

Herposiphonia trichia Hollenberg, 1968c:557, fig. 1G [type locality: Yap I., Caroline Is.].—Fortes and Trono, 1980:66.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

Laurencia Lamouroux

Laurencia brongniartii J. Agardh

Laurencia brongniartii J. Agardh, 1841:20 [type locality: Martinique].—Cordero, 1977a:204, pl. XXVII:A.—Hurtado-Ponce, 1983:145; 1984:180.—Marcos-Agngarayngay, 1984a:55, fig. 45; 1984b:129.
Laurencia concinna Montagne, 1842a:6 [type locality: Toud I. [Warrior

Islet], Torres Strait, Australia].—Dickie, 1876a:245.—Weber-van Bosse, 1923:346.—Velasquez, Trono, and Doty, 1975:151.

Laurencia grevilleana Harvey, 1855:545 [type locality: Rottnest I., Western Australia, Australia].—Tahil, 1978:52.—Guzman, 1981:44.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. CEBU (Mactan I.). MINDANAO: Zamboanga. SULU: Sulu (North Ubian I., Tongquil I.).

NOTE.—The synonymy was proposed by Saito and Womersley 1974:839).

Laurencia capituliformis Yamada

Laurencia capituliformis Yamada, 1931b:217, pl. 14 [type locality: Oshima, Aomori Prefecture, Japan].—Cordero, 1977a:205.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Laurencia caraibica P.C. Silva

Laurencia nana Howe, 1920:566 [type locality: Mariguana (Mayaguana) I., Bahama Is.] [replaced name].—Meñez and Calumpong, 1981:382.

Laurencia caraibica P.C. Silva, 1972:205.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

NOTE.—*Laurencia caraibica* is a substitute name for *L. nana* Howe, a later homonym of *L. nana* (C. Agardh) Greville (1830:lii).

Laurencia carolinensis Saito

Laurencia carolinensis Saito, 1969:154, figs. 6, 7 [type locality: Helen Reef, Caroline Is.].—Cordero, 1977a:205.

PHILIPPINE DISTRIBUTION.—PALAWAN.

Laurencia cartilaginea Yamada

Laurencia cartilaginea Yamada, 1931b:230, fig. o, pl. 19: fig. *a* [syntype localities: Chikuzen and Iyo provinces (Fukuoka and Ehime prefectures), Japan].—Meñez, 1961:76.—Saito, 1968:89; 1969:154.—Velasquez, 1971:453, fig. 38.—Cornejo and Velasquez, 1972:181, 182, 183.—Kraft, 1972:332.—Reyes, 1972:159.—Trono, 1972a:88; 1973d:22, pl. 11: fig. 11.—Trono and Biña, 1973:11.—Velasquez et al., 1973:32, pl. 14: fig. 68.—Ortega, Alcala, and Reyes, 1974:187.—Trono, 1974b:97; 1974e:18.—Velasquez, Trono, and Doty, 1975:151.—Cordero, 1977a:206, fig. 221; 1978a:57.—Puig and Cordero, 1979:42.—Liao and Sotto, 1980:99.—Trono and Fortes, 1980:75.—Trono and Ganzon-Fortes, 1980:101, fig. [s.n].—Ganzon-Fortes, 1981:22.—Trono and De Lara, 1981:21, pl. XII: fig. 1.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Bataan, Batangas, Quezon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SIQUIJOR. SAMAR: Western Samar. LEYTE (incl. Biliran I.). PANAY: Iloilo. NEGROS: Negros Oriental. CEBU (Mactan I.). MINDANAO: Zamboanga (Sacol I.), Surigao. PALAWAN (incl. Cuyo I.). SULU: Sulu (Siasi I.), Tawitawi.

Laurencia ceylanica J. Agardh

Laurencia ceylanica J. Agardh, 1876:660 [type locality: Sri Lanka].—Meñez, 1961:76.—Velasquez, Trono, and Doty, 1975:151.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Laurencia chondrioides Bφrgesen

Laurencia chondrioides Bφrgesen, 1918:252, figs. 243–246 [type locality: St. Jan (St. John), Virgin Is.].—Westernhagen, 1973a:65; 1974:112 (table 1).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Laurencia clavata Sonder

Laurencia clavata Sonder, 1853:694 [type locality: Lefevre Peninsula, South Australia, Australia].—Weber-van Bosse, 1923:346.—Velasquez, Trono, and Doty, 1975:151.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Tongquil I.).

Laurencia columellaris Bφrgesen

Laurencia columellaris Bφrgesen, 1945:53, figs. 28–30 [type locality: Réunion].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Laurencia composita Yamada

Laurencia composita Yamada, 1931b:236, figs. R, S, pl. 23 [syntype localities: Enoshima (Kanagawa Prefecture) and Mera (Chiba Prefecture), Japan].—Cordero, 1977a:206, pl. XXVIII:A.—Marcos-Agngarayngay, 1984a:55, fig. 46; 1984b:130.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. PALAWAN.

Laurencia corallopsis (Montagne) Howe

Sphaerococcus corallopsis Montagne, 1842c:49, pl. III: fig. 1 [type locality: La Habana, Cuba].—Martens, 1868:31, 96–97.—Velasquez, Trono, and Doty, 1975:151.

Laurencia corallopsis (Montagne) Howe, 1918:519.—Cordero, 1977a:208, fig. 222; 1978a:57.

PHILIPPINE DISTRIBUTION.—BATANES. MINDANAO: Zamboanga.

Laurencia decumbens Kützing

Laurencia decumbens Kützing, 1863:18 [type locality: New Caledonia].—Cordero, 1977a:208.

PHILIPPINE DISTRIBUTION.—SAMAR: Western Samar.

Laurencia distichophylla J. Agardh

Laurencia distichophylla J. Agardh, 1852 [1851–1863]:762 [type locality: "in oceano australi?"].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Laurencia forsteri (Mertens ex Turner) Greville

Fucus forsteri Mertens ex Turner, 1809:15, pl. 77 [lectotype locality: Australia (probably King George Sound, Western Australia) fide Saito and Womersley, 1974:824].
Laurencia forsteri (Mertens ex Turner) Greville, 1830:lii.—Cordero, 1977a:208.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Laurencia glandulifera (Kützing) Kützing

Chondria glandulifera Kützing, 1845:329 [type locality: Trieste, Italy].
Laurencia glandulifera (Kützing) Kützing, 1849:855.—Westernhagen, 1973a:65; 1974:112 (table 1).—Cordero, 1977a:209, fig. 223, pl. XXVII:D; 1984a:107.—Marcos-Agngarayngay, 1984b:130.—Tungpalan, 1984:141.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. CEBU (Mactan I.). SULU.

Laurencia implicata J. Agardh

Laurencia implicata J. Agardh, 1852 [1852–1863]:745 [type locality: St. Croix, Virgin Is.].
Chondria intricata Montagne, 1842c:41 [type locality: Cuba].
Laurencia intricata (Montagne) Lamouroux ex J. Agardh, 1852 [1852–1863]:750 [footnote].—Cordero, 1976c:8; 1977a:210, figs. 225, 226; 1978a:58.—Trono and Ang, 1982:25.

PHILIPPINE DISTRIBUTION.—BATANES. PALAWAN (Bugsuk I.).

NOTE.—The name *Laurencia intricata* Lamouroux has been applied to this species, but it is not correct. Lamouroux (1813:131, pl. 9: figs. 8, 9) failed to provide a description, as did C. Agardh (1817:XVIII) when transferring the species to *Chondria*. The first description was provided by Montagne under the name *Chondria intricata*. The species was returned to *Laurencia* by J. Agardh, but the resulting binomial is a later homonym of *L. intricata* Suhr (1840:265). The conspecificity of *L. implicata* J. Agardh and *L. intricata* (Montagne) Lamouroux ex J. Agardh was proposed by Howe (1918:518).

Laurencia intermedia Yamada

Laurencia intermedia Yamada, 1931b:191, pl. 1: fig. *c*; pl. 2 [type locality: Enoshima, Kanagawa Prefecture, Japan].—Westernhagen, 1973a:65; 1974:112 (table 1).—Cordero, 1977a:209, fig. 224; 1978a:57.—Guzman, 1981:42, 46, 47, 48.—Hurtado-Ponce, 1983:145.—Cordero, 1984a:107.—Hurtado-Ponce, 1984:180.—Tungpalan, 1984:141.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. CEBU (Mactan I.).

Laurencia japonica Yamada

Laurencia japonica Yamada, 1931b:211, fig. L, pl. 11 [syntype localities: Amatsu and Emi, Chiba Prefecture, Japan].—Meñez, 1961:77.—Saito, 1968:86; 1969:152.—Velasquez, Trono, and Doty, 1975:151.—Trono and Ang, 1982:25.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Quezon. PALAWAN (incl. Bugsuk I.).

Laurencia majuscula (Harvey) Lucas

Laurencia obtusa (Hudson) Lamouroux var. *majuscula* Harvey, 1863: xxvi [syntype localities: Rottnest I., Western Australia and Cape Shank, Bass Strait, Australia].
Laurencia majuscula (Harvey) Lucas, 1935:223.—Saito, 1968:84; 1969:149.—Velasquez, Trono, and Doty, 1975:151.—Cordero, 1977a:210, fig. 227.—Puig and Cordero, 1979:42.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Albay. LEYTE (incl. Biliran I.). SIQUIJOR. PALAWAN.

Laurencia mariannensis Yamada

Laurencia mariannensis Yamada, 1931b:200, figs. F, G, pl. 5: fig. *b* [type locality: Saipan, Mariana Is.].—Saito, 1969:151.—Trono and Biña, 1973:11.—Velasquez, Trono, and Doty, 1975:151.—Saraya and Trono, 1982:52.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro.

Laurencia nidifica J. Agardh

Laurencia nidifica J. Agardh, 1852[1852–1863]:749 [type locality: Hawaiian Is.].—Cordero, 1977a:211, fig. 228.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Bataan.

Laurencia obtusa (Hudson) Lamouroux

Fucus obtusus Hudson, 1778:586 [syntype localities: Hastings, Sussex and Devonshire, England].
Laurencia obtusa (Hudson) Lamouroux, 1813:130.—Montagne, 1844a:662.—Martens, 1868:100–101.—Dickie, 1874a:192. —Cantoria, Velasquez, and Valenzuela, 1951:296, footnote.—Meñez, 1961:76.—Saito, 1968:84 [var. *obtusa*]; 1969:150 [var. *obtusa*].—Westernhagen, 1973a:65; 1974:112 (table 1).—Velasquez, Trono, and Doty, 1975:151.—Cordero, 1977a:211, fig. 229; 1977a:213 [var. *obtusa*]; 1978a:58; 1979b:294; 1980b:64, pl. 42 [var. *obtusa*].—Trono and Fortes, 1980:75.—Fortes, 1981b:396.—Ganzon-Fortes, 1981:22.—Meñez and Calumpong, 1981:382.—Cordero, 1982a: fig. 14.—Saraya and Trono, 1982:53.—Trono and Ang, 1982:25.—Trono and Fortes, 1982:154.—Cordero, 1984a:107 [var. *obtusa*]; 1984c:55.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Albay. MASBATE. PANAY: Aklan. CEBU (Mactan I.). PALAWAN (Bugsuk I.).

Laurencia obtusa (Hudson) Lamouroux var. *dendroidea* (J. Agardh) Yamada

Laurencia dendroidea J. Agardh 1852 [1852–1863]:753 [type locality: Brazil].—Weber-van Bosse, 1923:343.—Velasquez, Trono, and Doty, 1975:151.

Laurencia obtusa (Hudson) Lamouroux var. *dendroidea* (J. Agardh) Yamada, 1931b:224.—Saito, 1968:84; 1969:150.

PHILIPPINE DISTRIBUTION.—MINDANAO. SULU: Sulu (North Ubian I.).

Laurencia obtusa (Hudson) Lamouroux var. *densa* Yamada

Laurencia obtusa (Hudson) Lamouroux var. *densa* Yamada, 1931b: 226 [type locality: Daibanratsu, Taiwan].—Cordero, 1977a:213.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Laurencia obtusa (Hudson) Lamouroux var. *snackeyi* (Weber-van Bosse) Yamada

Laurencia paniculata (C. Agardh) J. Agardh var. *snackeyi* Weber-van Bosse, 1923:342 [type locality: Semau I., Indonesia].

Laurencia obtusa (Hudson) Lamouroux var. *snackeyi* (Weber-van Bosse) Yamada, 1931b:225.—Saito, 1968:85; 1969:151.

PHILIPPINE DISTRIBUTION.—MINDANAO.

Laurencia okamurae Yamada

Laurencia okamurae Yamada, 1931b:206, figs. J, K, pl. 7 ["*okamurai*"] [syntype localities: various, in Japan and China].—Galutira and Velasquez, 1964:509, pl. 5: fig. 17; pl. 9: fig. 36.—Velasquez, 1972:63.—Cordero, 1977a:213, fig. 231; 1979b:294.—Velasquez, 1979b:230.—Trono and Fortes, 1980:75.—Ganzon-Fortes, 1981:23.—Guzman, 1981:43, 49.—Cordero, 1982a:60.—Trono and Fortes, 1982:154.—Marcos-Agngarayngay, 1984b:130.—Tungpalan, 1984:141.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Quezon. PANAY: Aklan.

Laurencia palisada Yamada

Laurencia palisada Yamada, 1931b:196, figs. C, D, pl. 4: fig. *a* [syntype localities: Kotosho (Hung-t'ou) and Takao, Taiwan].—Cordero, 1977a:214, fig. 232, pl. XXVII:C,E; 1978a:59.

PHILIPPINE DISTRIBUTION.—BATANES. SIQUIJOR.

Laurencia papillosa (C. Agardh) Greville

Fucus papillosus Forsskål, 1775:190 [type locality: Mokha, Yemen].

Chondria papillosa C. Agardh, 1822a:344.

Laurencia papillosa (C. Agardh) Greville, 1830:lii.—Montagne, 1844a:662.—Bailey and Harvey, 1862:713.—Martens, 1868:100–101.—Dickie, 1876a:244.—Quisumbing, 1951:1011.—Zaneveld, 1956:44; 1959:123.—Domantay, 1962:292.—Galutira and Velasquez, 1964:509, pl. 5: fig. 16; pl. 9: fig. 35*a,b*.—Saito, 1968:92.—Villones and Magdamo, 1968:29, fig. 31.—Saito, 1969:158.—Velasquez, 1971:449, fig. 37.—Cornejo and Velasquez, 1972:172.—Kraft, 1972:328.—Reyes, 1972:159.—Trono, 1972a:107.—Velasquez, 1972:63.—Cordero, 1973b:33.—Bersamin et al., 1973:187.—Trono, 1973d:21, pl. 11: fig. 9.—Trono and Biña, 1973:12.—Velasquez et al., 1973:32, pl. 14: fig. 69.—Westernhagen, 1973a:65.—De Leon, 1974:31, 32 photo [s.n.], fig. [s.n.].—Ortega, Alcala, and Reyes, 1974:187.—Trono, 1974b:96; 1974e:18.—Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:151.—Cordero, 1976c:10; 1977a:215, figs. 233–235; 1978a:58; 1979b:276.—Velasquez, 1979b:230.—Cordero, 1980b:64, fig. 25, pl. 43.—Liao and Sotto, 1980:100.—Reyes, 1980:139, pl. 12: fig. 4*a,b*. —Trono and Fortes, 1980:74.—Trono and Ganzon-Fortes, 1980:103, fig. [s.n.].—Ganzon-Fortes, 1981:23.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:21, pl. XII: fig. 2.—Calumpong, 1982:145.—Cordero, 1982a:60.—Saraya and Trono, 1982:51.—Trono and Fortes, 1982:154.—Hurtado-Ponce, 1983:145.—Cordero, 1984a:107; 1984b:67; 1984c:56.—Hurtado-Ponce, 1984:180—Marcos-Agngarayngay, 1984a:57, fig. 47; 1984b:130.—Tungpalan, 1984:141.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Batangas, Quezon, Albay. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MASBATE. SAMAR: Western Samar, Eastern Samar. LEYTE (incl. Biliran I.). PANAY: Aklan, Antique (incl. Panagatan Cays). NEGROS: Negros Occidental (incl. Ilacaon I.), Negros Oriental (incl. Apo I.). CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.), Surigao del Sur. PALAWAN (incl. Cuyo I.). SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—*Fucus papillosus* Forsskål, the intended basionym of *Laurencia papillosa*, is a later homonym of *F. papillosus* S.G. Gmelin (1768:188) and hence not priorable. *Chondria papillosa* C. Agardh is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Laurencia parvipapillata Tseng

Laurencia parvipapillata Tseng, 1943:204, pl. IV [type locality: Cape d'Aguilar, Hong Kong].—Saito, 1968:93; 1969:159.—Velasquez, Trono, and Doty, 1975:151.—Meñez and Calumpong, 1981:382.—Saraya and Trono, 1982:52, pl. XI: fig. 2.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CENTRAL VISAYAS. PALAWAN.

Laurencia patentiramea (Montagne) Kützing

Chondria obtusa (Hudson) C. Agardh var. *patentiramea* Montagne, 1836:322, pl. 18: fig. 3 [type locality: Mèze, Hérault, France].

Laurencia patentiramea (Montagne) Kützing, 1849:854.

Chondria obtusa (Hudson) C. Agardh var. *paniculata* C. Agardh, 1822a:343 [type locality: Adriatic Sea].

Laurencia paniculata (C. Agardh) J. Agardh, 1852 [1852–1863]:755.—Cordero, 1977a:214, fig. 230; 1979b:294.—Meñez and Calumpong, 1981:382.—Saraya and Trono, 1982:52.—Trono and Ang, 1982:24.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CENTRAL VISAYAS. LEYTE (Biliran I.). PANAY: Aklan. PALAWAN (incl. Bugsuk I.). SULU: Sulu (Siasi I.).

NOTE.—The conspecificity of *Laurencia patentiramea* and *L. paniculata* was proposed by Ardissone (1883:329). As a species, *L. patentiramea* dates from 1843, as *Chondria patentiramea* (Montagne) Kützing (1843b:437), while *L. paniculata* dates from 1852. Moreover, *L. paniculata* (C. Agardh) J. Agardh is a later homonym of *L. paniculata* Kützing (1849:855).

Laurencia pinnata Yamada

Laurencia pinnata Yamada, 1931b:242, pl. 28 [type locality: Enoshima (Kanagawa Prefecture), Japan].—Ortega, Alcala, and Reyes, 1974:186, 187.—Velasquez, Trono, and Doty, 1975:151.—Cordero, 1976c:10; 1977a:217, fig. 236, pl. XXVII:B.—Cordero, 1978a:59 [*L. pinnata* prox.].—Hurtado-Ponce, 1983:145.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Batangas. NEGROS: Negros Oriental.

Laurencia poiteaui (Lamouroux) Howe

Fucus poiteaui Lamouroux, 1805:63, pl. XXXI: figs. 2, 3 ["*poitei*"][type locality: Santo Domingo, Dominican Republic].
Laurencia poiteaui (Lamouroux) Howe, 1918:518 ["*poitei*"].—Westernhagen, 1973a:65; 1974:112 (table 1).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

NOTE.—Lamouroux, in naming this species after its collector, Pierre Antoine Poiteau, incorrectly spelled the epithet *poitei*. This spelling is automatically correctable in accordance with Article 73.1 of the ICBN.

Laurencia subsimplex Tseng

Laurencia subsimplex Tseng, 1943:202, pl. III: figs. 4–6 [type locality: Big Wave Bay, Hong Kong].—Saito, 1968:87; 1969:153.—Velasquez, Trono, and Doty, 1975:151.

PHILIPPINE DISTRIBUTION.—CATANDUANES.

Laurencia surculigera Tseng

Laurencia surculigera Tseng, 1943:192, pl. I: figs. 4, 5 [type locality: Stanley Bay, Hong Kong].—Fortes and Trono, 1980:67.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

**Laurencia tronoi* Ganzon-Fortes

Laurencia tronoi Ganzon-Fortes, 1983:404, figs. 1, 2 [type locality: Batangas Prov., Luzon].—Trono and Ganzon-Fortes, 1980:105, fig. [s.n.] [*Laurencia* sp.].—Ganzon-Fortes and Trono, 1982:27, figs. 1, 2 [*Laurencia* sp.].

PHILIPPINE DISTRIBUTION.—As above.

Laurencia tropica Yamada

Laurencia tropica Yamada, 1931b:233, figs. B, Q, pl. 20 [type locality: Saipan, Mariana Is.].—Cordero, 1977a:217, fig. 237.—Marcos-Agngarayngay, 1984b:130.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. SIQUIJOR.

Laurencia undulata Yamada

Laurencia undulata Yamada, 1931b:243, fig. T, pl. 29: fig. *a* [type locality: Enoshima, Kanagawa Prefecture, Japan].—Westernhagen, 1973a:65; 1974:112 (table 1).—Cordero, 1977a:219, figs. 238, 239; 1978a:59 [*L. undulata* prox.].—Tahil, 1978:52.—Puig and Cordero, 1979:42.—Cordero, 1980b:65, pl. 44; 1984a:108; 1984c:56.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Quezon. MASBATE. LEYTE (Biliran I.). CEBU (Mactan I.). SIQUIJOR.

Laurencia venusta Yamada

Laurencia venusta Yamada, 1931b:203, fig. H, pl. 6: fig. *a* [syntype localities: Koshiki-jima (Kagoshima Prefecture) and Goto (Nagasaki Prefecture), Japan].—Saraya and Trono, 1982:53.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Laurencia yamadana Howe

Laurencia yamadana Howe. 1934:37, fig. 4 [type locality: Kaneohe Bay, Oahu, Hawaiian Is.].—Trono, 1973d:22.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Leveillea Decaisne

Leveillea jungermannioides (Hering and Martens) Harvey

Amansia jungermannioides Hering and Martens in Martens and Hering, 1836:485, figs. 1–4 [type locality: Tor, Sinai Peninsula, Egypt].
Polyzonia jungermannioides (Hering and Martens) J. Agardh, 1841:25.—Piccone, 1886:84, 90.—Velasquez, Trono, and Doty, 1975:161.
Leveillea jungermannioides (Hering and Martens) Harvey, 1855:539 ["*Leveillia*"].—Meñez, 1961:75.—Reyes, 1972:159.—Cornejo and Velasquez, 1972:181, pl. 5: fig. 38.—Trono and Biña, 1973:12.—Trono, 1973d:21.—Velasquez, Trono, and Doty, 1975:151.—Cordero, 1976c:9; 1977a:221, fig. 244; 1978a:53.—Trono, 1978:20.—Trono and Tuason, 1978:16.—Vannajan and Trono, 1978:28, fig. 40.—Fortes and Trono, 1980:65.—Liao and Sotto, 1980:100.—Reyes, 1980:140, pl. 13: fig. 1.—Chan, 1981:387, 389.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:382.—Saraya and Trono, 1982:53, pl. XI: fig. 1.—Trono and Ang, 1982:22.—Marcos-Agngarayngay, 1984a:58, fig. 49.
Leveillea gracilis Decaisne, 1839:376 [type locality: Sri Lanka].—Martens, 1868:102–103.—Velasquez, Trono, and Doty, 1975:151.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasi-

nan, Manila, Cavite, Batangas. CATANDUANES. MINDORO: Oriental Mindoro. MARINDUQUE. MASBATE (Ticao I.). SAMAR: Western Samar. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (incl. Bugsuk I.).

NOTE.—The synonymy was proposed by Falkenberg (1901:392).

Lophocladia (J. Agardh) Schmitz

Lophocladia lallemandii (Montagne) Schmitz

Dasya lallemandii Montagne, 1849:289 ("*lallemandi*"] [type locality: Red Sea].
Lophocladia lallemandii (Montagne) Schmitz, 1893:223 ["*lallemandi*"].—Weber-van Bosse, 1923:362.—Velasquez, Trono, and Doty, 1975:152.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Pearl Bank).

Lophosiphonia Falkenberg

Lophosiphonia cristata Falkenberg

Lophosiphonia cristata Falkenberg, 1901:499, pl. 9: figs. 7–10 [type locality: Napoli, Italy].—Hollenberg, 1968d:80.—Velasquez, Trono, and Doty, 1975:152.

PHILIPPINE DISTRIBUTION.—CATANDUANES.

Murrayella Schmitz

Murrayella periclados (C. Agardh) Schmitz

Hutchinsia periclados C. Agardh, 1828:101 [type locality: St. Croix, Virgin Is.].
Murrayella periclados (C. Agardh) Schmitz, 1893:227.—Fortes and Trono, 1980:67, fig. 15.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Neurymenia J. Agardh

Neurymenia fraxinifolia (Mertens ex Turner) J. Agardh

Fucus fraxinifolius Mertens ex Turner, 1811:140, pl. 193 [type locality: "East Indies"].
Neurymenia fraxinifolia (Mertens ex Turner) J. Agardh, 1863 [1852–1863]:1135.—Dickie, 1876a:245.—Trono, 1973a:139, fig. 20.—Velasquez, Trono, and Doty, 1975:156.—Cordero, 1976c:10; 1977a:222, figs. 242, 245; 1978a:55.—Saraya and Trono, 1982:54.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Sorsogon. SAMAR: Eastern Samar. MINDANAO: Zamboanga.

Polysiphonia Greville

Polysiphonia apiculata Hollenberg

Polysiphonia apiculata Hollenberg, 1968a:61, figs. 1D, 8, 9 [including Philippine record] [type locality: Pokai Bay, Oahu, Hawaiian Is.].—Velasquez, Trono, and Doty, 1975:160.

PHILIPPINE DISTRIBUTION.—PALAWAN (Balabac I.).

Polysiphonia beaudettei Hollenberg

Polysiphonia beaudetti Hollenberg in Hollenberg and Dawson, 1961:348, pl. 1: fig. 4 [type locality: Isla Grande, Guerrero, Mexico].—Hollenberg, 1968a:62.—Velasquez, Trono, and Doty, 1975:160.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Siasi I.), Tawitawi (Turtle Is.).

Polysiphonia ferulacea Suhr ex J. Agardh

Polysiphonia ferulacea Suhr ex J. Agardh, 1863 [1852–1863]:980 [syntype localities: Atlantic Mexico; Guadeloupe; Australia; Marquesas Is.; Hawaiian Is.].—Weber-van Bosse, 1923:357.—Velasquez, Trono, and Doty, 1975:160.—Trono and Ang, 1982:23.

PHILIPPINE DISTRIBUTION.—PALAWAN (Bugsuk I.). SULU: Sulu (Jolo I.).

Polysiphonia flabellulata Harvey

Polysiphonia flabellulata Harvey, 1860a:330 [type locality: Tanega-shima, Osumi-gunto, Japan].—Vannajan and Trono, 1978:29.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal.

Polysiphonia forfex Harvey

Polysiphonia forcipata Harvey, 1855:541 [lectotype locality: Rottnest I., Western Australia, Australia fide Womersley, 1979:495] [replaced name].—Cordero, 1977a:223.
Polysiphonia forfex Harvey, 1859: pl. XCVI.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—*Polysiphonia forfex* is a substitute name for *P. forcipata* Harvey, a later homonym of *P. forcipata* J. Agardh (1842:127).

Polysiphonia fragilis Suringar

Polysiphonia fragilis Suringar, 1867:259 [type locality: "in mari Japonico"].—Cordero, 1978a:50.

PHILIPPINE DISTRIBUTION.—BATANES.

Polysiphonia gorgoniae Harvey

Polysiphonia gorgoniae Harvey, 1853:39 [type locality: Key West, Florida, USA].—Cornejo and Velasquez, 1972:173, 180, pl. 5: figs. 37, 37*a*, 37*b*.—Velasquez, Trono, and Doty, 1975:161.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas.

Polysiphonia hawaiiensis Hollenberg

Polysiphonia hawaiiensis Hollenberg, 1968a:66, figs. 2F, 16, 41 [including Philippine record] [type locality: Waikiki, Oahu, Hawaiian Is.].—Velasquez, Trono, and Doty, 1975:161.

PHILIPPINE DISTRIBUTION.—PALAWAN (Balabac I.). SULU: Tawitawi.

Polysiphonia howei Hollenberg

Polysiphonia howei Hollenberg in W.R. Taylor, 1945:302, fig. 3 [type locality: Whale Cay, Berry Is., Bahama Is.].—Hollenberg, 1968b:203.—Velasquez, Trono, and Doty, 1975:161.—Cordero, 1976c:10; 1977a:224, fig. 243; 1978a:50.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. MINDANAO: Davao.

Polysiphonia mollis J. Hooker and Harvey

Polysiphonia mollis J. Hooker and Harvey in Harvey, 1847 [1847–1849]:43 [type locality: Tasmania, Australia].—Weber-van Bosse, 1923:356 [with query].—Hollenberg, 1968a:69.—Velasquez, Trono, and Doty, 1975:161.—Cordero, 1977a:226, figs. 246–249; 1978a:51.—Meñez, Phillips, and Calumpong, 1983:23.—Meñez and Calumpong, 1984:105.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. PALAWAN. SULU: Sulu (North Ubian I.).

Polysiphonia mollis J. Hooker and Harvey var. *tongatensis* (Harvey ex Kützing) Hollenberg

Polysiphonia tongatensis Harvey ex Kützing, 1864:14, pl. 41: figs. *a–d* [type locality: Tonga].
Polysiphonia mollis J. Hooker and Harvey var. *tongatensis* (Harvey ex Kützing) Hollenberg, 1968a:69 [including Philippine record].

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Siasi I.).

Polysiphonia pacifica Hollenberg

Polysiphonia pacifica Hollenberg, 1942:777, figs. 2, 3, 12, 13 [type locality: Santa Cruz, California, USA].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Polysiphonia pacifica Hollenberg var. *delicatula* Hollenberg

Polysiphonia pacifica Hollenberg var. *delicatula* Hollenberg, 1942:778 [type locality: Monterey, California, USA].—Fortes and Trono, 1980:67.

PHILIPPINE DISTRIBUTION.—SAMAR: Eastern Samar (Manicani I.).

Polysiphonia poko Hollenberg

Polysiphonia poko Hollenberg, 1968a:70, fig. 3A [type locality: Johnson Atoll].—Chan, 1981:387.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Polysiphonia savatieri Hariot

Polysiphonia savatieri Hariot, 1891:226 [type locality: Yokosuka, Kanagawa Prefecture, Japan].—Hollenberg, 1968a:77.—Velasquez, Trono, and Doty, 1975:161.—Chan, 1981:387, 389.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDANAO: Surigao. PALAWAN (Balabac I.). SULU: Sulu (Cagayan Sulu I., Siasi I.).

Polysiphonia scopulorum Harvey

Polysiphonia scopulorum Harvey, 1855:540 [type locality: Rottnest I., Western Australia, Australia].—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Polysiphonia scopulorum Harvey var. *villum* (J. Agardh) Hollenberg

Polysiphonia villum J. Agardh, 1863 [1852–1863]:941 [type locality: "ad littus Americae tropicae" (Mexico)].
Polysiphonia scopulorum Harvey var. *villum* (J. Agardh) Hollenberg, 1968a:81 [including Philippine record].—Velasquez, Trono, and Doty, 1975:161 [without designation of variety].—Fortes and Trono, 1980:68.

PHILIPPINE DISTRIBUTION.—SAMAR: Eastern Samar (Manicani I.). MINDANAO: Davao.

Polysiphonia setacea Hollenberg

Polysiphonia setacea Hollenberg, 1968a:85, figs. 5A–C [including Philippine record] [type locality: Koko Head, Oahu, Hawaiian Is.].—Velasquez, Trono, and Doty, 1975:161.—Cordero, 1977a:226, fig. 253.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDANAO: Surigao, Davao.

Polysiphonia sparsa (Setchell) Hollenberg

Lophosiphonia sparsa Setchell, 1926:103, pl. 21: figs. 3, 4 [type locality: Arue Reef, Tahiti].
Polysiphonia sparsa (Setchell) Hollenberg, 1968a:87 [including Philippine record].—Velasquez, Trono, and Doty, 1975:161.

PHILIPPINE DISTRIBUTION.—PALAWAN (Balabac I.). SULU: Tawitawi.

Polysiphonia sphaerocarpa Børgesen

Polysiphonia sphaerocarpa Børgesen, 1918:271, figs. 267–271 [type locality: St. Thomas, Virgin Is.].—Cornejo and Velasquez, 1972:180, pl. 5:

figs. 36, 36*a,b*.—Velasquez, Trono, and Doty, 1975:161.—Chan, 1981:387.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas.

Polysiphonia subtilissima Montagne

Polysiphonia subtilissima Montagne, 1840:199 [type locality: Cayenne, French Guiana].—Cordero, 1977a:226, figs. 250, 251.—Vannajan and Trono, 1978:28, fig. 35.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal, Manila, Cavite, Batangas.

Polysiphonia tepida Hollenberg

Polysiphonia tepida Hollenberg, 1958:65, fig. 1 [type locality: Beaufort, North Carolina, USA].—Cordero, 1977a:227, figs. 252, 254; 1978a:51.

PHILIPPINE DISTRIBUTION.—BATANES.

Polysiphonia triton P.C. Silva, new name

Polysiphonia tenuis Hollenberg, 1968a:92, figs. 6B,C [type locality: Johnson Atoll] [replaced name].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

NOTE.—*Polysiphonia triton* is proposed as a substitute name for *P. tenuis* Hollenberg, a later homonym of *P. tenuis* (C. Agardh) E.M. Fries (1836[1835–1837]:314).

Polysiphonia tsudana Hollenberg

Polysiphonia tsudana Hollenberg, 1968b:205, figs. 1F,G, 2C [type locality: Laysan Islet, Leeward Is., Hawaiian Is.].—Fortes and Trono, 1980:68, fig. 10.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—PANAY: Iloilo.

Polysiphonia upolensis Grunow

Polysiphonia upolensis Grunow, 1874:49 [type locality: Upolu I., Western Samoa].—Hollenberg, 1968a:94.—Velasquez, Trono, and Doty, 1975:161.—Cordero, 1977a:227, figs. 255–257; 1978a:51.—Chan, 1981:387.—Meñez and Calumpong, 1981:382.—Saraya and Trono, 1982:51, pl. XI: fig. 3.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Pangasinan. CENTRAL VISAYAS. MINDANAO: Davao. PALAWAN (Balabac I.). SULU: Tawitawi (Turtle Is.).

NOTE.—Grunow published this species as *Polysiphonia* (*tongatensis* var.?) *upolensis*, which was his way of indicating some doubt that the new entity should be recognized at specific rank. Nonetheless, the binomial should be attributed directly to Grunow rather than to (Grunow) Hollenberg (1968a:94).

Tolypiocladia Schmitz

Tolypiocladia calodictyon (Harvey ex Kützing) P.C. Silva

Polysiphonia calodictyon Harvey ex Kützing, 1864:16, pl. 46: figs. *a–c* [type locality: Tonga].

Tolypiocladia calodictyon (Harvey ex Kützing) P.C. Silva, 1952a:308.—Trono, 1972a:106; 1973a:137, fig. 17.—Trono and Ganzon-Fortes, 1980:107, fig. [s.n.].—Fortes, 1981b:396.—Saraya and Trono, 1982:54, pl. XI: fig. 4.—Trono and Ang, 1982:23.

Roschera africana Sonder, 1879:81, pl. I: figs. 5–11 [including Philippine record] [type locality: Zanzibar, Tanzania].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas, Sorsogon. PALAWAN (Bugsuk I.). SULU: Tawitawi.

NOTE.—*Roschera africana* is included as a synonym on the authority of Weber-van Bosse (1923:359).

**Tolypiocladia condensata* (Weber-van Bosse) P.C. Silva

Roschera condensata Weber-van Bosse, 1913a: pl. V: fig. 3; 1923:359 [syntype localities: various in Indonesia; Sangasiapu I., Tawitawi Prov., Sulu Archipelago].—Velasquez, Trono, and Doty, 1975:162.

Tolypiocladia condensata (Weber-van Bosse) P.C. Silva, 1952a:308.—Domantay, 1962:294.—Velasquez, Trono, and Doty, 1975:165.—Trono and Ang, 1982:24.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PALAWAN (Bugsuk I.). SULU: Tawitawi (Sangasiapu I.).

Tolypiocladia glomerulata (C. Agardh) Schmitz

Hutchinsia glomerulata C. Agardh, 1824:158 [type locality: Shark Bay, Western Australia, Australia].

Tolypiocladia glomerulata (C. Agardh) Schmitz in Schmitz and Hauptfleisch, 1897 [1896–1897]:442.—De Toni, 1903:964.—Cornejo and Velasquez, 1972:182, pl. 3: fig. 24.—Trono, 1973a:137; 1973d:21; 1974b:95.—Velasquez, Trono, and Doty, 1975:165.—Cordero, 1977a:229.—Vannajan and Trono, 1978:26, fig. 39.—Liao and Sotto, 1980:100.—Reyes, 1980:140, pl. 13, fig. 2*a–c*.—Chan, 1981:387.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:20, pl. XII: fig. 3.—Saraya and Trono, 1982:54.—Trono and Ang, 1982:23.—Meñez, Phillips, and Calumpong, 1983:18.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Cavite, Batangas. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SAMAR: Eastern Samar. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga, Davao. PALAWAN (Bugsuk I.). SULU: Sulu (Siasi I.).

Vidalia Lamouroux ex J. Agardh

Vidalia obtusiloba (C. Agardh) J. Agardh

Rytiphlaea obtusiloba C. Agardh, 1824:161 [type locality: Brazil].

Vidalia obtusiloba (C. Agardh) J. Agardh, 1863 [1852–1863]:1123.—Cordero, 1976c:8, 10; 1977a:230, fig. 260; 1978a:54.

PHILIPPINE DISTRIBUTION.—BATANES.

FAMILIA INCERTAE SEDIS

Family WURDEMANNIACEAE

Wurdemannia Harvey

Wurdemannia miniata (Sprengel) Feldmann and Hamel

Fucus miniatus Draparnaud ex De Candolle, 1815:6 [type locality: Montpellier, Hérault, France].
Sphaerococcus miniatus Sprengel, 1827:340.
Wurdemannia miniata (Sprengel) Feldmann and Hamel, 1934:544.—Domantay, 1962:294.—Cordero, 1976c:8; 1977a:77; 1978a:24.—Meñez and Calumpong, 1981:381.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. CENTRAL VISAYAS.

NOTE.—*Fucus miniatus* Draparnaud ex De Candolle, the intended basionym of *Wurdemannia miniata*, is a later homonym of *F. miniatus* O.F. Müller (1778:7, pl. 769) and hence not priorable. *Sphaerococcus miniatus* Sprengel is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Class PHAEOPHYCEAE

Order ECTOCARPALES

Family ECTOCARPACEAE

Feldmannia Hamel

Feldmannia columellaris (Bφrgesen) Islam

Ectocarpus columellaris Bφrgesen, 1936:71, fig. 4 [type locality: Galle, Sri Lanka].—Saraya and Trono, 1980:26.
Feldmannia columellaris (Bφrgesen) Islam, 1976:32.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Feldmannia formosana (Yamada) Itono

Ectocarpus formosanus Yamada, 1950:182, fig. 3 [type locality: Ryukyu-sho (Lambai I.), Taiwan].
Feldmannia formosana (Yamada) Itono, 1973:162.—Cordero, 1981d:64, fig. 5 [*"formosanus"*].

PHILIPPINE DISTRIBUTION.—PANAY: Aklan.

Feldmannia indica (Sonder) Womersley and Bailey

Ectocarpus indicus Sonder in Zollinger, 1854:2, 3, footnote [type locality: Bima Bay, Sumbawa I., Indonesia].—Agor, 1962:34.—Cornejo and Velasquez, 1972:175, pl. 1: figs. 11, 11*a*.—Trono, 1972a:99.—Trono and Santos-Maranan, 1974a:2, fig. 1.—Velasquez, Trono, and Doty, 1975:141.—Vannajan and Trono, 1978:8, fig. 1.—Liao and Sotto, 1980:97.—Reyes, 1980:119, pl. 1: figs. 1*a,b*.—Chan, 1981:387, 389.—Fortes, 1981b:396.
Feldmannia indica (Sonder) Womersley and Bailey, 1970:288.
Ectocarpus duchassaingianus Grunow, 1867:45, footnote, pl. IV: fig. 1 [type locality: Guadeloupe].
Giffordia duchassaingiana (Grunow) W.R. Taylor, 1960:207, pl. 29: fig. 10 [*"duchassaigniana"*].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite, Batangas. MINDORO: Oriental Mindoro. CEBU (Mactan I.). SIQUIJOR. SULU: Tawitawi.

NOTE.—The synonymy was proposed by Womersley and Bailey (1970:288).

Feldmannia irregularis (Kützing) Hamel

Ectocarpus irregularis Kützing, 1845:234 [type locality: Adriatic Sea].—Cornejo and Velasquez, 1972:175, pl. 1: fig. 10.—Trono and Santos-Maranan, 1974a:2, fig. 2.—Velasquez, Trono, and Doty, 1975:141.
Feldmannia irregularis (Kützing) Hamel, 1939:xvii.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. MINDORO: Oriental Mindoro.

Hincksia J.E. Gray

The reason for adopting *Hincksia* for the genus currently known as *Giffordia* is given in the appended Nomenclatural Notes.

Hincksia breviarticulata (J. Agardh) P.C. Silva, new combination

Ectocarpus breviarticulatus J. Agardh, 1847:7 [type locality: "St. Augustin" (Oaxaca, Mexico)].—Reyes, 1980:119, pl. 1: figs. 2*a,b*.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

NOTE.—This species was assigned to *Feldmannia* by Phạm-Hoàng Hộ (1969:298). As noted by Womersley and Bailey (1970:288), however, it does not have the long unbranched filaments with basal meristems that are characteristic of that genus. It seems best placed in *Hincksia*.

Hincksia mitchelliae (Harvey) P.C. Silva, new combination

Ectocarpus mitchelliae Harvey, 1852:142, pl. XII. [*"mitchellae"*] [type locality: Nantucket, Massachusetts, USA].—Trono and Santos-Maranan, 1974a:3, fig. 3.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Hincksia rallsiae (Vickers) P.C. Silva, new combination

Ectocarpus rallsiae Vickers, 1905:59 [type locality: Barbados].
Giffordia rallsiae (Vickers) W.R. Taylor, 1960:208.—Meñez and Calumpong, 1981:382.—Meñez, Phillips, and Calumpong, 1983:23.—Meñez and Calumpong, 1984:105.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS. PALAWAN.

Family RALFSIACEAE

Ralfsia Berkeley

Ralfsia fungiformis (Gunnerus) Setchell and Gardner

Fucus fungiformis Gunnerus, 1772:107 [type locality: Iceland].
Ralfsia fungiformis (Gunnerus) Setchell and Gardner, 1924b:11.—Agor, 1962:34.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Order CUTLERIALES

Family CUTLERIACEAE

Cutleria Greville

Cutleria cylindrica Okamura

Cutleria cylindrica Okamura, 1902 [1900–1902]:85, pl. XXVIII [type locality: various, all in Japan].—Agor, 1962:34.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Order SPHACELARIALES

Family SPHACELARIACEAE

Sphacelaria Lyngbye

Sphacelaria mucifera

Sphacelaria mucifera.—Velasquez, 1980:127.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

NOTE.—Velasquez did not give an author for this name and we have been unable to find its place of publication.

Sphacelaria novae-hollandiae Sonder

Sphacelaria novae-hollandiae Sonder, 1845:50 [type locality: Western Australia, Australia].—Liao and Sotto, 1980:97.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Sphacelaria rigidula Kützing

Sphacelaria rigidula Kützing, 1843b:292 [type locality: Red Sea].—Martens, 1868:23, 68–69.—Velasquez, Trono, and Doty, 1975:163.

Sphacelaria furcigera Kützing, 1855:27, pl. 90: fig. II [type locality: Karak (Khark) I., Iran].—Meñez, 1961:59, pl. 9: figs. 103, 104; pl. 10: figs. 105–108; pl. 12: figs. 126, 127.—Cornejo and Velasquez, 1972:175, 178, pl. 1: fig. 9; pl. 4: fig. 31.—Velasquez, Trono, and Doty, 1975:163.—Trono, 1976:214.—Liao and Sotto, 1980:97.—Chan, 1981:387.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:382.—Meñez, Phillips, and Calumpong, 1983:23.—Meñez and Calumpong, 1984:105.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas, Sorsogon. MINDORO. CEBU (Mactan I.). PALAWAN.

NOTE.—The synonymy was proposed by Prud'homme van Reine (1982:203).

Sphacelaria tribuloides Meneghini

Sphacelaria tribuloides Meneghini, 1840:[2] [type locality: Golfo di Spezia, Italy].—Meñez, 1961:59, pl. 11: figs. 122–125.—Velasquez, Trono, and Doty, 1975:163.—Cordero, 1976c:9, 15, figs. E–I.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:26.—Chan, 1981:387.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:382.

Sphacelaria rigida Hering in Krauss, 1846:213 [type locality: "Natalbai" (Durban), South Africa].—Trono, 1978:9.—Liao and Sotto, 1980:97.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. MARINDUQUE. CEBU (Mactan I.).

NOTE.—The synonymy was proposed by Prud'homme van Reine (1982:179).

Order DICTYOTALES

Family DICTYOTACEAE

Dictyopteris Lamouroux

**Dictyopteris camiguinensis* Tanaka

Dictyopteris camiguinensis Tanaka, 1967:16, fig. 5, pl. 1:A [type locality: San Pio Quinto, Camiguin I., Babuyan Is., Cagayan Prov., Luzon].—Velasquez, Trono, and Doty, 1975:140.

PHILIPPINE DISTRIBUTION.—As above.

Dictyopteris delicatula Lamouroux

Dictyopteris delicatula Lamouroux, 1809b:332, pl. 6: fig. 2B [type locality: Antilles].—Weber-van Bosse, 1913a:181.—Velasquez, Trono, and Doty, 1975:140.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS. SULU: Tawitawi (Pearl Bank).

Dictyopteris divaricata (Okamura) Okamura

Haliseris divaricata Okamura, 1907 [1907–1909]:57, pl. XIII; pl. XIV: fig. 5 [syntype localities: Cape Iwai, Miyage Prefecture and Hakodate, Hokkaido, Japan].

Dictyopteris divaricata (Okamura) Okamura, 1932:75.—Cordero, 1980c:71, fig. 2.—Fortes, 1981b:396.—Cordero, 1984a:83.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Dictyopteris jamaicensis W.R. Taylor

Dictyopteris jamaicensis W.R. Taylor, 1960:631, pl. 32: fig. 2 [type locality: St. Catharine Parish, Jamaica].—Vannajan and Trono, 1978:9, fig. 3.—Saraya and Trono, 1980:27, pl. VII: figs. 1, 3.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite. CENTRAL VISAYAS.

Dictyopteris polypodioides (De Candolle) Lamouroux

Fucus membranaceus Stackhouse, 1795 [1795–1801]:13, pl. 6 [type locality: Sidmouth, Devonshire, England].

Polypodoidea membranacea Stackhouse, 1809:97.

Dictyopteris membranacea (Stackhouse) Batters, 1902:54.—Cordero, 1984b:60.

Fucus polypodioides Desfontaines, 1799 [1798–1799]:421 [type locality: "mare Numidico" (Algeria)].

Ulva polypodioides De Candolle in Lamarck and De Candolle, 1805:15.
Dictyopteris polypodioides (De Candolle) Lamouroux, 1809b:332.

PHILIPPINE DISTRIBUTION.—PALAWAN.

NOTE.—The conspecificity of *Fucus membranaceus* Stackhouse and *Fucus polypodioides* Desfontaines was proposed by Turner (1809:41). Both names are later homonyms, however, of *F. membranaceus* N.L. Burman (1768:32 [28 in error]) and *F. polypodioides* S.G. Gmelin (1768:186), respectively. A legitimate basionym was created for *F. membranaceus* by Stackhouse (1809) in transferring it into a new genus, *Polypodoidea*, but in the meantime a legitimate basionym had been created for *F. polypodioides* by De Candolle (in Lamarck and De Candolle, 1805), who transferred it into *Ulva*. Both *Ulva polypodioides* and *Polypodoidea membranacea* are treated as legitimate new names in accordance with Article 72, Example 2, of the ICBN.

Dictyopteris repens (Okamura) Bφrgesen

Haliseris repens Okamura, 1916:8, fig. 3, pl. I: figs. 7–18 [type locality: Truk Is., Caroline Is.].
Dictyopteris repens (Okamura) Bφrgesen, 1924:265.—Trono, 1973a:129, fig. 3; 1974a:146.—Cordero, 1976c:9, 10, 16, figs. L,M.—Trono, 1978:9.—Saraya and Trono, 1980:26, pl. VII: fig. 4.—Marcos-Agngarayngay, 1984a:5, fig.4.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Sorsogon. MARINDUQUE. SULU: Sulu (Siasi I.).

Dictyopteris undulata Holmes

Dictyopteris undulata Holmes, 1896:251, pl. VIII: fig. 1 [type locality: Misaki, Kanagawa Prefecture, Japan].—Flores-Sian, 1959:97.—Domantay, 1962:282.—Manapat, 1969:37.—Velasquez, Trono, and Doty, 1975:140.—Cordero, 1976c:18.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan.

Dictyota Lamouroux

Dictyota bartayresiana Lamouroux

Dictyota bartayresiana Lamouroux, 1809a:43 [type locality: Antilles].
Dictyota bartayresii Lamouroux, 1809b:331.—Taylor, 1966b:354.—Westernhagen, 1973a:65.—Trono, 1974a:143.—Westernhagen, 1974:113 (table 1).—Trono, 1976:216.—Garcia, 1979:44 (table 1).—Liao and Sotto, 1980:97.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon. MINDORO: Oriental Mindoro. CEBU (Mactan I.). MINDANAO. PALAWAN (Balabac I.). SULU: Sulu (Siasi I.), Tawitawi (Turtle Is.).

NOTE.—Lamouroux's change of epithet from *bartayresiana* to *bartayresii* was unwarranted. Collins and Hervey (1917:90, footnote) erred in believing that Lamouroux's paper in Desvaux's Journal de Botanique appeared after his paper in the Nouveau Bulletin des Sciences. The respective dates of publication were April 1809 (see Stafleu, 1967:105) and May 1809, respectively.

Dictyota bartayresiana Lamouroux var. *denticulata* Kützing

Dictyota bartayresiana Lamouroux var. *denticulata* Kützing, 1859:8, pl. 16: fig. II [type locality: Ilhas do Cabo Verde].—Weber-van Bosse, 1913a:183, pl. III: fig. 4.—Velasquez, Trono, and Doty, 1975:141 [without designation of variety].

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Jolo I.).

NOTE.—*Dictyota bartayresiana* var. *denticulata,* which Kützing illustrated using material from the Cape Verde Is. but did not describe, was validated by the citation of *D. crenulata* J. Agardh (1847:7, type locality: "St. Augustin" [Oaxaca, Mexico]) as a synonym. J. Agardh (1882:99), however, doubted that Kützing's plant was conspecific with *D. crenulata.* Moreover, *D. crenulata* is recognized as a species of *Dilophus* by Nizamuddin and Gerloff (1980:867), so that the identity of Weber-van Bosse's material is very much in doubt.

**Dictyota bidentata* Harvey and Bailey

Dictyota bidentata Harvey and Bailey, 1851:373 [type locality: Mindanao].—Bailey and Harvey, 1862:173, pl. VIII: figs. 6, 7.—Velasquez, Trono, and Doty, 1975:141.

PHILIPPINE DISTRIBUTION.—As above.

Dictyota cervicornis Kützing

Dictyota cervicornis Kützing, 1859:11, pl. 24: fig. II [type locality: Key West, Florida, USA].—Meñez, 1961:63, pl. 12: fig. 133.—Taylor, 1966b:354.—Manapat, 1969:38.—Reyes, 1972:145.—Cordero, 1973b:23.—Velasquez et al., 1973:19, pl. 6: fig. 30.—Ortega, Alcala, and Reyes, 1974:187, 188.—Velasquez, Trono, and Doty, 1975:141.—Puig and Cordero, 1979:30.—Reyes, 1980:119, pl. 1: fig. 4.—Saraya and Trono, 1980:27, pl. VIII: fig. 2.—Chan, 1981:387.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Bataan, Batangas, Quezon. LEYTE (Biliran I.). NEGROS: Negros Oriental. SIQUIJOR. PALAWAN (Balabac I.).

Dictyota ceylanica Kützing

Dictyota ceylanica Kützing, 1859:11, pl. 25: fig. I [type locality: Sri Lanka].—Martens, 1868:26, 80–81.—Velasquez, Trono, and Doty, 1975:141.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Dictyota ciliolata Kützing

Dictyota ciliolata Kützing, 1859:12, pl. 27: fig. I [type locality: La Guaira, Venezuela].—Garcia, 1979:44 (table 1).—Saraya and Trono, 1980:29, pl. VIII: fig. 3.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDANAO.

Dictyota dichotoma (Hudson) Lamouroux

Ulva dichotoma Hudson, 1762:476 [type locality: Walney I., Lancashire, England].

Dictyota dichotoma (Hudson) Lamouroux, 1809a:42.—Dickie, 1876a: 243.—De Toni, 1895b:263.—Howe, 1932:170.—Meñez, 1961:62, pl. 12: fig. 136.—Agor, 1962:34.—Domantay, 1962:283.—Taylor, 1966b:355.—Manapat, 1969:37, 38.—Velasquez, 1971:441, fig. 19.—Reyes, 1972:145.—Cordero, 1973b:22.—Trono, 1973d:11, pl. 8: fig. 30.—Velasquez et al., 1973:18, pl. 6: fig. 29.—Ortega, Alcala, and Reyes, 1974:186, 187.—Trono, 1974a:142.—Velasquez, Trono, and Doty, 1975:141.—Trono and Young, 1977:58.—Trono and Tuason, 1978:11.—Vannajan and Trono, 1978:9, fig. 4.—Cordero, 1979b:276, 284.—Puig and Cordero, 1979:30.—Liao and Sotto, 1980:97.—Reyes, 1980:119, pl. 1: fig. 3.—Saraya and Trono, 1980:28, pl. VIII: fig. 1.—Meñez and Calumpong, 1981:382.—Hurtado-Ponce, 1983:120.—Cordero, 1984a:82; 1984b:61; 1984c:52.—Marcos-Agngarayngay, 1984a: 3, fig. 2.

Dictyota volubilis Kützing, 1849:554 [type locality: Arromanches-les-Bains, Calvados, France].—Westernhagen, 1973a:66; 1974:113 (table I).

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Bataan, Cavite, Batangas, Quezon, Albay. CATANDUANES. MINDORO: Oriental Mindoro. MASBATE. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Occidental, Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (incl. Balabac I.). SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—The synonymy was proposed by J. Agardh (1882:92).

Dictyota divaricata Lamouroux

Dictyota divaricata Lamouroux, 1809a:43 [type locality: Mediterranean France].—Domantay, 1962:283.—Manapat, 1969:37, 38.—Trono, 1972a:100.—Velasquez et al., 1973:19, pl. 7: fig. 31.—Westernhagen, 1973a:66.—Trono, 1974a:142.—Westernhagen, 1974:113 (table I).—Velasquez, Trono, and Doty, 1975:141.—Trono, 1978:10.—Cordero, 1979b:276.—Fortes and Trono, 1980:66.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:28, pl. VII: fig. 2.—Fortes, 1981b:396.—Trono and De Lara, 1981:8: pl. V: figs. 1, 2.—Trono and Ang, 1982:13.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas, Quezon. MINDORO: Occidental Mindoro (Lubang Is.). MARINDUQUE. PANAY: Aklan. CEBU (Mactan I.). PALAWAN (Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi.

Dictyota friabilis Setchell

Dictyota friabilis Setchell, 1926:91, pl. 13: figs. 4–7 [type locality: Tafaa Point, Tahiti]; pl. 20: fig. 1.—Trono, 1974a:144; 1976:216.—Trono and Young, 1977:58.—Trono and Tuason, 1978:12.—Saraya and Trono, 1980:28.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Sorsogon. CATANDUANES. SULU: Sulu (Siasi I.).

Dictyota indica Sonder ex Kützing

Dictyota indica Sonder ex Kützing, 1859:8, pl. 17: fig. 1 [type locality: La Habana, Cuba].—Meñez, 1961:62.—Velasquez, Trono, and Doty, 1975:141.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Dictyota lata Lamouroux

Dictyota lata Lamouroux, 1809a:43 [type locality: "Ind. orient." (Malagasy Republic)].—Martens, 1868:80–81.—Dickie, 1876a:244.—De Toni, 1895b:281.—Velasquez, Trono, and Doty, 1975:141.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Dictyota linearis (C. Agardh) Greville

Zonaria linearis C. Agardh, 1820b:134 [syntype localities: Cádiz, Spain; "ad oras Americae"].

Dictyota linearis (C. Agardh) Greville, 1830:xliii.—Montagne, 1844a: 660.—Martens, 1868:80–81.—Domantay, 1962:283.—Taylor, 1966b: 355.—Cordero, 1973b:23.—Velasquez, Trono, and Doty, 1975: 141.—Cordero, 1976c:10, 16, figs. J,K; 1979b:276, 285.—Puig and Cordero, 1979:30.—Saraya and Trono, 1980:29, pl. VIII: fig. 4.—Meñez and Calumpong, 1981:382.—Cordero, 1984a:83; 1984b:61.—Marcos-Agngarayngay, 1984a:5, fig. 3.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan. LEYTE (Biliran I.). PANAY: Aklan. CENTRAL VISAYAS. PALAWAN. SULU: Tawitawi (Turtle Is.).

Dictyota major W.R. Taylor

Dictyota major W.R. Taylor, 1945:88, pls. 8, 9 [type locality: Isla Santa María, Galápagos].—Saraya and Trono, 1980:29, pl. VIII: fig. 4.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Dictyota mertensii (Martius) Kützing

Ulva mertensii Martius, 1828:5, pl. 1 [type locality: Salvador, Brazil].

Dictyota mertensii (Martius) Kützing, 1859:15.

Dictyota dentata [misapplied name].—Vannajan and Trono, 1978:9, fig. 5.—Saraya and Trono, 1980:27.—Trono and Ganzon-Fortes, 1980:39, fig. [s.n.].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Cavite, Batangas.

NOTE.—*Dictyota dentata* Lamouroux (1809a:42), the name usually applied to this species, is illegitimate because Lamouroux cited *Fucus atomarius* S.G. Gmelin (1768:125, pl. X: fig. 1) as a synonym and therefore should have retained the epithet *atomaria*. This epithet cannot be reinstated now, however, because two other species have subsequently been given the name *Dictyota atomaria*. Moreover, Lamouroux erred in his taxonomic opinion, since *Fucus atomarius* is representative of the red algal genus *Odonthalia* (see Papenfuss, 1950:189). The conspecificity of *D. dentata*

sensu J. Agardh and *D. mertensii* was proposed by Hauck (1888:466).

Dictyota patens J. Agardh

Dictyota patens J. Agardh, 1882:93 [syntype localities: St. Thomas, Virgin Is.; Tonga].—Trono, 1974a:143.—Puig and Cordero, 1979:31.

PHILIPPINE DISTRIBUTION.—LEYTE (Biliran I.). SULU: Sulu (Siasi I.).

Dilophus J. Agardh

Dilophus okamurae Dawson

Dictyota marginata Okamura, 1913 [1913–1915]:33, pl. CVIII: fig. 9; pl. CI [syntype localities: various, all in Japan].—Cordero, 1973b:24 [*D. marginata* prox.].—Puig and Cordero, 1979:31.

Dilophus marginatus (Okamura) Okamura, 1915 [1913–1915]:154 [replaced name].

Dilophus okamurae Dawson, 1950a:86 [*"okamurai"*].

PHILIPPINE DISTRIBUTION.—LEYTE (Biliran I.).

NOTE.—*Dilophus okamurae* is a substitute name for *D. marginatus* (Okamura) Okamura, a later homonym of *D. marginatus* J. Agardh (1894:91).

Lobophora J. Agardh

Lobophora variegata (Lamouroux) Womersley

Dictyota variegata Lamouroux, 1809a:40 [type locality: Antilles].

Zonaria variegata (Lamouroux) C. Agardh, 1817:xx.—Dickie, 1876a: 245.—Weber-van Bosse, 1913a:175.—Meñez, 1961:61, pl. 12: fig. 135.—Velasquez, Trono, and Doty, 1975:169.—Liao and Sotto, 1980:97.

Gymnosorus variegatus (Lamouroux) J. Agardh, 1894:11.—De Toni, 1895b:227.

Pocockiella variegata (Lamouroux) Papenfuss, 1943b:467.—Domantay, 1962:284.—Taylor, 1966b:357.—Trono, 1972a:100; 1973d:11.—Velasquez et al., 1973:19, pl. 7: fig. 32.—Trono and Santos-Maranan, 1974b:3, figs. 2, 3.—Velasquez, Trono, and Doty, 1975:160.—Reyes, 1980:120, pl. 2: fig. 3.—Cordero, 1984b:62.

Lobophora variegata (Lamouroux) Womersley, 1967:221.—Trono, 1978:10.—Vannajan and Trono, 1978:13, figs. 10, 13.—Fortes and Trono, 1980:60, 66.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:31, pl. IX: fig. 1.—Chan, 1981:387.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Bataan, Cavite, Batangas. MINDORO: Oriental Mindoro. MARINDUQUE. PANAY: Iloilo (Gigantes Is.). CEBU (Mactan I.). SIQUIJOR. PALAWAN (Balabac I.). SULU: Sulu (North Ubian I.), Tawitawi.

NOTE.—Papenfuss (1980) has proposed the generic name *Pocockiella* Papenfuss (1943b:467) for conservation over the earlier taxonomic synonym *Lobophora* J. Agardh (1894:21). The latter name has come into wide use since its identity was clarified by Womersley (1967:221), however, so there seems to be little or no merit in conserving *Pocockiella*.

Padina Adanson

Padina arborescens Holmes

Padina arborescens Holmes, 1896:251, pl. 12: fig. 1 [type locality: Enoshima, Kanagawa Prefecture, Japan].—Agor, 1962:34.—Manapat, 1969:38.—Garcia, 1979:44 (table 1).

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDANAO. PALAWAN.

Padina australis Hauck

Padina australis Hauck, 1887 [1886–1887]:44 [type locality: Cape York, Queensland, Australia].—Merrill, 1918:40.—Howe, 1932:170.—Zaneveld, 1952:131.—Abelardo and De Leon, 1956:102.—Olea and De Leon, 1956:104.—Zaneveld, 1956:17; 1959:100.—Domantay, 1962:283.—Taylor, 1966b:355.—Manapat, 1969:37, 38.—Reyes, 1972:145.—Trono, 1973d:11, pl. 8: fig. 29.—Ortega, Alcala, and Reyes, 1974:185, 186, 187, 188.—Velasquez, Trono, and Doty, 1975:158.—Trono, 1976:215; 1978:10.—Reyes, 1980:120, pl. 1: fig. 5.—Saraya and Trono, 1980:29, pl. IX: fig. 3.—Trono and Fortes, 1980:66.—Trono and Ganzon-Fortes, 1980:41, fig. [s.n.].—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:8, pl. V: fig. 4.—Laserna et al., 1982:52.—Trono and Ang, 1982:13.—Trono and Fortes, 1982:146.

Ulva umbilicalis [misapplied name fide Merrill, 1918:40].—M. Blanco, 1837:842; 1845:581; 1879:261.—Velasquez, Trono, and Doty, 1975:168.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, La Union, Pangasinan, Bataan, Batangas, Quezon, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. SAMAR: Eastern Samar. LEYTE. PANAY. NEGROS: Negros Occidental, Negros Oriental. SIQUIJOR. MINDANAO: Misamis Occidental. PALAWAN (incl. Balabac I., Bugsuk I.).

NOTE.—Martens (1868:47) identified Blanco's plant as *Zonaria gymnospora* (= *Padina gymnospora*). In the absence of authentic specimens, no definitive placement can be made.

Padina boryana Thivy

Padina boryana Thivy in Taylor, 1966b:355, fig. 2 [including Philippine records] [type locality: Tonga].—Kraft, 1972:332.—Velasquez, Trono, and Doty, 1975:158.

Padina commersonii [misapplied name].—Domantay, 1962:284.—Velasquez, Trono, and Doty, 1975:158.—Cordero, 1976c:6, 19.—Puig and Cordero, 1979:32.—Trono and Fortes, 1980:66.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:146.

Padina tenuis [misapplied name].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Pangasinan, Quezon (incl. Polillo Is.). CATANDUANES. LEYTE (Biliran I). PANAY: Antique. CENTRAL VISAYAS. PALAWAN (Balabac I.). SULU: Sulu.

NOTE.—*Padina commersonii* Bory de Saint-Vincent (1828 [1826–1829]:144), a name that traditionally has been applied to the present species, is an illegitimate substitute for

P. tenuis (C. Agardh) Bory de Saint-Vincent (1827:590), whose basionym, *Zonaria pavonia* var. *tenuis* C. Agardh (1824:264), has been shown by Papenfuss (1977:277) to be referable to *Lobophora variegata*. The material that Bory de Saint-Vincent had in hand was incorporated in a new species, *P. boryana*, by Thivy.

Padina crassa Yamada

Padina crassa Yamada, 1931a:67, pl. XVII: fig. 2 [syntype localities: various, all in Japan].—Manapat, 1969:37, 38.—Velasquez, 1971:441, fig. 20.—Cordero, 1973b:24.—Velasquez et al., 1973:19, pl. 7: fig. 33.—Cordero, 1979b:276, 284.—Puig and Cordero, 1979:31.—Hurtado-Ponce, 1983:120.—Cordero, 1984a:83; 1984b:61; 1984c:52.—Marcos-Agngarayngay, 1984a:3, fig. 1.—Tungpalan, 1984:142.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Bataan, Batangas, Quezon. MASBATE. LEYTE (Biliran I.). PANAY: Aklan. CEBU. PALAWAN.

Padina distromatica Hauck

Padina distromatica Hauck, 1887 [1886–1887]:43 [type locality: Meith (Maidh), Somalia].—Howe, 1932:169.—Taylor, 1966b:356.—Velasquez, Trono, and Doty, 1975:158.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro. PANAY. BOHOL.

Padina fraseri (Greville) Greville

Zonaria fraseri Greville, 1829:423, pl. XXVI: fig. 2 [type locality: "ad Novam Hollandiam" (probably near Fremantle, Western Australia, Australia fide Womersley, 1967:222)].
Padina fraseri (Greville) Greville, 1830:xliv.—Taylor, 1966b:356.—Velasquez, Trono, and Doty, 1975:159.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Sur, La Union.

Padina gymnospora (Kützing) Sonder

Zonaria gymnospora Kützing, 1859:29, pl. 71: fig. II [type locality: St. Thomas, Virgin Is.].—Martens, 1868:26, 47, 82–83.
Padina gymnospora (Kützing) Sonder, 1871:47.—Taylor, 1966b:356.—Velasquez, Trono, and Doty, 1975:159.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon. CENTRAL VISAYAS. MINDANAO: Zamboanga.

Padina japonica Yamada

Padina japonica Yamada, 1931a:69, pl. XIX: fig. 2 [syntype localities: various, all in Japan].—Domantay, 1962:284.—Taylor, 1966b:356.—Manapat, 1969:37.—Cornejo and Velasquez, 1972:174, 179, 180, 181.—Kraft, 1972:332.—Trono, 1972a:100.—Velasquez et al., 1973:20, pl. 7: fig. 34.—Velasquez, Trono, and Doty, 1975:159.—Trono, 1976:215.—Trono and Young, 1977:58.—Trono, 1978:11.—Cordero, 1979b:276.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:30, pl. IX: fig. 2.—Trono and Fortes, 1980:66; 1982:146.—Hurtado-Ponce, 1983:121.—Cordero, 1984c:52.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Bataan, Batangas, Quezon, Camarines Sur, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.). MARINDUQUE. MASBATE. PANAY: Aklan. CEBU (Mactan I.). SULU: Tawitawi.

Padina minor Yamada

Padina minor Yamada, 1925b:251, fig. V [type locality: Garan-Bi (O-luan), Taiwan].—Manapat, 1969:37, 38.—Cornejo and Velasquez, 1972:175, 176, 182.—Trono, 1973d:12, pl. 6: fig. 21.—Velasquez et al., 1973:20, pl. 7: fig. 35.—Trono, 1974a:141; 1976:214; 1978:11.—Trono and Tuason, 1978:12.—Puig and Cordero, 1979:31.—Liao and Sotto, 1980:97.—Reyes, 1980:120, pl. 2: fig. 1.—Saraya and Trono, 1980:30.—Trono and Fortes, 1980:66.—Trono and Ganzon-Fortes, 1980:43, fig. [s.n.].—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:8, pl. V: fig. 3.—Trono and Fortes, 1982:146.—Hurtado-Ponce, 1983:121.—Cordero, 1984c:52.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan, Bataan, Batangas, Quezon, Sorsogon. CATANDUANES. MARINDUQUE. MASBATE. LEYTE (Biliran I.). CEBU (Mactan I.). SIQUIJOR. SULU: Sulu (Siasi I.).

Padina pavonica (Linnaeus) Thivy

Fucus pavonicus Linnaeus, 1753:1162 [type locality: "In Mari Europae australis"].
Fucus pavonius Linnaeus, 1759:1345.
Padina pavonia (Linnaeus) Lamouroux, 1816:304.—Bailey and Harvey, 1862:173.—Dickie, 1876a:243.—Meñez, 1961:61, pl. 10: figs. 113–117; pl. 11: figs. 118–120.—Velasquez, Trono, and Doty, 1975:159.
Padina pavonica (Linnaeus) Thivy in Taylor, 1960:234.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CEBU (Mactan I.). MINDANAO: Zamboanga.

NOTE.—We consider *Fucus pavonius* Linnaeus, the basionym of *Padina pavonia*, an illegitimate substitute for *F. pavonicus*. Some authors, however, consider the two epithets orthographic variants and hence accredit the binomial *P. pavonica* to (Linnaeus) Lamouroux (see Price, Tittley, and Richardson, 1979:3, footnote).

Padina sanctae-crucis Bǿrgesen

Padina sanctae-crucis Bǿrgesen, 1914b:45, figs. 27, 28 [type locality: St. Croix, Virgin Is.].—Meñez, 1961:62, pl. 10: figs. 109–112.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—According to Taylor (1960:237), *Dictyerpa jamaicensis* Collins (1901:251; type locality: Manchioneal, Jamaica) "is a growth stage of a Padina, perhaps of various species, but certainly of this one" (*Padina sanctae-crucis*). On the basis of this statement, Papenfuss (1977:272) made the combination *P. jamaicensis* (Collins) Papenfuss. We prefer to retain Børgesen's name, however, because of the

uncertainty as to which species is represented by the type material of *D. jamaicensis*.

Padina tetrastromatica Hauck

Padina tetrastromatica Hauck, 1887 [1886–1887]:43 [type locality: Meith (Maidh), Somalia].—Taylor, 1966b:356.—Velasquez, Trono, and Doty, 1975:159.—Vannajan and Trono, 1978:10, figs. 6–8.—Trono and Fortes, 1980:66.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:146.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan, Rizal, Manila, Cavite.

Spatoglossum Kützing

Spatoglossum asperum J. Agardh

Spatoglossum asperum J. Agardh, 1894:36 [type locality: Sri Lanka].—Trono, 1974a:144.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Siasi I.).

Spatoglossum variabile Figari and De Notaris

Spatoglossum variabile Figari and De Notaris, 1853:153, fig. IV [syntype localities: Suez, Egypt and Aqaba, Jordan, Red Sea].—Weber-van Bosse, 1913a:181.—Velasquez, Trono, and Doty, 1975:163.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

Stypopodium (Kützing) J. Agardh

**Stypopodium flabelliforme* Weber-van Bosse

Stypopodium flabelliforme Weber-van Bosse, 1913a:176, pl. II: fig. 10; pl. III: fig. 2 [syntype localities: Rotti I., Indonesia; Pearl Bank, Tawitawi Prov., Sulu Archipelago].—Domantay, 1962:287.—Velasquez, Trono, and Doty, 1975:164.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. SULU: Tawitawi (Pearl Bank).

Zonaria C. Agardh

Zonaria diesingiana J. Agardh

Zonaria diesingiana J. Agardh, 1841:443 [type locality: "Nov. Holl." (probably near Sydney, Australia fide Allender and Kraft, 1983:81)].—Cordero, 1976c:6, 10, 18.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—Womersley (1967:228) rejected this name as a nomen dubium on the grounds that the type specimen (from Australia) represents the basal portion of an undeterminable *Zonaria*.

Zonaria flabellata (Okamura) Papenfuss

Homoeostrichus flabellatus Okamura, 1931 [1929–1932]:57, pl. CCLXXXIX: figs. 11–13 [syntype localities: Ryukyu-retto and Seto, Wakayama Prefecture, Japan].—Flores-Sian, 1959:97.
Zonaria flabellata (Okamura) Papenfuss, 1944:341.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Order CHORDARIALES

Family CORYNOPHLAEACEAE

Leathesia S.F. Gray

Leathesia difformis (Linnaeus) J.E. Areschoug

Tremella difformis Linnaeus, 1755:429 [type locality: Sweden].
Leathesia difformis (Linnaeus) J.E. Areschoug, 1847:376.—Domantay, 1962:283.—Cordero, 1973b:24.—Velasquez, Trono, and Doty, 1975:151.—Marcos-Agngarayngay, 1984a:7, fig. 5.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan. LEYTE (Biliran I.).

Order DICTYOSIPHONALES

Family CHNOOSPORACEAE

Chnoospora J. Agardh

Chnoospora implexa J. Agardh

Chnoospora implexa J. Agardh, 1848:172 [type locality: Tor, Sinai Peninsula, Egypt].—Meñez, 1961:60, pl. 12: figs. 129–131.—Reyes, 1972:148.—Velasquez et al., 1973:21, pl. 8: fig. 38.—Trono and Santos-Maranan, 1974b:4, fig. 4.—Velasquez, Trono, and Doty, 1975:135.—Trono, 1976:217.—Liao and Sotto, 1980:98.—Reyes, 1980:122, pl. 3: fig. 4.—Meñez and Calumpong, 1981:382.—Cordero, 1982b:32.—Hurtado-Ponce, 1983:122.—Hurtado-Ponce, 1984:179.—Tungpalan, 1984:139.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Bataan, Sorsogon. MINDORO: Oriental Mindoro. SAMAR: Eastern Samar. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR.

Chnoospora minima (Hering) Papenfuss

Fucus minimus Hering, 1841:92 [type locality: "Port Natal" (Durban), South Africa].
Chnoospora minima (Hering) Papenfuss, 1956:69.—Taylor, 1966b:357.—Cordero, 1982b:32, fig. 1.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. SAMAR: Eastern Samar.

Chnoospora pannosa J. Agardh

Chnoospora pannosa J. Agardh, 1848:172 [type locality: Oahu, Hawaiian Is.].—Martens, 1868:26, 70–71.—Velasquez, Trono, and Doty, 1975:135.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Order SCYTOSIPHONALES

Family SCYTOSIPHONACEAE

Colpomenia (Endlicher) Derbès and Solier

Colpomenia sinuosa (Mertens ex Roth) Derbès and Solier

Ulva sinuosa Mertens ex Roth, 1806:327, pl. 12 [type locality: Cádiz, Spain].

Colpomenia sinuosa (Mertens ex Roth) Derbès and Solier in Castagne, 1851:95.—Velasquez, 1949:155 [*"sinuata"*].—Meñez, 1961:60, pl. 12: fig. 134.—Agor, 1962:34.—Domantay, 1962:282.—Galutira and Velasquez, 1964:500.—Velasquez, 1971:441, fig. 22.—Reyes, 1972: 148.—Trono, 1973d:12.—Velasquez et al., 1973:20, pl. 7: fig. 36.—Westernhagen, 1973a:65.—Ortega, Alcala, and Reyes, 1974:186, 187.—Trono and Santos-Maranan, 1974b:4, figs. 5, 6.—Westernhagen, 1974:113 (table 1).—Velasquez, Trono, and Doty, 1975:138 [*"sinuosa"* and *"sinuata"*].—Cordero, 1979b:285.—Puig and Cordero, 1979:34.—Cordero, 1980b:34, pl. [50].—Reyes, 1980:121, pl. 3: fig. 1.—Saraya and Trono, 1980:31, pl. IX: fig. 4.—Chan, 1981:387.—Meñez and Calumpong, 1981:382.—Hurtado-Ponce, 1983:122.—Cordero, 1984a:84.—Hurtado-Ponce, 1984:179.—Marcos-Agngarayngay, 1984a:9, fig. 7.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Bataan, Batangas. MINDORO: Oriental Mindoro. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR.

Hydroclathrus Bory

Hydroclathrus clathratus (C. Agardh) Howe

Encoelium clathratum C. Agardh, 1822a:412 [type locality: uncertain].—Martens, 1868:47, 70–71.—Velasquez, Trono, and Doty, 1975:141.

Hydroclathrus clathratus (C. Agardh) Howe, 1920:590.—Zaneveld, 1952: 130; 1956:15; 1959:99.—Agor, 1962:34.—Domantay, 1962: 283.—Galutira and Velasquez, 1964:500, pl. 2: fig. 7; pl. 7: fig. 26.—Taylor, 1966b:357.—Velasquez, 1968a:120, fig. 5.—Villones and Magdamo, 1968:26, fig. 18 [figure cited but not published].—Manapat, 1969:37, 38, 39.—Velasquez, 1971:441, fig. 21.—Reyes, 1972:148.—Velasquez, 1972:63.—Bersamin et al., 1973:187.—Trono, 1973d:12.—Velasquez et al., 1973:21, pl. 8: fig. 37.—Westernhagen, 1973a:66.—Trono, 1974a:147.—Trono and Santos-Maranan, 1974b:2, fig. 1.—Westernhagen, 1974:113 (table 1).—Velasquez, Trono, and Doty, 1975:150.—Trono, 1976:216.—Cordero, 1979b:276, 285.—Puig and Cordero, 1979:34.—Velasquez, 1979b:230.—Cordero, 1980b:33, pl. 21.—Liao and Sotto, 1980:97.—Moreland, 1980:43, 46, 47.—Reyes, 1980:121, pl. 3: figs. 2*a,b*.—Saraya and Trono, 1980:32.—Trono and Fortes, 1980:66.—Trono and Ganzon-Fortes, 1980:45, fig. [s.n.].—Trono, Velasquez, and Guevarra, 1980:77.—Ganzon-Fortes, 1981:21.—Guzman, 1981:43, 49.—Meñez and Calumpong, 1981:382.—Laserna et al., 1981:447.—Trono and De Lara, 1981:9, pl. VI: fig. 4.—Calumpong, 1982:145.—Cordero, 1982a:60.—Trono and Ang, 1982:14.—Trono and Fortes, 1982:147.—Cordero, 1984a: 85.—Hurtado-Ponce, 1983:122.—Cordero, 1984b:62; 1984c:53.—Hurtado-Ponce, 1984:179.—Marcos-Agngarayngay, 1984a:7, fig. 6; 1984b:122.—Tungpalan, 1984:139.—Ang, 1985b:298.

Hydroclathrus cancellatus Bory de Saint-Vincent, 1825:419.—Weber-van Bosse, 1913a:136.—Merrill, 1918:40.—Collado, 1926:129.—G. Blanco, 1938:513.—Velasquez, 1949:155.—Quisumbing, 1951: 1010.—Velasquez, 1953b:206.—Montilla and Blanco, 1953:166, fig. 5:4.—Meñez, 1961:60.—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Cordero, 1973b:25.—Westernhagen, 1973a:66; 1974:113 (table 1).—Velasquez, Trono, and Doty, 1975:150.

Ulva reticulata [misapplied name fide Martens, 1868:47 and Collins in Merrill, 1918:40].—M. Blanco, 1837:842; 1845:582; 1879:262.—Martens, 1868:60–61 [Blanco record only].—Velasquez, Trono, and Doty, 1975:167 [Blanco and Martens records only].

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Ilocos Sur, La Union, Pangasinan, Bataan, Batangas, Quezon, Albay, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MASBATE. SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental (incl. Apo I.). CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga, Davao. PALAWAN (incl. Balabac I., Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—*Encoelium clathratum* C. Agardh (based on *Fucus clathratus* Bory de Saint-Vincent mscr.) and *Hydroclathrus cancellatus* Bory de Saint-Vincent share the same type collection. The provenance was stated to be Belle-Ile (Atlantic France), but Hamel (1937:202) explained how this was shown to be in error. The true provenance is unknown.

Rosenvingea Bφrgesen

Rosenvingea intricata (J. Agardh) Bφrgesen

Asperococcus intricatus J. Agardh, 1847:7 [type locality: Veracruz, Mexico].

Rosenvingea intricata (J. Agardh) Bφrgesen, 1914b:26.—Reyes, 1972:148.—Velasquez, Trono, and Doty, 1975:162.—Reyes, 1980:121, pl. 3: fig. 3.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental. SIQUIJOR.

**Rosenvingea orientalis* (J. Agardh) Bφrgesen

Asperococcus orientalis J. Agardh, 1848:78 [type locality: Manila, Luzon].—De Toni, 1895b:495.

Encoelium orientale (J. Agardh) Kützing, 1849:551.—Martens, 1868:68–69.—Velasquez, Trono, and Doty, 1975:142.

Hydroclathrus orientalis (J. Agardh) Heydrich, 1894:286 [including Philippine record].—Velasquez, Trono, and Doty, 1975:150.

Rosenvingea orientalis (J. Agardh) Bφrgesen, 1914b:26.—Saraya and Trono, 1980:32, pl. X: fig. 2.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Manila.

Order FUCALES

Family CYSTOSEIRACEAE

Cystoseira C. Agardh

Cystoseira hakodatensis (Yendo) Fensholt

Cystophyllum hakodatense Yendo, 1907:32, pl. II: figs. 13–16 [lectotype locality: Shoya, Japan fide Yoshida, 1980:100].—Cordero, 1982b:33, fig. 2 [*"Cestophyllum"*].

Cystoseira hakodatensis (Yendo) Fensholt, 1952:563 [*"hakotadense"*].

PHILIPPINE DISTRIBUTION.—LEYTE (Leyte del Sur).

NOTE.—The name *Cystophyllum* J. Agardh (1848:228) was superfluous when published inasmuch as the circumscription of the genus included both of the original species of *Myagropsis* Kützing (1843a:57), the single original species of *Sirophysalis* Kützing (1843b:368), as well as several species previously assigned to *Sargassum* C. Agardh (1820b:1) and *Cystoseira* C. Agardh (1820b:50). According to Article 7.11 of the ICBN, the type of *Cystophyllum* is the type of *Myagropsis,* the earlier of the two Kützing generic names and therefore the one that J. Agardh should have adopted. *Fucus myagroides* Mertens ex Turner (1809:28, pl. 83) was designated lectotype of *Myagropsis* by Silva (1952a:279) and is thus the type of *Cystophyllum.* The lectotypification by De Toni (1891:175), who chose *C. trinode* (Forsskål) J. Agardh (1848:230), is irrelevant.

J. Agardh separated *Cystophyllum* from *Cystoseira* on the basis of vesicle position. In *Cystophyllum* the vesicles were said to be restricted to ultimate ramuli, while in *Cystoseira* they are produced within the axes. The diagnostic value of this character at the generic level was doubted by Gardner (1917:390), who found both conditions in the same species. Fensholt (1952) abandoned this distinction and treated as members of *Cystoseira* most species that had been placed in *Cystophyllum* by J. Agardh and subsequent authors. If *Cystoseira hakodatensis* and other species currently placed in *Cystophyllum* are segregated from *Cystoseira,* the segregate genus cannot bear the name *Cystophyllum,* which, as shown above, is a synonym of *Myagropsis.*

Hormophysa Kützing

Hormophysa cuneiformis (J.F. Gmelin) P.C. Silva, new combination

Fucus triqueter Linnaeus, 1771:312 [type locality: "in Mari Capensi"].

Cystoseira triquetra C. Agardh, 1820b:61.

Hormophysa triquetra (C. Agardh) Kützing, 1843b:359.—Taylor, 1966b:357.—Papenfuss, 1968:45.—Cornejo and Velasquez, 1972:179, 182.—Trono, 1972a:102.—Cordero, 1973b:25.—Velasquez et al., 1973:21, pl. 8: fig. 39.—Ortega, Alcala, and Reyes, 1974:187.—Trono, 1974a:147.—Velasquez, Trono, and Doty, 1975:150.—Trono, 1976:220.—Cordero, 1976c:20.—Trono, 1978:11.—Cordero, 1979b:286.—Puig and Cordero, 1979:32.—Liao and Sotto, 1980:98.—Reyes, 1980:123, pl. 3: fig. 5.—Saraya and Trono, 1980:33, pl. X: fig. 3.—Trono and Ganzon-Fortes, 1980:47, fig. [s.n.].—Guzman, 1981:43.—Laserna et al., 1981:447.—Meñez and Calumpong, 1981:382.—Laserna et al., 1982:52.—Trono and Ang, 1982:14.—Hurtado-Ponce, 1983:123.—Marcos-Agngarayngay, 1984a:11, fig. 8.—Marcos-Agngarayngay, 1984b:123.—Tungpalan, 1984:143.

Fucus articulatus Forsskål, 1775:191 [type locality: Suez, Egypt].

Cystoseira articulata J. Agardh, 1848:216.—Meñez, 1961:68.—Velasquez, Trono, and Doty, 1975:140.

Fucus cuneiformis J.F. Gmelin, 1792:1389.

Cystoseira prolifera J. Agardh, 1848:215 [type locality: Western Australia, Australia].—Westernhagen, 1973a:65; 1974:113 (table 1).

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, La Union, Bataan, Batangas, Sorsogon. MARINDUQUE. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. PALAWAN (Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—*Cystoseira articulata* is included as a synonym on the authority of Setchell (1935:264), *C. prolifera* on the authority of Womersley (1964:64). Various taxonomic synonyms are discussed by Papenfuss (1968), while the tortuous nomenclature is brought up to date in the appended Nomenclatural Notes.

Myagropsis Kützing

Myagropsis myagroides (Mertens ex Turner) Fensholt

Fucus myagroides Mertens ex Turner, 1809:28, pl. 83 [type locality: Nagasaki, Japan].

Myagropsis myagroides (Mertens ex Turner) Fensholt, 1955:319.

Fucus sisymbrioides Turner, 1809:150, pl. 129 [type locality: Korea Strait].

Cystophyllum sisymbrioides (Turner) J. Agardh, 1848:234.—Cordero, 1982b:35, fig. 3 [*"Cestophyllum"*].

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

NOTE.—While returning most members of *Cystophyllum* to *Cystoseira,* Fensholt (1952) retained the name *Cystophyllum* for a new generic concept distinguished from *Cystoseira* by a suite of developmental and cytological characters. Only two species were known by Fensholt to share these characters, namely, *C. sisymbrioides* (Turner) J. Agardh (1848:234) and *C. turneri* Yendo (1907:40, pl. III: figs. 7–11). Upon realizing that *C. sisymbrioides* included both of the original species of *Myagropsis,* Fensholt (1955) adopted that generic name for what she had previously designated *Cystophyllum* J. Agardh emend. Fensholt. Papenfuss and Jensen (1967) reviewed Fensholt's work and concluded that the segregation of *Myagropsis* from *Cystoseira* was advantageous.

The conspecificity of *Fucus myagroides* and *F. sisymbrioides* was proposed by J. Agardh (1848:234). Both species were originally described in the second volume of Turner's "Fuci." If they had been published simultaneously, J. Agardh would have been free to adopt either epithet in preference to the other. Moreover, his choice (*sisymbrioides*) would have been imposed on subsequent workers (Article 57.2). In fact, however, the two species were not published simultaneously. Turner's "Fuci" was issued serially, with 12 parts constituting a volume (see Price, 1984). Although

exact dates have not been ascertained, it is certain that pl. 83 (*F. myagroides*) appeared prior to pl. 129 (*F. sisymbrioides*). *Myagropsis myagroides* is thus the correct name for this species.

Family SARGASSACEAE

Sargassum C. Agardh

Sargassum aemulum Sonder

Sargassum aemulum Sonder, 1853:672 [type locality: Holdfast Bay (Gulf of St. Vincent), South Australia, Australia].
Sargassum cristatum J. Agardh, 1889:84, pl. XXV: figs. 18–20 [type locality: South Australia, Australia].—Taylor, 1966b:357.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—The synonymy was proposed by Grunow (1915 [1915–1916]:376).

Sargassum agardhianum Farlow ex J. Agardh

Sargassum agardhianum Farlow ex J. Agardh, 1889:93 [type locality: San Diego, California, USA].—Cordero, 1976c:22.

PHILIPPINE DISTRIBUTION.—BATANES.

Sargassum baccularia (Mertens) C. Agardh

Fucus baccularia Mertens, 1819:177 [type locality: not specified ("Ad Novam Hollandiam" fide C. Agardh, 1824:304)].
Sargassum baccularia (Mertens) C. Agardh, 1824:304.—Ang, 1985b:295.

PHILIPPINE DISTRIBUTION.—Batangas.

**Sargassum belangeri* Bory de Saint-Vincent

Sargassum belangeri Bory de Saint-Vincent, 1834:162 [syntype localities: Java and Sunda Strait, Indonesia; Philippines].—J. Agardh, 1848:345.—Martens, 1868:72–73.—De Toni, 1895b:113.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Sargassum berberifolium J. Agardh

Sargassum berberifolium J. Agardh, 1848:337 [syntype localities: Western Australia, Australia; Admiralty Is.].—Grunow, 1915 [1915–1916]:411.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Sargassum biforme Sonder

Sargassum biforme Sonder, 1845:51 [type locality: Western Australia, Australia].—Dickie, 1876a:245.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—PANAY: Iloilo (Gigantes Is.).

Sargassum cervicorne Greville

Sargassum cervicorne Greville, 1849:217, pl. IX: figs. 1–6 [type locality: "in mare Peninsulae Indiae Orientalis"].
**Sargassum binderi* Sonder var. *angustifolium* Sonder, 1871:44 [syntype localities: various, Indian and Pacific oceans, including San Bernardino Strait, between Sorsogon and Northern Samar provinces, Philippines].

PHILIPPINE DISTRIBUTION.—San Bernardino Strait.

NOTE.—The synonymy was proposed by Grunow (1915 [1915–1916]:384).

**Sargassum cinctum* J. Agardh var. *gracilentum* Grunow

Sargassum cinctum J. Agardh var. *gracilentum* Grunow, 1915 [1915–1916]:419 [*"gracilenta"*] [syntype localities: Australia: Goodie I., Ballina, and Rockingham; near Manila, Luzon].

PHILIPPINE DISTRIBUTION.—LUZON: Manila.

**Sargassum cinctum* J. Agardh var.? *mixtum* Grunow

Sargassum cinctum J. Agardh var.? *mixtum* Grunow, 1915 [1915–1916]:419 [*"mixta"*] [type locality: near Manila, Luzon].
Sargassum siliquosum [misapplied name fide Grunow, l.c.].—Martens, 1868:27, 74–75.—Velasquez, Trono, and Doty, 1975:163 [Martens records only].

PHILIPPINE DISTRIBUTION.—LUZON: La Union, Manila. MINDANAO: Zamboanga.

NOTE.—In view of the fact that Grunow (1916 [1915–1916]:173) did not list the Philippines under *Sargassum siliquosum* J. Agardh, it appears that he intended to include in *S. cinctum* var. *mixtum* the Martens record of *S. siliquosum* from Zamboanga as well as the one from Manila, even though he cited only the latter locality.

Sargassum confusum C. Agardh

Sargassum confusum C. Agardh, 1824:301 [type locality: "In mari Japonico"].—Flores-Sian, 1959:97.—Agor, 1962:34.—Domantay, 1962: 284.—Velasquez, Trono, and Doty, 1975:162.—Cordero, 1976c:8.—Garcia, 1979:44 (table 1).—Puig and Cordero, 1979:33.—Cordero, 1981c:408; 1982a:fig. 6; 1984c:53.—Marcos-Agngarayngay, 1984a:12, fig. 9; 1984b:123.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan. MASBATE. SAMAR: Western Samar, Eastern Samar. LEYTE (Biliran I.). PANAY: Antique, Iloilo. MINDANAO.

Sargassum crispifolium Yamada

Sargassum crispifolium Yamada, 1931a:72, pl. XX [syntype localities: various, all in Japan].—Velasquez, 1971:443, fig. 23.—Cordero, 1979b: 276; 1981c:408.—Guzman, 1981:43, 50.—Cordero, 1982a:fig. 8; 1984b:63; 1984c:54.

PHILIPPINE DISTRIBUTION.—MASBATE. SAMAR: Western Samar, Eastern Samar. PANAY: Aklan, Antique. CEBU (Mactan I.). PALAWAN.

Sargassum cristaefolium C. Agardh

Sargassum cristaefolium C. Agardh, 1820b:13 [type locality: "Locus natalis ignotus"].—Montagne, 1844a:660; 1846a:42.—Martens, 1868:26, 72–73.—De Toni, 1895b:51.—Velasquez, Trono, and Doty, 1975:162.—Trono, 1978:12.—Saraya and Trono, 1980:32.—Trono and Fortes, 1980:68.—Chan, 1981:385.—Ganzon-Fortes, 1981:21.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:10, pl. VI: figs. 1, 2.—Trono and Ang, 1982:14.—Trono and Fortes, 1982:147.

Sargassum ilicifolium (Turner) C. Agardh var. *duplicatum* J. Agardh, 1848:318 [type locality: Moluccas, Indonesia].

Sargassum duplicatum (J. Agardh) J. Agardh, 1889:90.—Sulit and San Juan, 1955:48 (table 1).—Meñez, 1961:65.—Domantay, 1962:286.—Taylor, 1966b:357.—Manapat, 1969:37, 38, 39.—Trono, 1974a: 147.—Velasquez, Trono, and Doty, 1975:162.—Trono, 1976: 219.—Cordero, 1976c:22; 1979b:276, 286, fig. 3.—Puig and Cordero, 1979:33.—Cordero, 1980a:29, 36, fig. 4; 1980b:35, pl. 22.—Laserna et al., 1981:447.—Cordero, 1984a:85.—Marcos-Agngarayngay, 1984a:12, fig. 10.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Manila, Batangas, Quezon, Sorsogon. MARINDUQUE. MINDORO: Occidental Mindoro (incl. Lubang Is.). SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. SIQUIJOR. MINDANAO: Zamboanga del Sur, Surigao del Sur. SULU: Sulu (Siasi I.). PALAWAN (incl. Bugsuk I.).

NOTE.—J. Agardh (1848:318) was uncertain whether his plant from the Moluccas was conspecific with *Sargassum duplicatum* Bory de Saint-Vincent (1828 [1826–1829]:127; type locality: Pacific Ocean between Tahiti and New Zealand) and later (1889:90, 123) recognized his *S. duplicatum* as a species distinct from that of Bory de Saint-Vincent. Womersley and Bailey (1970:296) treated the two species as one entity, which they merged into *S. cristaefolium.*

TAXON OF UNCERTAIN VALUE

The following infraspecific taxon is probably related to *Sargassum cristaefolium* but has not formally been transferred to it.

**Sargassum duplicatum* (J. Agardh) J. Agardh var. *rotundatum* Grunow

Sargassum duplicatum (J. Agardh) J. Agardh var. *rotundatum* Grunow, 1915 [1915–1916]:392 [*"rotundata"*] [syntype localities: Philippines; Java, Indonesia; Seychelles].

PHILIPPINE DISTRIBUTION.—Locality not specified.

Sargassum cystocarpum C. Agardh

Sargassum cystocarpum C. Agardh, 1820b:33 [type locality: "E mari Indico"].—Martens, 1868:26, 72–73.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

**Sargassum cystophyllum* Montagne

Sargassum cystophyllum Montagne, 1842d:249 [type locality: "Manilla," Luzon].—Montagne, 1846a:46.—J. Agardh, 1848:345.—Montagne, 1856:388.—De Toni, 1895b:113.—Grunow, 1915 [1915–1916]:414.

Carpacanthus cystophyllus (Montagne) Kützing, 1849:623.—Martens, 1868:76–77.—Velasquez, Trono, and Doty, 1975:130.

PHILIPPINE DISTRIBUTION.—As above.

Sargassum droserifolium Bory de Saint-Vincent

Sargassum droserifolium Bory de Saint-Vincent, 1828 [1826–1829]:129 [syntype localities: Port Praslin (Kambotorosh Harbor), New Ireland; New Zealand; Tahiti; New Guinea].—Grunow, 1915 [1915–1916]:410.

PHILIPPINE DISTRIBUTION.—Locality not specified.

**Sargassum droserifolium* Bory de Saint Vincent var.? *spathulatum* Grunow

Sargassum droserifolium Bory de Saint-Vincent var.? *spathulatum* Grunow, 1915 [1915–1916]:411 [*"spathulata"*] [type locality: "in freto Bernardino" (San Bernardino Strait between Sorsogon Prov., Luzon, and Northern Samar Prov.)].

PHILIPPINE DISTRIBUTION.—As above.

Sargassum elongatum

Sargassum elongatum.—Manapat, 1969:38.

PHILIPPINE DISTRIBUTION.—PALAWAN.

NOTE.—Manapat did not give an author for this name and we have been unable to find its place of publication.

Sargassum esperi C. Agardh

Sargassum esperi C. Agardh, 1820b:9 [syntype localities: Brazil; Bengal, India].—Montagne, 1844a:660.—Martens, 1868:74–75.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Sargassum filicinum Harvey

Sargassum filicinum Harvey, 1860a:327 [type locality: "East coast of Japan"].—Garcia, 1979:44 (table 1).

PHILIPPINE DISTRIBUTION.—MINDANAO.

Sargassum filifolium C. Agardh

Sargassum filifolium C. Agardh, 1824:305 [type locality: Western Australia, Australia].—Grunow, 1916 [1915–1916]:2.

PHILIPPINE DISTRIBUTION.—"In freto Bernardino" [San Bernardino Strait between Sorsogon Prov., Luzon, and Northern Samar Prov.].

Sargassum filifolium C. Agardh var. *aciculare* (Grunow) Grunow

Sargassum aciculare Grunow, 1874:26 [type locality: Bribie I., Queensland, Australia].

Sargassum filifolium C. Agardh var. *aciculare* (Grunow) Grunow, 1916 [1915–1916]:3 ["*acicularis*"].

PHILIPPINE DISTRIBUTION.—"In freto Bernardino" [San Bernardino Strait between Sorsogon Prov., Luzon, and Northern Samar Prov.].

**Sargassum filiforme* Montagne

Sargassum filiforme Montagne, 1844a:660 [type locality: "in insulis Philippinensibus"].—J. Agardh, 1848:346.—Kützing, 1849:614.—Montagne, 1856:383.—Martens, 1868:27, 74–75.—De Toni, 1895b:113.—Grunow, 1916 [1915–1916]:14.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

Sargassum fluitans (Bφrgesen) Bφrgesen

Sargassum hystrix J. Agardh var. *fluitans* Bφrgesen, 1914a: 11, fig. 8 [type locality: Sargasso Sea].

Sargassum fluitans (Bφrgesen) Bφrgesen, 1914b:66, footnote.—Westernhagen, 1973a:66; 1974:113 (table 1).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Sargassum fulvellum (Turner) C. Agardh

Fucus fulvellus Turner, 1808:147, pl. 66 [type locality: Korea Strait].

Sargassum fulvellum (Turner) C. Agardh, 1820b:34.—Domantay, 1962:287.—Cordero, 1973b:25 [*S. fulvellum* prox.].—Velasquez, Trono, and Doty, 1975:162.—Cordero, 1976c:23; 1979b:276; 1981c:407; 1982a:fig. 7; 1984c:53.

Sargassum enerve C. Agardh, 1820b:17 [type locality: "In Oceano" ("E mari Coreano" fide Yoshida, 1983: 148, fig. 26c)].—Sulit and San Juan, 1955:48 (table 1) pl. 2: fig. 1.—Domantay, 1962:274.—Manapat, 1969:38.—Westernhagen, 1973a:66; 1974:113 (table I).—Trono and Fortes, 1980:68.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:147.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Batangas. MASBATE. SAMAR: Western Samar. LEYTE (Biliran I.). PANAY: Aklan, Iloilo. CEBU (Mactan I.).

NOTE.—*Sargassum enerve* is included as a synonym on the authority of Yoshida (1983:148, 151).

Sargassum furcatum Kützing

Sargassum furcatum Kützing, 1843b:362 [type locality: St. Thomas, Virgin Is.].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

NOTE.—Grunow (1916 [1915–1916]:43), in agreement with J. Agardh (1889:108), considered this species a variety of *S. vulgare,* but Taylor (1960:277) recognized both species.

**Sargassum gaudichaudii* Montagne

Sargassum gaudichaudii Montagne, 1842d:249 [syntype localities: Mauritius; "Manilla," Luzon].—Montagne, 1846a:48, pl. 141; 1856:384.—Grunow, 1915 [1915–1916]:446.

Carpacanthus gaudichaudii (Montagne) Kützing, 1849:623.—Martens, 1868:76–77.—Velasquez, Trono, and Doty, 1975:130.

PHILIPPINE DISTRIBUTION.—LUZON: Manila.

Sargassum giganteifolium Yamada

Sargassum giganteifolium Yamada in Okamura, 1925:105, pl. CCXXX [syntype localities: Enoshima, Kanagawa Prefecture and Futomi, Chiba Prefecture, Japan].—Sulit and San Juan, 1955:48 (table 1).—Domantay, 1962:284.—Manapat, 1969:37, 38.—Cordero, 1973b:26 [with query].—Velasquez, Trono, and Doty, 1975:162.—Cordero, 1981c:408; 1984b:63; 1984c:53.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.) Pangasinan, Batangas, Albay (Batan I.). MASBATE. SAMAR: Western Samar. LEYTE (Biliran I.). PANAY: Iloilo. CEBU (Mactan I.). PALAWAN.

NOTE.—Yoshida (1983:195) cites the holotype of this species as coming from Shichirigahama (Kanagawa Prefecture), Japan, but this locality is not mentioned in the protologue.

Sargassum gracile J. Agardh

Sargassum gracile J. Agardh, 1848:310 [syntype localities: "in Oceano Indico ad Javam" and "inter Borneo et Sumatram," Indonesia].—Dickie, 1876a:243.—Grunow, 1916 [1915–1916]:5.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.). Basilan Strait (between Mindanao and Basilan I.).

Sargassum granuliferum C. Agardh

Sargassum granuliferum C. Agardh, 1820b:31 [type locality: "In mari Indico?"].—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Trono and Fortes, 1980:68.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:147.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Sargassum hemiphyllum (Turner) C. Agardh

Fucus hemiphyllus Turner, 1811:85, pl. 169 [type locality: Nagasaki, Japan].

Sargassum hemiphyllum (Turner) C. Agardh, 1820b:39.—Montagne, 1844a:661 [with query].—Sulit and San Juan, 1955:48 (table 1), pl. 2: fig. 2.—Domantay, 1962:285.—Manapat, 1969:37.—Velasquez, Trono, and Doty, 1975:162.—Cordero, 1976c:23.—Trono and Fortes, 1980:68.—Cordero, 1981c:406.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:147.—Cordero, 1984c:53.

Spongocarpus hemiphyllus (Turner) Kützing, 1849:632.—Martens, 1868:80–81.—Velasquez, Trono, and Doty, 1975:163.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. MASBATE. SAMAR: Western Samar, Eastern Samar. PANAY: Iloilo. CEBU (Mactan I.).

Sargassum heterocystum Montagne

Sargassum heterocystum Montagne, 1842d:250 [type locality: "In mari chinensi Cochinchinam alluente" (Vietnam)].—Grunow, 1915 [1915–1916]:409.

PHILIPPINE DISTRIBUTION.—Locality not specified.

**Sargassum hombronianum* Montagne var.? *manilense* (Grunow) Grunow

Sargassum polycystum C. Agardh var. *manilense* Grunow in Piccone, 1886:44, 90 [*"manilensis"*] [type locality: Cavite Prov., Luzon].—De Toni, 1895b:104.

Sargassum hombronianum Montagne var.? *manilense* (Grunow) Grunow, 1916 [1915–1916]:8 [*"manilensis"*].

PHILIPPINE DISTRIBUTION.—As above.

Sargassum ilicifolium (Turner) C. Agardh

Fucus ilicifolius Turner, 1808:113, pl. 51 [type locality: Sunda Strait, Indonesia].

Sargassum ilicifolium (Turner) C. Agardh, 1820b:11.—Dickie, 1874a:190; 1876a:243.—Piccone, 1886:45, 90.—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Velasquez, Trono, and Doty, 1975:162.—Trono and Fortes, 1980:68.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:148.

Carpacanthus ilicifolius (Turner) Kützing, 1849:625.—Martens, 1868:27, 78–79.—Velasquez, Trono, and Doty, 1975:130.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Manila, Cavite. MINDORO. MINDANAO: Zamboanga.

**Sargassum ilicifolium* (Turner) C. Agardh f. *benkulense* Grunow

Sargassum ilicifolium (Turner) C. Agardh f. *benkulense* Grunow, 1915 [1915–1916]:407 [*"benkulensis"*] [syntype localities: Pulau Tikus near Bengkulu, Sumatra; Manila, Luzon].

PHILIPPINE DISTRIBUTION.—As above.

Sargassum ilicifolium (Turner) C. Agardh var. *compactum* (Bory de Saint-Vincent) Grunow

Sargassum compactum Bory de Saint-Vincent, 1828 [1826–1829]:126 [type locality: Concepción, Chile].

Sargassum ilicifolium (Turner) C. Agardh var. *compactum* (Bory de Saint-Vincent) Grunow, 1915 [1915–1916]:405.

Carpacanthus spinulosus [misapplied name fide Grunow, l.c.].—Martens, 1868:27, 78–79 [in part].—Velasquez, Trono, and Doty, 1975:130 [in part].

PHILIPPINE DISTRIBUTION.—LUZON: Manila.

Sargassum ilicifolium (Turner) C. Agardh var.? *pseudospinulosum* Grunow

Sargassum ilicifolium (Turner) C. Agardh var.? *pseudospinulosum* Grunow, 1915 [1915–1916]:403 [*"pseudospinulosa"*] [type locality: near Atapupu Timor, Indonesia].

Carpacanthus spinulosus [misapplied name fide Grunow, l.c.].—Martens, 1868:27, 78–79 [in part].—Velasquez, Trono, and Doty, 1975:130 [in part].

PHILIPPINE DISTRIBUTION.—LUZON: Manila.

NOTE.—In view of the fact that Grunow (1915 [1915–1916]:399) attributed *Carpacanthus spinulosus* Kützing (as *Sargassum hystrix* var. *spinulosus*) solely to the West Indies, it appears that he intended to include in *S. ilicifolium* var.? *pseudospinulosum* the Martens record of *C. spinulosus* from Manila as well as the one from Timor, even though he cited only the latter locality.

Sargassum latifolium (Turner) C. Agardh

Fucus latifolius Turner, 1809:66, pl. 94 [type locality: Red Sea].

Sargassum latifolium (Turner) C. Agardh, 1820b:13.—Dickie, 1876a: 243.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

**Sargassum microcystum* J. Agardh

Sargassum microcystum J. Agardh, 1848:323 [syntype localities: Singapore; Moluccas; Manila, Luzon].

Carpacanthus microcystis (J. Agardh) Martens, 1868:28, 78–79 [including Philippine record].—Velasquez, Trono, and Doty, 1975:130.

PHILIPPINE DISTRIBUTION.—LUZON: Manila. MINDANAO: Zamboanga.

**Sargassum microcystum* J. Agardh f. *luzonense* Grunow

Sargassum microcystum J. Agardh f. *luzonense* Grunow, 1915 [1915–1916]:413 [*"luzonensis"*] [type locality: near Manila, Luzon].

Sargassum carpophyllum [misapplied name fide Grunow, 1915 [1915–1916]:413].—Grunow, 1867:56.

PHILIPPINE DISTRIBUTION.—As above.

**Sargassum microcystum* J. Agardh var. *microtis* Grunow

Sargassum microcystum J. Agardh var. *microtis* Grunow, 1915 [1915–1916]:414 [syntype localities: Java; Basilan Strait (between Mindanao and Basilan I.)].

PHILIPPINE DISTRIBUTION.—Basilan Strait.

Sargassum microphyllum C. Agardh

Sargassum microphyllum C. Agardh, 1820b:33 [type locality: "In India orientali"].—Grunow, 1915 [1915–1916]:446.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Sargassum miyabei Yendo

Sargassum miyabei Yendo, 1907:112, pl. XIV: figs. 13, 14 [lectotype locality: Cape Soya, Hokkaido, Japan fide Yoshida, 1978:122].
Sargassum kjellmanianum Yendo, 1907:102, pl. XV: figs. 1–4 [lectotype locality: Takashima, Hokkaido, Japan fide Yoshida, 1978:122].—Sulit and San Juan, 1955:48 (table 1).—Domantay, 1962:285.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PALAWAN.

NOTE.—The synonymy was proposed by Yoshida (1978).

Sargassum myriocystum J. Agardh

Sargassum myriocystum J. Agardh, 1848:314 [syntype localities: Jakarta, Java, Indonesia; China; India].—Grunow, 1915 [1915–1916]:440.

PHILIPPINE DISTRIBUTION.—Locality not specified.

******Sargassum myriocystum* J. Agardh var. *euryphyllum* (Grunow) Grunow

Sargassum polycystum J. Agardh var. *euryphyllum* Grunow in Piccone, 1886:44, 90 [*"euryphylla"*] [type locality: Ticao I., Masbate Prov.].—De Toni, 1895b:104.
Sargassum myriocystum J. Agardh var. *euryphyllum* (Grunow) Grunow, 1915 [1915–1916]:440 [*"euryphylla"*].

PHILIPPINE DISTRIBUTION.—As above.

Sargassum natans (Linnaeus) Gaillon

Fucus natans Linnaeus, 1753:1160 [type locality: "in Pelago libere natans"].—M. Blanco, 1845:579; 1879:259.—Velasquez, Trono, and Doty, 1975:144.
Sargassum natans (Linnaeus) Gaillon, 1828:355.
Fucus bacciferus Turner, 1802:xxxii, 55 [superfluous name].
Sargassum bacciferum C. Agardh, 1820b:6.—Montagne, 1844a:660.—Velasquez, Trono, and Doty, 1975:162.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos.

NOTE.—*Fucus bacciferus* Turner, the intended basionym of *Sargassum bacciferum,* is a superfluous and hence illegitimate name since *F. natans* was cited as a synonym in the protologue. In the first edition of *Flora de Filipinas,* M. Blanco (1837:839) described this entity as a new species, *Fucus denticulatus* (a name used previously for four different species!). Martens (1868:45) pointed out that Blanco's description fits various species of *Sargassum.* In the absence of authentic specimens, no definitive placement can be made. Montagne's record, on the other hand, is documented by extant collections (Cuming 2251, presumably at PC and possibly other herbaria) and could be re-evaluated.

Sargassum nigrifolium Yendo

Sargassum nigrifolium Yendo, 1907:127, pl. XVI: figs. 1–3 [lectotype locality: Misaki, Kanagawa Prefecture, Japan fide Yoshida, 1980: 104].—Sulit and San Juan, 1955:48 (table 1), pl. 3.—Domantay, 1962:286.—Manapat, 1969:38.—Velasquez, Trono, and Doty, 1975:162.—Cordero, 1976c:24 [*S. nigrifolium* prox.]; 1981c:406.—Guzman, 1981:43, 51.—Cordero, 1984c:53.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. MASBATE. SAMAR: Western Samar. PANAY: Iloilo. PALAWAN.

Sargassum oligocystum Montagne

Sargassum oligocystum Montagne, 1845:67–69 [type locality: Lampung Bay, Sumatra, Indonesia].
Sargassum binderi Sonder in J. Agardh, 1848:328 [syntype localities: Sunda Strait and Java, Indonesia; China Sea].—Piccone, 1886:47, 90.—De Toni, 1895b:47.—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Velasquez, Trono, and Doty, 1975:162.—Cordero, 1976c:22.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Cavite.

NOTE.—The synonymy was proposed by Womersley and Bailey (1970:299).

******Sargassum oligocystum* Montagne var.*?* *bernardinum* Grunow

Sargassum oligocystum Montagne var.*?* *bernardinum* Grunow, 1915 [1915–1916]:386 [*"bernardina"*] [type locality: "in freto Bernardino" (San Bernardino Strait between Sorsogon Prov., Luzon, and Northern Samar Prov.)].

PHILIPPINE DISTRIBUTION.—As above.

******Sargassum oligocystum* Montagne var.*?* *subflexuosum* Grunow

Sargassum oligocystum Montagne var.*?* *subflexuosum* Grunow, 1915:385 [*"subflexuosa"*] [syntype localities: "Fretum Bernardinum, Macassar"].

PHILIPPINE DISTRIBUTION.—San Bernardino Strait between Sorsogon Prov., Luzon, and Northern Samar Prov.

TAXON OF UNCERTAIN VALUE

The following infraspecific taxon is probably related to *Sargassum oligocystum,* but has not been formally transferred to it.

Sargassum binderi Sonder var. *vitiense* (Grunow) Grunow

Sargassum echinocarpum J. Agardh var. *vitiense* Grunow, 1874:28 [type locality: Ovalau I., Fiji].
Sargassum binderi Sonder var. *vitiense* (Grunow) Grunow in Askenasy, 1888:28.—Piccone, 1889:31, 59.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Sargassum oocyste J. Agardh

Sargassum oocyste J. Agardh, 1848:97 [syntype localities: Chile; Moluccas, Indonesia].—Grunow, 1915 [1915–1916]:437.

PHILIPPINE DISTRIBUTION.—LUZON.

**Sargassum oocyste* J. Agardh var. *bernardinum* Grunow

Sargassum oocyste J. Agardh var. *bernardinum* Grunow, 1915 [1915–1916]:437 [*"bernardina"*] [type locality: "in freto Bernardino" (San Bernardino Strait between Sorsogon Prov., Luzon, and Northern Samar Prov.)].

PHILIPPINE DISTRIBUTION.—As above.

Sargassum paniculatum J. Agardh

Sargassum paniculatum J. Agardh, 1848:315 [type locality: "in mari Indico"].—Cordero, 1976c:24, fig. N.—Ang, 1984:548; 1985a:231; 1985b:294; 1985c:52.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Batangas.

Sargassum parvifolium (Turner) C. Agardh

Fucus parvifolius Turner, 1819 [1815–1819]:33, pl. 221 [type locality: not specified].
Sargassum parvifolium (Turner) C. Agardh, 1820b:30.—Dickie, 1876a: 243.—Grunow, 1916 [1915–1916]:13.—Velasquez, Trono, and Doty, 1975:163.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Sargassum patens C. Agardh var. *schizophyllum* (Kützing) Yendo

Halochloa schizophylla Kützing, 1843a:56 [type locality: Japan].
Sargassum patens C. Agardh var. *schizophyllum* (Kützing) Yendo, 1905a:155 [*"schizophylla"*].—Sulit and San Juan, 1955: table 1.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

**Sargassum philippinense* Grunow

Sargassum philippinense Grunow, 1916 [1915–1916]:166 [type locality: "in freto Bernardino" (San Bernardino Strait between Sorsogon Prov., Luzon, and Northern Samar Prov.)].

PHILIPPINE DISTRIBUTION.—As above.

Sargassum piluliferum (Turner) C. Agardh

Fucus pilulifer Turner, 1808:145, pl. 65 [type locality: Nagasaki, Japan].
Sargassum piluliferum (Turner) C. Agardh, 1820b:27.—Manapat, 1969: 38.—Cordero, 1981c:407; 1984c:54.

PHILIPPINE DISTRIBUTION.—MASBATE. SAMAR: Western Samar. PANAY: Iloilo. CEBU (Mactan I.). PALAWAN.

Sargassum polyceratium Montagne

Sargassum polyceratium Montagne, 1837:356 [type locality: La Habana, Cuba].—Velasquez et al., 1973:22, pl. 8: fig. 41.—Hamoy and Garciano, 1975:71.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan. CENTRAL VISAYAS. CEBU.

Sargassum polycystum C. Agardh

Sargassum polycystum C. Agardh, 1824:304 [type locality: Sunda Strait, Indonesia].—Montagne, 1844a:661.—Martens, 1868:72–73.—Dickie, 1874a:190.—De Toni, 1895b:103.—Howe, 1932:170.—Zaneveld, 1952:132; 1956:19; 1959:102.—Velasquez, Trono, and Doty, 1975: 163.—Trono, 1976:219; 1978:12.—Trono and Tuason, 1978:13.—Fortes and Trono, 1980:61.—Trono and Fortes, 1980:68.—Trono and Ganzon-Fortes, 1980:49, fig. [s.n.].—Chan, 1981:385.—Ganzon-Fortes, 1981:21.—Laserna et al., 1981:447.—Trono and De Lara, 1981:9, pl. VI: fig. 3.—Laserna et al., 1982:52.—Trono and Ang, 1982:15.—Trono and Fortes, 1982:148.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.). MARINDUQUE. NEGROS: Negros Occidental. PALAWAN (Bugsuk I.).

Sargassum pteropleuron Grunow

Sargassum pteropleuron Grunow, 1867:55, pl. V: fig. 1 [type locality: Nassau, New Providence I., Bahama Is.].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Sargassum sagamianum Yendo

Sargassum sagamianum Yendo, 1907:151, pl. XVII: figs. 6–10 [lectotype locality: Oosashi, Mie Prefecture, Japan fide Yoshida, 1980:105, pl. VII: fig. 13].—Domantay, 1962:274.—Manapat, 1969:37.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Sargassum sandei Reinbold

Sargassum sandei Reinbold in Weber-van Bosse, 1913a:158, fig. 47, pl. IV: figs. 1, 2 [type locality: Flores, Indonesia].—Taylor, 1966b:357.—Velasquez, Trono, and Doty, 1975:163.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Sargassum serratifolium (C. Agardh) C. Agardh

Fucus serratifolius C. Agardh, 1815:41 [type locality: "prope Satsuma," Kagoshima Prefecture, Japan].
Sargassum serratifolium (C. Agardh) C. Agardh, 1820b:16.—Sulit and San Juan, 1955:48 (table 1), pl. 1: fig. 2.—Domantay, 1962:285.—Manapat, 1969:37, 38.—Velasquez, Trono, and Doty, 1975:163.—Trono and Fortes, 1980:68.—Cordero, 1981c:407.—Trono and Fortes, 1982: 148.—Cordero, 1984c:53.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Sur, Pangasinan. MASBATE. SAMAR: Western Samar, Eastern Samar. PANAY: Iloilo. CEBU (Mactan I.). PALAWAN.

Sargassum siliquosum J. Agardh

Sargassum siliquosum J. Agardh, 1848:316 [syntype localities: Singapore; Jakarta, Java, Indonesia].—Piccone, 1886:45, 90.—De Toni, 1895b:107.—Seale, 1911:309.—Wester, 1916:159; 1921:224; 1924:

21.—Howe, 1932:170.—G. Blanco, 1938:513.—Quisumbing, 1951: 1012.—Zaneveld, 1952:132.—Montilla and Blanco, 1953:166, fig. 5: 6 [*"siliguisum"*].—Sulit and San Juan, 1955:48 (table 1), pl. 1: fig. 1.—Zaneveld, 1956:20; 1959:102.—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Manapat, 1969:37.—Bersamin et al., 1973:188.—Velasquez, Trono, and Doty, 1975:163.—Cordero, 1976c:24.—Trono and Fortes, 1980:68.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:148.—Ang, 1984:548; 1985a:231; 1985b:294; 1985c:52.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Ilocos Sur, La Union, Pangasinan, Cavite, Batangas. MASBATE (Ticao I.). NEGROS: Negros Occidental. MINDANAO: Zamboanga.

**Sargassum siliquosum* J. Agardh var.? *basilanicum* Grunow

Sargassum siliquosum J. Agardh var.? *basilanicum* Grunow, 1916 [1915–1916]:175 [*"basilanica"*] [type locality: Basilan Strait (between Mindanao and Basilan I.)].

PHILIPPINE DISTRIBUTION.—As above.

**Sargassum siliquosum* J. Agardh var. *bicornutum* Grunow

Sargassum siliquosum J. Agardh var. *bicornutum* Grunow, 1916 [1915–1916]:175 [*"bicornuta"*] [syntype localities: China Sea; Ticao I., Masbate Prov.].

PHILIPPINE DISTRIBUTION.—MASBATE (Ticao I.).

**Sargassum siliquosum* J. Agardh var. *manipaense* Grunow

Sargassum siliquosum J. Agardh var. *manipaense* Grunow, 1916 [1915–1916]:175 [*"manipaensis"*] [syntype localities: "ad insulas Philippinas, Manipa"].

PHILIPPINE DISTRIBUTION.—As above.

Sargassum spinifex C. Agardh

Sargassum spinifex C. Agardh, 1820b:29 [type locality: "In mari Chinensi"].—Bailey and Harvey, 1862:173.—Quisumbing, 1951:1012.—Velasquez, Trono, and Doty, 1975:163.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.). MINDANAO.

Sargassum subspathulatum (Grunow) Grunow

Sargassum pulchellum Grunow var. *subspathulatum* Grunow in Askenasy, 1888:25, pl. VI: figs. 5, 6 [including Philippine record] [type locality: MacCluer Gulf (Berau Bay), Irian Barat, Indonesia].
Sargassum subspathulatum (Grunow) Grunow, 1916 [1915–1916]:10.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Sargassum tenerrimum J. Agardh

Sargassum tenerrimum J. Agardh, 1848:305 [type locality: Bombay, India].—Cordero, 1976c:25 [*S. tenerrimum* prox.].

PHILIPPINE DISTRIBUTION.—BATANES.

Sargassum vulgare C. Agardh

Fucus salicifolius S.G. Gmelin, 1768:98 [syntype localities: "Mare americanum?"; Sea of Marmara, Turkey].
Sargassum vulgare C. Agardh, 1820b:3 [superfluous name].—Montagne, 1846a:40.—Martens, 1868:74–75.—Westernhagen, 1973a:66.—Rivera, 1974:108.—Westernhagen, 1974:113 (table 1).—Velasquez, Trono, and Doty, 1975:163.

PHILIPPINE DISTRIBUTION.—LUZON: Manila. CEBU (incl. Mactan I.).

NOTE.—The name *Sargassum vulgare* is traditionally given to a common species of the tropical Atlantic Ocean (e.g., Taylor, 1960:272). At the time of its publication, however, this name was superfluous and hence illegitimate, since the species to which it was applied included *Fucus salicifolius* S.G. Gmelin 1768, which may or may not prove to be conspecific with *S. vulgare* as traditionally interpreted. Future research will undoubtedly turn up a taxonomic synonym that can serve as the correct name.

Sargassum vulgare C. Agardh var. *indicum* C. Agardh

Sargassum vulgare C. Agardh var. *indicum* C. Agardh, 1820b:4 [type locality: "E mari Indico"].—Montagne, 1846a:40.

PHILIPPINE DISTRIBUTION.—LUZON: Manila.

Sargassum yendoi Okamura and Yamada

Sargassum yendoi Okamura and Yamada in Yamada, 1938b:121, figs. 1, 2, pls. 21, 22 [syntype localities: various, all in Japan].—Domantay, 1962:287.—Velasquez, Trono, and Doty, 1975:163.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Turbinaria Lamouroux

Turbinaria condensata Sonder

Turbinaria condensata Sonder in Kützing, 1860:25, pl. 69: fig. II [type locality: "In mari chinensi"].—Taylor, 1964:482, pl. 2: figs. 18–28.—Velasquez, Trono, and Doty, 1975:165.—Trono and Fortes, 1980:67; 1982:148.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. MINDANAO: Surigao. BASILAN.

Turbinaria conoides (J. Agardh) Kützing

Turbinaria vulgaris J. Agardh var. *conoides* J. Agardh, 1848:267 [syntype localities: India; China; Sri Lanka; Western Australia, Australia].

Turbinaria conoides (J. Agardh) Kützing, 1860:24, pl. 66: fig. II.—Howe, 1932:169.—Zaneveld, 1952:133; 1956:22; 1959:104.—Domantay, 1962:287.—Taylor, 1964:480, pl. 2: figs. 1–8 [var. *conoides*]; 1966b:358.—Trono, 1972a:100; 1973d:12.—Velasquez, Trono, and Doty, 1975:165.—Trono, 1976:218.—Liao and Sotto, 1980:98.—Saraya and Trono, 1980:33, pl. X: fig. 4 [var. *conoides*].—Trono and Fortes, 1980:67.—Trono and Ganzon-Fortes, 1980:55, fig. [s.n.].—Ganzon-Fortes, 1981:21.—Laserna et al., 1981:447.—Meñez and Calumpong, 1981:382.—Laserna et al., 1982:52.—Luistro, Cajipe, and Laserna, 1982:46.—Trono and Fortes, 1982:148.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Sur, Pangasinan, Batangas, Quezon (incl. Polillo Is.), Sorsogon. MINDORO: Oriental Mindoro. PANAY. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN. PALAWAN (incl. Balabac I.). SULU: Tawitawi.

**Turbinaria conoides* (J. Agardh) Kützing f. *laticuspidata* W.R. Taylor

Turbinaria conoides (J. Agardh) Kützing f. *laticuspidata* W.R. Taylor, 1964:481, pl. 2: figs. 9–12 [type locality: Cebu I.].—Trono, 1972a:100.

PHILIPPINE DISTRIBUTION.—CEBU. MINDANAO: Zamboanga, Surigao. PALAWAN. SULU: Tawitawi.

**Turbinaria conoides* (J. Agardh) Kützing f. *retroflexa* W.R. Taylor

Turbinaria conoides (J. Agardh) Kützing f. *retroflexa* W.R. Taylor, 1964:481 [intended type locality: Tandayong I., Pangasinan Prov., Luzon].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. NEGROS: Negros Occidental

NOTE.—The name of this form is invalid because the protologue lacks an illustration in contravention of Article 39 of the ICBN.

Turbinaria decurrens Bory de Saint-Vincent

Turbinaria decurrens Bory de Saint-Vincent, 1828 [1826–1829]:119 [type locality: floating between the Society Is. and New Guinea].—Taylor, 1964:477, pl. 1: figs. 22–28; 1966a:92; 1966b:358.—Kraft, 1972:329.—Velasquez, Trono, and Doty, 1975:166.—Trono, 1976:218.—Trono and Young, 1977:58.—Saraya and Trono, 1980:33, pl. X: fig. 1.—Trono and Fortes, 1980:67; 1982:148.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Sur, Pangasinan, Albay, Sorsogon. CATANDUANES. CEBU. MINDANAO: Misamis Oriental, Surigao del Sur, Davao. BASILAN. SULU: Tawitawi (Turtle Is.).

Turbinaria denudata Bory de Saint-Vincent

Turbinaria denudata Bory de Saint-Vincent, 1828 [1826–1829]:117 [syntype localities: various, in the Pacific and Indian oceans and the Caribbean Sea].—Montagne, 1844a:661.—Bailey and Harvey, 1862:173.—Velasquez, Trono, and Doty, 1975:166.

PHILIPPINE DISTRIBUTION.—MINDANAO.

NOTE.—According to J. Agardh (1848:266, 267) and Barton (1891:217, 219), *Turbinata denudata* as originally proposed by Bory de Saint-Vincent included specimens referable to *T. ornata* (Turner) J. Agardh and *T. conoides* (J. Agardh) Kützing. Bory de Saint-Vincent also included material from the West Indies that probably is referable to *T. turbinata* (Linnaeus) Kuntze, the commonest *Turbinaria* in that region. *Turbinaria denudata* should be lectotypified on the basis of authentic specimens at PC. Depending on the specimen chosen, *T. denudata* would become a synonym of *T. turbinata* or displace either *T. ornata* or *T. conoides*. Taylor (1964; 1966a) did not mention *T. denudata*.

Turbinaria filamentosa Yamada

Turbinaria filamentosa Yamada, 1925b:243, fig. 1 [type locality: Garan-bi (O-luan), Taiwan].—Cordero, 1976c:25, fig. o.

PHILIPPINE DISTRIBUTION.—BATANES.

**Turbinaria luzonensis* W.R. Taylor

Turbinaria luzonensis W.R. Taylor, 1964:482, pl. 2: figs. 13–17. [type locality: Mulanay, Quezon Prov., Luzon].—Velasquez, Trono, and Doty, 1975:166.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon.

Turbinaria murrayana Barton

Turbinaria murrayana Barton, 1891:218, pl. LIV (54): fig. 2 [syntype localities: New Guinea; Macassar, Celebes, Indonesia].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Turbinaria ornata (Turner) J. Agardh

Fucus turbinatus Linnaeus var. *ornatus* Turner, 1808:50, pl. 24: figs. *c,d* [type locality: not specified].

Turbinaria ornata (Turner) J. Agardh, 1848:266.—Martens, 1868:27, 47, 76–77.—Dickie, 1874a:190.—Zaneveld, 1952:132; 1956:21; 1959:103.—Agor, 1962:34.—Domantay, 1962:287.—Taylor, 1964:483, pl. 3: figs. 1–6 [var. *ornata*]; 1966a:98; 1966b:358.—Villones and Magdamo, 1968:27, fig. 22.—Manapat, 1969:37, 38.—Velasquez, 1971:443, fig. 24.—Cornejo and Velasquez, 1972:171, 175, 183.—Kraft, 1972:328, 329, 332.—Reyes, 1972:147.—Trono, 1972a:100.—Cordero, 1973b:26.—Velasquez et al., 1973:22, pl. 8: fig. 40.—Ortega, Alcala, and Reyes, 1974:185, 186, 188.—Hamoy and Garciano, 1975:71.—Velasquez, Trono, and Doty, 1975:166.—Cordero, 1976c:9, 26.—Trono, 1976:217; 1978:14.—Trono and Tuason, 1978:13.—Vannajan and Trono, 1978:14, fig. 11.—Cordero, 1979b:276.—Garcia, 1979:44 (table 1).—Puig and Cordero, 1979:33.—Liao and Sotto, 1980:98.—Reyes, 1980:122, pl. 4: fig. 1.—Saraya and Trono, 1980:33.—Trono and Fortes, 1980:67.—Trono and Ganzon-Fortes, 1980:57, fig. [s.n.].—Ganzon-Fortes, 1981:21.—Laserna et al., 1981:447.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:10, pl. VII: fig. 3.—Laserna et al., 1982:52.—

Trono and Fortes, 1982:148.—Hurtado-Ponce, 1983:123.—Cordero, 1984b:62; 1984c:53.—Marcos-Agngarayngay, 1984a:14, fig. 12.—Tungpalan, 1984:143.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Ilocos Sur, Pangasinan, Bataan, Cavite, Batangas, Quezon, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. LEYTE (Biliran I.). PANAY: Aklan, Antique (Panagatan Cays). NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga, Davao. BASILAN. PALAWAN (incl. Culion I., Balabac I.). SULU: Sulu, Tawitawi (Cagayan Sulu I.).

Turbinaria ornata (Turner) J. Agardh f. *evesiculosa* (Barton) W.R. Taylor

Turbinaria conoides (J. Agardh) Kützing var. *evesiculosa* Barton, 1891:217 [type locality: Edam (Damar Besar) I./Enkhuizen shoal, near Jakarta, Java, Indonesia].

Turbinaria ornata (Turner) J. Agardh f. *evesiculosa* (Barton) W.R. Taylor, 1964:485.—Trono, 1973d:12, pl. 7: fig. 28.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CEBU.

Turbinaria trialata (J. Agardh) Kützing

Turbinaria vulgaris J. Agardh var. *trialata* J. Agardh, 1848:268 [syntype localities: Brazil; West Indies].

Turbinaria trialata (J. Agardh) Kützing, 1860:24, pl. 67.—Domantay, 1962:287.—De Leon, Eufemio, and Pineda, 1963:82 (table 1).—Velasquez, Trono, and Doty, 1975:166.—Cordero, 1979b:286.—Trono and Fortes, 1980:67; 1982:148.—Cordero, 1984b:62; 1984c:53.—Marcos-Agngarayngay, 1984a:16, fig. 13.—Tungpalan, 1984:143.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan. MASBATE. PANAY: Aklan. MINDANAO: Zamboanga. PALAWAN.

Turbinaria trialata (J. Agardh) Kützing var. *capensis* Kützing

Turbinaria trialata (J. Agardh) Kützing var. *capensis* Kützing, 1860:24, pl. 67: fig. II [type locality: "Caput bonae spei" (Cape of Good Hope, South Africa)].—Meñez, 1961:68.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Turbinaria turbinata (Linnaeus) Kuntze

Fucus turbinatus Linnaeus, 1753:1160 [type locality: "in Americae rupibus marinis" (Jamaica fide Howe, 1920:591)].

Turbinaria turbinata (Linnaeus) Kuntze, 1898:434.—Meñez, 1961:68.—Westernhagen, 1973a:66; 1974:113 (table 1).—Velasquez, Trono, and Doty, 1975:166.—Trono and Fortes, 1980:67; 1982:148.—Cordero, 1984b:62.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CEBU (Mactan I.). PALAWAN.

NOTE.—According to Taylor (1964:476), *T. turbinata* is an Atlantic-Caribbean species.

Turbinaria vulgaris J. Agardh

Turbinaria vulgaris J. Agardh, 1848:267 [type locality: floating between the Society Is. and New Guinea].—Dickie, 1876a:243, 244.—Velasquez, Trono, and Doty, 1975:166.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.). MINDANAO: Zamboanga.

NOTE.—*Turbinaria vulgaris* is a name used by J. Agardh to encompass four varieties, namely, *α conoides, β decurrens, γ triquetra,* and *δ trialata.* All but var. *decurrens* were newly described and were subsequently elevated to specific rank. Var. *decurrens,* however, was based on *T. decurrens* Bory de Saint-Vincent, so that according to the ICBN, *T. vulgaris* is a superfluous name (Article 63.1) and is automatically typified by the type of *T. decurrens* (Article 7.11). To which of the four component species the Dickie records should be referred can be determined only from an examination of the specimens.

Class CHLOROPHYCEAE

Order CTENOCLADALES

Family ULVELLACEAE

Phaeophila Hauck

Phaeophila dendroides (P. Crouan and H. Crouan) Batters

Ochlochaete dendroides P. Crouan and H. Crouan, 1852:no. 346 [type locality: Brest, Finistère, France].
Phaeophila dendroides (P. Crouan and H. Crouan) Batters, 1902:13.—Tanaka, 1967:13, fig. 1.—Velasquez, Trono, and Doty, 1975:159.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.).

Order ULVALES

Family MONOSTROMATACEAE

Monostroma Thuret

Monostroma latissimum Wittrock

Monostroma latissimum Wittrock, 1866:33, pl. 1: fig. 4 [syntype localities: various, including Europe, North Africa, and New Zealand].—Taylor, 1966b:343.—Velasquez, Trono, and Doty, 1975:154.

PHILIPPINE DISTRIBUTION.—PALAWAN.

Monostroma nitidum Wittrock

Monostroma nitidum Wittrock, 1866:41, pl. 11: fig. 7 [syntype localities: Tonga; China].—Gilbert, 1961:415.—Trono, 1973c:5.—Velasquez, Trono, and Doty, 1975:154.—Cordero, 1980b:19, pl. 4.—Trono and Fortes, 1980:66.—Ganzon-Fortes, 1981:21.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. SIQUIJOR. PALAWAN.

Family ULVACEAE

Enteromorpha Link

The taxonomic arrangement of the species of this genus follows that proposed by Bliding (1963).

Enteromorpha aragoensis Bliding

Enteromorpha aragoensis Bliding, 1960:174, fig. 2 [syntype localities: various, in Atlantic France and Mediterranean Sea].—Gilbert and Doty, 1969:121.—Velasquez, Trono, and Doty, 1975:142.

PHILIPPINE DISTRIBUTION.—LUZON: Quezon.

Enteromorpha chaetomorphoides Bφrgesen

Enteromorpha chaetomorphoides Bφrgesen, 1911:149, fig. 12 [type locality: St. Thomas, Virgin Is.].—Fortes and Trono, 1980:55.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Enteromorpha clathrata (Roth) Greville

Conferva clathrata Roth, 1806:175 [type locality: Baltic Sea, Germany].
Enteromorpha clathrata (Roth) Greville, 1830:lxvi, 181.—Trono, 1973b: 213.—Velasquez et al., 1973:9, pl. 1: fig. 3.—Trono, 1975:25.—Cordero, 1976c:10; 1977b:19, pl. I: figs. 1, 2.—Reyes, 1978:146, pl. 3: figs. 2–5.—Calumpong, 1980:143 (table 3).—Puig and Cordero, 1979:18.—Cordero, 1980b:16, fig. 1A.—Liao and Sotto, 1980:96.—Trono and De Lara, 1981:2, pl. 1: fig. 2.—Calumpong, 1982:145.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Batangas, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.). LEYTE (Biliran I.). NEGROS: Negros Oriental (incl. Apo I.). CEBU (Mactan I.). SIQUIJOR. BOHOL. SULU: Sulu (Siasi I.).

NOTE.—J. Agardh (1883:153) is traditionally accredited with the combination *Enteromorpha clathrata,* but in fact it was first made by Greville.

Enteromorpha compressa (Linnaeus) Nees

Ulva compressa Linnaeus, 1753:1163 [type locality: Europe].
Enteromorpha compressa (Linnaeus) Nees, 1820: Index [2].—Galutira and Velasquez, 1964:494, pl. 1: fig. 2; pl. 6: fig. 20.—Cornejo and Velasquez, 1972:173, pl. 1: fig. 7.—Velasquez, 1972:63.—Westernhagen, 1973a:64; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:142.—Cordero, 1976c:9; 1977b:20.—Vannajan and Trono, 1977:39.—Puig and Cordero, 1979:18.—Velasquez, 1979b:230.—Cordero, 1980b:17, pl. 1.—Saraya and Trono, 1980:8.—Trono and Fortes, 1980:65.—Chan, 1981:387.—Fortes, 1981b:396.—Ganzon-Fortes, 1981:21.—Meñez and Calumpong, 1981:382.—Calumpong, 1982:145.—Cordero, 1982a:60, fig. 1.—Trono and Fortes, 1982:145.—Hurtado-Ponce, 1983:104.—Hurtado-Ponce and Modelo, 1983:146.—Marcos-Agngarayngay, 1983:66, fig. 4.—Cordero, 1984a:70.—Hurtado-Ponce, 1984:179.—Marcos-Agngarayngay, 1984b:119.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Manila, Batangas. SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Occidental (incl. Ilacaon I.), Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Surigao del Sur.

NOTE.—Either Link (1820:5) or Greville (1830:lxvi, 180) is traditionally accredited with having first made the combination *Enteromorpha compressa,* but in fact it was Nees

who did so in the index that he prepared for the collective work in which Link's article was published.

Enteromorpha flexuosa (Wulfen) J. Agardh

Conferva flexuosa Roth, 1800b:188 [type locality: Trieste, Italy].
Ulva flexuosa Wulfen, 1803:1.
Enteromorpha flexuosa (Wulfen) J. Agardh, 1883:126 [including subsp. *flexuosa*].—Piccone, 1886:25, 89.—Gilbert, 1946:77; 1961:414.—Taylor, 1966b:343.—Gilbert and Doty, 1969:121, fig. 1.—Cornejo and Velasquez, 1972:173, pl. 4: fig. 30.—Trono, 1973b:213; 1975:25.—Velasquez, Trono, and Doty, 1975:142.—Vannajan and Trono, 1977:39, fig. 15.—Carumbana and Luchavez, 1980:189.
Enteromorpha intestinalis (Linnaeus) Link var. *tubulosa* Kützing, 1845:247 [type locality: fresh water, Germany].
Enteromorpha tubulosa (Kützing) Kützing, 1856:11, pl. 32: fig. 11.—Sulit, Navarro, and San Juan, 1952:170 (table 5).—Rabanal and Montalban, 1953:143.—Villadolid and Villaluz, 1953:5–10.—Villaluz, 1953:103.—Gilbert, 1961:415.—Rabanal and Montalban, 1961:4.—Velasquez, Trono, and Doty, 1975:142.—Vannajan and Trono, 1977:39.—Trono and Ang, 1982:3.
Enteromorpha intestinalis (Linnaeus) Link f. *tubulosa* (Kützing) V.J. Chapman, 1937:229.—Reyes, 1972:138.
Enteromorpha intermedia Bliding, 1955:262, figs. 1–5 [syntype localities: various in northern Europe; USA].—Gilbert and Doty, 1969:121, fig. 2.—Velasquez, Trono, and Doty, 1975:142.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Sur, Rizal, Manila, Batangas, Quezon, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MASBATE (Ticao I.). NEGROS: Negros Oriental. MINDANAO: Zamboanga. BASILAN. PALAWAN (incl. Balabac I., Bugsuk I., Cuyo I.). SULU: Sulu (Siasi I.).

NOTE.—*Conferva flexuosa* Roth, the intended basionym of *Enteromorpha flexuosa,* is a later homonym of *C. flexuosa* O.F. Müller (1782:5, pl. 882) and hence not priorable. *Ulva flexuosa* Wulfen is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Enteromorpha flexuosa (Wulfen) J. Agardh subsp. *paradoxa* (C. Agardh) Bliding

Conferva paradoxa Dillwyn, 1809 [1802–1809]:70, suppl. pl. F [syntype localities: Bangor, Wales; Brighton, England].
Ulva paradoxa C. Agardh, 1817:XXII.
Enteromorpha flexuosa (Wulfen) J. Agardh subsp. *paradoxa* (C. Agardh) Bliding, 1963:79, figs. 42–45.
Scytosiphon erectus Lyngbye, 1819:65, pl. 15:C [type locality: Norway].
Enteromorpha erecta (Lyngbye) Carmichael in W. Hooker, 1833:314.—Gilbert, 1961:414.—Velasquez, Trono, and Doty, 1975:142.
Enteromorpha plumosa Kützing, 1843b:300, pl. 20:I [type locality: Trieste, Italy].—Gilbert, 1961:415.—Galutira and Velasquez, 1964:494, pl. 1: figs. 1*a–c;* pl. 6: fig. 19.—Velasquez, 1972:63.—Velasquez, Trono, and Doty, 1975:142.—Velasquez, 1979b:230.—Trono and Fortes, 1980:65.—Ganzon-Fortes, 1981:21.—Cordero, 1982a:60.—Trono and Fortes, 1982:146.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Bulacan, Rizal.

NOTE.—*Conferva paradoxa* Dillwyn, the intended basionym of *Enteromorpha flexuosa* subsp. *paradoxa,* is a later homonym of *C. paradoxa* Roth (1806:172) and hence not priorable. *Ulva paradoxa* C. Agardh is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Enteromorpha flexuosa (Wulfen) J. Agardh f. *submarina* Collins and Hervey

Enteromorpha flexuosa (Wulfen) J. Agardh f. *submarina* Collins and Hervey, 1917:34 [type locality: Bermuda].—Taylor, 1966b:343.

PHILIPPINE DISTRIBUTION.—LUZON: Rizal.

Enteromorpha intestinalis (Linnaeus) Nees

Ulva intestinalis Linnaeus, 1753:1163 [type locality: "in Mari omni"].—M. Blanco, 1837:842; 1845:582; 1879:262.—Velasquez, Trono, and Doty, 1975:167.
Enteromorpha intestinalis (Linnaeus) Nees, 1820, Index [2].—Martens, 1868:47, 60–61.—Seale, 1911:309.—Wester, 1916:158.—Merrill, 1918:39.—Wester, 1921:224; 1924:21.—G. Blanco, 1938:512.—Gilbert, 1946:77.—Zaneveld, 1950:113.—Quisumbing, 1951:1009.—Montilla and Blanco, 1953:166.—Rabanal and Montalban, 1953:143.—Rabanal et al., 1953:156.—Velasquez, 1953a:100.—Zaneveld, 1956:11; 1959:97.—Gilbert, 1961:415.—Rabanal and Montalban, 1961:4.—Villones and Magdamo, 1968:25, fig. 12.—Velasquez, 1971:431, fig. 5.—Reyes, 1972:137.—Trono, 1973c:3, fig. 17.—Velasquez et al., 1973:9, pl. 1: fig. 2.—Westernhagen, 1973a:64; 1974:112 (table 1).—Velasquez, Trono, and Doty, 1975:142.—Vannajan and Trono, 1977:38, fig. 16.—Reyes, 1978:146, 162, pl. 3: fig. 1.—Puig and Cordero, 1979:18.—Carumbana and Luchavez, 1980:189.—Cordero, 1980b:18, pl. 2.—Liao and Sotto, 1980:96.—Trono and Fortes, 1980:65.—Trono and Ganzon-Fortes, 1980:5, fig. [s.n].—Fortes, 1981b:396.—Ganzon-Fortes, 1981:21.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:1, pl. 1: fig. 1.—Calumpong, 1982:145.—Cordero, 1982a:60.—Trono and Fortes, 1982:146.—Hurtado-Ponce, 1983:105.—Hurtado-Ponce and Modelo, 1983:146.—Marcos-Agngarayngay, 1983:69, fig. 5.—Cordero, 1984a:70.—Marcos-Agngarayngay, 1984b:120.—Tungpalan, 1984:144.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Pangasinan, Bataan, Rizal, Manila, Cavite, Batangas, Quezon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. LEYTE (Biliran I.). NEGROS: Negros Oriental (incl. Apo I.). CEBU (Mactan I.). SIQUIJOR.

NOTE.—Either Link (1820:5) or Greville (1830:lxvi, 179) is traditionally accredited with having first made the combination *Enteromorpha intestinalis,* but in fact it was Nees who did so in the index that he prepared for the collective work in which Link's article was published.

Enteromorpha kylinii Bliding

Enteromorpha kylinii Bliding, 1948:199, figs. 1–3 [*"kylini"*] [type locality: Kristineberg, Sweden].—Trono, 1973b:213; 1973c:4.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. SULU: Sulu (Siasi I.).

Enteromorpha lingulata J. Agardh

Enteromorpha lingulata J. Agardh, 1883:143 [syntype localities: North Atlantic; Gulf of Mexico; New Zealand; Tasmania].—Howe, 1932:169.—Gilbert, 1946:77; 1961:415.—Taylor, 1966b:343.—Velasquez, Trono, and Doty, 1975:142.—Cordero, 1976c:10; 1977b:20.—Vannajan and Trono, 1977:38, fig. 14.—Cordero, 1980b:18, pl. 3.—Trono and Fortes, 1980:65.—Chan, 1981:387, 389.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:146.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Ilocos Sur, Pangasinan, Rizal, Manila, Quezon. PANAY. BASILAN.

Enteromorpha prolifera (O.F. Müller) J. Agardh

Ulva prolifera O.F. Müller, 1778:7, pl. 763(1) [type locality: Denmark].
Enteromorpha prolifera (O.F. Müller) J. Agardh, 1883:129.—Merrill, 1918:39.—Gilbert, 1946:77; 1961:415.—Cordero, 1973b:16.—Velasquez, Trono, and Doty, 1975:142.—Trono and Fortes, 1980:65.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:146.—Cordero, 1984a:70.
Enteromorpha salina Kützing, 1845:247 [type locality: near Hildesheim, West Germany].—Chan, 1981:387, 389.
Ulva compressa [misapplied name fide Collins in Merrill, 1918:39].—M. Blanco, 1837:842; 1845:581; 1879:261.—Velasquez, Trono, and Doty, 1975:167.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Ilocos Sur, Pangasinan, Manila Bay, Batangas. LEYTE (Biliran I.). MINDANAO: Zamboanga.

NOTE.—Martens (1868:47, 62–63) identified Blanco's plant as *Enteromorpha complanata* Kützing var. *crinita* (Nees) Kützing, which Bliding (1963:119) referred to *E. ramulosa*. In the absence of authentic specimens, no definitive placement can be made.

Enteromorpha ramulosa (J.E. Smith) Carmichael

Ulva ramulosa J.E. Smith, 1810 [1809–1810]: pl. 2137 [type locality: Bantry Bay, Eire].
Enteromorpha ramulosa (J.E. Smith) Carmichael in W. Hooker, 1833:315.—Taylor, 1966b:343 [*E. ramulosa* prox.].—Gilbert and Doty, 1969:122, fig. 3.—Velasquez, Trono, and Doty, 1975:142.—Fortes, 1981b:396.
Conferva crinita Roth, 1797:162, pl. 1: fig. 3 [type locality: near Eckwarden, Oldenburg, West Germany].
Enteromorpha crinita Nees, 1820: Index [2].—Martens, 1868:62–63.—Weber-van Bosse, 1913a:55.—Gilbert, 1946:77; 1961:414.—Velasquez, Trono, and Doty, 1975:142.—Saraya and Trono, 1980:8.
Enteromorpha clathrata (Roth) Greville var. *crinita* (Nees) Hauck, 1885 [1883–1885]:429.—Meñez and Calumpong, 1981:382.
Enteromorpha ramulosa (J.E. Smith) Carmichael var. *spinosa* Kützing, 1845:247 [syntype localities: North Sea; Adriatic Sea].
Enteromorpha spinescens Kützing, 1856:12, pl. 33: fig. III.—Taylor, 1966b:343.—Velasquez, Trono, and Doty, 1975:142.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Ilocos Sur, Pangasinan, Rizal, Batangas. MINDORO: Oriental Mindoro. CENTRAL VISAYAS. SULU: Sulu (Jolo I.).

NOTE.—*Conferva crinita* Roth, the intended basionym of *Enteromorpha crinita*, is a later homonym of *C. crinita* Withering (1776:751) and hence not priorable. *Enteromorpha crinita* Nees is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN. In elevating *E. ramulosa* var. *spinosa* to the status of species, Kützing altered the spelling of the epithet to *spinescens*.

Ulva Linnaeus

Ulva fasciata Delile

Ulva fasciata Delile, 1813:297, pl. 58: fig. 5 [type locality: Alexandria, Egypt].—Gilbert, 1961:415.—Reyes, 1972:138.—Rivera, 1974:108.—Velasquez, Trono, and Doty, 1975:167.—Trono and Fortes, 1980:65.—Ganzon-Fortes, 1981:21.—Cordero, 1982a:60, 61.—Trono and Fortes, 1982:145.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental. CEBU. SULU: Sulu (Jolo I.).

Ulva lactuca Linnaeus

Ulva lactuca Linnaeus, 1753:1163 [type locality: "in Oceano"].—Gilbert, 1946:77.—Velasquez, 1949:155.—Zaneveld, 1950:113.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:12; 1959:98.—Gilbert, 1961:416.—Galutira and Velasquez, 1964:495, pl. 1, fig. 3; pl. 6: fig. 21.—Taylor, 1966b:344.—Velasquez, 1968a:120, fig. 3.—Villones and Magdamo, 1968:25, fig. 16.—Velasquez, 1971:431, fig. 6.—Reyes, 1972:138.—Trono, 1972a:87, 89.—Velasquez, 1972:63.—Trono, 1973a:127; 1973b:213; 1973c:5.—Velasquez et al., 1973:9, pl. 1: fig. 1.—Westernhagen, 1974:112 (table I).—Hamoy and Garciano, 1975:71.—Trono, 1975:26.—Velasquez, Trono, and Doty, 1975:167.—Vannajan and Trono, 1977:40, fig. 12, 13.—Reyes, 1978:146, 162, pl. 3: fig. 7.—Velasquez, 1979b:230.—Cordero, 1980b:19, pls. 5, [56].—Liao and Sotto, 1980:96.—Trono and Fortes, 1980:65.—Trono, Velasquez, and Guevarra, 1980:77.—Ganzon-Fortes, 1981:21.—Guzman, 1981:43, 50, 52.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:2, pl. I: fig. 4.—Calumpong, 1982:145.—Cordero, 1982a:60, 61.—Luistro, Cajipe, and Laserna, 1982:46.—Trono and Fortes, 1982:145.—Hurtado-Ponce, 1983:105.—Hurtado-Ponce and Modelo, 1983:146.—Marcos-Agngarayngay, 1983:70, fig. 6.—Cordero, 1984a:71.—Hurtado-Ponce, 1984:179.—Marcos-Agngarayngay, 1984b:120.—Tungpalan, 1984:139.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Manila Bay, Rizal, Cavite, Batangas, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. NEGROS: Negros Occidental (Ilacaon I.), Negros Oriental (incl. Apo I.). CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN. PALAWAN (incl. Cuyo I.). SULU: Sulu (Siasi I.).

Ulva latissima auctorum

Ulva latissima [misapplied name].
Ulva lactuca Linnaeus var. *latissima* [misapplied name].—Weber-van Bosse, 1913a:50.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Pearl Bank).

NOTE.—The name *Ulva latissima* Linnaeus has traditionally been misapplied to representatives of the genus with very broad sheet-like fronds, whereas the type is referable to *Laminaria saccharina* (Linnaeus) Lamouroux (see Silva, 1952a:295 and Papenfuss, 1960:303). While European records apparently are referable to *Ulva gigantea* (Kützing) Bliding (1969:558), Weber-van Bosse's material probably belongs elsewhere.

Ulva pertusa Kjellman

Ulva pertusa Kjellman, 1897b:4, pl. 1: figs. 1–5; pl. 3: figs. 1–8 [syntype localities: various, all in Japan].—Domantay, 1962:281.—Reyes, 1972:138.—Trono, 1975:26.—Velasquez, Trono, and Doty, 1975: 167.—Cordero, 1976c:9, 10; 1977b:20; 1980b:20, pl. 6.—Trono and Fortes, 1980:65.—Ganzon-Fortes, 1981:21.—Cordero, 1982a: fig. 2.—Trono and Fortes, 1982:145.—Cordero, 1984a:71; 1984c:50.—Tungpalan, 1984:139.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Sorsogon. MASBATE. NEGROS: Negros Oriental. SIQUIJOR.

Ulva reticulata Forsskål

Ulva reticulata Forsskål, 1775:187 [syntype localities: "*Gomfodae*" (Al-Qunfidha), Saudi Arabia; Mokha, Yemen].—Montagne, 1844a:659.—Dickie, 1876a:243, 244.—Piccone, 1886:22, 89.—Weber-van Bosse, 1913a:52.—Gilbert, 1946:77; 1961:416.—Meñez, 1961:47, pl. 1: figs. 14–16.—Domantay, 1962:281.—Taylor, 1966b:344.—Velasquez, 1971:431, fig. 7.—Reyes, 1972:138.—Trono, 1972a:94.—Cordero, 1973b:16.—Trono, 1973b:212; 1973d:4, pl. 1: fig. 3.—Westernhagen, 1973b:369 (table 3).—Ortega, Alcala, and Reyes, 1974:187.—Rivera, 1974:108.—Westernhagen, 1974:112 (table 1).—Trono, 1975:27.—Velasquez, Trono, and Doty, 1975:167 [excluding Blanco and Martens records].—Taylor, 1977b:8.—Reyes, 1978:147, pl. 3: figs. 8, 9.—Cordero, 1979b:279.—Puig and Cordero, 1979:19.—Calumpong, 1980:143 (table 3).—Cordero, 1980b:20, pl. [45].—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:7.—Cordero, 1981d:63, fig. 4.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:2, pl. I: fig. 3.—Hurtado-Ponce, 1983:106.—Hurtado-Ponce and Modelo, 1983:146.—Marcos-Agngarayngay, 1983:70, fig. 7.—Cordero, 1984a:71; 1984b:57; 1984c:50.—Hurtado-Ponce, 1984:179.—Marcos-Agngarayngay, 1984b:120.—Tungpalan, 1984:139.

Phycoseris reticulata (Forsskål) Kützing, 1849:478.—Martens, 1868:23, 60–61 [excl. Blanco record].—Velasquez, Trono, and Doty, 1975:159.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos Norte, La Union, Pangasinan, Cavite, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.). MASBATE (incl. Ticao I.). SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. BOHOL. MINDANAO: Zamboanga. BASILAN. PALAWAN. SULU: Sulu (Jolo I., Siasi I.), Tawitawi.

Ulva rigida C. Agardh

Ulva rigida C. Agardh, 1822a:410 [lectotype locality: Cádiz, Spain fide Papenfuss, 1960:305].

Ulva lactuca Linnaeus var. *rigida* (C. Agardh) Le Jolis, 1863:38.—Weber-van Bosse, 1913a:50.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (Jolo I.).

Order CLADOPHORALES

Family ANADYOMENACEAE

Anadyomene Lamouroux

Anadyomene brownii (J.E. Gray) J. Agardh

Calomena brownii J.E. Gray, 1866:46, pl. XLIV: fig. 3 [type locality: Australia].

Anadyomene brownii (J.E. Gray) J. Agardh, 1887:127.—Taylor, 1966b:349.—Velasquez, Trono, and Doty, 1975:128.

PHILIPPINE DISTRIBUTION.—PALAWAN (Balabac I.). SULU: Tawitawi (Turtle Is.).

**Anadyomene eseptata* Gilbert

Anadyomene eseptata Gilbert, 1961:425, pl. 1 [type locality: Dalupiri I., Babuyan Is., Cagayan Prov., Luzon].—Velasquez, Trono, and Doty, 1975:128.—Cordero, 1977b:30, pl. III: fig. 12; pl. IV: fig. 15.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.). CENTRAL VISAYAS.

**Anadyomene leclancheri* Decaisne

Anadyomene leclancheri Decaisne, 1844:236 [type locality: "Sooloo"].—Gilbert, 1946:77; 1961:427.—Velasquez, Trono, and Doty, 1975:128.

Cystodictyon leclancheri (Decaisne) J.E. Gray, 1866:72, pl. XLIV: fig. 6 [*"leclancherii"*].—De Toni, 1889:373.

PHILIPPINE DISTRIBUTION.—Sulu Archipelago.

NOTE.—This species was made the type of a new genus, *Cystodictyon*, by J.E. Gray (1866:72). It was returned to *Anadyomene* by Heydrich (1894:283).

Anadyomene plicata C. Agardh

Anadyomene plicata C. Agardh, 1822a:400 [type locality: "Ravak" (Lawak), Waigeo I., Moluccas, Indonesia].—Gilbert, 1961:427.—Taylor, 1966b:349.—Trono, 1972a:94; 1973a:127, fig. 1; 1973c:9; 1975:29.—Velasquez, Trono, and Doty, 1975:128.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:10.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Zambales, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. CEBU (Mactan I.). PALAWAN. SULU: Sulu (Siasi I.), Tawitawi.

Anadyomene stellata (Wulfen) C. Agardh

Ulva stellata Wulfen in Jacquin, 1786:351 [type locality: Adriatic Sea].

Anadyomene stellata (Wulfen) C. Agardh, 1822a:400.—Gilbert, 1946:77;

1961:427.—Galutira and Velasquez, 1964:499.—Villones and Magdamo, 1968:12, fig. 4.—Velasquez, 1971:432, fig. 12.—Reyes, 1972:140.—Velasquez et al., 1973:13, pl. 3: fig. 15.—Ortega, Alcala, and Reyes, 1974:187.—Velasquez, Trono, and Doty, 1975:128.—Reyes, 1978:149, pl. 5: fig. 6.—Hurtado-Ponce, 1983:108.—Hurtado-Ponce and Modelo, 1983:147.—Marcos-Agngarayngay, 1983:75, fig. 12.

Anadyomene flabellata Lamouroux, 1816:366, pl. XIV: fig. 3 [type locality: "Dans la Mousse de Corse des pharmaciens" (*Alsidium helminthochortos*)].—Dickie, 1876a:245.—Velasquez, Trono, and Doty, 1975: 128.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Batangas, Albay. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental. SIQUIJOR. MINDANAO: Zamboanga. PALAWAN.

NOTE.—The synonymy was proposed by C. Agardh (1822a:400).

Anadyomene wrightii Harvey ex J.E. Gray

Anadyomene wrightii Harvey ex J.E. Gray, 1866:48, pl. XLIV: fig. 5 [type locality: Ryukyu-retto, Japan].—Gilbert, 1961:428.—Meñez, 1961: 49.—Velasquez, Trono, and Doty, 1975:128.—Puig and Cordero, 1979:19.—Meñez and Calumpong, 1981:382.—Cordero, 1984a: 74; 1984c:51.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan. MASBATE. LEYTE (Biliran I.). CENTRAL VISAYAS.

Microdictyon Decaisne

Microdictyon agardhianum Decaisne

Microdictyon agardhianum Decaisne, 1841:115 [type locality: Red Sea near Jidda, Saudi Arabia].—Reyes, 1972:140.—Velasquez et al., 1973:12, pl. 3: fig. 13.—Velasquez, Trono, and Doty, 1975:153.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. NEGROS: Negros Oriental.

Microdictyon boergesenii Setchell

Microdictyon boergesenii Setchell, 1925:106 [type locality: St. Jan (St. John), Virgin Is.].—Reyes, 1978:149, pl. 5: fig. 7.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

**Microdictyon clathratum* Martens

Microdictyon clathratum Martens, 1868:25, 66–67, pl. IV: fig. 1. [syntype localities: Ceram and Flores, Indonesia; Zamboanga, Mindanao].—De Toni, 1889:363.—Velasquez, Trono, and Doty, 1975:153.

PHILIPPINE DISTRIBUTION.—As above.

Microdictyon curtissiae W.R. Taylor

Microdictyon curtissiae W.R. Taylor, 1955:69, figs. 1–8, pl. I: fig. 2; pl. III [type locality: southeast coast of Florida, USA].—Westernhagen, 1973a:64; 1974:112 (table I).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Microdictyon japonicum Setchell

Microdictyon japonicum Setchell, 1925:107 [type locality: Tateyama, Chiba Prefecture, Japan].—Cordero, 1977b:29, pl. III: fig. 14.—Hurtado-Ponce, 1983:109.—Hurtado-Ponce and Modelo, 1983:147.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte.

Microdictyon okamurae Setchell

Microdictyon okamurae Setchell, 1925:107 [*"Okamurai"*] [type locality: Ryukyu-retto, Japan].—Cordero, 1977b:29, pl. III: fig. 13.

PHILIPPINE DISTRIBUTION.—BATANES.

Family CLADOPHORACEAE

Chaetomorpha Kützing

Chaetomorpha aerea (Dillwyn) Kützing

Conferva aerea Dillwyn, 1806 [1802–1809]: pl. 80 [syntype localities: various, in England and Wales].

Chaetomorpha aerea (Dillwyn) Kützing, 1849:379.—Velasquez, 1953a: 100.—Reyes, 1972:140.—Velasquez, Trono, and Doty, 1975: 133.—Trono and Fortes, 1980:63.—Fortes, 1981b:396.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:144.

PHILIPPINE DISTRIBUTION.—LUZON (southern). NEGROS: Negros Oriental.

NOTE.—Arguments for and against the conspecificity of *Chaetomorpha aerea* and *C. linum* have been presented from time to time. We follow Kornmann (1972) in recognizing separate species.

Chaetomorpha antennina (Bory de Saint-Vincent) Kützing

Conferva antennina Bory de Saint-Vincent, 1804a:381; 1804b:161, footnote [type locality: Réunion].

Chaetomorpha antennina (Bory de Saint-Vincent) Kützing, 1847a:166.—Gilbert, 1961:430.—Meñez, 1961:47.—Velasquez, Trono, and Doty, 1975:133.

Conferva media C. Agardh, 1824:100 [type locality: West Indies].

Chaetomorpha media (C. Agardh) Kützing, 1849:380.—Marcos-Agngarayngay, 1983:74, fig. 9.—Cordero, 1984a:75.—Marcos-Agngarayngay, 1984b:121.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Quezon.

NOTE.—The conspecificity of *Chaetomorpha antennina* and *C. media* is discussed by Bφrgesen (1940:37) and Gilbert (1961:430).

Chaetomorpha brachygona Harvey

Chaetomorpha brachygona Harvey, 1858:87, pl. XLVI:A [syntype localities: Key West, Florida, USA; mouth of Rio Bravo (Rio Grande), border of

Mexico and Texas, USA].—Gilbert, 1961:430.—Meñez, 1961:47.—Taylor, 1966b:344.—Velasquez, Trono, and Doty, 1975:133.—Cordero, 1976c:10; 1977b:21.—Reyes, 1978:149, pl. 5: fig. 3.—Chan, 1981:387.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Rizal, Manila. SIQUIJOR.

Chaetomorpha crassa (C. Agardh) Kützing

Conferva crassa C. Agardh, 1824:99 [syntype localities: Trieste and Venezia, Italy; England].

Chaetomorpha crassa (C. Agardh) Kützing, 1845:204.—Seale, 1911: 309.—Wester, 1916:158; 1921:224; 1924:21.—G. Blanco, 1938:512.—Zaneveld, 1950:111.—Quisumbing, 1951:1008.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:8; 1959:94.—Gilbert, 1961:431.—Domantay, 1962:279.—Reyes, 1972:140.—Trono, 1972a:94.—Velasquez et al., 1973:10, pl. 1: fig. 4.—Westernhagen, 1973a:64; 1973b:369 (table 3); 1974:112 (table I).—Trono, 1975:28.—Velasquez, Trono, and Doty, 1975:133.—Cordero, 1976c:9, 10; 1977b:21.—Taylor, 1977b:8.—Reyes, 1978:148, 162, pl. 5: figs. 1, 2.—Tahil, 1978:52.—Cordero, 1979b:279.—Puig and Cordero, 1979:19.—Cordero, 1980b:21, pl. [60].—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:8.—Trono and Fortes, 1980:63.—Trono and Ganzon-Fortes, 1980:7, fig. [s.n].—Chan, 1981:387, 389.—Cordero, 1981d:63.—Ganzon-Fortes, 1981:21.—Guzman, 1981:42, 48.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:3, pl. 11: fig. 3.—Calumpong, 1982:145.—Cordero, 1982a:60.—Trono and Fortes, 1982:144.—Hurtado-Ponce, 1983:106.—Hurtado-Ponce and Modelo, 1983:146.—Marcos-Agngarayngay, 1983:73, fig. 8.—Meñez, Phillips, and Calumpong, 1983:18.—Cordero, 1984a:75.—Marcos-Agngarayngay, 1984b:121.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, La Union, Pangasinan, Bataan, Manila, Batangas, Albay, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental (incl. Apo I.). CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN. PALAWAN. SULU: Tawitawi.

Chaetomorpha gracilis Kützing

Conferva gracilis Kützing, 1843b:259 [type locality: Trieste, Italy].

Chaetomorpha gracilis Kützing, 1845:203.—Gilbert, 1961:432.—Velasquez et al., 1973:10, pl. 2: fig. 5.—Velasquez, Trono, and Doty, 1975:134.

PHILIPPINE DISTRIBUTION.—LUZON: Manila, Batangas. MINDORO: Occidental Mindoro (Lubang Is.).

NOTE.—*Conferva gracilis* Kützing, the intended basionym of *Chaetomorpha gracilis,* is a later homonym of *Conferva gracilis* Wulfen (1803:21), *C. gracilis* (Vaucher) De Candolle (in Lamarck and De Candolle, 1805:55), and *C. gracilis* Griffiths (in Harvey, 1834b:304) and hence is not priorable. *Chaetomorpha gracilis* Kützing is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN. This species was placed in the genus *Lola* by Chapman (1961:74).

Chaetomorpha inflata Kützing

Chaetomorpha inflata Kützing, 1849:378 [type locality: Java, Indonesia].—Martens, 1868:22, 58–59.—Gilbert, 1946:77; 1961:432.—Velasquez, Trono, and Doty, 1975:134.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga.

**Chaetomorpha kellersii* Howe

Chaetomorpha kellersii Howe, 1932:169, fig. 1 [type locality: "Panay Island"].—Gilbert, 1946:77; 1961:432.—Velasquez, Trono, and Doty, 1975:134.

PHILIPPINE DISTRIBUTION.—As above.

Chaetomorpha ligustica (Kützing) Kützing

Conferva ligustica Kützing, 1845:259 [type locality: Golfo di Genova, Italy].

Chaetomorpha ligustica (Kützing) Kützing, 1849:376.

Chaetomorpha tortuosa [misapplied name].—Taylor, 1966b:344.—Velasquez, Trono, and Doty, 1975:134.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.), Manila.

NOTE.—The name *Chaetomorpha tortuosa* (Dillwyn) Kützing, although often cited, is non-existent. In fact, Kützing (1845:205) transferred *Conferva tortuosa* Dillwyn (1805 [1802–1809]: pl. 46) to *Rhizoclonium* and established a new species, *R. capillare* Kützing (1847a:166), to accommodate Mediterranean populations that other workers had associated erroneously (in his opinion) with Dillwyn's plant. Still later, Kützing (1849:376) transferred *R. capillare* to *Chaetomorpha,* unfortunately changing the epithet to *tortuosa* and thus setting the stage for serious confusion. Two taxonomic synonyms listed by Ardissone (1887 [1886–1887]: 209) have equal priority, *Conferva ligustica* Kützing (1843:259) and *Spongopsis mediterranea* Kützing (1843b:261), of which the former is herewith chosen to serve as the basionym of the correct name for this species.

Chaetomorpha linum (O.F. Müller) Kützing

Conferva linum O.F. Müller, 1778:7, pl. 771:2 [syntype localities: Nakskov and Rødby, Denmark].

Chaetomorpha linum (O.F. Müller) Kützing, 1845:204.—Sulit, Navarro, and San Juan, 1952:170 (table 5).—Rabanal and Montalban, 1953:142.—Villadolid and Villaluz, 1953:5–10.—Villaluz, 1953: 103.—Gilbert, 1961:432.—Rabanal and Montalban, 1961:3.—Taylor, 1966b:344.—Reyes, 1972:140.—Westernhagen, 1973a:64.—Ortega, Alcala, and Reyes, 1974:187.—Westernhagen, 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:134.—Meñez and Calumpong, 1981:382.—Calumpong, 1982:145.—Hurtado-Ponce, 1983:107.—Hurtado-Ponce and Modelo, 1983:146.—Hurtado-Ponce, 1984:179.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Ilocos Sur, Rizal, Manila Bay, Albay. NEGROS: Negros Oriental. CEBU (Mactan I.).

Chaetomorpha spiralis Okamura

Chaetomorpha spiralis Okamura, 1903:131 [type locality: Japan (Nemoto, Boshu Prov. [Chiba Prefecture] fide isotype in UC)].—Meñez and Calumpong, 1981:382.—Calumpong, 1982:145.
Chaetomorpha clavata Kützing var. *torta* Farlow ex Collins, 1909:323 [type locality: San Diego, California, USA].
Chaetomorpha torta (Farlow ex Collins) Yendo, 1914:264.—Gilbert, 1961:433.—Domantay, 1962:279.—Velasquez, Trono, and Doty, 1975:134.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. NEGROS: Negros Occidental, Negros Oriental. MINDANAO: Zamboanga. BASILAN.

NOTE.—The synonymy was proposed by Abbott (1972:259).

Cladophora Kützing

Cladophora albida (Nees) Kützing

Conferva albida Hudson, 1778:595 [type locality: England].
Annulina albida Nees, 1820: Index [1].
Cladophora albida (Nees) Kützing, 1843b:267.—Domantay, 1962:279.—Velasquez, Trono, and Doty, 1975:135.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—*Conferva albida* Hudson, the intended basionym of *Cladophora albida*, is a later homonym of *Conferva albida* Forsskål (1775:xii) and hence not priorable. *Annulina albida* Nees is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Cladophora aokii Yamada

Cladophora aokii Yamada, 1925a:85, fig. III [type locality: Byobi-to, Taiwan].—Gilbert, 1961:429.—Taylor, 1966b:345.—Velasquez, Trono, and Doty, 1975:135.—Saraya and Trono, 1980:9, pl. I: fig. 4.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Bataan.

Cladophora catenata (Linnaeus) Kützing

Conferva catenata Linnaeus, 1753:1166 [syntype localities: "in mari Europam australem et Americam meridionalem"].
Cladophora catenata (Linnaeus) Kützing, 1843b:271.
Cladophora fuliginosa Kützing, 1849:415 [type locality: La Habana, Cuba].—Gilbert, 1961:429.—Meñez, 1961:46, pl. 2: figs. 17–19.—Westernhagen, 1973a:64; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:135.—Cordero, 1977b:22, pl. I: figs. 3, 4.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Pangasinan. CEBU (Mactan I.).

NOTE.—The synonymy was proposed by van den Hoek (1963:123, footnote; 1982:59). Philippine records of this species were cited by van den Hoek (1982:61), but with an expression of uncertainty.

Cladophora conferta P. Crouan and H. Crouan

Cladophora conferta P. Crouan and H. Crouan in Schramm and Mazé, 1865:37 [type locality: Guadeloupe].
Cladophora uncinata Bφrgesen, 1913:20, figs. 9, 10 [type locality: St. Croix, Virgin Is.].—Chan, 1981:387.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

NOTE.—The synonymy was proposed by van den Hoek (1982:174).

Cladophora crispula Vickers

Cladophora crispula Vickers, 1905:56 [type locality: Barbados].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Cladophora crucigera Grunow

Cladophora crucigera Grunow, 1867:38, footnote [type locality: Guadeloupe].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

NOTE.—Van den Hoek (1982:39) did not see the type of this species, but thinks that the description suggests a robust plant of *C. vagabunda* whose ultimate branch systems have disappeared by sporulation.

Cladophora crystallina (Roth) Kützing

Conferva crystallina Roth, 1797:196 [type locality: near Wismar, East Germany].
Cladophora crystallina (Roth) Kützing, 1843b:267.—Saraya and Trono, 1980:9.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CENTRAL VISAYAS.

Cladophora cymopoliae Bφrgesen

Cladophora cymopoliae Bφrgesen, 1925:69, figs. 27–29 [type locality: Las Palmas, Gran Canaria, Islas Canarias].—Vannajan and Trono, 1977:43.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

Cladophora dalmatica Kützing

Cladophora dalmatica Kützing, 1843b:268 [type locality: Split, Yugoslavia].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Cladophora filipendula

Cladophora filipendula.—Westernhagen, 1973a:64; 1974:112 (table I).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

NOTE.—Westernhagen did not give an author for this

name and we have been unable to find its place of publication.

Cladophora inserta Dickie

Cladophora inserta Dickie, 1876b:454 [type locality: Honolulu, Hawaiian Is.].—Chan, 1981:387, 389.—Trono and Ang, 1982:3.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PALAWAN (Bugsuk I.).

Cladophora japonica Yamada

Cladophora japonica Yamada, 1931a:65, pl. XVI [syntype localities: Sagami and Kazusa provinces (Kanagawa and Chiba prefectures), Japan].—Cordero, 1977b:22, pl. 1: fig. 5.

PHILIPPINE DISTRIBUTION.—BATANES.

Cladophora laetevirens (Dillwyn) Kützing

Conferva laetevirens Dillwyn, 1805 [1802–1809]: pl. 48 [*"laete virens"*] [type locality: Swansea, Wales].
Cladophora laetevirens (Dillwyn) Kützing, 1843b:267.
Conferva heteronema C. Agardh, 1824:114 [type locality: Venezia, Italy].
Cladophora heteronema (C. Agardh) Kützing 1843b:265.—Westernhagen, 1973a:64; 1974:112 (table I).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

NOTE.—The synonymy was proposed by van den Hoek (1963:129).

Cladophora liebetruthii Grunow

Cladophora liebetruthii Grunow in Piccone, 1884b:53 [type locality: Gran Canaria, Islas Canarias].—Fortes and Trono, 1980:55, fig. 4.—Chan, 1981:387.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro.

Cladophora pellucida (Hudson) Kützing

Conferva pellucida Hudson, 1762:483 [type locality: Walney I., Lancashire, England].—Montagne, 1844a:658 [with query].—Velasquez, Trono, and Doty, 1975:138.
Cladophora pellucida (Hudson) Kützing, 1843b:271.—Martens, 1868:58–59 [with query].—Gilbert, 1946:77; 1961:429.—Domantay, 1962: 279.—Velasquez, Trono, and Doty, 1975:135.
Conferva trichotoma C. Agardh, 1824:121 [type locality: Atlantic France].
Cladophora trichotoma (C. Agardh) Kützing, 1843b:271.—Cornejo and Velasquez, 1972:174, pl. 4: fig. 29.—Westernhagen, 1973a:64; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:136.—Trono and Young, 1977:54.—Vannajan and Trono, 1977:40.—Chan, 1981:387.—Fortes, 1981b:396.—Hurtado-Ponce, 1983:108.—Hurtado-Ponce and Modelo, 1983:146.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Rizal, Cavite, Batangas. CATANDUANES. CEBU (Mactan I.).

NOTE.—The synonymy was proposed by van den Hoek (1963:215).

Cladophora prolifera (Roth) Kützing

Conferva prolifera Roth, 1797:182, pl. III: fig. 2 [type locality: "in mare Corsicam"].
Cladophora prolifera (Roth) Kützing, 1843b:271.—Cordero, 1977b:22.—Meñez and Calumpong, 1981:382.
Cladophora rugulosa Martens, 1868:112, pl. II: fig. 3 [lectotype locality: Port Natal (Durban), South Africa fide Papenfuss, 1943a:80].—Marcos-Agngarayngay, 1983:75, fig. 10.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. CENTRAL VISAYAS.

NOTE.—The synonymy was proposed by van den Hoek (1982:169).

**Cladophora quisumbingii* Manza

Cladophora quisumbingii Manza, 1939:109 [type locality: Batan I., Batanes Prov., Luzon].—Taylor, 1966b:345, fig. 1.—Velasquez, Trono, and Doty, 1975:135.—Saraya and Trono, 1980:9, pl. 1: fig. 1.
**Cladophora philippinensis* Manza, 1939: 109 [type locality: Bawa, Cagayan Prov., Luzon].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Pangasinan.

NOTE.—Manza (1939:109) described *Cladophora philippinensis* and *C. quisumbingii* on the basis of specimens in the Bureau of Science, Manila. His publication was overlooked by Taylor, who studied Philippine algae including duplicates of the Bureau of Science collections in the Herbarium of the University of California, Berkeley. Seeing an apparently undescribed *Cladophora* labeled *C. quisumbingii* (without authorship) and believing that this name had not been published, Taylor (1966b:345) described it as a new species under that name. Because the holotype of *C. quisumbingii* Manza was destroyed during World War II, the isotype at Berkeley (UC 1402218) becomes the lectotype. The isotype of *C. philippinensis* Manza (UC 1402215), which is labeled with that name but without its author, similarly becomes the lectotype of its species. This specimen was included by Taylor in his circumscription of *C. quisumbingii*.

Cladophora rupestris (Linnaeus) Kützing

Conferva rupestris Linnaeus, 1753:1167 [type locality: "in Europae marinis rupibus copiosissima"].
Cladophora rupestris (Linnaeus) Kützing, 1843b:270.—Cordero, 1976c:8; 1977b:23.—Marcos-Agngarayngay, 1983:75, fig. 11.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte.

Cladophora sakaii Abbott

Cladophora densa Harvey, 1860a:334 [type locality: "Hakodadi Bay" (Hakodate), Japan] [replaced name].—Cordero, 1984a:75.
Cladophora sakaii Abbott, 1972:259.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

NOTE.—*Cladophora sakaii* is a substitute name for *C.*

densa Harvey, a later homonym of *C. densa* (Roth) Kützing (1845:209).

Cladophora sericea (Hudson) Kützing

Conferva sericea Hudson, 1762:485 [type locality: Isle of Sheppey, Kent, England].
Cladophora sericea (Hudson) Kützing, 1843b:264.
Conferva rudolphiana C. Agardh, 1827:636 [type locality: Trieste, Italy].
Cladophora rudolphiana (C. Agardh) Kützing, 1843b:268.—Hurtado-Ponce, 1983:107.—Hurtado-Ponce and Modelo, 1983:146.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

NOTE.—The synonymy was proposed by van den Hoek (1963:77).

Cladophora sibogae Reinbold

Cladophora sibogae Reinbold, 1905:146 [syntype localities: Banda Is., Moluccas and Dongola (Donggala), Celebes, Indonesia].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Cladophora vagabunda (Linnaeus) van den Hoek

Conferva vagabunda Linnaeus, 1753:1167 [type locality: "in Mari Europaeo"].
Cladophora vagabunda (Linnaeus) van den Hoek, 1963:144.
Conferva fascicularis Mertens ex C. Agardh, 1824:114 [type locality: West Indies].
Cladophora fascicularis (Mertens ex C. Agardh) Kützing, 1843b:268.—Gilbert, 1961:429.—Reyes, 1972:141.—Ortega, Alcala, and Reyes, 1974:187.—Velasquez, Trono, and Doty, 1975:135.—Reyes, 1978: 147, pl. 4: figs. 1, 2.
Cladophora mauritiana Kützing, 1849:399 [type locality: Mauritius].—Dickie, 1876a:244.—Gilbert, 1946:77; 1961:429 [with query].—Velasquez, Trono, and Doty, 1975:135.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Manila. NEGROS: Negros Oriental. SIQUIJOR. MINDANAO: Zamboanga. BASILAN.

NOTE.—The synonymy was proposed by van den Hoek (1982:137).

Cladophora wrightiana Harvey

Cladophora wrightiana Harvey, 1860a:333 [type locality: Shimoda, Japan].—Hurtado-Ponce, 1983:108.—Hurtado-Ponce and Modelo, 1983:146.—Cordero, 1984a:75.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Rhizoclonium Kützing

Rhizoclonium africanum Kützing

Rhizoclonium africanum Kützing, 1853:21, pl. 67: fig. II [type locality: "Senegambien" (Senegal or Gambia)].
Rhizoclonium hookeri [misapplied name fide Womersley and Bailey, 1970: 265].—Taylor, 1966b:334.—Westernhagen, 1973a:64; 1974:112 (table 1).—Velasquez, Trono, and Doty, 1975:161.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan. CENTRAL VISAYAS. CEBU (Mactan I.).

Rhizoclonium crassipellitum W. West and G.S. West var. *robustum* G.S. West

Rhizoclonium crassipellitum W. West and G.S. West var. *robustum* G.S. West, 1904:283 [type locality: Barbados].—Taylor, 1966b:344.—Velasquez, Trono, and Doty, 1975:161 [without designation of variety].

PHILIPPINE DISTRIBUTION.—LUZON: Rizal.

Rhizoclonium grande Bφrgesen

Rhizoclonium grande Bφrgesen, 1935:14, figs. 5, 6 [type locality: Bombay, India].–Fortes and Trono, 1980:56.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Rhizoclonium kerneri Stockmayer

Rhizoclonium kerneri Stockmayer, 1890:582 [syntype localities: France; Scandinavia; North America].—Gilbert, 1961:430.—Westernhagen, 1973a:64; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:161.—Reyes, 1978:149, pl. 5: figs. 4, 5.—Carumbana and Luchavez, 1980:189.

PHILIPPINE DISTRIBUTION.—LUZON: Laguna. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR.

Rhizoclonium kochianum Kützing

Rhizoclonium kochianum Kützing, 1845:206 [syntype localities: North Sea, West Germany; Dubrovnik, Yugoslavia].—Westernhagen, 1973a:64; 1974:112 (table 1).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Rhizoclonium riparium (Roth) Harvey

Conferva riparia Roth, 1806:216 [type locality: Norderney I., West Germany].
Rhizoclonium riparium (Roth) Harvey, 1849 [1847–1851]: pl. CCXXXVIII.—Westernhagen, 1973a:64; 1974:112 (table I).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Rhizoclonium setaceum Kützing

Rhizoclonium setaceum Kützing, 1847a:166 [type locality: Goes, Netherlands].—Gilbert, 1961:430.—Velasquez, Trono, and Doty, 1975:161.

PHILIPPINE DISTRIBUTION.—LUZON: Bataan.

Order SIPHONOCLADALES

Family SIPHONOCLADACEAE

Boergesenia J. Feldmann

Boergesenia forbesii (Harvey) J. Feldmann

Valonia forbesii Harvey, 1860a:333 [syntype localities: Ryukyu-retto, Japan; Sri Lanka].

Boergesenia forbesii (Harvey) J. Feldmann, 1938:1503.—Gilbert, 1961:420.—Meñez, 1961:49, pl. 1: fig. 13.—Taylor, 1966b:347.—Villones and Magdamo, 1968:12, fig. 5.—Reyes, 1972:139.—Trono, 1972a:95; 1973b:216; 1973c:7, fig. 14.—Velasquez et al., 1973:13, pl. 4: fig. 17.—Trono, 1975:31.—Velasquez, Trono, and Doty, 1975:129.—Cordero, 1976c:8, 9, 10; 1977b:26.—Reyes, 1978:152, pl. 6: fig. 14.—Trono, 1978:3.—Trono and Tuason, 1978:3.—Cordero, 1979b:276.—Calumpong, 1980:143 (table 3).—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:12.—Trono and Ganzon-Fortes, 1980:9, fig. [s.n].—Chan, 1981:387.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:3, pl. II: fig. 1.—Hurtado-Ponce, 1983:111.—Hurtado-Ponce and Modelo, 1983:147.—Marcos-Agngarayngay, 1983:76, fig. 13.—Cordero, 1984a:76.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Ilocos Norte, Pangasinan, Bataan, Batangas, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.). BASILAN. PALAWAN. SULU: Sulu (Siasi I.), Tawitawi.

Boodlea Murray and De Toni

Boodlea coacta (Dickie) Murray and De Toni

Cladophora coacta Dickie, 1876b:451 [type locality: "Osima Harbour" (O-shima, Wakayama Prefecture), Japan].

Boodlea coacta (Dickie) Murray and De Toni in Murray, 1889:245.—Cordero, 1984a:73.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Boodlea composita (Harvey) Brand

Conferva composita Harvey, 1834a:157 [type locality: Mauritius].

Boodlea composita (Harvey) Brand, 1904:187.—Gilbert, 1961:421.—Meñez, 1961:48, pl. 3: figs. 40–42.—Reyes, 1972:139.—Trono, 1972a:95.—Cordero, 1973b:17.—Trono, 1973c:6, fig. 18.—Ortega, Alcala, and Reyes, 1974:186, 187.—Trono, 1975:30.—Velasquez, Trono, and Doty, 1975:129.—Cordero, 1976c:10; 1977b:28, pl. II: fig. 9.—Reyes, 1978:153, pl. 7: fig. 1.—Trono, 1978:4.—Trono and Tuason, 1978:2.—Puig and Cordero, 1979:20.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:13.—Trono and Ganzon-Fortes, 1980:15, fig. [s.n].—Chan, 1981:387.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:4.—Trono and Ang, 1982:4.—Marcos-Agngarayngay, 1983:80, fig. 15.—Cordero, 1984a:73.

Boodlea siamensis Reinbold, 1901:191 [type locality: Ko Kahdat, Ko Chang Archipelago, Thailand].—Saraya and Trono, 1980:13.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Ilocos Sur, Pangasinan, Batangas, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. LEYTE (Biliran I.). NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN. PALAWAN (incl. Bugsuk I., Culion I.). SULU: Sulu (between Lapac I. and Siasi I.), Tawitawi.

NOTE.—*Boodlea siamensis* is included as a synonym on the authority of Bφrgesen (1946:16).

Boodlea montagnei (Harvey ex J.E. Gray) Egerod

Microdictyon montagnei Harvey ex J.E. Gray, 1866:69 [type locality: Tonga].—Gilbert, 1961:422, fig. 1.—Taylor, 1966b:349.—Velasquez, Trono, and Doty, 1975:153.

Boodlea montagnei (Harvey ex J.E. Gray) Egerod, 1952:332, footnote.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga. BASILAN. SULU: Sulu (Siasi I.), Tawitawi.

Boodlea struveoides Howe

Boodlea struveoides Howe, 1918:496 [type locality: Harrington Sound, Bermuda].—Saraya and Trono, 1980:12.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CENTRAL VISAYAS.

Chamaedoris Montagne

Chamaedoris orientalis Okamura and Higashi

Chamaedoris orientalis Okamura and Higashi in Okamura, 1931:98, pl. 10 [type locality: Kotosho (Hung-t'ou), Taiwan].—Gilbert and Doty, 1969:125, fig. 15. —Velasquez, Trono, and Doty, 1975:134.—Cordero, 1976c:8; 1977b:27, pl. II: figs. 10, 11.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Quezon.

Cladophoropsis Bφrgesen

Cladophoropsis dichotoma (Zanardini) Papenfuss

Spongodendron dichotomum Zanardini, 1878:38 [type locality: Wokam I., Aru Is., Indonesia].

Spongocladia dichotoma (Zanardini) Murray and Boodle, 1888:175.—Taylor, 1966b:348.—Velasquez, Trono, and Doty, 1975:163.—Meñez and Calumpong, 1984:105.

Cladophoropsis dichotoma (Zanardini) Papenfuss, 1958:104.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. PALAWAN.

Cladophoropsis fasciculata (Kjellman) Wille

Siphonocladus fasciculatus Kjellman, 1897b:36, pl. 7: figs. 10–17 [type locality: Yokohama, Japan].

Cladophoropsis fasciculata (Kjellman) Wille, 1910 [1909–1910]:116.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Cladophoropsis gracillima Dawson

Cladophoropsis gracillima Dawson, 1950b:149, figs. 12, 13 [type locality: Punta Palmilla, Baja California Sur, Mexico].—Trono, 1973c:6.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. CENTRAL VISAYAS.

Cladophoropsis membranacea (C. Agardh) Bφrgesen

Conferva membranacea C. Agardh, 1824:120 [type locality: "Ad insulam S. Crucis" (St. Croix, Virgin Is.)].
Cladophoropsis membranacea (C. Agardh) Bφrgesen, 1905:285, figs. 8–13.—Cordero, 1976c:10; 1977b:28.—Vannajan and Trono, 1977: 43.—Reyes, 1978:151, pl. 6: figs. 5, 6.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Manila. SIQUIJOR.

Cladophoropsis neocaledonica (Grunow ex Murray and Boodle) Papenfuss

Spongocladia neocaledonica Grunow ex Murray and Boodle, 1888:175 [type locality: Poro, New Caledonia].—Trono, 1973d:5, pl. 1: fig. 1.—Saraya and Trono, 1980:13, pl. II: fig. 1.
Cladophoropsis neocaledonica (Grunow ex Murray and Boodle) Papenfuss, 1958:104.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

**Cladophoropsis philippinensis* W.R. Taylor

Cladophoropsis philippinensis W.R. Taylor, 1961:58, figs. 1–6 [type locality: Little Santa Cruz I., near Zamboanga (city), Mindanao].—Taylor, 1966b:348.—Velasquez, Trono, and Doty, 1975:136.—Taylor, 1977b:9.

PHILIPPINE DISTRIBUTION.—MINDANAO: Zamboanga del Sur. BASILAN.

Cladophoropsis sundanensis Reinbold

Cladophoropsis sundanensis Reinbold, 1905:147 [syntype localities: "Timor, Laut, etc.", Indonesia].—Weber-van Bosse, 1913a:77.—Gilbert, 1946:77; 1961:424.—Velasquez, Trono, and Doty, 1975:136.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Cladophoropsis vaucheriaeformis (J.E. Areschoug) Papenfuss

Spongocladia vaucheriaeformis J.E. Areschoug, 1854:202, pl. II [type locality: Mauritius].—Gilbert, 1961:424.—Taylor, 1966b:348.—Velasquez, Trono, and Doty, 1975:163.—Saraya and Trono, 1980:14.
Cladophoropsis vaucheriaeformis (J.E. Areschoug) Papenfuss, 1958:104.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro. SULU: Tawitawi.

Cladophoropsis zollingeri (Kützing) Reinbold

Cladophora zollingeri Kützing, 1849:415 [type locality: Java, Indonesia].
Cladophoropsis zollingeri (Kützing) Reinbold, 1905:147.—Hurtado-Ponce, 1983:110.—Hurtado-Ponce and Modelo, 1983:147.—Cordero, 1984a:73.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Struvea Sonder

Struvea anastomosans (Harvey) Piccone and Grunow ex Piccone

Cladophora? anastomosans Harvey, 1859:pl. CI [type locality: Fremantle, Western Australia, Australia].
Struvea anastomosans (Harvey) Piccone and Grunow ex Piccone, 1884b: 20.—Cordero, 1977b:30.—Reyes, 1978:153, pl. 7: fig. 2.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:13, pl. I: fig. 3.—Chan, 1981:387, 389.
Struvea delicatula Kützing, 1866:1, pl. 2: figs. *e–g* [type locality: New Caledonia].—Gilbert, 1961:421.—Velasquez, Trono, and Doty, 1975:164.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN.

NOTE.—The conspecificity of *Struvea delicatula* and *S. anastomosans* was proposed by Murray and Boodle (1888:281), who, however, erroneously adopted the later name.

Struvea ramosa Dickie

Struvea ramosa Dickie, 1874b:316 [type locality: Bermuda].—Westernhagen, 1974:112 (table 1).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Family VALONIACEAE

Dictyosphaeria Decaisne ex Endlicher

Dictyosphaeria cavernosa (Forsskål) Bφrgesen

Ulva cavernosa Forsskål, 1775:187 [syntype localities: "*Gomfodae*" (Al-Qunfidha), Saudi Arabia; Mokha, Yemen].
Dictyosphaeria cavernosa (Forsskål) Bφrgesen, 1932:2, pl. I: fig. 1.—Gilbert, 1946:77; 1961:417.—Meñez, 1961:48.—Domantay, 1962:280.—Taylor, 1966b:348.—Velasquez, 1971:432, fig. 11.—Reyes, 1972: 139.—Trono, 1972a:95.—Cordero, 1973b:17.—Trono, 1973b: 216; 1973c:7, fig. 13; 1973d:5, pl. 5: fig. 18.—Velasquez et al., 1973: 12, pl. 3: fig. 11.—Ortega, Alcala, and Reyes, 1974:185, 186, 187, 188.—Trono, 1975:31.—Velasquez, Trono, and Doty, 1975:140.—Cordero, 1976c:8, 10, 11; 1977b:27.—Trono and Young, 1977:54.—Reyes, 1978:151, pl. 6: fig. 9.—Trono, 1978:2.—Trono and Tuason, 1978:2.—Cordero, 1979b:276, 279.—Puig and Cordero, 1979:21.—Cordero, 1980b:22, pl. 7.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:10.—Chan, 1981:387.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:3, pl. II: fig. 2.—Cordero, 1982a:61.—Trono and Ang, 1982:3.—Hurtado-Ponce, 1983:110.—Hurtado-Ponce and Modelo, 1983:147.—Marcos-Agngarayngay,

1983:79, fig. 14.—Cordero, 1984a:72; 1984b:57.—Marcos-Agngarayngay, 1984b:121.

Valonia favulosa C. Agardh, 1822a:432 [type locality: "Ravak" (Lawak), Waigeo I., Moluccas, Indonesia].

Dictyosphaeria favulosa (C. Agardh) Decaisne ex Endlicher, 1843:18.—Dickie, 1876a:244.—Velasquez, Trono, and Doty, 1975:141.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan, Bataan, Batangas, Quezon, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. GUIMARAS. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.), Surigao del Sur, Davao. BASILAN. PALAWAN (incl. Balabac I., Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi (incl. Sibutu I., Turtle Is.).

NOTE.—The synonymy was proposed by Bφrgesen (1932:2).

Dictyosphaeria cavernosa (Forsskål) Bφrgesen var. *bullata* Bφrgesen

Dictyosphaeria cavernosa (Forsskål) Bφrgesen var. *bullata* Bφrgesen, 1952:5, figs. 1, 2 [type locality: Riambel, Mauritius].—Cordero, 1977b:28.

PHILIPPINE DISTRIBUTION.—BATANES.

Dictyosphaeria intermedia Weber-van Bosse

Dictyosphaeria intermedia Weber-van Bosse, 1905:143 [type locality: Jangkar, Java, Indonesia].—Meñez, 1961:49.—Taylor, 1966b:348.—Velasquez, Trono, and Doty, 1975:141.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Pangasinan.

Dictyosphaeria ocellata (Howe) Olsen-Stojkovich

Valonia ocellata Howe, 1920:603 [type locality: Watling's I., Bahama Is.].—Cordero, 1977b:25.

Dictyosphaeria ocellata (Howe) Olsen-Stojkovich, 1985b:62.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—Taylor (1960:111) considered the structure of this species to be intermediate between *Valonia* and *Dictyosphaeria,* "with more resemblance to solid forms of the latter genus." Olsen-Stojkovich assigned it to *Dictyosphaeria* on the basis of immunological distance data.

Dictyosphaeria versluysii Weber-van Bosse

Dictyosphaeria versluysii Weber-van Bosse, 1905:144 [*"versluysi"*] [syntype localities: various, all in Indonesia].—Domantay, 1962:280.—Trono, 1973b:216; 1973c:8.—Velasquez, Trono, and Doty, 1975:141.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:11, pl. 1: fig. 2.

Dictyosphaeria vanbosseae Bφrgesen, 1912:256, figs. 7–9 [*"van Bosseae"*] [type locality: Cane Bay, St. Croix, Virgin Is.].—Velasquez et al., 1973:12, pl. 3: fig. 12.

Dictyosphaeria setchellii Bφrgesen, 1940:12, figs. 1, 2*a*, 3*a* [type locality: Mauritius].—Gilbert, 1961:418.—Velasquez, Trono, and Doty, 1975:141.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Bataan, Batangas. MINDORO: Oriental Mindoro. CEBU (Mactan I.). BASILAN. SULU: Sulu (Siasi I.).

NOTE.—The synonymy was proposed by Valet (1966).

Ernodesmis Bφrgesen

Ernodesmis verticillata (Kützing) Bφrgesen

Valonia verticillata Kützing, 1847a:165 [type locality: St. Croix, Virgin Is.].

Ernodesmis verticillata (Kützing) Bφrgesen, 1912:259, figs. 10–12.—Reyes, 1978:151, pl. 6: figs. 7, 8.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Valonia C. Agardh

Valonia aegagropila C. Agardh

Valonia aegagropila C. Agardh, 1822a:429 [lectotype locality: Venezia, Italy fide Egerod, 1952:348].—Gilbert, 1961:418.—Taylor, 1966b:347.—Reyes, 1972:139.—Trono, 1972a:95; 1973b:215; 1973c:8, fig. 16; 1973d:4, pl. 1: fig. 2.—Velasquez et al., 1973:11, pl. 3: fig. 10.—Ortega, Alcala, and Reyes, 1974:186, 188.—Trono, 1975:30.—Velasquez, Trono, and Doty, 1975:168.—Taylor, 1977b:8.—Reyes, 1978:152, pl. 6: fig. 13.—Trono, 1978:3.—Trono and Tuason, 1978:3.—Cordero, 1979b:276.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:11.—Trono and Ganzon-Fortes, 1980:11, fig. [s.n].—Chan, 1981:387.—Guzman, 1981:42, 45.—Meñez and Calumpong, 1981:382.—Trono and De Lara, 1981:4, pl. II: fig. 4.—Hurtado-Ponce, 1983:111.—Hurtado-Ponce and Modelo, 1983:147.—Cordero, 1984a:72.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Bataan, Batangas, Sorsogon. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.). BASILAN. PALAWAN. SULU: Sulu (Siasi I.), Tawitawi.

Valonia confervoides Harvey ex J. Agardh

Valonia confervoides Harvey ex J. Agardh, 1887:100 [syntype localities: Sri Lanka; Tonga].—Domantay, 1962:281.—Velasquez, Trono, and Doty, 1975:168.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Valonia fastigiata Harvey ex J. Agardh

Valonia fastigiata Harvey ex J. Agardh, 1887:101, pl. I: fig. 5 [syntype localities: Sri Lanka; Tonga].—Dickie, 1876a:245.—Gilbert, 1946:77; 1961:419.—Taylor, 1966b:347.—Velasquez, Trono, and Doty, 1975:168.—Saraya and Trono, 1980:11.—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro. CENTRAL VISAYAS. MINDANAO: Zamboanga. BASILAN. SULU: Sulu (Siasi I.), Tawitawi (Sibutu I.).

Valonia macrophysa Kützing

Valonia macrophysa Kützing, 1843b:307 [type locality: Hvar I., Yugoslavia].—Martens, 1868:25, 66–67.—Gilbert, 1946:77; 1961:420.—Velasquez, Trono, and Doty, 1975:168.—Meñez and Calumpong, 1981:382.—Cordero, 1984a:72.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. CENTRAL VISAYAS. MINDANAO: Zamboanga.

Valonia utricularis (Roth) C. Agardh

Conferva utricularis Roth, 1797:160, pl. I: fig. 1 [type locality: Mediterranean Sea].
Valonia utricularis (Roth) C. Agardh, 1822a:431.—Martens, 1868:25, 66–67.—Dickie, 1876a:244.—Weber-van Bosse, 1913a:60.—Gilbert, 1947:77; 1961:420.—Domantay, 1962:282.—Velasquez, Trono, and Doty, 1975:168.—Cordero, 1976c:8, 9, 10; 1977b:25.—Saraya and Trono, 1980:12.—Meñez and Calumpong, 1981:382.—Cordero, 1984a:72.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan. CENTRAL VISAYAS. MINDANAO: Zamboanga.

Valonia ventricosa J. Agardh

Valonia ventricosa J. Agardh, 1887:96 [syntype localities: St. Croix, Virgin Is.; Guadeloupe].—Meñez, 1961:48.—Domantay, 1962:282.—Taylor, 1966b:347.—Reyes, 1972:139.—Trono, 1972a:95.—Cordero, 1973b:17.—Trono, 1973c:8.—Ortega, Alcala, and Reyes, 1974:185, 186, 187, 188.—Trono, 1975:30.—Velasquez, Trono, and Doty, 1975:168.—Reyes, 1978:152, pl. 6: fig. 10.—Trono, 1978:3.—Trono and Tuason, 1978:3.—Puig and Cordero, 1979:20.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:11.—Trono and Ganzon-Fortes, 1980:13, fig. [s.n].—Meñez and Calumpong, 1981:382.—Hurtado-Ponce, 1983:111.—Hurtado-Ponce and Modelo, 1983:147.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Batangas, Sorsogon. MINDORO: Oriental Mindoro. MARINDUQUE. LEYTE (Biliran I.). NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. SULU: Tawitawi (incl. Sibutu I.).

Valoniopsis Bφrgesen

Valoniopsis pachynema (Martens) Bφrgesen

Bryopsis pachynema Martens, 1868:24, pl. IV: fig. 2 [syntype localities: Bengkulu and Pulau Tikus, Sumatra, Indonesia].
Valoniopsis pachynema (Martens) Bφrgesen, 1934:10, figs. 1, 2.—Gilbert, 1961:428.—Taylor, 1961:58; 1966b:347.—Westernhagen, 1973a:64; 1974:112 (table I).—Velasquez, Trono, and Doty, 1975:168.—Cordero, 1977b:26.—Meñez and Calumpong, 1981:382.—Cordero, 1984a:74.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, La Union. MINDORO: Oriental Mindoro. CENTRAL VISAYAS. CEBU (Mactan I.). MINDANAO: Zamboanga. BASILAN.

Order BRYOPSIDALES

Family BRYOPSIDACEAE

Bryopsis Lamouroux

Bryopsis corticulans Setchell

Bryopsis corticulans Setchell in Collins, Holden, and Setchell, 1899: no. 626 [syntype localities: Carmel Bay and Pacific Grove, California, USA].—Westernhagen, 1973a:64; 1974:112 (table I).

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Bryopsis indica A. Gepp and E.S. Gepp

Bryopsis indica A. Gepp and E.S. Gepp, 1908:169, pl. 22: figs. 10, 11 [syntype localities: various, in Indian Ocean].—Gilbert, 1961:434.—Velasquez, Trono, and Doty, 1975:130.—Cordero, 1977b:31.—Vannajan and Trono, 1977:45, fig. 7.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cavite. MINDORO: Oriental Mindoro. CEBU (Mactan I.).

Bryopsis pennata Lamouroux

Bryopsis pennata Lamouroux, 1809b:333 [type locality: Antilles].—Trono, 1975:32.—Reyes, 1978:153, pl. 7: fig. 3.—Liao and Sotto, 1980:96.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon. CEBU (Mactan I.). SIQUIJOR.

Bryopsis pennata Lamouroux var. *secunda* (Harvey) Collins and Hervey

Bryopsis plumosa (Hudson) C. Agardh var. *secunda* Harvey, 1858:31, pl. XLV:A: figs. 1–3 [syntype localities: Key West and Sand Key, Florida, USA].
Bryopsis pennata Lamouroux var. *secunda* (Harvey) Collins et Hervey, 1917:62.—Gilbert, 1961:434.—Velasquez, Trono, and Doty, 1975:130 [without designation of variety].

PHILIPPINE DISTRIBUTION.—BASILAN.

Bryopsis plumosa (Hudson) C. Agardh

Ulva plumosa Hudson, 1778:571 [type locality: Exmouth, Devonshire, England].
Bryopsis plumosa (Hudson) C. Agardh, 1822a:448.—Velasquez et al., 1973:13, pl. 4: fig. 16.—Vannajan and Trono, 1977:44, figs. 5, 6.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:14, pl. II: fig. 4.—Meñez and Calumpong, 1981:383.—Cordero, 1984a:76.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Rizal, Manila, Cavite, Batangas. CEBU (Mactan I.).

Derbesia Solier

Derbesia attenuata Funk

Derbesia attenuata Funk, 1955:23 [type locality: Napoli, Italy].—Chan, 1981:387, 389.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Derbesia marina (Lyngbye) Solier

Vaucheria marina Lyngbye, 1819:79, pl. 22:A [sporophyte] [type locality: Kvivig, Strømø, Faeroes].
Derbesia marina (Lyngbye) Solier, 1846:453.
Gastridium ovale Lyngbye, 1819:72, pl. 18:B [gametophyte] [syntype localities: various, all in Faeroes].
Halicystis ovalis (Lyngbye) J.E. Areschoug, 1850:447.—Domantay, 1962: 281.—Velasquez, Trono, and Doty, 1975:147.—Reyes, 1978: 152.—Saraya and Trono, 1980:14, pl. II: fig. 2.

PHILIPPINE DISTRIBUTION (of gametophyte).—LUZON: Pangasinan. SIQUIJOR.

NOTE.—Kornmann (1938) was the first to show that *Halicystis ovalis* and *Derbesia marina* are alternating stages. The sporophyte has not yet been reported from the Philippines.

Derbesia tenuissima (Moris and De Notaris) P. Crouan and H. Crouan

Bryopsis tenuissima Moris and De Notaris, 1839:259, pl. VI: fig. III [type locality: Cabrera, Islas Baleares, Spain].
Derbesia tenuissima (Moris and De Notaris) P. Crouan and H. Crouan, 1867:133.—Cordero, 1976c:9; 1977b:31.

PHILIPPINE DISTRIBUTION.—BATANES.

NOTE.—J. Feldmann (1950) showed that *Derbesia tenuissima* alternates with *Halicystis parvula* Schmitz ex G. Murray (1893:50, pl. XIII: fig. 5). The gametophyte has not yet been reported from the Philippines.

Pedobesia MacRaild and Womersley

Pedobesia ryukyuensis (Yamada and Tanaka) Kobara and Chihara

Derbesia ryukyuensis Yamada and Tanaka, 1938:64, fig. 5 [type locality: Pinai, Yonakuni-shima, Sakishima-gunto, Ryukyu-retto, Japan].—Cordero, 1976c:9; 1977b:31.
Pedobesia ryukyuensis (Yamada and Tanaka) Kobara and Chihara, 1984: 156.

PHILIPPINE DISTRIBUTION.—BATANES.

Family CAULERPACEAE

Caulerpa Lamouroux

Caulerpa ambigua Okamura

Caulerpa ambigua Okamura, 1897:4, pl. I: figs. 3–12 [type locality: Ogasawara-gunto (Bonin Is.) Japan].—Saraya and Trono, 1980:15.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Caulerpa arenicola W.R. Taylor

Caulerpa arenicola W.R. Taylor, 1950:55, pl. 28: fig. 2 [type locality: Rongelap Atoll, Marshall Is.].—Meñez and Calumpong, 1981:383; 1982:5, pl. 1:H.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental. SIQUIJOR.

Caulerpa brachypus Harvey

Caulerpa brachypus Harvey, 1860a:333 [type locality: Tanega-shima, Osumi-gunto, Japan].—Gilbert, 1961:435.—Domantay, 1962:279.—Taylor, 1966b:350.—Kraft, 1972:328.—Trono, 1972a:95; 1973b:217; 1973d:6, pl. 3: fig. 9.—Cordero, 1974b:6, fig. 1.—Velasquez, Trono, and Doty, 1975:130.—Cordero, 1977c:25, 27, fig. 2.—Taylor, 1977a:4.—Reyes, 1978:153, pl. 7: fig. 4.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:17.—Meñez and Calumpong, 1981:383; 1982:5, pl. 1:I.—Trono and Ang, 1982:4.—Cordero, 1984c:51.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MASBATE. SAMAR: Eastern Samar. PANAY: Antique (Panagatan Cays). NEGROS: Negros Occidental, Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga, Surigao del Norte. BASILAN. PALAWAN Bugsuk I., Cuyo I.). SULU: Sulu (incl. Siasi I.), Tawitawi (incl. Sibutu I., Tumindao I.).

Caulerpa brachypus Harvey f. *parvifolia* (Harvey) Cribb

Caulerpa parvifolia Harvey, 1860b: pl. CLXXII [type locality: Kiama, New South Wales, Australia].—Gilbert, 1942:11; 1961:437.—Velasquez, Trono, and Doty, 1975:131.
Caulerpa brachypus Harvey f. *parvifolia* (Harvey) Cribb, 1958:209.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.).

Caulerpa cupressoides (Vahl) C. Agardh

Fucus cupressoides Vahl, 1802:38 [type locality: St. Croix, Virgin Is.].
Caulerpa cupressoides (Vahl) C. Agardh, 1817:XXIII.—Domantay, 1962:278.—de los Reyes, 1967:231.—Villones and Magdamo, 1968:24, fig. 8.—Reyes, 1972:142.—Trono, 1972a:96.—Cordero, 1973b:19.—Trono, 1973c:9, fig. 22; 1973d:5, pl. 3: fig. 12; 1975:32.—Velasquez, Trono, and Doty, 1975:130.—Taylor, 1977a:4.—Reyes, 1978:155, pl. 8, fig. 7.—Trono, 1978:4.—Trono and Tuason, 1978:4.—Puig and Cordero, 1979:23.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:17.—Meñez and Calumpong, 1982:6, pl. 1:B,C.—Trono and Ang, 1982:4.—Marcos-Agngarayngay, 1983:83, fig. 16.—Cordero, 1984a:76.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Quezon, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. MARINDUQUE. SAMAR: Eastern Samar. LEYTE (Biliran I.). NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (Bugsuk I.). SULU: Sulu (incl. Siasi I.), Tawitawi.

Caulerpa cupressoides (Vahl) C. Agardh var. *ericifolia* (Turner) Weber-van Bosse

Fucus ericifolius Turner, 1808:124, pl. 56 [type locality: Bermuda].
Caulerpa cupressoides (Vahl) C. Agardh var. *ericifolia* (Turner) Weber-van Bosse, 1898:335.—Domantay, 1962:278.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Caulerpa cupressoides (Vahl) C. Agardh var. *lycopodium* Weber-van Bosse

Caulerpa lycopodium J. Agardh, 1847:6 [syntype localities: Brazil; West Indies].
Caulerpa cupressoides (Vahl) C. Agardh var. *lycopodium* Weber-van Bosse, 1898:335.—Hurtado-Ponce, 1983:115.—Hurtado-Ponce and Modelo, 1983:148.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

NOTE.—*Caulerpa lycopodium* J. Agardh, the intended basionym of *C. cupressoides* var. *lycopodium*, is a later homonym of *C. lycopodium* C. Agardh (1817:XXIII) and hence not priorable. The Weber-van Bosse trinomial is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Caulerpa cupressoides (Vahl) C. Agardh var. *lycopodium* Weber-van Bosse f. *amicorum* (Harvey) Weber-van Bosse

Caulerpa amicorum Harvey, 1860a:333 [type locality: O-shima, Amamigunto, Ryukyu-retto, Japan].
Caulerpa cupressoides (Vahl) C. Agardh var. *lycopodium* Weber-van Bosse f. *amicorum* (Harvey) Weber-van Bosse, 1898:337.—Gilbert, 1942:17.—Trono, 1973c:9.—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. CENTRAL VISAYAS.

Caulerpa cupressoides (Vahl) C. Agardh var. *lycopodium* Weber-van Bosse f. *disticha* Weber-van Bosse

Caulerpa cupressoides (Vahl) C. Agardh var. *lycopodium* Weber-van Bosse f. *disticha* Weber-van Bosse, 1898:338, pl. XXVII: fig. 14 [syntype localities: Guadeloupe; Florida, USA].
Caulerpa cupressoides (Vahl) C. Agardh var. *disticha* Weber-van Bosse, 1898:327, 328.—Gilbert, 1961:436.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. MINDANAO: Zamboanga. BASILAN.

NOTE.—*Caulerpa cupressoides* var. *lycopodium* f. *disticha* and *C. cupressoides* var. *disticha* are alternative names for the same taxon, both being used by Weber-van Bosse in the original publication.

Caulerpa cupressoides (Vahl) C. Agardh var. *lycopodium* Weber-van Bosse f. *elegans* (P. Crouan and H. Crouan) Weber-van Bosse

Caulerpa plumaris (Forsskål) C. Agardh var. *elegans* P. Crouan and H. Crouan in Schramm and Mazé, 1865:39 [type locality: Guadeloupe].
Caulerpa cupressoides (Vahl) C. Agardh var. *lycopodium* Weber-van Bosse f. *elegans* (P. Crouan and H. Crouan) Weber-van Bosse, 1898:336.—Cordero, 1977b:32.

PHILIPPINE DISTRIBUTION.—BATANES.

Caulerpa elongata Weber-van Bosse

Caulerpa elongata Weber-van Bosse, 1898:271, pl. XXI: figs. 5, 6 [syntype localities: Tongatapu, Tonga; Macassar, Celebes, Indonesia].—Taylor, 1977a:5.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon.

Caulerpa fastigiata Montagne

Caulerpa fastigiata Montagne, 1837:353 [type locality: Cuba].—Gilbert, 1942:9; 1961:436.—Velasquez, Trono, and Doty, 1975:131.—Taylor, 1977a:5.—Reyes, 1978:154, pl. 8: figs. 1, 2.—Meñez and Calumpong, 1981:383; 1982:6, pl. 1:A.

PHILIPPINE DISTRIBUTION.—MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SAMAR: Eastern Samar. NEGROS: Negros Occidental (incl. Suyac I.), Negros Oriental (incl. Apo I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN.

Caulerpa fergusonii Murray

Caulerpa fergusonii Murray, 1891:212, pl. 53: figs. 1,2 [type locality: Sri Lanka].—Taylor, 1977a:5.—Cordero, 1980b:23, pls. 8, [46].—Hurtado-Ponce, 1983:115.—Hurtado-Ponce and Modelo, 1983:148.—Hurtado-Ponce, 1984:179.—Tungpalan, 1984:139.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Sorsogon. SIQUIJOR.

Caulerpa filicoides Yamada

Caulerpa filicoides Yamada, 1936b:135, pl. 30: fig. 2 [syntype localities: Mikako and Naha, Ryukyu-retto, Japan].—Saraya and Trono, 1980:15, pl. III: figs. 1, 4.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Caulerpa lentillifera J. Agardh

Caulerpa lentillifera J. Agardh, 1837:173 [type locality: Ethiopia].—Gilbert, 1942:23; 1961:436.—Domantay, 1962:277.—Taylor, 1966b:350 [var. *lentillifera*].—Villones and Magdamo, 1968:24, fig. 7.—Trono, 1972a:96; 1973b:217; 1973c:10, fig. 1; 1973d:5, pl. 5: fig. 20; 1975:33.—Velasquez, Trono, and Doty, 1975:131.—Taylor, 1977a:5.—Reyes, 1978:155, 162, pl. 8: fig. 6.—Trono, 1978:4.—Trono and Tuason, 1978:3.—Cordero, 1979b:276.—Fortes, 1979:112, figs. 1, 2.—Liao and Sotto, 1980:96.—Moreland,

1980:43.—Saraya and Trono, 1980:16.—Trono and Fortes, 1980:63.—Trono and Ganzon-Fortes, 1980:17, fig. [s.n].—Ganzon-Fortes, 1981:21.—Meñez and Calumpong, 1981:383.—Trono, 1981a:49.—Calumpong, 1982:145.—Luistro, Cajipe, and Laserna, 1982:46.—Meñez and Calumpong, 1982:7, pl. 1:F,G.—Trono and Fortes, 1982:144.—Trono and Ganzon-Fortes, 1985:64, 66.

Caulerpa lentillifera J. Agardh var. *longistipitata* Weber-van Bosse in Reinbold, 1901:189 [syntype localities: Ko Chick, Ko Chang Archipelago, Thailand; various in Indonesia].—Taylor, 1966b:350.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Batangas, Camarines Norte, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. MARINDUQUE. SAMAR: Eastern Samar. PANAY: Aklan. NEGROS: Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.), Misamis Occidental, Davao. BASILAN. PALAWAN. SULU: Sulu (incl. Siasi I.), Tawitawi (incl. Sibutu I., Turtle Is.).

NOTE.—The synonymy was proposed by Nizamuddin (1967:158).

**Caulerpa lentillifera* J. Agardh var. *compacta* Trono and Ang

Caulerpa lentillifera J. Agardh var. *compacta* Trono and Ang, 1982:7, figs. 1–4 [type locality: Bugsuk I., Palawan Prov.].

PHILIPPINE DISTRIBUTION.—As above.

Caulerpa lessonii Bory de Saint-Vincent

Caulerpa lessonii Bory de Saint-Vincent, 1828 [1826–1829]:193, pl. 22: fig. 3 [type locality: Oualan (Kosrae) I., Caroline Is.].—Taylor, 1977a:6.

PHILIPPINE DISTRIBUTION.—LUZON: La Union, Pangasinan.

Caulerpa mexicana Sonder ex Kützing

Caulerpa mexicana Sonder ex Kützing, 1849:496 [type locality: Mexico].—Taylor, 1966b:350.—Velasquez, Trono, and Doty, 1975:131.—Taylor, 1977a:7.—Trono and Ang, 1982:5.

Caulerpa taxifolia (Vahl) C. Agardh var. *crassifolia* C. Agardh, 1822a:436 [syntype localities: Indian Ocean; Red Sea; West Indies].

Caulerpa crassifolia (C. Agardh) J. Agardh, 1873:13.—Weber-van Bosse, 1913a:99 [f. *typica*].—Gilbert, 1942:12; 1946:78.—Gilbert, 1961: 436.—Meñez, 1961:53.—Velasquez, Trono, and Doty, 1975: 130.—Meñez and Calumpong, 1981:383; 1982:6, pl. 1:D,E.

PHILIPPINE DISTRIBUTION.—LUZON: La Union, Pangasinan, Sorsogon. NEGROS: Negros Oriental. PALAWAN (incl. Balabac I., Bugsuk I.). SULU: Tawitawi (Sangasiapu I.).

NOTE.—The synonymy was proposed by Papenfuss (1956:65). *Caulerpa crassifolia* has priority only from 1873, the basionym being at varietal rank.

Caulerpa mexicana Sonder ex Kützing var. *pluriseriata* W.R. Taylor

Caulerpa mexicana Sonder ex Kützing var. *pluriseriata* W.R. Taylor, 1975:77, fig. 1 [including Philippine records] [type locality: Tatagan I., Malaysia].

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. SIQUIJOR.

Caulerpa microphysa (Weber-van Bosse) J. Feldmann

Caulerpa racemosa (Forsskål) J. Agardh var. *clavifera* (Turner) Weber-van Bosse f. *microphysa* Weber-van Bosse, 1898:361, pl. XXXIII: fig. 5 [type locality: Macassar, Celebes, Indonesia].—Cordero, 1984c:52.

Caulerpa microphysa (Weber-van Bosse) J. Feldmann, 1955:430.—Taylor, 1966b:350.—Velasquez, Trono, and Doty, 1975:131.—Meñez and Calumpong, 1981:383.—Calumpong, 1982:145.—Meñez and Calumpong, 1982:7, pl. 2:L.

PHILIPPINE DISTRIBUTION.—MASBATE. NEGROS: Negros Oriental (incl. Apo I.). CEBU (Pescador I., Sumilon I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.). BASILAN.

Caulerpa prolifera (Forsskål) Lamouroux

Fucus prolifer Forsskål, 1775:193 [type locality: Alexandria, Egypt].

Caulerpa prolifera (Forsskål) Lamouroux, 1809b:332.—Ortega, Alcala, and Reyes, 1974:185.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental.

Caulerpa racemosa (Forsskål) J. Agardh

Fucus racemosus Forsskål, 1775:191 [type locality: Suez, Egypt].

Caulerpa racemosa (Forsskål) J. Agardh, 1873:35.—Gilbert, 1946:78.—Zaneveld, 1950:110.—Velasquez, 1953a:100.—Zaneveld, 1956:6; 1959:92.—Meñez, 1961:51.—Taylor, 1966b:350.—de los Reyes, 1967:231.—Velasquez, 1968a:119, fig. 1.—Villones and Magdamo, 1968:12, fig. 6.—Velasquez, 1971:435, fig. 13.—Kraft, 1972:328, 329.—Reyes, 1972:142.—Trono, 1972a:96.—Velasquez, 1972:63.—Bersamin et al., 1973:185.—Trono, 1973b:218.—Trono, 1973d:6, pl. 2: figs. 7, 8; pl. 4: figs. 13–16.—Velasquez et al., 1973:14, pl. 4: fig. 20.—Westernhagen, 1973a:64.—Ortega, Alcala, and Reyes, 1974:178.—Westernhagen, 1974:112 (table I).—Trono, 1975:33.—Velasquez, Trono, and Doty, 1975:131.—Cordero, 1976c:6 [var. *racemosa*]; 1977b:34 [var. *racemosa*].—Taylor, 1977a:8.—Reyes, 1978:156, 162, pl. 8: fig. 8; pl. 9: figs. 1–4.—Sotto, 1978:109.—Trono, 1978:5.—Trono and Tuason, 1978:3.—Cordero, 1979b:276, 280.—Fortes, 1979:112, fig. 3.—Puig and Cordero, 1979:23.—Velasquez, 1979b:230.—Cordero, 1980b:24, pl. 10; 26, pls. 13, [57] [var. *racemosa*].—Liao and Sotto, 1980:96.—Moreland, 1980:43, 46.—Saraya and Trono, 1980:16.—Trono and Fortes, 1980:63.—Trono and Ganzon-Fortes, 1980:19, fig. [s.n].—Trono, Velasquez, and Guevarra, 1980:76.—Ganzon-Fortes, 1981:21.—Guzman, 1981:43.—Trono and De Lara, 1981:4.—Calumpong, 1982:145.—Meñez and Calumpong, 1982:7.—Trono and Ang, 1982:6.—Trono and Fortes, 1982:144.—Marcos-Agngarayngay, 1983:84, fig. 17.—Cordero, 1984a:77; 1984b:58; 1984c:51.—Marcos-Agngarayngay, 1984b:121.—Tungpalan, 1984:139.—Trono and Ganzon-Fortes, 1985:64, 66.

Fucus clavifer Turner, 1808:126, pl. 57 [type locality: Red Sea].

Caulerpa clavifera (Turner) C. Agardh, 1817:XXIII.—Dickie, 1874a:197;

1876a:244.—Howe, 1932:169.—Velasquez, Trono, and Doty, 1975:130.

Chauvinia clavifera (Turner) Bory de Saint-Vincent, 1829 [1826–1829]: 207.—Martens, 1868:24, 64–65.—Velasquez, Trono, and Doty, 1975:134.

Caulerpa racemosa (Forsskål) J. Agardh var. *clavifera* (Turner) Weber-van Bosse, 1898:361, pl. XXXIII: figs. 1–3.—Gilbert, 1942:18; 1946:78.—Quisumbing, 1951:1007.—Gilbert, 1961:437.—Galutira and Velasquez, 1964:496.—Taylor, 1966b:351.—Aguilar-Santos and Doty, 1968:174.—Taylor, 1977a:10.—Meñez and Calumpong, 1981:383.—Cordero, 1982a:60, fig. 5. —Meñez and Calumpong, 1982:7, pl. 2:A.—Hurtado-Ponce, 1983:115 —Hurtado-Ponce and Modelo, 1983:148.—Cordero, 1984c:52.—Hurtado-Ponce, 1984:179.

Fucus uvifer Turner, 1816 [1815–1819]:81, pl. 230 [type locality: Red Sea].

Caulerpa uvifera C. Agardh, 1817:XXIII.

Caulerpa racemosa (Forsskål) J. Agardh var. *uvifera* (C. Agardh) J. Agardh, 1873:35.—Collado, 1926:129.—G. Blanco, 1938:512.—Gilbert, 1942:20.—Zaneveld, 1950:110.—Quisumbing, 1951:1008.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:7; 1959:93.—Gilbert, 1961:440.—Bersamin et al., 1973:185.—Cordero, 1980b:27, pl. 15.—Meñez and Calumpong, 1981:383; 1982:9, pl. 2:D.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Ilocos Sur, La Union, Pangasinan, Bataan, Batangas, Quezon, Albay, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. SAMAR: Western Samar, Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan, Antique (incl. Panagatan Cays). NEGROS: Negros Occidental (Ilacaon I., Suyac I.), Negros Oriental (incl. Apo I.). CEBU (incl. Mactan I., Pescador I., Sumilon I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.), Misamis Occidental, Surigao del Norte, Davao. BASILAN. PALAWAN (incl. Balabac I., Bugsuk I., Cuyo I.). SULU: Sulu (incl. Cagayan Sulu I., Siasi I.), Tawitawi (incl. Sibutu I., Tumindao I., Turtle Is.).

NOTE.—The synonymy was proposed by Papenfuss and Egerod (1957:88). *Fucus uvifer* Turner, the intended basionym of *Caulerpa uvifera* (and other combinations), is a later homonym of *F. uvifer* Forsskål (1775:192) and hence not priorable. *Caulerpa uvifera* C. Agardh is treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

Caulerpa racemosa (Forsskål) J. Agardh var. *corynephora* (Montagne) Weber-van Bosse

Caulerpa corynephora Montagne, 1842a:14 [type locality: Toud I. (Warrior Islet), Torres Strait, Australia].

Caulerpa racemosa (Forsskål) J. Agardh var. *corynephora* (Montagne) Weber-van Bosse, 1898:364, pl. XXXIII: figs. 10–13.—Gilbert, 1942:20; 1961:438.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Caulerpa racemosa (Forsskål) J. Agardh var. *gracilis* (Zanardini) Weber-van Bosse

Caulerpa clavifera (Turner) C. Agardh var. *gracilis* Zanardini, 1851:37 [type locality: Tor, Sinai Peninsula, Egypt].

Caulerpa racemosa (Forsskål) J. Agardh var. *gracilis* (Zanardini) Weber-van Bosse, 1898:370.—Gilbert, 1942:21; 1961:438.

PHILIPPINE DISTRIBUTION.—Locality not specified.

Caulerpa racemosa (Forsskål) J. Agardh var. *laetevirens* (Montagne) Weber-van Bosse

Caulerpa laetevirens Montagne, 1842a:13 [type locality: Toud I. (Warrior Islet), Torres Strait, Australia].—Piccone, 1886:29, 89.—Velasquez, Trono, and Doty, 1975:131.

Caulerpa racemosa (Forsskål) J. Agardh var. *laetevirens* (Montagne) Weber-van Bosse, 1898:366, pl. XXXII: figs. 16–22.—Gilbert, 1942:21; 1946:78.—Zaneveld, 1950:110; 1956:7; 1959:93.—Gilbert, 1961:438.—Taylor, 1966b:351.—Kraft, 1972:328.—Cordero, 1976c:6, 8; 1977b:33.—Taylor, 1977a:10.—Cordero, 1980b:25, pl. 11; 1984c:52.

PHILIPPINE DISTRIBUTION.—BATANES. MASBATE (incl. Ticao I.). PANAY: Antique (Panagatan Cays). CEBU (incl. Olango I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN. SULU: Tawitawi (Bilitan I., Sibutu I.).

Caulerpa racemosa (Forsskål) J. Agardh var. *lamourouxii* (Turner) Weber-van Bosse

Fucus lamourouxii Turner, 1816 [1815–1819]:79, pl. 229 [type locality: Red Sea].

Caulerpa racemosa (Forsskål) J. Agardh var. *lamourouxii* (Turner) Weber-van Bosse, 1898:368, pl. XXXII: figs. 1–7; pl. XXXIII: fig. 15.—Gilbert, 1961:438.—Taylor, 1977a:10.—Cordero, 1978b:47, fig. 3; 1980b:26, pl. 12.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.). MINDANAO: Zamboanga, Surigao del Sur.

Caulerpa racemosa (Forsskål) J. Agardh var. *macra* Weber-van Bosse

Caulerpa racemosa (Forsskål) J. Agardh var. *macra* Weber-van Bosse, 1913a:106, fig. 26 [syntype localities: Moluccas, Indonesia: Fau Islet, Gebe I.; Majalibit Bay, Waigeo I.].—Gilbert, 1942:20; 1961:439.

PHILIPPINE DISTRIBUTION.—PALAWAN (Culion I.).

Caulerpa racemosa (Forsskål) J. Agardh var. *macrophysa* (Sonder ex Kützing) Taylor

Chauvinia macrophysa Sonder ex Kützing, 1857:6, pl. 15: fig. II [type locality: Central America].

Caulerpa racemosa (Forsskål) J. Agardh var. *macrophysa* (Sonder ex Kützing) Taylor, 1928:101, pl. 12: fig. 3; pl. 13: fig. 9.—Gilbert, 1942:19; 1961:439.—Domantay, 1962:277.—Taylor, 1966b:351.—Trono, 1973c:11, fig. 3.—Meñez and Calumpong, 1981:383; 1982:8, pl. 2:C.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental. CEBU. SIQUIJOR. MINDANAO: Zamboanga. BASILAN. SULU: Sulu (North Ubian I.).

Caulerpa racemosa (Forsskål) J. Agardh var. *occidentalis* (J. Agardh) Bφrgesen

Caulerpa chemnitzia (Esper) Lamouroux var. *occidentalis* J. Agardh, 1873:37 [type locality: upper Gulf of Mexico to Recife, Brazil].
Caulerpa racemosa (Forsskål) J. Agardh var. *occidentalis* (J. Agardh) Bφrgesen, 1907:379, figs. 28, 29.—Domantay, 1962:278.—Taylor, 1966b:351.—Taylor, 1977a:10.—Meñez and Calumpong, 1981:383; 1982:8, pl. 2:B.—Cordero, 1984c:51.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Sur, Pangasinan, Rizal, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. MARINDUQUE. MASBATE. NEGROS: Negros Oriental. SIQUIJOR. MINDANAO: Zamboanga. BASILAN. PALAWAN. SULU: Sulu (Tapul Group).

Caulerpa racemosa (Forsskål) J. Agardh var. *peltata* (Lamouroux) Eubank

Caulerpa peltata Lamouroux, 1809b:332 [type locality: Antilles].—Dickie, 1876a:244.—Collado, 1926:129.—Gilbert, 1942:22 [var. *typica*]; 1946:78.—Taylor, 1966b:350 [var. *peltata*].—de los Reyes, 1967:231.—Reyes, 1972:142.—Velasquez et al., 1973:14, pl. 4: fig. 18.—Ortega, Alcala, and Reyes, 1974:186, 187.—Trono, 1975:33.—Velasquez, Trono, and Doty, 1975:131.—Cordero, 1976a:84; 1976c:8.—Taylor, 1977a:8.—Cordero, 1978b:45, fig. 2 [var. *typica*].—Reyes, 1978:156, pl. 9: fig. 5.—Cordero, 1979b:280, fig. 2 [var. *typica*]; 1980b:23, pl. 9 [var. *typica*].—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:15, pl. II: fig. 3.—Trono and Fortes, 1980:63.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:144.—Cordero, 1984a:77; 1984c:51.—Marcos-Agngarayngay, 1984b:121.
Caulerpa racemosa (Forsskål) J. Agardh var. *peltata* (Lamouroux) Eubank, 1946:421, fig. 2*r,s*.—Gilbert, 1961:439.—Cordero, 1977b:33.—Meñez and Calumpong, 1981:383; 1982:8, pl. 2:K.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Ilocos Sur, Pangasinan, Batangas, Albay, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. MASBATE. SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental (incl. Apo I.). CEBU (incl. Mactan I., Pescador I., Sumilon I.). SIQUIJOR. MINDANAO: Zamboanga, Surigao del Norte. BASILAN. PALAWAN (incl. Cuyo I.). SULU: Sulu (incl. North Ubian I., Siasi I.), Tawitawi (incl. Tumindao I.).

NOTE.—Shameel (1978) argues for retention of *C. peltata* as a distinct species.

TAXA OF UNCERTAIN VALUE

The following two infraspecific taxa are probably related to *Caulerpa racemosa* but have not been formally transferred to it.

Caulerpa peltata Lamouroux var. *macrodisca* (Decaisne) Weber-van Bosse

Caulerpa macrodisca Decaisne, 1842a:336 [type locality: Anambas Is., Indonesia].—Howe, 1932:169.—Velasquez, Trono, and Doty, 1975:131.—Taylor, 1977a:7.
Caulerpa peltata Lamouroux var. *macrodisca* (Decaisne) Weber-van Bosse, 1898:376.—Gilbert, 1942:23.—Zaneveld, 1950:110.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:6; 1959:92.

PHILIPPINE DISTRIBUTION.—PANAY. CEBU.

Caulerpa peltata Lamouroux var. *nummularia* (Harvey ex J. Agardh) Weber-van Bosse

Caulerpa nummularia Harvey ex J. Agardh, 1873:38 [syntype localities: Tonga; Nukahiva, Marquesas Is.].
Caulerpa peltata Lamouroux var. *nummularia* (Harvey ex J. Agardh) Weber-van Bosse, 1898:376, pl. XXXII: fig. 9.—Cordero, 1976a:84, fig. 1; 1976c:6; 1977b:32.

PHILIPPINE DISTRIBUTION.—BATANES.

Caulerpa racemosa (Forsskål) J. Agardh var. *turbinata* (J. Agardh) Eubank

Caulerpa clavifera (Turner) C. Agardh var. *turbinata* J. Agardh, 1837:173 [type locality: near Tor, Sinai Peninsula, Egypt].
Caulerpa racemosa (Forsskål) J. Agardh var. *turbinata* (J. Agardh) Eubank, 1946:420, figs. 2*o–q*.—Taylor, 1977a:10.—Cordero, 1980b:27, pl. 14.
Fucus chemnitzia Esper, 1800:167 [given as "127"], pl. LXXXVIII [type locality: Malabar Coast, India].
Caulerpa racemosa (Forsskål) J. Agardh var. *chemnitzia* (Esper) Weber-van Bosse, 1898:370, pl. XXXI: figs. 5–8.—Gilbert, 1961:437.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon. SAMAR: Eastern Samar. BASILAN. SULU: Sulu.

NOTE.—The synonymy was proposed by Weber-van Bosse (1898:370).

**Caulerpa reyesii* Meñez and Calumpong

Caulerpa reyesii Meñez and Calumpong, 1982:10, fig. 2, pl. 3:G–I [type locality: Solong-on, Siquijor I.].—Reyes, 1978:157, pl. 9: figs. 6, 7 [*Caulerpa* sp.].

PHILIPPINE DISTRIBUTION.—As above.

Caulerpa selago (Turner) C. Agardh

Fucus selago Turner, 1808:122, pl. 55 [type locality: Red Sea].
Caulerpa selago (Turner) C. Agardh, 1817:XXIII.—Weber-van Bosse, 1913a:101.—Gilbert, 1946:78; 1961:440.—Velasquez, Trono, and Doty, 1975:132.—Taylor, 1977a:10.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I., Tumindao I.).

Caulerpa serrulata (Forsskål) J. Agardh

Fucus serrulatus Forsskål, 1775:189 [type locality: Mokha, Yemen].
Caulerpa serrulata (Forsskål) J. Agardh, 1837:174.—Gilbert, 1942:14 [incl. var. *typica* f. *serrulata*]; 1946:78.—Zaneveld, 1950:111.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:7; 1959:94.—Gilbert, 1961:440.—Meñez, 1961:53.—Domantay, 1962:278.—Taylor, 1966b:351.—Aguilar-Santos and Doty, 1968:174.—Velasquez, 1971:435, fig. 15.—Reyes, 1972:142.—Trono, 1972a:96.—Cordero,

1973b:19.—Bersamin et al., 1973:185.—Trono, 1973b:218; 1973c:11, figs. 2, 23; 1973d:7, pl. 5: fig. 19. —Velasquez et al., 1973:15, pl. 5: fig. 21.—Ortega, Alcala, and Reyes, 1974:186.—Trono, 1975:33.—Velasquez, Trono, and Doty, 1975:132.—Taylor, 1977a:10 [var. *serrulata*].—Reyes, 1978:155, pl. 8: fig. 4.—Trono, 1978:5.—Trono and Tuason, 1978:3.—Cordero, 1979b:276.—Fortes, 1979:112.—Garcia, 1979:44 (table 1).—Puig and Cordero, 1979:24.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:18.—Trono and Ganzon-Fortes, 1980:21, fig. [s.n].—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:4, pl. III: fig. 1.—Cordero, 1982a:60.—Meñez and Calumpong, 1982:9, pl. 2:E.—Hurtado-Ponce, 1983:116.—Hurtado-Ponce and Modelo, 1983:148 [var. *serrulata*].—Marcos-Agngarayngay, 1983:84, fig. 18.—Cordero, 1984a:77; 1984b:58; 1984c:51.—Hurtado-Ponce, 1984:179.—Marcos-Agngarayngay, 1984b:122.

Caulerpa freycinetii C. Agardh, 1822a:446 [type locality: Mariana Is.].—Collado, 1926:129.—G. Blanco, 1938:512.—Quisumbing, 1951:1007 [var. *typica*].—Montilla and Blanco, 1953:166.—de los Reyes, 1967:231.—Cordero, 1982a:60.

Caulerpa hummii Díaz-Piferrer, 1969b:13, fig. 1 [type locality: Orquilla I. (cited Orchilla I. in error), Archipiélago Los Hermanos, Venezuela].—Trono, 1973c:9, fig. 19.—Taylor, 1977a:11–12.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Ilocos Sur, Pangasinan, Bataan, Batangas, Quezon, Albay, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental (incl. Apo I.). CEBU (incl. Mactan I., Sumilon I.). SIQUIJOR. MINDANAO: Zamboanga, Davao. BASILAN. PALAWAN (incl. Balabac I., Culion I.). SULU: Sulu (incl. Siasi I.), Tawitawi (incl. Tumindao I.).

NOTE.—The conspecificity of *Caulerpa freycinetii* and *C. serrulata* was proposed by Børgesen (1932:5). *Caulerpa hummii* is included as a synonym on the authority of Taylor (1977a:11–12).

Caulerpa serrulata (Forsskål) J. Agardh var. *boryana* (J. Agardh) Gilbert

Caulerpa boryana J. Agardh, 1873:20 [type locality: "ad insulas Oceani pacifici calidioris"].

Caulerpa serrulata (Forsskål) J. Agardh var. *boryana* (J. Agardh) Gilbert, 1942:15.—Taylor, 1977a:11.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MINDANAO: Davao.

**Caulerpa serrulata* (Forsskål) J. Agardh var. *boryana* (J. Agardh) Gilbert f. *longifolia* Gilbert

Caulerpa serrulata (Forsskål) J. Agardh var. *boryana* (J. Agardh) Gilbert f. *longifolia* Gilbert, 1942:16, figs. 4, 5 [type locality: Siasi I., Sulu Prov., Sulu Archipelago].—Gilbert, 1961:441.—Hurtado-Ponce and Modelo, 1983:149.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. SULU: Sulu (Siasi I.).

Caulerpa serrulata (Forsskål) J. Agardh var. *boryana* (J. Agardh) Gilbert f. *occidentalis* (Weber-van Bosse) Yamada and Tanaka

Caulerpa freycinetii C. Agardh var. *boryana* f. *occidentalis* Weber-van Bosse, 1898:315, pl. XXV: fig. 11 [type locality: Guadeloupe].—Gilbert, 1942:15; 1961:440.

Caulerpa serrulata (Forsskål) J. Agardh var. *boryana* (J. Agardh) Gilbert f. *occidentalis* (Weber-van Bosse) Yamada and Tanaka, 1938:62.—Gilbert, 1942:15; 1961:441.—Meñez and Calumpong, 1981:383; 1982:9, pl. 2:F.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental. PALAWAN (Culion I.). SULU: Sulu (Siasi I.).

Caulerpa serrulata (Forsskål) J. Agardh f. *lata* (Weber-van Bosse) Tseng

Caulerpa freycinetii C. Agardh var. *typica* f. *lata* Weber-van Bosse, 1898:313, pl. XXV: fig. 5 [syntype localities: Red Sea; Mariana Is.; Tonga; Sumbawa I., Indonesia; Guadeloupe].—Gilbert, 1942:15; 1961:440.

Caulerpa serrulata (Forsskål) J. Agardh f. *lata* (Weber-van Bosse) Tseng, 1936:178.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Batangas. MINDORO: Oriental Mindoro. LEYTE (Biliran I.). CEBU (Mactan I.). MINDANAO: Zamboanga. BASILAN. PALAWAN (incl. Culion I.).

Caulerpa serrulata (Forsskål) J. Agardh var. *pectinata* (Weber-van Bosse) W.R. Taylor

Caulerpa freycinetii C. Agardh var. *pectinata* Weber-van Bosse, 1898:316 [type locality: Guadeloupe].—Weber-van Bosse, 1913a:102.—Velasquez, Trono, and Doty, 1975:131 [without designation of variety].

Caulerpa serrulata (Forsskål) J. Agardh var. *pectinata* (Weber-van Bosse) W.R. Taylor, 1960:146.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Caulerpa serrulata (Forsskål) J. Agardh f. *spiralis* (Weber-van Bosse) Gilbert

Caulerpa freycinetii C. Agardh var. *typica* f. *spiralis* Weber-van Bosse, 1898:314 [type locality: New Caledonia].

Caulerpa serrulata (Forsskål) J. Agardh f. *spiralis* (Weber-van Bosse) Gilbert, 1942:15 [var. *typica* f. *spiralis*].—Trono, 1973c:11, fig. 2.—Taylor, 1977a:11 [var. *spiralis*].

PHILIPPINE DISTRIBUTION.—LUZON: Batangas, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. SULU: Sulu.

Caulerpa sertularioides (S.G. Gmelin) Howe

Fucus sertularioides S.G. Gmelin, 1768:151, pl. XV: fig. 4 [type locality: "in coralliis americanis"].

Caulerpa sertularioides (S.G. Gmelin) Howe, 1905:576.—Weber-van Bosse, 1913a:100 [forma *typica*].—Collado, 1926:129.—G. Blanco,

1938:512.—Gilbert, 1946:78.—Zaneveld, 1950:111.—Quisumbing, 1951:1008.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:8; 1959:94.—Gilbert, 1961:441.—Meñez, 1961:52.—Domantay, 1962:278.—Galutira and Velasquez, 1964:496.—Taylor, 1966b: 351.—Aguilar-Santos and Doty, 1968:174.—Velasquez, 1968a: 119, fig. 2.—Villones and Magdamo, 1968:24, fig. 9 [figure cited but not published].—Velasquez, 1971:435, fig. 14.—Reyes, 1972: 143.—Trono, 1972a:96.—Bersamin et al., 1973:186.—Trono, 1973b:219; 1973c:12, fig. 4; 1973d:7, pl. 3: fig. 11.—Velasquez et al., 1973:14, pl. 4: fig. 19.—Westernhagen, 1973a:64.—Ortega, Alcala, and Reyes, 1974:187.—Westernhagen, 1974:112 (table 1).—Trono, 1975:34.—Velasquez, Trono, and Doty, 1975:132.—Taylor, 1977a:12.—Vannajan and Trono, 1977:44, fig. 8.—Reyes, 1978:154, 162, pl. 7: fig. 6.—Trono, 1978:5.—Trono and Tuason, 1978:5.—Cordero, 1979b:276, 280.—Fortes, 1979:112.—Garcia, 1979:44 (table 1).—Puig and Cordero, 1979:24.—Cordero, 1980b:28.—Saraya and Trono, 1980:17.—Trono and Fortes, 1980:64.—Trono and Ganzon-Fortes, 1980:23, fig. [s.n].—Trono, Velasquez, and Guevarra, 1980:77.—Ganzon-Fortes, 1981:21.—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:5.—Calumpong, 1982:145.—Meñez and Calumpong, 1982:9, pl. 3:F.—Trono and Fortes, 1982:144.—Trono and Ang, 1982:5.—Hurtado-Ponce, 1983:116.—Hurtado-Ponce and Modelo, 1983:149.—Marcos-Agngarayngay, 1983:85, fig. 19.—Cordero, 1984a:78; 1984b:59; 1984c:51.—Hurtado-Ponce, 1984:179.—Marcos-Agngarayngay, 1984b:122.—Ang, 1985b:298.

Fucus plumaris Forsskål, 1775:190 [type locality: Mokha, Yemen].

Caulerpa plumaris (Forsskål) C. Agardh, 1822a:436.—Montagne, 1844a:659.—Martens, 1868:62–63.—Dickie, 1876a:245.—Velasquez, Trono, and Doty, 1975:131.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, Pangasinan, Bataan, Manila, Batangas, Quezon, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Occidental, Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (incl. Bugsuk I., Cuyo I.). SULU: Sulu (North Ubian I., Siasi I.), Tawitawi.

NOTE.—The conspecificity of *Fucus sertularioides* and *F. plumaris* was proposed by C. Agardh (1822a:436), who erroneously adopted the later of the two names. The situation was corrected by Howe (1905:576).

Caulerpa sertularioides (S.G. Gmelin) Howe f. *brevipes* (J. Agardh) Svedelius

Caulerpa plumaris (Forsskål) C. Agardh var. *brevipes* J. Agardh, 1873:15 [type locality: uncertain; see Note].

Caulerpa sertularioides (S.G. Gmelin) Howe f. *brevipes* (J. Agardh) Svedelius, 1906:114.—Gilbert, 1942:13; 1961:441.—Taylor, 1966b:351 [var. *sertularioides* f. *brevipes*].—Cordero, 1976c:8 [var. *brevipes*]; 1977b:34.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Rizal, Manila Bay. MINDORO: Oriental Mindoro. PALAWAN (Cuyo I.). SULU: Tawitawi (Pearl Bank, Turtle Is.).

NOTE.—In the protologue of *C. plumaris* var. *brevipes*, J. Agardh cited as a synonym *Fucus sertularioides* S.G. Gmelin, a species with the West Indies as its type locality, but indicated the provenance of the variety as "in pacifico calidiore." An examination of pertinent specimens in the Agardh Herbarium (in LD) would probably resolve the conflict.

Caulerpa sertularioides (S.G. Gmelin) Howe f. *farlowii* (Weber-van Bosse) Bφrgesen

Caulerpa plumaris (Forsskål) C. Agardh f. *farlowii* Weber-van Bosse, 1898:295, pl. XXIV: figs. 5, 6 [*"farlowi"*] [syntype localities: Ilhas do Cabo Verde; Florida, USA; Flores, Indonesia].

Caulerpa sertularioides (S.G. Gmelin) Howe f. *farlowii* (Weber-van Bosse) Bφrgesen, 1907:365.—Trono and Ang, 1982:6.

PHILIPPINE DISTRIBUTION.—PALAWAN (Bugsuk I.).

Caulerpa sertularioides (S.G. Gmelin) Howe f. *flagellata* (Weber-van Bosse) Weber-van Bosse

Caulerpa plumaris (Forsskål) C. Agardh f. *flagellata* Weber-van Bosse, 1898:295, pl. XXIV: fig. 10 [type locality: Tonga].

Caulerpa sertularioides (S.G. Gmelin) Howe f. *flagellata* (Weber-van Bosse) Weber-van Bosse, 1913a:101 [including Philippine record].

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Sangasiapu I.).

Caulerpa sertularioides (S.G. Gmelin) Howe f. *longipes* (J. Agardh) Collins

Caulerpa plumaris (Forsskål) C. Agardh var. *longipes* J. Agardh, 1873:15 [type locality: West Indies].

Caulerpa sertularioides (S.G. Gmelin) Howe f. *longipes* (J. Agardh) Collins, 1909:415.—Weber-van Bosse, 1913a:101.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

Caulerpa sertularioides (S.G. Gmelin) Howe f. *longiseta* (Bory de Saint-Vincent) Svedelius

Caulerpa plumaris (Forsskål) C. Agardh var. *longiseta* Bory de Saint-Vincent, 1828 [1826–1829]:194, pl. 22: fig. 4 [type locality: not specified].

Caulerpa sertularioides (S.G. Gmelin) Howe f. *longiseta* (Bory de Saint-Vincent) Svedelius, 1906:114, fig. 10.—Gilbert, 1942:13; 1961:441.—Domantay, 1962:278.—Taylor, 1966b:351.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Ilocos Sur, Pangasinan, Bataan, Rizal, Manila Bay. MINDORO: Oriental Mindoro. MINDANAO: Zamboanga. BASILAN. PALAWAN.

Caulerpa subserrata Okamura

Caulerpa subserrata Okamura, 1897:3, pl. I: figs. 1,2 [type locality: Ogasawara-gunto (Bonin Is.), Japan].—Cordero, 1980c:70, fig. 1.—Hurtado-Ponce, 1983:117.—Hurtado-Ponce and Modelo, 1983:149.—Marcos-Agngarayngay, 1983:86, fig. 20.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Caulerpa taxifolia (Vahl) C. Agardh

Fucus taxifolius Vahl, 1802:36 [type locality: St. Croix, Virgin Is.].
Caulerpa taxifolia (Vahl) C. Agardh, 1817:xxii.—Montagne, 1844a: 659.—Martens, 1868:62–63.—Gilbert, 1942:12; 1946:78; 1961: 441.—Meñez, 1961:53.—de los Reyes, 1967:231.—Trono, 1975: 34.—Velasquez, Trono, and Doty, 1975:133.—Cordero, 1976c: 10; 1977b:34.—Taylor, 1977a:13.—Reyes, 1978:155, pl. 8: fig. 5.—Liao and Sotto, 1980:96.—Saraya and Trono, 1980:16.—Trono and Fortes, 1980:64.—Ganzon-Fortes, 1981:21.—Meñez and Calumpong, 1981:383.—Cordero, 1984a:78; 1984b:59; 1984c:51.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Sorsogon. MASBATE. LEYTE (Biliran I.). CEBU (Mactan I.). SIQUIJOR. BASILAN. PALAWAN. SULU: Sulu (North Ubian I.).

Caulerpa urvilliana Montagne

Caulerpa urvilliana Montagne, 1845:21 [type locality: Toud I. (Warrior Islet), Torres Strait, Australia].—Taylor, 1966b:352.—Trono, 1972a:97; 1973b:219; 1973d:7, pl. 2: fig. 5; 1975:35.—Velasquez, Trono, and Doty, 1975:133.—Taylor, 1977a:14 [var. *urvilliana*].—Reyes, 1978:154, pl. 7: fig. 5.—Meñez and Calumpong, 1981:383; 1982:10, pl. 3:D,E.—Trono and Ang, 1982:6.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon. NEGROS: Negros Occidental, Negros Oriental. SIQUIJOR. PALAWAN (incl. Bugsuk I., Cuyo I.). SULU: Sulu (incl. Siasi I.), Tawitawi (incl. Pearl Bank, Sibutu I.).

Caulerpa urvilliana Montagne var. *vitiensis* Weber-van Bosse

Caulerpa urvilliana Montagne var. *vitiensis* Weber-van Bosse, 1898:319, pl. XXVI: fig. 12 [syntype localities: Fiji; New Hebrides].—Taylor, 1977a:14.

PHILIPPINE DISTRIBUTION.—SULU: Sulu.

Caulerpa verticillata J. Agardh

Caulerpa verticillata J. Agardh, 1847:6 [type locality: not specified].—Gilbert, 1961:442.—Trono, 1973b:219; 1973d:8, pl. 3: fig. 10.—Velasquez, Trono, and Doty, 1975:133.—Taylor, 1977a:14.—Reyes, 1978:154, pl. 8: fig. 3 [forma *typica*].—Saraya and Trono, 1980:18.—Meñez and Calumpong, 1981:383; 1982:10, pl. 3:A–C.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. NEGROS: Negros Oriental (Apo I.). CEBU (Mactan I.). SIQUIJOR. BASILAN. PALAWAN. SULU: Sulu (Siasi I.).

Caulerpa vesiculifera (Harvey) Harvey

Caulerpa simpliciuscula (Turner) C. Agardh var. *vesiculifera* Harvey, 1859: pl. LXV: figs. 3, 4 [lectotype locality: Western Port, Victoria, Australia fide Womersley, 1984:272].
Caulerpa vesiculifera (Harvey) Harvey, 1863:lvi.—Taylor, 1966b:352.—Velasquez, Trono, and Doty, 1975:133.

PHILIPPINE DISTRIBUTION.—PALAWAN.

Caulerpa webbiana Montagne

Caulerpa webbiana Montagne, 1837:354 [type locality: Arrecife, Isla Lanzarote, Islas Canarias].—Meñez and Calumpong, 1981:383; 1982:10, pl. 2:G–J.—Cordero, 1984a:78.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. NEGROS: Negros Oriental (Apo I.).

Caulerpa webbiana Montagne var. *pickeringii* (Harvey and Bailey) Eubank

Caulerpa pickeringii Harvey and Bailey, 1851:373 [type locality: Wilson's I. (Manihi I.), Tuamotu Archipelago].—Trono, 1973a:128.
Caulerpa webbiana Montagne var. *pickeringii* (Harvey and Bailey) Eubank, 1946:416.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon.

Family CODIACEAE

Codium Stackhouse

A preliminary study (unpublished) of Philippine *Codium* was made by P.C. Silva in 1950–1951 as part of a worldwide survey of the genus, but with special reference to Hawaii (Silva, 1952b). It was concluded that the representation in the Indonesian-Philippine region posed many problems that could not be solved until the genus as a whole was better understood. Subsequently, the *Codium* flora has been worked out for five temperate regions—southern Australia (Silva and Womersley, 1956), South Africa (Silva, 1959), New Zealand, Japan, and Pacific Mexico (the last three unpublished)—each showing a high degree of endemism. In addition, the *Codium* flora of the tropical Atlantic has been worked out (Silva, 1960), but Indonesian-Philippine collections that have become available since 1951 have been examined only superficially. At present, it is easier to say which species do not occur in the Philippines than it is to say which ones are there.

Codium arabicum Kützing

Codium arabicum Kützing, 1856:35, pl. 100: fig. II [type locality: Tor, Sinai Peninsula, Egypt].—Silva, 1952b:382, figs. 11–13, pl. 34*b*.—Meñez, 1961:54, pl. 6: figs. 58, 59.—Reyes, 1972:143.—Trono, 1973b:221; 1973c:13, fig. 5.—Ortega, Alcala, and Reyes, 1974:185, 186.—Velasquez, Trono, and Doty, 1975:137.—Reyes, 1978:157, pl. 9: fig. 8.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:20, pl. IV: fig. 2.—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:5, pl. III: fig. 2.—Hurtado-Ponce and Modelo, 1983:149.—Meñez, Phillips, and Calumpong, 1983:23.—Meñez and Calumpong, 1984:105.—Ang, 1985b:298.
Codium coronatum Setchell, 1926:82, pl. 10: figs. 2–5; pl. 11: figs. 2, 3; pl. 12: figs. 1, 5 [type locality: Arue Reef, Tahiti].—Gilbert, 1947:123; 1961:442.—Velasquez, Trono, and Doty, 1975:137.
Codium adhaerens [misapplied name].—Dickie, 1876a:243.—Gilbert, 1946:78; 1947:123; 1961:442.—Villones and Magdamo, 1968:25, fig. 11.—Velasquez, Trono, and Doty, 1975:136.—Cordero, 1979b:276,

281.—Puig and Cordero, 1979:26.—Cordero, 1984b:59; 1984c:52.
Codium setchellii [misapplied name].—Cordero, 1973b:20.—Westernhagen, 1973a:64; 1974:112 (table I).—Cordero, 1976c:8; 1977b:42, pl. VII: figs. 39–42; 1980b:30, fig. 3A.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Batangas, Quezon. MASBATE. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN. PALAWAN. SULU: Sulu (Siasi I.).

NOTE.—The synonymy was proposed by Silva (1952b:382). *Codium adhaerens* C. Agardh (1822a:457) is restricted to the Atlantic coast of southern Europe and adjacent North Africa, while *C. setchellii* Gardner (1919:489, pl. 42: figs. 10, 11) is restricted to the cool-temperate portion of the Pacific coast of North America.

**Codium bartlettii* Tseng and Gilbert

Codium bartlettii Tseng and Gilbert, 1942:291, figs. 1, 2*a* [type locality: Puerto Galera, Oriental Mindoro Prov., Mindoro].—Gilbert, 1947:124; 1961:442.—Trono, 1973c:13, fig. 8.—Velasquez, Trono, and Doty, 1975:137.—Meñez and Calumpong, 1981:383.—Calumpong, 1982: 145.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro. NEGROS: Negros Oriental.

Codium contractum Kjellman

Codium contractum Kjellman, 1897b:35, pl. 2: fig. 12; pl. 7: figs. 1–3 [type locality: Amakusa Is., Kumamoto Prefecture, Japan].—Gilbert, 1947:124; 1961:442.—Velasquez, Trono, and Doty, 1975:137.

PHILIPPINE DISTRIBUTION.—LUZON: Cavite.

Codium cylindricum Holmes

Codium cylindricum Holmes, 1896:250, pl. 7: figs. 1*a,b* [type locality: Misaki, Kanagawa Prefecture, Japan].—Cordero, 1980b:28; 1984a:79.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. SAMAR: Eastern Samar.

Codium difforme auctorum

Codium difforme [misapplied name].—Gepp and Gepp, 1911:134.—Weber-van Bosse, 1913a:118.—Gilbert, 1946:78; 1961:443.—Velasquez, Trono, and Doty, 1975:137.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I.).

NOTE.—*Codium difforme* Kützing (1843b:309) is a taxonomic synonym of *C. effusum* (Rafinesque) Delle Chiaje (1829:14, pl. 37), a name that applies to a species restricted to the Mediterranean Sea and adjacent Atlantic Ocean shores. The Siboga record (Gepp and Gepp, 1911:134) probably is referable to *C. spongiosum* Harvey (1855:565), a widespread Indo-Pacific species. The specimen, which would permit confirmation, is not among other Siboga collections at Leiden (L).

Codium edule P.C. Silva

Codium edule P.C. Silva, 1952b:392, fig. 18, pl. 35*b* [type locality: Waikiki, Oahu, Hawaiian Is.].—Trono and Fortes, 1980:64.—Ganzon-Fortes, 1981:21.—Trono and Fortes, 1982:145.—Hurtado-Ponce, 1983: 119.—Hurtado-Ponce and Modelo, 1983: 149.—Marcos-Agngarayngay, 1983:94, fig. 27.—Hurtado-Ponce, 1984:179.— Marcos-Agngarayngay, 1984b:122.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte.

Codium elongatum auctorum

Codium elongatum [misapplied name].—Gepp and Gepp, 1911:136.—Weber-van Bosse, 1913a:120.—Gilbert, 1946:78; 1961:443.—Velasquez, Trono, and Doty, 1975:137.

PHILIPPINE DISTRIBUTION.—SULU: Tawitawi (Pearl Bank).

NOTE.—*Codium elongatum* (Turner) C. Agardh (1822a:454) is a nomenclatural synonym of *C. decorticatum* (Woodward) Howe (1911:494), a name that applies to a species restricted to warm waters of the Mediterranean Sea and Atlantic Ocean (cf. Silva, 1960:516–521). The Siboga record (Gepp and Gepp, 1911:136) may be referable to *C. papillatum*, but the voucher specimen is not among other Siboga collections at Leiden (L).

Codium fragile (Suringar) Hariot

Acanthocodium fragile Suringar, 1867:258 [type locality: Japan].
Codium fragile (Suringar) Hariot, 1889:32.—Westernhagen, 1973a:64.—Cordero, 1980b:29, pl. 17.—Tungpalan, 1984:139.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. PANAY: Aklan. CEBU (Mactan I.). SIQUIJOR.

Codium geppii O.C. Schmidt

Codium divaricatum A. Gepp and E.S. Gepp, 1911:136, 145, pl. 22: figs. 195–199 [syntype localities: Great Kai I., Moluccas and Kwandang Bay, Celebes, Indonesia] [replaced name].
Codium geppii O.C. Schmidt, 1923:50, fig. 33.—Gilbert, 1947:123.—Quisumbing, 1951:1009.—Gilbert, 1961:443.—Domantay, 1962: 280.—Velasquez, Trono, and Doty, 1975:137.—Meñez and Calumpong, 1981:383.—Calumpong, 1982:145.
Codium repens [misapplied name].—Cordero, 1977b:42, pl. VII: figs. 43–45; 1979b:276; 1980b:30, fig. 3B, pl. 18.—Marcos-Agngarayngay, 1983:97, fig. 28; 1984b:122.—Tungpalan, 1984:139.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, La Union, Pangasinan, Albay. CATANDUANES. MINDORO: Oriental Mindoro. PANAY: Aklan. NEGROS: Negros Oriental.

NOTE.—*Codium repens* P. Crouan and H. Crouan (in

Vickers, 1905:56) in the Atlantic is the ecological and taxonomic counterpart of *C. geppii* in the Indo-Pacific. Each species encompasses a wide range of morphological variation. *Codium geppii* is a substitute name for *C. divaricatum* A. Gepp and E.S. Gepp, a later homonym of *C. divaricatum* (C. Agardh) Biasoletto (1841:237).

Codium intricatum Okamura

Codium intricatum Okamura, 1913:74, pl. CXX: figs. 9–13 [syntype localities: various, all in Japan].—Gilbert, 1947:123; 1961:443.—Meñez, 1961:54, pl. 6: figs. 63, 64.—Galutira and Velasquez, 1964:499, pl. 2: fig. 5; pl. 7: fig. 25.—Velasquez, 1968a:120, fig. 4; 1971:437, fig. 18; 1972:63.—Velasquez, Trono, and Doty, 1975:137.—Reyes, 1978:157, 162, pl. 9: figs. 9, 10.—Puig and Cordero, 1979:26.—Velasquez, 1979b:230.—Cordero, 1980b:29, pl. 16.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:20.—Trono and Fortes, 1980:64.—Trono, Velasquez, and Guevarra, 1980:77.—Ganzon-Fortes, 1981:21.—Guzman, 1981:43.—Cordero, 1982a:60.—Trono and Fortes, 1982:145.—Cordero, 1984a:79.—Tungpalan, 1984:139.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Quezon. LEYTE (Biliran I.). CEBU (Mactan I.). SIQUIJOR. BASILAN.

Codium muelleri auctorum

Codium muelleri [misapplied name].—Zaneveld, 1950:112; 1956:9; 1959:95.—Bersamin et al., 1973:186.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan, Ilocos, La Union, Pangasinan. LEYTE. CEBU. BOHOL.

NOTE.—*Codium muelleri* Kützing (1856:34, pl. 95: fig. II) is a distinctive species apparently restricted to southwestern and southern Australia. It seems likely that these records of *C. muelleri* and most (if not all) Philippine records of *C. tenue* apply to the same undescribed species.

Codium ovale Zanardini

Codium ovale Zanardini, 1878:37 [type locality: Sorong, Irian Barat, Indonesia].—Gepp and Gepp, 1911:134.—Weber-van Bosse, 1913a:118.—Gilbert, 1946:78; 1961:443.—Trono, 1973b:221.—Velasquez, Trono, and Doty, 1975:137.

PHILIPPINE DISTRIBUTION.—SULU: Sulu (North Ubian I., Siasi I.), Tawitawi (Pearl Bank, Sangasiapu I.).

**Codium papillatum* Tseng and Gilbert

Codium papillatum Tseng and Gilbert, 1942:293, figs. 2*b–d*, 3 [type locality: Puerto Galera, Oriental Mindoro Prov.].—Gilbert, 1947:124; 1961:443.—Galutira and Velasquez, 1964:497, pl. 2: fig. 4; pl. 6: figs. 23*a,b*.—Velasquez, 1972:63.—Velasquez, Trono, and Doty, 1975:137.—Velasquez, 1979b:230.—Trono and Fortes, 1980:64.—Ganzon-Fortes, 1981:21.—Cordero, 1982a:60, fig. 4.—Trono and Fortes, 1982:145.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Bataan, Cavite. MINDORO: Oriental Mindoro.

Codium platyclados Jones and Kraft

Codium platyclados Jones and Kraft, 1984:266, figs. 8–13 [including Philippine record, page 273, figs. 10B, 12C] [type locality: Lord Howe I.].

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon (San Bernardino I.).

Codium pugniforme Okamura

Codium pugniforme Okamura, 1915:147, pl. CXXXV: figs. 6–9 [*"pugniformis"*] [syntype localities: various, all in Japan].—Cordero, 1973b:20 [*C. pugniforme* prox.].—Puig and Cordero, 1979:26.

PHILIPPINE DISTRIBUTION.—LEYTE (Biliran I.).

Codium tenue auctorum

Codium tenue [misapplied name].—Gepp and Gepp, 1911:136.—Seale, 1911:309.—Wester, 1916:158.—Weber-van Bosse, 1913a:120.—Wester, 1921:224; 1924:21.—G. Blanco, 1938:512.—Gilbert, 1946:78.—Zaneveld, 1950:112.—Quisumbing, 1951:1009.—Montilla and Blanco, 1953:166, fig. 5: 5.—Zaneveld, 1956:10; 1959:96.—Gilbert, 1961:443.—Domantay, 1962:279.—Cordero, 1973b:20.—Velasquez et al., 1973:17, pl. 6: fig. 28.—Velasquez, Trono, and Doty, 1975:137.—Puig and Cordero, 1979:27.—Trono and Fortes, 1980:64.—Ganzon-Fortes, 1981:21.—Guzman, 1981:43.—Cordero, 1982a:60, fig. 3.—Trono and Fortes, 1982:145.—Cordero, 1984a:79.—Tungpalan, 1984:139.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, La Union, Pangasinan, Bataan. LEYTE (Biliran I.). SULU: Sulu (North Ubian I.).

NOTE.—*Codium tenue* (Kützing) Kützing (1856:33, pl. 95: fig. 1) appears to be restricted to estuaries of South Africa (cf. Silva, 1959:140–143). Placement of Philippine records awaits completion of a monographic study.

Codium tomentosum auctorum

Codium tomentosum [misapplied name].—Montagne, 1844a:659.—Martens, 1868:47, 64–65.—Dickie, 1876a:243.—Piccone, 1886:29, 89.—Schmidt, 1923:39.—Zaneveld, 1950:112; 1956:10; 1959:96.—Meñez, 1961:54, pl. 6: figs. 60–62.—Reyes, 1972:143.—Cordero, 1973b:20.—Velasquez, Trono, and Doty, 1975:137.—Reyes, 1978:157, 162, pl. 9: figs. 11, 12.—Liao and Sotto, 1980:97.—Trono and Fortes, 1980:64.
Codium dichotomum [misapplied name].—Gilbert, 1946:78; 1961:442.—Velasquez, Trono, and Doty, 1975:137.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MASBATE (Ticao I.). LEYTE (Biliran I.). NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR.

NOTE.—*Codium dichotomum* S.F. Gray (1821:293) is a nomenclatural synonym of *Codium tomentosum* Stackhouse (1797 [1795–1801]:xxiv), a name that applies to a species restricted to the eastern North Atlantic (cf. Silva, 1955:569–571). Placement of the Philippine records awaits completion of a monographic study.

Family HALIMEDACEAE

Halimeda Lamouroux

Halimeda bikinensis W.R. Taylor

Halimeda bikinensis W.R. Taylor, 1950:87, 207, pl. 48: fig. 1 [type locality: Bikini Atoll, Marshall Is.].—Cordero and Tanaka, 1972:83, figs. 1A, 2E,F.—Saraya and Trono, 1980:22, pl. V: fig. 2.—Marcos-Agngarayngay, 1983:89, fig. 22.—Cordero, 1984a:80.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan.

Halimeda copiosa Goreau and Graham

Halimeda copiosa Goreau and Graham, 1967:433, figs. 1–10 [type locality: Jamaica].

Halimeda opuntia (Linnaeus) Lamouroux f. *hederacea* Barton, 1901:21, pl. III: fig. 23 [lectotype locality: Tanah-Djampeah, Flores Sea, Indonesia fide Colinvaux, 1968:32].—Gilbert, 1947:130; 1961:444.

Halimeda opuntia (Linnaeus) Lamouroux var. *hederacea* (Barton) Hillis, 1959:360, pl. 5: fig. 4 [including Philippine records].—Cordero, 1977b:40.

Halimeda hederacea (Barton) Colinvaux, 1968:30, figs. 1, 2(1,4,5,6,8) [including Philippine record].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Quezon. MINDANAO: Zamboanga. BASILAN. SULU: Sulu (near Lapac I.).

NOTE.—The synonymy was proposed by Hillis-Colinvaux (1980:118).

Halimeda cuneata Hering

Halimeda cuneata Hering in Krauss, 1846:214 [type locality: "Natalbai" (Durban), South Africa].—Martens, 1868:25, 66–67.—Meñez, 1961:58, pl. 4: figs. 43–46; pl. 5: figs. 54, 55.—Cordero, 1973b:21.—Velasquez, Trono, and Doty, 1975:147.—Cordero, 1977b:39, pl. VI: fig. 30; 1979b:281.—Puig and Cordero, 1979:27.—Cordero, 1980b:31, fig. 1B, pl. 19.—Marcos-Agngarayngay, 1983:90, fig. 23.—Cordero, 1984a:80 [with query].—Tungpalan, 1984:138.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan. SAMAR: Western Samar, Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. SIQUIJOR. MINDANAO: Zamboanga, Surigao del Sur.

Halimeda cylindracea Decaisne

Halimeda cylindracea Decaisne, 1842b:103 [type locality: Nosy-bé, Malagasy Republic].—Hillis, 1959:373, pl. 4: fig. 3; pl. 5: figs. 22, 23; pl. 6: fig. 19; pl. 7: fig. 13.—Taylor, 1966b:353 ["*cylindrica*"].—Trono, 1972a:97.—Cordero, 1973a:167, figs. 1–4.—Trono, 1973b:225; 1975:36.—Velasquez, Trono, and Doty, 1975:147 ["*cylindracea*" and "*cylindrica*"].—Trono and Ganzon-Fortes, 1980:25, fig. [s.n.].—Trono and Ang, 1982:11.

Halimeda monile [misapplied name fide Hillis, 1959:374].—Gilbert, 1947:130; 1961:443.—Velasquez, Trono, and Doty, 1975:148.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas, Quezon, Sorsogon. SAMAR: Eastern Samar. PALAWAN (Bugsuk I., Culion I.). SULU: Sulu (Siasi I.), Tawitawi.

Halimeda discoidea Decaisne

Halimeda discoidea Decaisne, 1842b:102 [type locality: said to be "Kamtschatka" but true provenance unknown].—Martens, 1868:25, 66–67.—Gilbert, 1946:78; 1947:125 [f. *typica*].—Hillis, 1959:352, pl. 2: fig. 5; pl. 5: fig. 11; pl. 6: fig. 11; pl. 7: figs. 9, 10; pl. 8: figs. 5–8.—Gilbert, 1961:443 [incl. f. *discoidea*].—Meñez, 1961:57, pl. 4: figs. 47–50.—Taylor, 1966b:353 [var. *discoidea*].—Reyes, 1972:143.—Trono, 1972a:97.—Cordero, 1973b:21.—Trono, 1973b:225; 1973c:15, figs. 7, 11; 1973d:8, pl. 6: figs. 23, 24.—Ortega, Alcala, and Reyes, 1974:186, 187, 188.—Velasquez, Trono, and Doty, 1975:147.—Trono and Young, 1977:55.—Reyes, 1978:159, pl. 11: figs. 5, 6.—Trono, 1978:6.—Trono and Tuason, 1978:4.—Garcia, 1979:44 (table 1).—Puig and Cordero, 1979:27.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:22, pl. IV: figs. 3, 4.—Hurtado-Ponce, 1983:117.—Hurtado-Ponce and Modelo, 1983:149.—Cordero, 1984c:52.—Tungpalan, 1984:138.

**Halimeda discoidea* Decaisne f. *intermedia* Gilbert, 1947: 126 [type locality: Dalupiri I., Babuyan Is., Cagayan Prov., Luzon].—Gilbert, 1961:443.

**Halimeda discoidea* Decaisne f. *subdigitata* Gilbert, 1947:125 [type locality: Siasi Island, Sulu Prov., Sulu Archipelago].—Gilbert, 1961:443.—Taylor, 1966b:353 [var. *discoidea* f. *subdigitata*].

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan. CATANDUANES. MINDORO: Oriental Mindoro. MARINDUQUE. MASBATE. SAMAR: Eastern Samar. LEYTE (Biliran I.). NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. BASILAN. PALAWAN (incl. Balabac I.). SULU: Sulu (incl. Cagayan Sulu I., Siasi I.), Tawitawi (incl. Pearl Bank, Sibutu I.).

NOTE.—Hillis (1959:354) does not give taxonomic recognition to the formae of this species.

Halimeda fragilis W.R. Taylor

Halimeda fragilis W.R. Taylor, 1950:88, 207, pl. 48: fig. 2 [type locality: Eniwetok Atoll, Marshall Is.].—Cordero, 1976c:6; 1977b:39, pl. VI: fig. 34.—Trono and Young, 1977:56.—Trono and Tuason, 1978:5.—Saraya and Trono, 1980:23.—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. CATANDUANES. CENTRAL VISAYAS.

Halimeda gigas W.R. Taylor

Halimeda gigas W.R. Taylor, 1950:84, 206, pl. 44: fig. 2 [type locality: Eniwetok Atoll, Marshall Is.].—Domantay, 1962:280.—Velasquez, Trono, and Doty, 1975:147.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Halimeda gracilis Harvey ex J. Agardh

Halimeda gracilis Harvey ex J. Agardh, 1887:82 [type locality: Sri Lanka].—Gilbert, 1946:78; 1961:443.—Velasquez, Trono, and Doty, 1975:147.—Hurtado-Ponce, 1983:117.—Hurtado-Ponce and Modelo, 1983:149.—Cordero, 1984a:80; 1984b:60.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte. PALAWAN.

Halimeda incrassata (Ellis) Lamouroux

Corallina incrassata Ellis, 1768:408, pl. XVII: figs. 20–27 [type locality: West Indies].

Halimeda incrassata (Ellis) Lamouroux, 1816:307.—Hillis, 1959:365, pl. 4: figs. 1, 2; pl. 5: fig. 21; pl. 6: figs. 21–24.—Gilbert, 1961:444.—Velasquez, 1971:437, fig. 17.—Trono, 1972a:98.—Velasquez, Trono, and Doty, 1975:148.—Saraya and Trono, 1980:23, pl. V: fig. 3.

Corallina tridens Ellis and Solander, 1786:109, pl. 20: fig. *a* [type locality: "coast of the new ceded Islands" (probably Dominica)].

Halimeda tridens (Ellis and Solander) Lamouroux, 1816:308.—Gilbert, 1947:130 [forma *typica*].—Velasquez, Trono, and Doty, 1975:148.

Halimeda incrassata (Ellis and Solander) Lamouroux f. *lamourouxii* J. Agardh, 1887:86 [syntype localities: West Indies; Australia].—Gilbert, 1961:444.

Halimeda tridens (Ellis and Solander) Lamouroux f. *lamourouxii* (J. Agardh) Gilbert, 1947:131.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Quezon. MINDANAO: Zamboanga. BASILAN. PALAWAN (incl. Culion I., Cuyo I.). SULU: Sulu (North Ubian I., Siasi I.), Tawitawi.

NOTE.—The synonymy was proposed by Hillis (1959:365).

Halimeda lacunalis W.R. Taylor

Halimeda lacunalis W.R. Taylor, 1950:91, 208, pl. 51 [type locality: Eniwetok Atoll, Marshall Is.].—Meñez and Calumpong, 1981:382.

PHILIPPINE DISTRIBUTION.—CENTRAL VISAYAS.

Halimeda macroloba Decaisne

Halimeda macroloba Decaisne, 1841:118 [type locality: Red Sea].—Montagne, 1844a:659.—Dickie, 1876a:243.—Barton, 1901:24, pl. III: figs. 33–38.—Weber-van Bosse, 1913a:122.—Gilbert, 1946:78; 1947:126.—Hillis, 1959:375, pl. 3: fig. 3; pl. 5: figs. 19, 20; pl. 6: fig. 17.—Gilbert, 1961:443.—Domantay, 1962:280.—Moul, 1964:6.—Taylor, 1966b:353.—Cordero and Tanaka, 1972:85, figs. 1B, 2C,D.—Cornejo and Velasquez, 1972:172, 179, 183.—Reyes, 1972:144.—Trono, 1972a:98; 1973b:226; 1973c:15, figs. 10, 12; 1973d:9.—Velasquez et al., 1973:17, pl. 6: fig. 27.—Ortega, Alcala, and Reyes, 1974:186.—Trono, 1975:37.—Velasquez, Trono, and Doty, 1975:148.—Trono and Young, 1977:56.—Reyes, 1978:159, pl. 11: figs. 1, 2.—Trono, 1978:7.—Trono and Tuason, 1978:5.—Cordero, 1979b:281.—Puig and Cordero, 1979:28.—Cordero, 1980b:32, fig. 2B, pl. 20.—Fortes and Trono, 1980:68.—Saraya and Trono, 1980:20, pl. V: fig. 1.—Trono and Ganzon-Fortes, 1980:27, fig. [s.n].—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:6, pl. IV: fig. 1.—Trono and Ang, 1982:11.—Hurtado-Ponce, 1983:118.—Hurtado-Ponce and Modelo, 1983:149.—Marcos-Agngarayngay, 1983:90, fig. 24.—Cordero, 1984a:81.—Cordero, 1984b:60.—Cordero, 1984c: 52.—Tungpalan, 1984:138.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (incl. Babuyan Is.), Ilocos Norte, La Union, Pangasinan, Bataan, Batangas, Quezon, Camarines Norte, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. MASBATE. SAMAR: Eastern Samar. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. BOHOL. MINDANAO: Zamboanga, Surigao del Sur. BASILAN. PALAWAN (incl. Balabac I., Bugsuk I., Culion I.). SULU: Sulu (Siasi I.), Tawitawi (incl. Pearl Bank, Sibutu I., Turtle Is.).

Halimeda macrophysa Askenasy

Halimeda macrophysa Askenasy, 1888:14, pl. IV: figs. 1–4 [type locality: Makutu I., Fiji].—Taylor, 1966b:353.—Trono, 1975:37.—Velasquez, Trono, and Doty, 1975:148.—Trono and Young, 1977:56.—Trono and Tuason, 1978:6.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon. CATANDUANES. SULU: Tawitawi (Turtle Is.).

Halimeda micronesica Yamada

Halimeda micronesica Yamada, 1941b:121, fig. 15 [type locality: Ant Atoll, near Ponape, Caroline Is.].—Hillis, 1959:364, pl. 3: fig. 1; pl. 5: fig. 13, 14; pl. 6: fig. 2.—Gilbert, 1961:444.—Taylor, 1966b:353.—Velasquez, Trono, and Doty, 1975:148.

**Halimeda orientalis* Gilbert, 1947:126, fig. 1 [type locality: Tumakid, Basilan I.].

PHILIPPINE DISTRIBUTION.—BASILAN. SULU: Tawitawi.

NOTE.—The synonymy was proposed by Hillis (1959: 364).

Halimeda opuntia (Linnaeus) Lamouroux

Corallina opuntia Linnaeus, 1758:805 [lectotype locality: Jamaica fide Hillis, 1959:361].

Halimeda opuntia (Linnaeus) Lamouroux, 1816:308.—Martens, 1868:25, 64–65.—Dickie, 1876a:243, 245 [f. *typica*].—Barton, 1901:18, pl. II: figs. 19–21.—Weber-van Bosse, 1913a:121 [f. *typica*].—Merrill, 1918:39.—Gilbert, 1946:78.—Gilbert, 1947:129 [f. *typica*].—Hillis, 1959:359, pl. 2: figs. 7, 8; pl. 5: fig. 3; pl. 6: fig. 6; pl. 7: fig. 3 [var. *opuntia*].—Gilbert, 1961:443 [incl. f. *opuntia*].—Meñez, 1961:59, pl. 5: figs. 51–53, 56, 57.—Domantay, 1962:280.—Moul, 1964:6 [var. *opuntia*].—Taylor, 1966b:353.—Villones and Magdamo, 1968:25, fig. 13.—Velasquez, 1971:437, fig. 16.—Reyes, 1972:144.—Trono, 1972a:98.—Cordero, 1973b:21.—Trono, 1973b:226; 1973c:16, fig. 9; 1973d:9.—Velasquez et al., 1973:16, pl. 5: fig. 24.—Westernhagen, 1973a:65.—Ortega, Alcala, and Reyes, 1974:185, 186, 187.—Trono, 1975:37.—Velasquez, Trono, and Doty, 1975:148.—Cordero, 1976c:8, 9, 10; 1977b:40, pl. VI: figs. 31–33 [var. *opuntia*].—Taylor, 1977b:10.—Trono and Young, 1977:55.—Reyes, 1978:158, pl. 10: figs. 5, 6.—Trono, 1978:7.—Trono and Tuason, 1978:6.—Puig and Cordero, 1979:28.—Calumpong, 1980:143 (table 3).—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:21, pl. VI: fig. 1.—Trono and Ganzon-Fortes, 1980:29, fig. [s.n].—Chan, 1981:387.—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:6, pl. III: fig. 3.—Trono and Ang, 1982:10.—Hurtado-Ponce, 1983:118.—Hurtado-Ponce and Modelo, 1983:149.—Cordero, 1984a:81; 1984b:60.

**Fucus prolifer* M. Blanco, 1837:838 [type locality: "Punta Santiago" (Batangas Prov. ?)].—M. Blanco, 1845:579; 1879:259.—Velasquez, Trono, and Doty, 1975:144.

Halimeda triloba Decaisne, 1842:102 [lectotype locality: China Sea fide

Barton, 1901:explanation of pl. 11: fig. 20].—Bailey and Harvey, 1862:173.—Martens, 1868:64–65.—Velasquez, Trono, and Doty, 1975:149.

Halimeda opuntia (Linnaeus) Lamouroux f. *triloba* (Decaisne) J. Agardh, 1887:84.—Gilbert, 1947:129.

Halimeda cordata J. Agardh, 1887:83 [type locality: Red Sea].

Halimeda opuntia (Linnaeus) Lamouroux f. *cordata* (J. Agardh) Barton, 1901:20, pl. II: fig. 21.—Gilbert, 1947:129; 1961:444.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, La Union, Pangasinan, Batangas, Quezon, Camarines Norte, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SAMAR: Eastern Samar. LEYTE (Biliran I.). GUIMARAS. NEGROS: Negros Occidental, Negros Oriental. CEBU (incl. Mactan I.). SIQUIJOR. BOHOL. MINDANAO: Zamboanga (incl. Sacol I.), Misamis Occidental, Davao. BASILAN. PALAWAN (incl. Balabac I., Bugsuk I. Culion I., Cuyo I.). SULU: Sulu (North Ubian I., Siasi I.), Tawitawi.

NOTE.—Hillis-Colinvaux (1980:110) does not give taxonomic recognition to formae *cordata* and *triloba*. According to Merrill (1918:39), Blanco's description of *Fucus prolifer* is referable to *Halimeda opuntia*, but Martens (1868:45) thought that Blanco could have had other species in hand. In the absence of authentic specimens, a definitive placement is impossible. In any event, *Fucus prolifer* M. Blanco is a later homonym of *F. prolifer* Forsskål (1775:193) and *F. prolifer* Lightfoot (1777:949, pl. XXX).

Halimeda renschii Hauck

Halimeda renschii Hauck, 1886 [1886–1887]:167 [type locality: Johanna (Anjouan) I., Comoro Is.].—Hillis-Colinvaux, 1975:93.

Halimeda opuntia (Linnaeus) Lamouroux f. *renschii* (Hauck) Barton, 1901:21, pl. II: figs. 22, 22*a*.—Gilbert, 1947:130; 1961:444.

**Halimeda batanensis* W.R. Taylor, 1973:34, figs. 1, 2 [type locality: Batan I., Batanes Prov., Luzon].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.).

NOTE.—The synonymy was proposed by Hillis-Colinvaux (1975:93).

Halimeda simulans Howe

Halimeda simulans Howe, 1907:503, pl. 29 [type locality: Culebra I., Puerto Rico].—Trono, 1972a:94; 1975:38.—Trono and Ganzon-Fortes, 1980:31, fig. [s.n].—Trono and Ang, 1982:10.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas, Sorsogon. PALAWAN (Bugsuk I.). SULU: Tawitawi.

Halimeda stuposa W.R. Taylor

Halimeda stuposa W.R. Taylor, 1950:90, 207, pl. 43: fig. 1; pl. 49; pl. 50: fig. 2 [type locality: Rongelap Atoll, Marshall Is.].—Reyes, 1978:159, pl. 11: figs. 3, 4.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Halimeda taenicola W.R. Taylor

Halimeda taenicola W.R. Taylor, 1950:86, 207, pl. 46: fig. 1 [type locality: Rongerik Atoll, Marshall Is.].—Trono and Young, 1977:56.—Trono and Tuason, 1978:7.

PHILIPPINE DISTRIBUTION.—CATANDUANES.

Halimeda tuna (Ellis and Solander) Lamouroux

Corallina tuna Ellis and Solander, 1786:111, pl. 20: fig. *e* [type locality: Mediterranean Sea].

Halimeda tuna (Ellis and Solander) Lamouroux, 1816:309, pl. XI: fig. 8.—Dickie, 1876a:244.—Gilbert, 1946:78; 1947:124 [f. *typica*].—Hillis, 1959:342, pl. 1: figs. 4, 5; pl. 5: fig. 9; pl. 6: fig. 7.—Gilbert, 1961:444.—Meñez, 1961:57.—Domantay, 1962:280 [f. *typica*].—Taylor, 1966b:354 [var. *tuna*].—Trono, 1972a:98; 1973b:226; 1973c:17, fig. 21.—Velasquez et al., 1973:16, pl. 6: fig. 26.—Westernhagen, 1973a:65.—Hamoy and Garciano, 1975:71.—Trono, 1975:38.—Velasquez, Trono, and Doty, 1975:149.—Cordero, 1976c:6; 1977b:41, pl. VI: fig. 37.—Trono and Young, 1977:55.—Reyes, 1978:160, pl. 11: fig. 7.—Trono, 1978:7.—Trono and Tuason, 1978:7.—Cordero, 1979b:276; 1980b:33, fig. 2B.—Saraya and Trono, 1980:21, pl. V: fig. 4.—Trono and Fortes, 1980:64.—Trono and Ganzon-Fortes, 1980:33, fig. [s.n].—Chan, 1981:387.—Ganzon-Fortes, 1981:21.—Meñez and Calumpong, 1981:383.—Trono and Fortes, 1982:145.—Cordero, 1984a:81.—Tungpalan, 1984:138.

Halimeda platydisca Decaisne, 1842:102 [type locality: Islas Canarias].

Halimeda tuna (Ellis and Solander) Lamouroux f. *platydisca* (Decaisne) Barton, 1901:14, pl. 1: fig. 2.—Gilbert, 1947:124; 1961:444.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Bataan, Batangas, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. MARINDUQUE. PANAY: Aklan. CEBU (incl. Mactan I.). SIQUIJOR. MINDANAO: Zamboanga, Surigao del Sur. BASILAN. PALAWAN (Culion I.). SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—Hillis-Colinvaux (1980:122) does not give taxonomic recognition to f. *platydisca*.

**Halimeda velasquezii* W.R. Taylor

Halimeda velasquezii W.R. Taylor, 1962:177, figs. 8–14 [type locality: Santa Ana, Cagayan Prov., Luzon].—Taylor, 1966b:354.—Velasquez et al., 1973:16, pl. 5: fig. 25.—Trono, 1975:39.—Velasquez, Trono, and Doty, 1975:149.—Cordero, 1976c:6, 8; 1977b:41, pl. VI: figs. 35, 36; pl. VII: fig. 38.—Hillis-Colinvaux, 1980:117, fig. 32.

Halimeda opuntia (Linnaeus) Lamouroux f. *intermedia* Yamada, 1934:81 [syntype localities: Naha and Itoman, Ryukyu-retto, Japan].—Gilbert, 1947:130; 1961:444.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan, Bataan, Batangas, Sorsogon.

NOTE.—The synonymy was proposed by Hillis-Colinvaux (1980:117).

**Halimeda velasquezii* W.R. Taylor var. *robusta* Cordero

**Halimeda velasquezii* W.R. Taylor var. *robusta* Cordero, 1974a:115, fig. 1 [type locality: Camiguin I., Babuyan Is., Cagayan Prov., Luzon].—Cordero and Tanaka, 1972:86, figs. 1C, 2A,B [*H. velasquezii*].

PHILIPPINE DISTRIBUTION.—As above.

Family UDOTEACEAE

Avrainvillea Decaisne

**Avrainvillea erecta* (Berkeley) A. Gepp and E.S. Gepp

Dichonema erectum Berkeley, 1842:157, pl. VII: fig. 11 [type locality: "Philippine Islands"].

Avrainvillea erecta (Berkeley) A. Gepp and E.S. Gepp, 1911:29, pl. IX: figs. 84, 85; pl. X: figs. 86–89 [including Philippine records].—Gilbert, 1946:78; 1947:122; 1961:442.—Meñez, 1961:56, pl. 3: figs. 26–30.—Domantay, 1962:276.—Taylor, 1966b:352.—Gilbert and Doty, 1969:123, figs. 7, 8.—Reyes, 1972:143.—Trono, 1973b:220; 1973c:18.—Velasquez et al., 1973:15, pl. 5: fig. 22.—Velasquez, Trono, and Doty, 1975:128.—Reyes, 1978:160, pl. 11: fig. 8.—Puig and Cordero, 1979:25.—Saraya and Trono, 1980:19, pl. III: fig. 3.—Meñez and Calumpong, 1981:383.—Marcos-Agngarayngay, 1983:94, fig. 26.—Olsen-Stojkovich, 1985a:22.

**Udotea sordida* Montagne, 1844a:659 [type locality: "Philippines"].—Kützing, 1849:503.—Montagne, 1856:451.—Martens, 1868:64–65.—Dickie, 1874a:198.—Velasquez, Trono, and Doty, 1975:167.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Bataan. CATANDUANES. MINDORO: Oriental Mindoro. SAMAR: Eastern Samar. LEYTE (Biliran I.). NEGROS: Negros Oriental. SIQUIJOR. BASILAN. PALAWAN (incl. Balabac I., Cuyo I.). SULU: Sulu (Siasi I.).

NOTE.—The synonymy was proposed by Gepp and Gepp (1911:29).

Avrainvillea lacerata Harvey ex J. Agardh

Avrainvillea lacerata Harvey ex J. Agardh, 1887:54 [type locality: Tonga].—Taylor, 1966b:352.—Trono, 1972a:97; 1973b:220; 1973d:10, pl. 5: fig. 17.—Velasquez, Trono, and Doty, 1975:129.—Reyes, 1978:160, pl. 11: fig. 9.—Trono, 1978:6.—Trono and Tuason, 1978:4.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:18, pl. III: fig. 2.—Trono and Ang, 1982:9.—Olsen-Stojkovich, 1985a:33.

Avrainvillea lacerata Harvey ex J. Agardh var. *robustior* A. Gepp and E.S. Gepp, 1911:139, pl. XIII: figs. 108, 109 [type locality: Singapore].—Domantay, 1962:276 [f. *robustior*].—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CATANDUANES. MARINDUQUE. SAMAR: Eastern Samar. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga (incl. Sacol I.). PALAWAN (incl. Bugsuk I.). SULU: Sulu (Siasi I.), Tawitawi.

NOTE.—Olsen-Stojkovich (1985a) does not give taxonomic recognition to var. *robustior*.

Avrainvillea longicaulis (Kützing) Murray and Boodle

Rhipilia longicaulis Kützing, 1858:13, pl. 28: fig. II [type locality: Antilles].

Avrainvillea longicaulis (Kützing) Murray and Boodle, 1889:70.—Olsen-Stojkovich, 1985a:29.

Avrainvillea levis Howe, 1905:565, pl. 23: fig. 1; pl. 26: figs. 8–10 [type locality: Cave Cays, Exuma Chain, Bahama Is.].

Avrainvillea sordida [misapplied name; see Note].—Meñez, 1961:56, pl. 3: figs. 35–39.—Gilbert and Doty, 1969:124, figs. 13, 14.—Trono, 1973b:221.—Velasquez, Trono, and Doty, 1975:129.—Cordero, 1976c:9; 1977b:36, pl. V: fig. 26.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan. CATANDUANES. SULU: Sulu (Siasi I.).

NOTE.—The taxonomic and nomenclatural complexities of this species are discussed by Olsen-Stojkovich (1985a:29). The conspecificity of *Rhipilia longicaulis* and *Avrainvillea levis* was suspected by Gepp and Gepp (1911:40), who, however, were reluctant to use the binomial *A. longicaulis* because Murray and Boodle, when making the combination, misapplied it to representatives of *A. nigricans*. Retention of *A. longicaulis* is required by Article 55.2 of the ICBN.

Avrainvillea nigricans Decaisne

Avrainvillea nigricans Decaisne, 1842:108 [type locality: West Indies near Guadeloupe].—Liao and Sotto, 1980:97.—Olsen-Stojkovich, 1985a:38.

PHILIPPINE DISTRIBUTION.—CEBU (Mactan I.).

Avrainvillea obscura (C. Agardh) J. Agardh

Anadyomene ? obscura C. Agardh, 1822a:401 [type locality: Guam, Mariana Is.].

Avrainvillea obscura (C. Agardh) J. Agardh, 1887:53.—Meñez, 1961:55, pl. 3: figs. 30–34.—Domantay, 1962:272, 273.—Gilbert and Doty, 1969:124.—Trono, 1972a:97.—Velasquez, Trono, and Doty, 1975:129.—Cordero, 1977b:36, pl. IV: figs. 21, 22.—Olsen-Stojkovich, 1985a:19.

**Avrainvillea capituliformis* Tanaka, 1967:14, figs. 2, 3, pl. I:B [type locality: San Pio Quinto, Camiguin I., Babuyan Is., Cagayan Prov., Luzon].—Trono, 1973c:18; 1975:35.—Velasquez, Trono, and Doty, 1975:128.—Puig and Cordero, 1979:25.—Saraya and Trono, 1980:19.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Pangasinan, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. LEYTE (Biliran I.). SULU: Tawitawi.

NOTE.—The synonymy was proposed by Olsen-Stojkovich (1985a).

Boodleopsis A. Gepp and E.S. Gepp

Boodleopsis pusilla (Collins) W.R. Taylor, Joly, and Bernatowicz

Dichotomosiphon pusillus Collins, 1909:431 [type locality: West Indies].

Boodleopsis pusilla (Collins) W.R. Taylor, Joly, and Bernatowicz, 1953: 105.—Fortes and Trono, 1980:56, fig. 5.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Boodleopsis verticillata Dawson

Boodleopsis verticillata Dawson, 1960:32, figs. 1A–D [type locality: Isla del Rey, Islas Perlas, Panama].—Fortes and Trono, 1980:58, fig. 6.—Fortes, 1981b:396.

PHILIPPINE DISTRIBUTION.—MINDORO: Oriental Mindoro.

Chlorodesmis Harvey and Bailey

Chlorodesmis caespitosa J. Agardh

Chlorodesmis caespitosa J. Agardh, 1887:49 [type locality: Sri Lanka].—Ducker, 1967:157, pls. 27, 36–38; pl. 43: fig. 2.
Chlorodesmis formosana Yamada, 1925a:92, fig. V [syntype localities: various, all in Taiwan].—Gilbert, 1947:122; 1961:422.—Velasquez, Trono, and Doty, 1975:135.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.).

NOTE.—The synonymy was proposed by Ducker (1967:157).

Chlorodesmis fastigiata (C. Agardh) Ducker

Vaucheria fastigiata C. Agardh, 1824:176 [type locality: Mariana Is.].
Chlorodesmis fastigiata (C. Agardh) Ducker, 1969:17.
Chlorodesmis comosa Harvey and Bailey, 1851:373 [type locality: Fiji].—Gilbert, 1947:122; 1961:442.—Meñez, 1961:55, pl. 2: figs. 20, 21.—Domantay, 1962:279.—Taylor, 1966b:352.—Ducker, 1967:160, pl. 28, 29, 39.—Gilbert and Doty, 1969:123.—Velasquez et al., 1973:13, pl. 3: fig. 14.—Trono, 1975:36.—Velasquez, Trono, and Doty, 1975:134.—Cordero, 1976c:6, 8; 1977b:35, pl. IV: figs. 18, 19.—Trono, 1978:6.—Trono and Tuason, 1978:4.—Cordero, 1979b: 276.—Puig and Cordero, 1979:25.—Saraya and Trono, 1980:19, pl. IV: fig. 1.—Chan, 1981:387.—Trono and Ang, 1982:9.—Hurtado-Ponce, 1983:107.—Hurtado-Ponce and Modelo, 1983:146.—Marcos-Agngarayngay, 1983:86, fig. 21.—Cordero, 1984a:79; 1984b:59.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan, Bataan, Quezon, Sorsogon. CATANDUANES. MARINDUQUE. LEYTE (Biliran I.). PANAY: Aklan. MINDANAO: Zamboanga, Davao. BASILAN. PALAWAN (incl. Bugsuk I., Cuyo I.).

NOTE.—The conspecificity of *Vaucheria fastigiata* and *Chlorodesmis comosa* was suggested by Gepp and Gepp (1911:15) and confirmed by Ducker (1969:17).

Chlorodesmis hildebrandtii A. Gepp and E.S. Gepp

Chlorodesmis hildebrandtii A. Gepp and E.S. Gepp, 1911:16, 137, pl. 8: figs. 74, 75 [lectotype locality: Johanna (Anjouan) I., Comoro Is. fide Ducker, 1967:165].—Gilbert, 1947:122; 1961:442.—Taylor, 1966b: 352.—Tanaka, 1967:16, fig. 4, pl. II:c.—Trono, 1973c:18.—Velasquez, Trono, and Doty, 1975:135.—Cordero, 1977b:35, pl. V: figs. 23–25.—Reyes, 1978:158, pl. 10: fig. 3.—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:5, pl. III: fig. 4.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.). MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. SIQUIJOR. SULU: Tawitawi (Sibutu I.).

Chlorodesmis major Zanardini

Chlorodesmis major Zanardini, 1874:504 [type locality: Lord Howe I.].
Chlorodesmis torresiensis W.R. Taylor, 1945:66 [type locality: Murray Is., Torres Strait, Australia].—Taylor, 1966b:352.—Velasquez, Trono, and Doty, 1975:135.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan.

NOTE.—The synonymy was proposed by Ducker (1967: 167).

Rhipiliopsis A. Gepp and E.S. Gepp

**Rhipiliopsis carolyniae* Kraft

Rhipiliopsis carolyniae Kraft, 1986:51, figs. 8–11 [type locality: Bulusan, Sorsogon Prov., Luzon].
Rhipiliopsis peltata [misapplied name.—Gilbert and Doty, 1969:122, figs. 9–12.—Velasquez, Trono, and Doty, 1975:161.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon. MINDANAO: Surigao.

Tydemania Weber-van Bosse

Tydemania expeditionis Weber-van Bosse

Tydemania expeditionis Weber-van Bosse, 1901:139 [syntype localities: Macassar, Celebes and Sumbawa I., Indonesia].—Gilbert, 1947:122; 1961:444.—Taylor, 1966b:352.—Velasquez, 1971:432, fig. 10.—Trono, 1973c:17, fig. 15.—Trono, 1973d:10, pl. 6: fig. 22; 1975:40.—Velasquez, Trono, and Doty, 1975:166.—Trono and Young, 1977:55.—Reyes, 1978:158, pl. 10: fig. 4.—Trono and Tuason, 1978:8.—Cordero, 1979c:53, 57, 61, figs. 2, 3.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:24, pl. VI: fig. 4.—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Sorsogon. CATANDUANES. MINDORO: Oriental Mindoro. SAMAR: Eastern Samar. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. MINDANAO: Zamboanga. PALAWAN (Balabac I.). SULU: Sulu (Siasi I.), Tawitawi.

Udotea Lamouroux

Farghaly (1980:245–262), in his treatment of *Udotea*, resurrected the genus *Rhipidosiphon* Montagne (1842a:14) and recognized three new segregate genera: *Decaisnella*, *Geppina*, and *Howella*. The new generic names are invalid because they lack Latin diagnoses. The species of *Udotea* in this catalog are distributed by Farghaly as follows: *Udotea* (*U. argentea, U. flabellum, U. occidentalis*); *Decaisnella* (*U. indica*); and *Rhipidosiphon* (*U. glaucescens, U. javensis, U. orientalis*). The generic placement of *U. geppii* was not indicated.

Udotea argentea Zanardini

Udotea argentea Zanardini, 1858:290, pl. XII: fig. 1 [type locality: Suez, Egypt].—Trono, 1972a:98.—Cordero, 1976c:8 [f. *typica*]; 1977b:37 [f. *typica*]; 1979b:278.—Trono and Ang, 1982:12.

PHILIPPINE DISTRIBUTION.—BATANES. PANAY: Aklan. PALAWAN (Bugsuk I.). SULU: Tawitawi.

**Udotea argentea* Zanardini var. *spumosa* A. Gepp and E.S. Gepp

Udotea argentea Zanardini var. *spumosa* A. Gepp and E.S. Gepp, 1911:126, 144 [syntype localities: Tanah Djampeah and Saleyer (Selajar) I., Indonesia; Pearl Bank, Tawitawi Prov., Sulu Archipelago].—Weber-van Bosse, 1913a:117.—Gilbert, 1946:78; 1947:123; 1961:444.—Taylor, 1966b:352.—Gilbert and Doty, 1969:124, fig. 6.—Velasquez, Trono, and Doty, 1975:166 [without designation of forma].

PHILIPPINE DISTRIBUTION.—PALAWAN (incl. Balabac I., Culion I., Cuyo I.). SULU: Tawitawi (Pearl Bank, Turtle Is.).

Udotea flabellum (Ellis and Solander) Howe

Corallina flabellum Ellis and Solander, 1786:124, pl. 24 [type locality: West Indies].
Udotea flabellum (Ellis and Solander) Howe, 1904:94.—Gepp and Gepp, 1911:131, pl. III: figs. 26–28.—Weber-van Bosse, 1913a:118.—Gilbert, 1946:78; 1947:123; 1961:444.—Reyes, 1972:144.—Velasquez, Trono, and Doty, 1975:166.

PHILIPPINE DISTRIBUTION.—NEGROS: Negros Oriental. MINDANAO: Zamboanga. SULU: Sulu (North Ubian I.).

Udotea geppii Yamada

Udotea geppii Yamada, 1930a:141, figs. 1–3 [syntype localities: Palau (Belau), Caroline Is.; Tonga].—Reyes, 1978:161, pl. 11: fig. 10.—Fortes and Trono, 1980:66.—Trono and Ang, 1982:12.

PHILIPPINE DISTRIBUTION.—SAMAR. SIQUIJOR. PALAWAN (Bugsuk I.).

Udotea glaucescens Harvey ex J. Agardh

Udotea glaucescens Harvey ex J. Agardh, 1887:70 [type locality: Tonga].—Gilbert and Doty, 1969:124.—Velasquez, Trono, and Doty, 1975:166.

PHILIPPINE DISTRIBUTION.—CATANDUANES.

Udotea indica A. Gepp and E.S. Gepp

Udotea indica A. Gepp and E.S. Gepp, 1911:121, pl. II: figs. 13, 14; pl. VI: figs. 52, 53 [type locality: Karachi, Pakistan].—Cordero, 1973b:22; 1976c:6, 11; 1977b:37, pl. IV: figs. 16, 17.—Puig and Cordero, 1979:29.—Cordero, 1984a:82.
Decaisnella indica (A. Gepp and E.S. Gepp) Farghaly, 1980:257 [including Philippine record].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte. LEYTE (Biliran I.).

NOTE.—The generic name *Decaisnella* was not validly published so that the binomial *D. indica* is also invalid.

Udotea javensis (Montagne) A. Gepp and E.S. Gepp

Rhipidosiphon javensis Montagne, 1842a:15 [type locality: Java, Indonesia].
Udotea javensis (Montagne) A. Gepp and E.S. Gepp, 1904:364.—Gilbert, 1947:122; 1961:445.—Villones and Magdamo, 1968:26, fig. 15 [figure cited but not published].—Gilbert and Doty, 1969:125.—Trono, 1973c:19.—Velasquez, Trono, and Doty, 1975:166.—Cordero, 1979c:55, 56, 61, fig. 1.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:23, pl. VI: fig. 3.—Meñez and Calumpong, 1981:383.—Cordero, 1984c:52.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Batangas. MINDORO: Oriental Mindoro. MASBATE. SAMAR: Western Samar, Eastern Samar. PANAY: Aklan. CEBU (Mactan I.). BASILAN. PALAWAN (incl. Cuyo I.).

Udotea occidentalis A. Gepp and E.S. Gepp

Udotea occidentalis A. Gepp and E.S. Gepp, 1911:127, 144, pl. II: figs. 18, 22*a,b*; pl. VII: figs. 63–65 [syntype localities: St. Thomas and St. Jan (St. John), Virgin Is.].—Trono, 1975:36.

PHILIPPINE DISTRIBUTION.—LUZON: Sorsogon.

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

Udotea orientalis A. Gepp and E.S. Gepp, 1911:119, 142, pl. I: figs. 1, 4; pl. VI: figs. 47, 48 [syntype localities: various in Indian and Pacific oceans and Indonesia; North Ubian I., Sulu Prov., Sulu Archipelago].—Weber-van Bosse, 1913a:117.—Gilbert, 1946:78; 1947:122; 1961:445.—Meñez, 1961:56, pl. 2: figs. 22–25.—Taylor, 1966b:353.—Gilbert and Doty, 1969:125, fig. 4.—Reyes, 1972:144.—Cordero, 1973b:22.—Trono, 1973c:19, fig. 24.—Velasquez et al., 1973:15, pl. 5: fig. 23.—Velasquez, Trono, and Doty, 1975:167.—Cordero, 1976c:8; 1977b:38, pl. V: figs. 27–29.—Trono and Young, 1977:55.—Trono, 1978:8.—Trono and Tuason, 1978:8.—Cordero, 1979b:276.—Puig and Cordero, 1979:29.—Saraya and Trono, 1980:24, pl. VI: fig. 2.—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:6, pl. IV: fig. 4.—Trono and Ang, 1982:12.—Hurtado-Ponce, 1983:119.—Hurtado-Ponce and Modelo, 1983:149.—Marcos-Agngarayngay, 1983:93, fig. 25.—Cordero, 1984a:82.
Rhipidosiphon orientalis (A. Gepp and E.S. Gepp) Farghaly, 1980:254 [including Philippine record].

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Pangasinan, Zambales, Bataan, Quezon, Albay, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. MINDANAO: Surigao. PALAWAN (incl. Balabac I., Bugsuk I.). SULU: Sulu (North Ubian I.), Tawitawi (Turtle Is.).

Order DASYCLADALES

Family DASYCLADACEAE

Bornetella Munier-Chalmas

Bornetella nitida Munier-Chalmas ex Sonder

Bornetella nitida Munier-Chalmas ex Sonder, 1880:39 [type locality: Tonga].—Gilbert, 1943:25, fig. 1*e,f*; 1961:443.—Meñez, 1961:50, pl. 1: figs. 6–9.—Taylor, 1966b:347.—Valet, 1969:588.—Reyes, 1972:141.—Trono, 1972a:99.—Cordero, 1973b:18.—Trono, 1973a:128, fig. 2.—Ortega, Alcala, and Reyes, 1974:186, 188.—Trono,

1975:40.—Velasquez, Trono, and Doty, 1975:129.—Cordero, 1976c:8; 1977b:24, pl. II: figs. 7, 8.—Reyes, 1978:150, pl. 5: fig. 10.—Trono and Tuason, 1978:10.—Cordero, 1979b:276, 282.—Puig and Cordero, 1979:22.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:25.—Hurtado-Ponce, 1983:113.—Hurtado-Ponce and Modelo, 1983:148.—Marcos-Agngarayngay, 1983:100, fig. 31.—Cordero, 1984b:58; 1984c:51.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Sorsogon, CATANDUANES. MINDORO: Oriental Mindoro. MASBATE. LEYTE (Biliran I.). PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. BOHOL. PALAWAN. SULU: Tawitawi.

NOTE.—This species was distributed by Harvey in his Friendly Islands exsiccatae (1857) under the name *Neomeris nitida,* without a description. Munier-Chalmas (1877:816) established the genus *Bornetella* on the basis of *Neomeris nitida,* but without publishing the binomial *B. nitida.* Sonder appears to be the first author to use that binomial, although he accredited it to Munier-Chalmas. Because *Neomeris nitida* remained a *nomen nudum,* Harvey's name does not appear in the authorship.

Bornetella oligospora Solms-Laubach

Bornetella oligospora Solms-Laubach, 1892:87, pl. IX: figs. 1–4, 6,7 [syntype localities: Macassar, Celebes and Bari, Flores, Indonesia].—Weber-van Bosse, 1913a:89.—Gilbert, 1943:26, fig. 1*g–i;* 1946:78; 1961:433 [*"sphaerica"* in error].—Domantay, 1962:277.—Valet, 1969:589.—Trono, 1973c:21.—Velasquez, Trono, and Doty, 1975:129.—Trono and Young, 1977:57.—Trono and Tuason, 1978:10.—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CATANDUANES. MINDORO: Oriental Mindoro. CENTRAL VISAYAS. PALAWAN. SULU: Tawitawi (Sangasiapu I.).

Bornetella ovalis Yamada

Bornetella ovalis Yamada, 1933:277 [type locality: Ryukyu-retto, Japan].—Domantay, 1962:277.—Velasquez, Trono, and Doty, 1975: 129.—Cordero, 1984c:51.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. MASBATE.

Bornetella sphaerica (Zanardini) Solms-Laubach

Neomeris ? sphaerica Zanardini, 1878:38 [type locality: Sorong, Irian Barat, Indonesia].

Bornetella sphaerica (Zanardini) Solms-Laubach, 1892:80, pl. IX: fig. 8.—Weber-van Bosse, 1913a:90.—Gilbert, 1943:22, fig. 1*a,b;* 1946:78; 1961:433.—Domantay, 1962:277.—Taylor, 1966b:347.—Reyes, 1972:141.—Trono, 1972a:99; 1973c:21; 1973d:10; 1975:41.—Velasquez, Trono, and Doty, 1975:129.—Trono and Young, 1977:57.—Reyes, 1978:150, pl. 6: fig. 1.—Trono, 1978:8.—Trono and Tuason, 1978:10.—Cordero, 1979b:276.—Liao and Sotto, 1980:97.—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:7, pl. IV: fig. 2.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. SAMAR: Eastern Samar. PANAY: Aklan. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. BOHOL. BASILAN. SULU: Tawitawi (incl. Sangasiapu I.).

Chlorocladus Sonder

Chlorocladus australasicus Sonder

Chlorocladus australasicus Sonder, 1871:67, pl. V: figs. 1–6 [type locality: Cape York, Queensland, Australia].

Dasycladus australasicus (Sonder) De Toni, 1889:411.—Taylor, 1966b: 345.—Velasquez, Trono, and Doty, 1975:140 [*"australicus"*].

PHILIPPINE DISTRIBUTION.—CATANDUANES.

NOTE.—A specimen in UC, collected in Aklan Province, Panay, and published as *Dasycladus* sp. by Cordero (1979b:282), was determined as *Chlorocladus australasicus* by I.R. Price, 27 January 1982.

**Chlorocladus philippinensis* Gilbert

Chlorocladus philippinensis Gilbert, 1978:305, figs. 1–8 [type locality: Solong-on, Siquijor].—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—CATANDUANES. SIQUIJOR.

NOTE.—Gilbert was unable to confirm Taylor's record of *Chlorocladus australasicus* because he could not locate the cited specimen. Probably only one species of *Chlorocladus* is represented in the Philippines, but whether it is distinct from Sonder's species remains to be investigated (see Price, 1981:175).

Cymopolia Lamouroux

Cymopolia vanbosseae Solms-Laubach

Cymopolia vanbosseae Solms-Laubach, 1892:78, pl. VIII: figs. 9, 10, 14–16 [*"van Bossei"*] [type locality: Maumere, Flores, Indonesia].—Gilbert, 1943:20; 1961:433.—Gilbert and Doty, 1969:125, fig. 16.—Velasquez, Trono, and Doty, 1975:140.—Cordero, 1979b:276.—Meñez and Calumpong, 1981:383.—Hurtado-Ponce, 1983:113.—Hurtado-Ponce and Modelo, 1983:148.—Marcos-Agngarayngay, 1983:100, fig. 32.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Zambales. CATANDUANES. PANAY: Aklan. CEBU. MINDANAO: Surigao.

Dasycladus C. Agardh

Dasycladus vermicularis (Scopoli) Krasser

Spongia vermicularis Scopoli, 1771:412, pl. 64: no. 1454 [type locality: Adriatic Sea].

Dasycladus vermicularis (Scopoli) Krasser in Beck and Zahlbruckner, 1898:459 —Reyes, 1978:150, pl. 5: fig. 8.

PHILIPPINE DISTRIBUTION.—SIQUIJOR.

Neomeris Lamouroux

Neomeris annulata Dickie

Neomeris annulata Dickie, 1874a:198 [type locality: Mauritius].—Gilbert, 1943:19; 1961:434.—Meñez, 1961:50, pl. 1: figs. 1–3.—Cordero, 1973b:18.—Velasquez et al., 1973:10, pl. 2: fig. 6.—Velasquez, Trono, and Doty, 1975:156.—Cordero, 1976c:8; 1977b:24.—Vannajan and Trono, 1977:45, fig. 9.—Cordero, 1979b:276.—Puig and Cordero, 1979:21.—Liao and Sotto, 1980:97.—Meñez and Calumpong, 1981:383.—Hurtado-Ponce, 1983:113 [with query].—Hurtado-Ponce and Modelo, 1983:148 [with query].—Marcos-Agngarayngay, 1983:98, fig. 30.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Ilocos Norte, Pangasinan, Bataan, Cavite, Batangas. MINDORO: Oriental Mindoro. LEYTE (Biliran I.). PANAY: Aklan. CEBU (Mactan I.).

Neomeris vanbosseae Howe

Neomeris vanbosseae Howe, 1909:80, pl. 1: figs. 4, 7; pl. 5: figs. 17–19 [*"van Bosseae"*] [type locality: Sikka, Flores, Indonesia].—Gilbert, 1943:17; 1961:434.—Meñez, 1961:50, pl. 1: figs. 4, 5.—Domantay, 1962:281.—Taylor, 1966b:347.—Valet, 1969:596.—Reyes, 1972: 141.—Trono, 1972a:99; 1973c:20, fig. 20.—Ortega, Alcala, and Reyes, 1974:187, 188.—Westernhagen, 1974:112 (table 1).—Velasquez, Trono, and Doty, 1975:156.—Cordero, 1976c:8; 1977b:24, pl. II: fig. 6.—Reyes, 1978:150, pl. 5: fig. 9.—Trono and Tuason, 1978:11.—Liao and Sotto, 1980:97.—Saraya and Trono, 1980:25.—Trono and Ganzon-Fortes, 1980:35, fig. [s.n].—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—BATANES. LUZON: Pangasinan, Bataan, Batangas, Quezon. CATANDUANES. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. PALAWAN (Balabac I.). SULU: Tawitawi.

Family POLYPHYSACEAE

The families Dasycladaceae and Polyphysaceae were described simultaneously by Kützing (1843). The latter, which included *Polyphysa* and *Acetabularia,* was merged into the former by subsequent workers, but was resurrected by Hauck (1884 [1883–1885]:421) under the name Acetabulariaceae.

Acetabularia Lamouroux

Acetabularia calyculus Lamouroux

Acetabularia calyculus Lamouroux in Quoy and Gaimard, 1824:621, pl. 90: figs. 6, 7 [*"caliculus"*] [type locality: Shark Bay, Western Australia, Australia].—Dickie, 1877:489.—Gilbert, 1943:33; 1946:78; 1961: 433.—Villones and Magdamo, 1968:12, fig. 3.—Velasquez et al., 1973:11, pl. 2: fig. 8.—Velasquez, Trono, and Doty, 1975:125.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. CEBU.

Acetabularia clavata Yamada

Acetabularia clavata Yamada, 1934:57, figs. 24, 25 [type locality: Tomari, Okinawa-gunto, Ryukyu-retto, Japan].—Trono and Santiago, 1972: 43.—Trono, Santiago, and Ganzon-Fortes, 1978:87, fig. 5*d*.

PHILIPPINE DISTRIBUTION.—LUZON: Batangas. CATANDUANES.

NOTE.—*Polyphysa* Lamarck (1816:151), characterized by the lack of an inferior corona, is usually treated as a section of *Acetabularia,* following the monograph of Solms-Laubach (1895:21). Recently, however, it has been resurrected at the generic level (Bailey, Rezak, and Cox, 1976) and *Acetabularia clavata* transferred to it (Schnetter and Meyer, 1982:41).

Acetabularia crenulata Lamouroux

Acetabularia crenulata Lamouroux, 1816:249, pl. VIII: fig. 1 [type locality: Caribbean Sea].—Velasquez, 1971:432, fig. 8.—Vannajan and Trono, 1977:45, figs. 10, 11.—Reyes, 1978:151, pl. 6: figs. 3, 4.

PHILIPPINE DISTRIBUTION.—LUZON: Zambales, Cavite, Albay. PANAY: Iloilo. SIQUIJOR. PALAWAN.

Acetabularia dentata Solms-Laubach

Acetabularia dentata Solms-Laubach, 1895:23, pl. 1: fig. 11 [syntype localities: various, all in Indonesia].—Gilbert, 1943:30, fig. 2*d–f;* 1961:433.—Gilbert and Doty, 1969:126, figs. 18, 19.—Reyes, 1972:141.—Trono and Santiago, 1972:44.—Trono, 1973c:21.—Velasquez, Trono, and Doty, 1975:125.—Trono, Santiago, and Ganzon-Fortes, 1978:84, fig. 3.—Liao and Sotto, 1980:97.—Fortes, 1981b:396.—Meñez and Calumpong, 1981:383.—Hurtado-Ponce, 1983:112.—Hurtado-Ponce and Modelo, 1983:148.

PHILIPPINE DISTRIBUTION.—LUZON: Cagayan (Babuyan Is.), Ilocos Norte, Batangas. CATANDUANES. MINDORO: Oriental Mindoro. NEGROS: Negros Oriental. CEBU (Mactan I.). MINDANAO: Surigao.

Acetabularia exigua Solms-Laubach

Acetabularia exigua Solms-Laubach, 1895:28, pl. 2: figs. 1, 4 [syntype localities: Macassar, Celebes and Sikka, Flores, Indonesia].—Trono and Santiago, 1972:42.—Trono, Santiago, and Ganzon-Fortes, 1978:84, 87, fig. 4*b–f.*—Saraya and Trono, 1980:25.—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Batangas. CENTRAL VISAYAS.

Acetabularia major Martens

Acetabularia major Martens, 1868:25, pl. IV: fig. 3 [type locality: "Simaharadscha" (Ban Si Racha ?), Thailand].—Howe, 1932:169.—Gilbert,

1943:29, fig. 2*a–c;* 1946:78.—Zaneveld, 1950:109.—Montilla and Blanco, 1953:166.—Zaneveld, 1956:5; 1959:92.—Gilbert, 1961: 433.—Meñez, 1961:51, pl. 1: figs. 10–12.—Domantay, 1962:276, 277. —Gilbert and Doty, 1969:126, fig. 17.—Trono and Santiago, 1972: 44.—Trono, 1973c:21.—Velasquez et al., 1973:11, pl. 2: fig. 9.—Velasquez, Trono, and Doty, 1975:125.—Trono and Young, 1977: 57.—Trono, Santiago, and Ganzon-Fortes, 1978:79, fig. 1.—Trono and Tuason, 1978:9.—Cordero, 1979b:276.—Puig and Cordero, 1979:22.—Meñez and Calumpong, 1981:383.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan, Zambales, Batangas. CATANDUANES. MINDORO: Oriental Mindoro. LEYTE (Biliran I.). PANAY (incl. Aklan).

Acetabularia minutissima Okamura

Acetabularia minutissima Okamura, 1912 [1909–1912]:184, pl. C: figs. 7–11 [syntype localities: Futae, Amakusa Is. and Hyuga Prov. (Miyazaki Prefecture), Japan].—Meñez, 1961:51.—Velasquez, Trono, and Doty, 1975:125.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan.

Acetabularia parvula Solms-Laubach

Acetabularia parvula Solms-Laubach, 1895:29, pl. 2: figs. 3, 5 [syntype localities: "Tropical India"; Macassar, Celebes, Indonesia].

Acetabularia moebii Solms-Laubach, 1895:30, pl. 4: fig. 1 [type locality: Mauritius].—Trono and Santiago, 1972:43.—Cordero, 1973b:18.—Trono, Santiago, and Ganzon-Fortes, 1978:87, fig. 4*a*.—Puig and Cordero, 1979:22.—Saraya and Trono, 1980:24.—Meñez and Calumpong, 1981:383.—Hurtado-Ponce, 1983:112.—Hurtado-Ponce and Modelo, 1983:148.—Marcos-Agngarayngay, 1983:98, fig. 29.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan. CATANDUANES. LEYTE (Biliran I.). CENTRAL VISAYAS.

NOTE.—The synonymy was proposed by Valet (1969:621). This species was transferred to *Polyphysa* by Schnetter and Meyer (1982:42).

**Acetabularia roxasii* Trono

Acetabularia roxasii Trono, Santiago, and Ganzon-Fortes, 1978:80, fig. 2. [type locality: Calatagan, Batangas Prov., Luzon].

PHILIPPINE DISTRIBUTION.—As above.

Acetabularia ryukyuensis Okamura and Yamada

Acetabularia ryukyuensis Okamura and Yamada in Okamura, 1932a [1929–1932]:71, pl. CCLXXXV: figs. 5–12 [type locality: Ryukyu-retto, Japan].—Cordero, 1979b:282.—Puig and Cordero, 1979:22.

PHILIPPINE DISTRIBUTION.—LEYTE (Biliran I.). PANAY: Aklan.

**Acetabularia ryukyuensis* Okamura and Yamada var. *philippinensis* (Gilbert) Valet

Acetabularia philippinensis Gilbert, 1943:31, fig. 3 [type locality: Taytay, Palawan].—Gilbert, 1961:433.—Taylor, 1966b:347.—Velasquez, Trono, and Doty, 1975:125.—Trono and Tuason, 1978:9.

Acetabularia ryukyuensis Okamura and Yamada var. *philippinensis* (Gilbert) Valet, 1969:613, pl. 154 (43): fig. 12.

PHILIPPINE DISTRIBUTION.—LUZON: Pangasinan. CATANDUANES. PALAWAN.

**Acetabularia velasquezii* Trono, Santiago, and Ganzon-Fortes

Acetabularia velasquezii Trono, Santiago, and Ganzon-Fortes, 1978:87, fig. 5*a–c* [type locality: Minabalay I., Barrio Danao, Baras, Catanduanes].

PHILIPPINE DISTRIBUTION.—As above.

Halicoryne Harvey

Halicoryne wrightii Harvey

Halicoryne wrightii Harvey, 1860a:333 [type locality: Ryukyu-retto, Japan].—Solms-Laubach, 1895:31.—Gilbert, 1943:27; 1946:78; 1961:433.—Meñez, 1961:51.—Domantay, 1962:281.—Taylor, 1966b:346.—Valet, 1969:603.—Velasquez, 1971:432, fig. 9.—Reyes, 1972:141.—Cordero, 1973b:19.—Velasquez et al., 1973:11, pl. 2: fig. 7.—Westernhagen, 1973a:64.—Ortega, Alcala, and Reyes, 1974:188.—Westernhagen, 1974:112 (table 1).—Trono, 1975:40.—Velasquez, Trono, and Doty, 1975:147, 149 [*"Halycoryne wrigtii"*].—Trono and Young, 1977:57.—Reyes, 1978:150, pl. 6: fig. 2.—Trono, 1978:8.—Trono and Tuason, 1978:10.—Cordero, 1980a:29, 34, fig. 3.—Liao and Sotto, 1980:97.—Meñez and Calumpong, 1981:383.—Trono and De Lara, 1981:7, pl. IV: fig. 3.—Cordero, 1984a:76.

Polyphysa spicata [misapplied name fide Solms-Laubach, 1895:31].—Dickie, 1876a:243.—Gilbert, 1961:434.—Velasquez, Trono, and Doty, 1975:160.

PHILIPPINE DISTRIBUTION.—LUZON: Ilocos Norte, Pangasinan, Zambales, Bataan, Albay, Sorsogon. CATANDUANES. MINDORO: Occidental Mindoro (Lubang Is.), Oriental Mindoro. MARINDUQUE. LEYTE (Biliran I.). PANAY. NEGROS: Negros Oriental. CEBU (Mactan I.). SIQUIJOR. BOHOL.

Records Determined Only To Genus

(Genera marked with an asterisk (*) have not been otherwise reported from the Philippines, or (in the case of Cyanophyceae) at least not from marine habitats.)

CYANOPHYCEAE

Anabaina
Reyes, 1972:136 ["*Anabaena*"]. NEGROS: Negros Oriental.

**Aphanocapsa*
Agor, 1962:33. LUZON: Pangasinan.

Calothrix
Cornejo and Velasquez, 1972:172, pl. 1: fig. 3. LUZON: Batangas.
Vannajan and Trono, 1977:37–38. LUZON: Cavite.

**Coccochloris*
Reyes, 1972:135. NEGROS: Negros Oriental.

Entophysalis
Reyes, 1978:139, pl. 1: figs. 3, 4. SIQUIJOR.

**Gloeotrichia*
Velasquez, 1980:127 (table 1) [no description or collecting data]. MINDORO: Oriental Mindoro.

Hormothamnium
Villones and Magdamo, 1968:11. LUZON: Batangas.
Reyes, 1972:136. NEGROS: Negros Oriental.

Lyngbya
Vannajan and Trono, 1977:37. LUZON: Cavite.

Oscillatoria
Vannajan and Trono, 1977:36. LUZON: Cavite.

Rivularia
Domantay, 1962:276. LUZON: Pangasinan.

Schizothrix
Reyes, 1978:140, pl. 2: figs. 3, 4. SIQUIJOR.

Symploca
Domantay, 1962:276. LUZON: Pangasinan.

RHODOPHYCEAE

Acrochaetium
Cornejo and Velasquez, 1972:178, pl. 2: fig. 17. LUZON: Batangas.

**Agardhiella*
Seale, 1911:309 [no description; see *Gracilaria verrucosa* in catalog].
Quisumbing, 1951:1007. LUZON: Manila Bay.
Zaneveld, 1956:26. LUZON: Manila Bay.
Zaneveld, 1959:107. LUZON: Manila Bay.

Ahnfeltia
Cordero, 1978a:42. BATANES.

Amansia
Meñez, 1961:75, pl. 8: figs. 92–94. LUZON: Pangasinan.

Amphiroa
Villones and Magdamo, 1968:30, fig. 33. LUZON: Batangas.
Reyes, 1972:153. NEGROS: Negros Oriental.
Trono and Biña, 1973:5. MINDORO: Oriental Mindoro.
Trono, 1974b:86. SULU: Sulu (Siasi I.).
Reyes, 1980:131, pl. 7: figs. 1, 2. SIQUIJOR.
Cordero, 1984a:95. LUZON: Ilocos Norte.

Antithamnion
Vannajan and Trono, 1978:23, figs. 26, 27. LUZON: Cavite.

Asterocytis
Vannajan and Trono, 1978:14. LUZON: Cavite.

**Calliarthron*
Cordero, 1979b:276. PANAY: Aklan.

**Callithamnion*
Vannajan and Trono, 1978:23, fig. 28. LUZON: Cavite.

Callophyllis
Cordero, 1979b:290. PANAY: Aklan.
Reyes, 1980:134, pl. 9: figs. 1, 2. SIQUIJOR.
Cordero, 1984a:97. LUZON: Ilocos Norte.

Carpopeltis
Meñez, 1961:73. LUZON: Pangasinan.
Reyes, 1972:154. NEGROS: Negros Oriental.
Cordero, 1973b:31. LEYTE (Biliran I.).
Trono and Biña, 1973:3. MINDORO: Oriental Mindoro.

Centroceras
Domantay, 1962:288. LUZON: Pangasinan.

Ceramium
Cornejo and Velasquez, 1972:183, pl. 3: fig. 26; pl. 5: fig. 39. LUZON: Batangas.
Trono, 1972:106. SULU: Tawitawi.
Trono, 1973d:20. MINDANAO: Zamboanga.
Reyes, 1980:138, pl. 12, figs. 1*a,b*. SIQUIJOR.
Trono and Ang, 1982:22. PALAWAN (Bugsuk I.).
Cordero, 1984a:104. LUZON: Ilocos Norte.

Champia
Meñez, 1961:78. LUZON: Pangasinan.
Cornejo and Velasquez, 1972:179, pl. 4: fig. 35. LUZON: Batangas.

Chondria
Cornejo and Velasquez, 1972:179–180, pl. 2: figs. 19, 20; pl. 3: fig. 21. LUZON: Batangas.

**Chondrus*
Cordero, 1984a:103 [with query]. LUZON: Ilocos Norte.

**Chrysymenia*
Reyes, 1972:157. NEGROS: Negros Oriental.
Trono, 1973a:135, fig. 7. LUZON: Sorsogon.

Corallina
Reyes, 1972:153. NEGROS: Negros Oriental.
Reyes, 1980:131, pl. 7: fig. 3. SIQUIJOR.

Cryptonemia
Reyes, 1980:133, pl. 8: fig. 4. SIQUIJOR.
Marcos-Agngarayngay, 1983b:39, fig. 32. LUZON: Ilocos Norte.

**Dicranema*
Trono, 1974b:93. SULU: Sulu (Siasi I.).

Eupogodon
Reyes, 1972:158 [as *Dasyopsis*]. NEGROS: Negros Oriental.

Erythrotrichia
Cornejo and Velasquez, 1972:177, pl. 2: fig. 14; pl. 4: fig. 32. LUZON: Batangas.
Vannajan and Trono, 1978:14, fig. 12. LUZON: Cavite.

Eucheuma
Cordero, 1973b:31. LEYTE (Biliran I.).
Reyes, 1980:136, pl. 10: fig. 4. SIQUIJOR.
Cordero, 1984a:99. LUZON: Ilocos Norte.

Fauchea
Reyes, 1972:158. NEGROS: Negros Oriental.

Galaxaura
Trono and De Lara, 1981:13, pl. VIII: fig. 4. MINDORO: Occidental Mindoro (Lubang Is.).
Cordero, 1984a:91. LUZON: Ilocos Norte.

Gelidiella
Trono and Biña, 1973:3. MINDORO: Oriental Mindoro.
Gelidiopsis
Cordero, 1973b:30. LEYTE (Biliran I.).
Reyes, 1980:129–130, pl. 6: figs. 3, 4. SIQUIJOR.
Cordero, 1984a:100. LUZON: Ilocos Norte.
Gelidium
Cordero, 1973b:30. LEYTE (Biliran I.).
Cordero, 1978a:23. BATANES.
Gracilaria
Collado, 1926:129. LUZON: Cagayan, Ilocos.
Reyes, 1972:155–156. NEGROS: Negros Oriental.
Cordero, 1973b:33. LEYTE (Biliran I.).
Trono, 1973d:18, pl. 9: fig. 4. LUZON: Pangasinan. SAMAR: Eastern Samar. NEGROS: Negros Oriental. MINDANAO: Zamboanga.
Vannajan and Trono, 1978:22, fig. 25. LUZON: Rizal.
Saraya and Trono, 1982:41. LUZON: Pangasinan.
Trono and Ang, 1982:20. PALAWAN (Bugsuk I.).
Trono, Azanza-Corrales, and Manuel, 1983:34–41, figs. 8, 9*a*, 10, 11*b*. LUZON: Rizal, Cavite. SULU: Sulu (Siasi I.).
Cordero, 1984a:103. LUZON: Ilocos Norte.
Grateloupia
Trono, 1973d:16. LUZON: Pangasinan.
Reyes, 1980:133, pl. 8: fig. 3. SIQUIJOR.
Marcos-Agngarayngay, 1983c:126. LUZON: Ilocos Norte.
Cordero, 1984a:97. LUZON: Ilocos Norte.
Griffithsia
Reyes, 1972:158. NEGROS: Negros Oriental.
Reyes, 1980:138, pl. 11: figs. 6*a,b*. SIQUIJOR.
Gymnogongrus
Reyes, 1980:137, pl. 11: fig. 1. SIQUIJOR.
Halymenia
Vannajan and Trono, 1978:18. LUZON: Cavite.
Cordero, 1980:49, fig. 11B, pl. 31. SAMAR: West Samar.
Hurtado-Ponce, 1983a:138. LUZON: Ilocos Norte.
Herposiphonia
Cornejo and Velasquez, 1972:181, pl. 3: figs. 23, 23*a*. LUZON: Batangas.
Trono, 1973d:21, pl. 10: fig. 8. MINDANAO: Zamboanga.
Trono and De Lara, 1981:20. MINDORO: Occidental Mindoro (Lubang Is.).
**Heteroderma*
Saraya and Trono, 1982:35. LUZON: Pangasinan.
Hypnea
Collado, 1926:129. LUZON: Cagayan, Ilocos.
G. Blanco, 1938:513. LUZON: Cagayan (incl. Babuyan Is.).
Reyes, 1972:156. NEGROS: Negros Oriental.
Trono, 1972:105. SULU: Tawitawi.
Trono, 1973d:17. CEBU. MINDANAO: Zamboanga (incl. Sacol I.).
Cordero, 1978a:41. BATANES.
Jania
Cordero, 1984a:95. LUZON: Ilocos Norte.
Cordero, 1984c:54. MASBATE.
Kallymenia
Marcos-Agngarayngay, 1983c:126. LUZON: Ilocos Norte.
Laurencia
Meñez, 1961:77. LUZON: Pangasinan.
Reyes, 1972:159. NEGROS: Negros Oriental.
Trono, 1972:108. SULU: Tawitawi.
Trono, 1973d:22. LUZON: Pangasinan, Quezon. MINDANAO: Zamboanga.
Trono and Ganzon-Fortes, 1980:105, fig. [s.n.]. LUZON: Batangas.
Trono and Ang, 1982:26. PALAWAN (Bugsuk I.).
Cordero, 1984a:108. LUZON: Ilocos Norte.
**Leptofauchea*
Reyes, 1972:157. NEGROS: Negros Oriental.
Ortega, Alcala, and Reyes, 1974:186, 187, 188 [no description or collecting data]. NEGROS: Negros Oriental.
Liagora
Domantay, 1962:292. LUZON: Pangasinan.
Trono and De Lara, 1981:11–12, pl. VII: fig. 2. MINDORO: Occidental Mindoro (Lubang Is.).
Cordero, 1984a:87. LUZON: Ilocos Norte.
Lithophyllum
Howe, 1932:169. PANAY.
Reyes, 1980:132, pl. 7: figs. 6, 7. SIQUIJOR.
Lomentaria
Vannajan and Trono, 1978:23, fig. 30. LUZON: Manila, Cavite.
Lophosiphonia
Reyes, 1980:141, pl. 13: figs. 4*a–c*. SIQUIJOR.
Martensia
Trono, 1974b:94. SULU: Sulu (Siasi I.).
**Melobesia*
Reyes, 1972:153. NEGROS: Negros Oriental.
Microcladia
Tahil, 1978:52 [no description or collecting data]. CEBU (Mactan I.).
Murrayella
Trono, 1973a:136. MINDORO: Oriental Mindoro.
Peyssonnelia
Reyes, 1972:154. NEGROS: Negros Oriental.
Cordero, 1984a:93. LUZON: Ilocos Norte.
Polysiphonia
Domantay, 1962:293. LUZON: Pangasinan.
Reyes, 1972:158. NEGROS: Negros Oriental.
Trono, 1972:107. SULU: Tawitawi.
Trono, 1973d:21, pl. 10: fig. 7. MINDANAO: Zamboanga.
Reyes, 1980:141, pl. 13: figs. 3*a,b*. SIQUIJOR.
Porphyra
Bersamin et al., 1973:188. LUZON: Cagayan, Ilocos.
Pterocladia
Reyes, 1980:129, pl. 6: fig. 2. SIQUIJOR.
Rhodopeltis
Trono, 1973a:133, fig. 4. LUZON: Sorsogon.
Rhodymenia
Trono, 1973a:136, fig. 15. LUZON: Sorsogon.
Trono and Biña, 1973:10. MINDORO: Oriental Mindoro.
Cordero, 1978a:43. BATANES.
Cordero, 1980c:72, fig. 4. LUZON: Ilocos Norte.
Reyes, 1980:137, pl. 11: fig. 3. SIQUIJOR.
Trono and De Lara, 1981:19, pl. XI: fig. 3. MINDORO: Occidental Mindoro (Lubang Is.).
Marcos-Agngarayngay, 1983b:53, fig. 44. LUZON: Ilocos Norte.
Cordero, 1984a:103. LUZON: Ilocos Norte.
Sarcodia
Trono, 1973d:18 [with query]. NEGROS: Negros Oriental.
Cordero, 1978a:35. BATANES.
Scinaia
Trono, 1973a:130, fig. 5. LUZON: Sorsogon.
**Spermothamnion*
Westernhagen, 1973b: 368 [no description or collecting data]. CEBU (Mactan I.).
Titanophora
Trono, 1973a:134, fig. 13. LUZON: Sorsogon.
Trono and Biña, 1973:7. MINDORO: Oriental Mindoro.
Trono, 1978:18. MARINDUQUE.
Trono and Ganzon-Fortes, 1980:73, fig. [s.n.]. LUZON: Batangas.
Saraya and Trono, 1982:37. LUZON: Pangasinan.
Tolypiocladia
Trono, 1972:107. SULU: Tawitawi.
Trono and De Lara, 1981:20. MINDORO: Occidental Mindoro (Lubang Is.).

Trichogloea
Cordero, 1978a:13. BATANES.

PHAEOPHYCEAE

Colpomenia
Cordero, 1984a:85. LUZON: Ilocos Norte.
Cutleria
Cordero, 1979b:284. PANAY: Aklan.
Cystoseira
Reyes, 1980:123, pl. 4: fig. 3. SIQUIJOR.
Dictyopteris
Meñez, 1961:64. LUZON: Pangasinan.
Dictyota
Meñez, 1961:63, pl. 11: fig. 121; pl. 12: fig. 132. LUZON: Pangasinan.
Villones and Magdamo, 1968:26, fig. 17. LUZON: Batangas.
Trono, 1974a:144. SULU: Sulu (Siasi I.).
Cordero, 1984a:83. LUZON: Ilocos Norte.
Cordero, 1984b:61. MASBATE.
**Ectocarpus*
Cornejo and Velasquez, 1972:176, pl. 2: figs. 12, 13. LUZON: Batangas.
Feldmannia
Cordero, 1979b:284. PANAY: Aklan.
Hydroclathrus
Villones and Magdamo, 1968:26, fig. 19. LUZON: Batangas.
Hormophysa
Reyes, 1972:147. NEGROS: Negros Oriental.
Padina
Meñez, 1961:62. LUZON: Pangasinan.
Villones and Magdamo, 1968:27, fig. 20. LUZON: Batangas.
Reyes, 1972:146. NEGROS: Negros Oriental.
Reyes, 1980:120, pl. 2: fig. 2. SIQUIJOR.
Cordero, 1984a:84. LUZON: Ilocos Norte.
**Punctaria*
Cordero, 1984a:84. LUZON: Ilocos Norte.
Sargassum
Meñez, 1961:64–67, pl. 9: figs 96–102. LUZON: Pangasinan.
de los Reyes, 1967:231, 233, fig. 6. LEYTE (Biliran I.).
Villones and Magdamo, 1968:27, fig. 21. LUZON: Batangas.
Reyes, 1972:146–147. NEGROS: Negros Oriental.
Cordero, 1973b:26. LEYTE (Biliran I.).
Trono, 1973d:13, pl. 8: fig. 31, 32.
Velasquez et al., 1973:22. LUZON: Bataan.
Trono, 1974a:148. SULU: Sulu (Siasi I.).
Trono and Young, 1977:58. CATANDUANES.
Trono, 1978:12–14. MARINDUQUE.
Trono and Tuason, 1978:12. CATANDUANES.
Vannajan and Trono, 1978:13, fig. 9. LUZON: Cavite.
Cordero, 1980b:36, fig. 3c, pls. 23, 24, [51]. LUZON: Cagayan, Ilocos Norte. SAMAR: Western Samar, Eastern Samar. PANAY: Aklan. SIQUIJOR. MINDANAO: Surigao del Sur.
Reyes, 1980:123, pl. 4: fig. 4. SIQUIJOR.
Trono and Ganzon-Fortes, 1980:51–53, [2] figs. LUZON: Batangas.
Guzman, 1981:43, 52.
Trono and De Lara, 1981:10, pl. VII: fig. 1. MINDORO: Occidental Mindoro (Lubang Is.).
Trono and Ang, 1982:15–16. PALAWAN (Bugsuk I.).
Hurtado-Ponce, 1983a:125–126. LUZON: Ilocos Norte.
Marcos-Agngarayngay, 1983b:14, fig. 11. LUZON: Ilocos Norte.
Cordero, 1984a:86. LUZON: Ilocos Norte.
Cordero, 1984b:63. PALAWAN.
Cordero, 1984c:54. MASBATE.
Spatoglossum
Trono, 1974a:145–146. SULU: Sulu (Siasi I.).
Reyes, 1980:121, pl. 2: fig. 4. SIQUIJOR.
Sphacelaria
Trono, 1973d:11. LUZON: Pangasinan.
Vannajan and Trono, 1978:8, fig. 2. LUZON: Cavite.
Turbinaria
Meñez, 1961:68. LUZON: Pangasinan.
Reyes, 1972:147. NEGROS: Negros Oriental.
Trono, 1972:101. SULU: Tawitawi.
Trono, 1973d:12. SAMAR: Eastern Samar.

CHLOROPHYCEAE

Acetabularia
Domantay, 1962:277. LUZON: Pangasinan.
Anadyomene
Cordero, 1984a:74. LUZON: Ilocos Norte.
Boergesenia
Trono, 1973b:217. SULU: Sulu (Siasi I.).
Boodlea
Villones and Magdamo, 1968:26, fig. 14. LUZON: Batangas.
Trono, 1973c:6. MINDORO: Oriental Mindoro.
Trono, 1973d:4. SULU: Tawitawi.
Bryopsis
Reyes, 1972:142. NEGROS: Negros Oriental.
Caulerpa
Trono, 1973a:128. LUZON: Sorsogon.
Trono, 1973b:220. SULU: Sulu (Siasi I.).
Trono, 1973d:8, pl. 2: fig. 6. SIQUIJOR.
Cordero, 1976a:86, fig. 2. CEBU (Mactan I.).
Cordero, 1977b:26, 28, fig. 3 [*Caulerpa brachypus*? "false-type"]. SIQUIJOR.
Cordero, 1984a:78. LUZON: Ilocos Norte.
Chaetomorpha
G. Blanco, 1938:512. LUZON: Cagayan (incl. Babuyan Is.).
Villones and Magdamo, 1968:24, fig. 10 [cited but not published]. LUZON: Batangas.
Reyes, 1972:140. NEGROS: Negros Oriental.
Trono, 1973b:214. SULU: Sulu (Siasi I.).
Reyes, 1978:149. SIQUIJOR.
**Cladocephalus*
Taylor, 1966b:352. PALAWAN (Balabac I.).
Cladophora
Cornejo and Velasquez, 1972:174, pl. 1: fig. 8. LUZON: Batangas.
Trono, 1972:94. SULU: Tawitawi.
Trono, 1973b:214. SULU: Sulu (Siasi I.).
Trono, 1973d:4. SIQUIJOR.
Trono, 1975:29. LUZON: Sorsogon.
Cordero, 1977b:22. BATANES.
Vannajan and Trono, 1977:43, fig. 17. LUZON: Rizal, Manila.
Reyes, 1978:147–148, pl. 4: figs. 3–7. SIQUIJOR.
Cladophoropsis
Trono, 1973d:4, pl. 1: fig. 4. MINDANAO: Zamboanga.
Cordero, 1984a:73 [as *Spongocladia*]. LUZON: Ilocos Norte.
Codium
Galutira and Velasquez, 1964:498, pl. 2: fig. 6; pl. 7: fig. 24. LUZON: Ilocos Norte.
de los Reyes, 1967:231, 233, fig. 1. LEYTE (Biliran I.).
Trono, 1973b:223–225. SULU: Sulu (Siasi I.).
Trono, 1973c:14, fig. 6.
Trono, 1973d:9. MINDANAO: Zamboanga.
Reyes, 1978:158, pl. 10: figs. 1, 2. SIQUIJOR.
Cordero, 1979b:282. PANAY: Aklan.
Cordero, 1984a:79. LUZON: Ilocos Norte.

Dasycladus
Cordero, 1979b:282. PANAY: Aklan. [Specimen in UC determined as *Chlorocladus australasicus* by I.R. Price, 27.i.1982.]
Dictyosphaeria
Reyes, 1978:152, pl. 6: figs. 11, 12. SIQUIJOR.
Enteromorpha
Trono, 1972:94. SULU: Tawitawi.
Trono, 1973c:4. MINDORO: Oriental Mindoro.
Trono, 1975:25. LUZON: Sorsogon.
Reyes, 1978:146. SIQUIJOR.
Saraya and Trono, 1980:8. LUZON: Pangasinan.
Guzman, 1981:42, 47, 51.
Cordero, 1984a:70. LUZON: Ilocos Norte.
Halimeda
Trono, 1973b:227–228. SULU: Sulu (Siasi I.).
Trono, 1973d:9. MINDANAO: Zamboanga.
Trono, 1975:39–40. LUZON: Sorsogon.
Trono and Young, 1977:57. CATANDUANES.
Cordero, 1984a:81. LUZON: Ilocos Norte.
Microdictyon
Trono, 1973b:215. SULU: Sulu (Siasi I.).
Cordero, 1984a:74. LUZON: Ilocos Norte.
Monostroma
Reyes, 1972:138. NEGROS: Negros Oriental.
Reyes, 1978:146, pl. 3: fig. 6. SIQUIJOR.
**Spongomorpha*
Liao and Sotto, 1980:96 [no description or collecting data]. CEBU (Mactan I.).
**Trichosolen*
Gilbert and Doty, 1969:122, fig. 5. LUZON: Rizal. CATANDUANES. CEBU.
Ulva
Trono, 1975:28. LUZON: Sorsogon.
Reyes, 1978:147, pl. 3: fig. 10. SIQUIJOR.
Cordero, 1984a:71. LUZON: Ilocos Norte.

Nomenclatural Notes

by Paul C. Silva

Later Starting Points in CYANOPHYCEAE

The International Code of Botanical Nomenclature (ICBN; Voss et al., 1983) states that nomenclature for the Nostocales begins with the monographs of Bornet and Flahault (1886–1888) and Gomont (1892–1893). (The ICBN assigns an arbitrary date of 1886 and 1892, respectively, to these monographs.) An enormous body of taxonomic information about blue-green algae had been published before those distinguished French phycologists wrote their monographs. According to the ICBN, pre-starting point taxonomy may be retained, but pre-starting point nomenclature does not exist. This legalistic nonsense, rather than simplify the nomenclature of blue-green algae, has introduced hopeless confusion. Even those (like Drouet) who profess to follow the ICBN with regard to later starting points are inconsistent. Names treated as synonyms in the starting point monographs are invalid according to the ICBN, but Drouet (1968:14) pointed out that all such names presumably have been validated subsequently "by reference or by a new description." Lacking the time to "search through thousands of local floras, check-lists of species, and morphological, ecological, and physiological papers", Drouet treated those older names "as having been validly and autonomously published, not as synonyms, but by reference to their original descriptions" in the starting point monograph and subsequent publications.

In view of the facts that Drouet has located the types of the majority of blue-green algal species and that blue-green algal taxonomy is in an extraordinary state of flux, it seems pointless to attempt to accommodate their nomenclature to later starting points. *Oscillatoria submembranacea* is an example of the needless complications caused by the use of later starting points. This species was first described by Ardissone and Strafforello (1877) as *Oscillaria submembranacea.* In Gomont (1892), the starting point monograph for *Oscillatoria,* it was treated as *Phormidium submembranaceum.* In accordance with normal nomenclature, this name would be written *Phormidium submembranaceum* (Ardissone and Strafforello) Gomont, but Article 13.1 of the ICBN renders pre-starting point nomenclature invalid, so that the name must be ascribed solely to Gomont and dated from 1892, not 1877. Drouet (1968:203) transferred the species to *Oscillatoria,* but incorrectly attributed it directly to Ardissone and Strafforello (considering *Oscillaria* and *Oscillatoria* as orthographic variants, an equivocal interpretation). In accordance with later starting points, it should be written *Oscillatoria submembranacea* (Gomont) Drouet!

In the long course of compiling the Index Nominum Algarum (since 1948), I repeatedly struggled with the complications of later starting points and eventually concluded that it was impractical to continue to do so. The present catalog is my first opportunity to make the iconoclastic move of basing the nomenclature of blue-green algae uniformly on the Linnaean starting date, 1753.

The Taxonomy of Acrochaetioid Algae

The confused taxonomy of acrochaetioid algae was thoroughly reviewed by Woelkerling (1983a), who expressed personal preference for either of two classifications: a monogeneric scheme using the oldest available name, *Audouinella* Bory de Saint-Vincent (1823:340, *"Auduinella"*); or a polygeneric scheme based solely on the type of life history without regard for vegetative features. Woelkerling concluded: "In the short term, it seems to me that it is more important to accumulate detailed, trustworthy data on numerous species than to engage in endless manipulation of generic schemes. Use of either of the above two schemes would provide a workable taxonomic framework while new studies are being carried out."

The decision as to which classification would best serve the purposes of this catalog was based on the following considerations. Papenfuss (1945), in trying to delineate the South African acrochaetioid algae, concluded that it was possible to distribute them among four genera on the basis of the number and form of the cloroplasts in each vegetative cell, as follows:

Rhodochorton, few to many small, discoid chloroplasts;
Acrochaetium, one parietal or laminate chloroplast;
Audouinella, one or more spiral chloroplasts; and
Chromastrum, one or more stellate chloroplasts.

It soon became apparent that the distinction drawn by Papenfuss between *Acrochaetium* and *Chromastrum* was difficult to maintain, partly because he (and many subsequent workers) confused form with position. A chloroplast with a stellate form may be axile or parietal in position. There are intermediate situations with regard to both form and position. Feldmann (1962) proposed that *Acrochaetium* include plants whose cells contain a single chloroplast of either form or position. Woelkerling (1971), believing that vegetative characters are of diagnostic value only at the species level, placed all acrochaetioid algae with sexual stages in one genus, *Audouinella.* He referred those without sexual stages to *Colaconema* Batters (1896:8), which he treated as a form

genus. *Chromastrum* was re-established by Stegenga and Mulder (1979) to include species with one axile, stellate, pyrenoid-bearing chloroplast in each cell and a life history involving an alternation of heteromorphic phases—the gametophyte with a unicellular base and the tetrasporophyte with a multicellular base that develops from a septately germinating carpospore. *Acrochaetium* was circumscribed to include species with one to several parietal pyrenoid-bearing chloroplasts in each cell and a life history involving an alternation of isomorphic phases. *Audouinella* was retained for species with one to several parietal chloroplasts of spiral or irregular shape, without pyrenoids.

The nomenclature of acrochaetioid algae was muddled long ago by the selection of *Acrochaetium daviesii* (Dillwyn) Nägeli (1862:405, 412), based on *Conferva daviesii* Dillwyn (1809 [1802–1809]:73, pl. F), as the lectotype of its genus by Drew (1928:147), who erroneously believed (along with all other authors) that the genus was first described by Nägeli in 1862. In fact, it was described in 1858, and *A. daviesii* was not among the original species. Accordingly, Woelkerling (1983a:65) set aside the lectotype that, although untenable, had been accepted for more than a half-century, replacing it with *A. secundatum* (Lyngbye) Nägeli (1858:532, footnote), based on *Callithamnion daviesii* (Dillwyn) Lyngbye var. *secundatum* Lyngbye (1819:129, pl. 41B: figs. 4–6). Although in both species each cell contains a single chloroplast with a pyrenoid, in *A. daviesii* the chloroplast is laminate and parietal, while in *A. secundatum* it is stellate and axile. Those schemes that are based on vegetative features, either wholly or partly, are thus severely affected. *Chromastrum* falls into synonymy under *Acrochaetium,* while some name other than *Acrochaetium* must be applied to those species considered by many workers through many decades to be congeneric with *A. daviesii.* Stegenga (1985) applied *Colaconema* to the latter circumscription. The coining of numerous binomials as a consequence of changing the lectotype of *Acrochaetium* could be precluded by the conservation of that generic name using the 1862 publication as protologue and *A. daviesii* as type. Any proposal for conservation, however, should await further clarification of the taxonomy of acrochaetioid algae.

Because any classification of acrochaetioid algae used at present either would be admittedly artificial (based on a single character) or, if allegedly natural (based on morphological, ontogenetic, and life history characters), would be criticized as being premature, I have employed a scheme that at least has the merit of not requiring new binomials, namely that of Feldmann (1962). According to this classification, all records of acrochaetioid algae for the Philippines are encompassed by *Acrochaetium.*

Galaxauraceae as a Replacement for Chaetangiaceae

When *Chaetangium* was established, Kützing (1843b:392) misidentified his material with *Fucus ornatus* Linnaeus, which has turned out to be representative of *Suhria* in the Gelidiaceae (see Papenfuss, 1952:173). For many decades the name *Chaetangium* has been applied on the basis of Kützing's material, but a decision made at the International Botanical Congress at Sydney in 1981 makes it clear that the name must remain with *Suhria* unless conservation is invoked.

Parkinson (1983), after reviewing the nomenclatural history of *Chaetangium,* decided against conservation of that generic name, choosing instead to propose *Suhria* for conservation against *Chaetangium* and to resurrect *Nothogenia* Montagne (1843a:302) as a replacement for *Chaetangium.* [*Nothogenia variolosa* (Montagne) Montagne, the type of its genus, was placed in the synonymy of *Chaetangium fastigiatum* (Bory de Saint-Vincent) J. Agardh by Kylin (in Kylin and Skottsberg, 1919:6)]. Because the name Chaetangiaceae must be considered a synonym of Gelidiaceae, Parkinson simultaneously established the family Galaxauraceae.

Portieria as a Replacement for *Chondrococcus*

The genus of Rhizophyllidaceae currently called *Desmia* Lyngbye (1819) emend. J. Agardh (1852 [1851–1863]) or *Chondrococcus* Kützing (1847) has a troubled nomenclatural history. I have discussed it in detail previously (Silva, 1952a:304–306), but it is necessary to return to it in light of changes in the ICBN made at Sydney pertaining to the typification of generic names.

Desmia was established by Lyngbye (1819:XXIX, 33) to receive three species with narrow, compressed branches. One species is the type of *Herbacea* Stackhouse (1809) and another is the type of *Hippurina* Stackhouse (1809). Both of these genera are referable to *Desmarestia* Lamouroux (1813), but the name *Desmarestia* has been conserved against the Stackhouse names. *Desmia* is thus a superfluous name for *Desmarestia* and illegitimate in accordance with Article 63.1 of the ICBN. Although Lyngbye did not give a reason for abandoning the name *Desmarestia,* which he cited in synonymy, he may have considered *Desmia* a better name because of its brevity or because it was descriptive (derived from the Greek word *desmos,* "band") rather than commemorative (*Desmarestia* being named for Anselm Gaëtan Desmarest, a French zoologist). The sharing of the first four letters by the two names perhaps is not purely coincidental.

The third species assigned by Lyngbye to *Desmia* was *D. hornemannii* ("*hornemanni*"), based on a specimen sent to him by Mertens under the name *Fucus hornemanni.* Mertens found this specimen among Forsskål's collections and indicated that it came from Helsingør on the Øresund (strait between Denmark and Sweden), but the provenance probably was the Red Sea (see Rosenvinge, 1931:617). Lyngbye cited *Fucus hornemanni* as being published by Mertens in the Göttingische gelehrte Anzeigen for 1815, but at that place (page 633) it was a nomen nudum (see Papenfuss, 1940:216). Valid nomenclature for this species thus begins

with *Desmia hornemannii* as described and illustrated by Lyngbye (1819:35, pl. 7:c). Subsequent to 1819 and prior to 1852, the name *Desmia* was applied either to a genus closely related to *Desmarestia* or to a section or subgenus of that genus.

J. Agardh (1852 [1851–1863]:639) emended the genus *Desmia,* retaining only *D. hornemannii* of Lyngbye's original species and adding two other species, *D. ambigua* J. Agardh from India and *D. tripinnata* (Hering) J. Agardh (*Rhodymenia tripinnata* Hering) from South Africa. He accredited the emended genus to himself and placed it (with a query) in the tribus Sphaerococcoideae of the ordo Sphaerococcoideae (a broadly defined group not equivalent taxonomically to the modern Sphaerococcaceae).

Meanwhile, Kützing (1847a:23) had established the genus *Chondrococcus* on the basis of *Fucus abscissus* Turner (1819 [1815–1819]:65, pl. 223) from New Zealand and *F. lambertii* Turner (1819 [1815–1810]:96, pl. 237) from Australia. The first species is currently placed in *Melanthalia* Montagne (1843) in the Gracilariaceae, while the second species, as defined by the type collection, is referable to *Callophyllis* Kützing (1843) in the Kallymeniaceae. Kützing applied the name *Chondrococcus lambertii* to a mixture of species, citing both Australian and South African specimens, the former being representative of *Callophyllis,* the latter of *Chondrococcus* as currently defined. At the time that I wrote my account of the nomenclatural history of *Chondrococcus,* typification of generic names was not legislated unequivocally by the ICBN, and the contemporary consensus was that in the event an author based a generic description on one entity but erroneously assigned it to a different entity, the generic name should apply to the material at hand. In the case of *Chondrococcus,* Kützing based the generic description on South African material, so that in 1952 I concluded that the correct name for the genus was *Chondrococcus.* At Sydney in 1981, however, the ICBN was changed to specify that the type of a generic name must be a cited species. Thus, the type of *Chondrococcus* is either *Fucus abscissus* or *F. lambertii,* making the generic name a later taxonomic synonym of *Melanthalia* Montagne (1843) or *Callophyllis* Kützing (1843).

J. Agardh (1852 [1851–1863]:639) cited *Chondrococcus* as a synonym of his emended *Desmia,* and during the period 1852–1895 only Kützing used that name. Schmitz (1895:168–172) reviewed the genus and adopted the name *Chondrococcus* in preference to *Desmia.* Most subsequent authors have followed Schmitz in this regard.

Portieria Zanardini (1851:33) appears to be the only available synonym. This genus was established to receive a single species, *P. coccinea,* based on material obtained in the Red Sea by Portier, a poorly known French collector (see Zanardini, 1858:210). This species was placed in the synonymy of *Chondrococcus hornemannii* by Schmitz (1895:170). The status of *Portieria* as the first generic name unequivocally applied to the rhizophyllidaceous genus under consideration supports the adoption of this name in preference to manipulating the conservation of either *Desmia* or *Chondrococcus.*

The genus *Portieria* includes the following species.

Portieria? dichotoma (Hauck) P.C. Silva, new combination (*Desmia dichotoma* Hauck, 1886 [1886–1887]:218, fig. [s.n.]).

P. harveyi (J. Agardh) P.C. Silva, new combination (*Desmia harveyi* J. Agardh, 1876:356).

P. hornemannii (Lyngbye) P.C. Silva, new combination (*Desmia hornemannii* Lyngbye, 1819:35, pl. 7:c).

P. japonica (Harvey) P.C. Silva, new combination (*Desmia japonica* Harvey, 1860a:331).

P. kilneri (J. Agardh) P.C. Silva, new combination (*Desmia kilneri* J. Agardh, 1876:355).

P. spinulosa (Kützing) P.C. Silva, new combination (*Chondrococcus spinulosus* Kützing, 1868:11, pl. 32: figs. *a–c*).

It may be noted that Papenfuss (1940:218) recognized *Desmia tripinnata* as a separate species, but D. Reid Wiseman, in a recent study of material in the Herbarium of the University of California at Berkeley, retained it within the circumscription of *Chondrococcus hornemannii.*

Eupogodon as a Replacement for *Dasyopsis*

The genus *Dasyopsis* is always attributed to Zanardini (1843:52). In the place cited, however, there is no description. Zanardini merely stated that he was persuaded to segregate *Dasya plana* C. Agardh and *D. spinella* C. Agardh into their own genus by the position, form, and disposition of the stichidia, without giving the stichidial characters.

Montagne (1844b:611) prepared a special article on *Dasyopsis* for d'Orbigny's Dictionnaire Universelle d'Histoire Naturelle, but without giving a description. In his *Flore d'Algérie,* Montagne (1846b:85) reduced *Dasyopsis* to a subgenus of *Dasya* and validated the name at subgeneric rank by providing a diagnosis. The following year, Montagne (1847:54) recognized *Dasyopsis* as a genus.

Meanwhile, Kützing (1845:312), arriving independently at the taxonomic conclusion that *Dasya plana* should be segregated from *Dasya,* established the genus *Eupogodon.* He later (Kützing, 1849:801) added *Dasya spinella* and *D. cervicornis* J. Agardh to the genus. Kützing provided a diagnosis in his original publication of *Eupogodon,* and thus this name takes priority over *Dasyopsis* (Montagne) Montagne. Kützing originally treated *Eupogodon* ("true beard-tooth") as a neuter name, but in fact it is masculine, as he himself recognized in subsequent publications.

The genus *Eupogodon* includes the following species.

Eupogodon anastomosans (Weber-van Bosse) P.C. Silva, new combination (*Dasyopsis anastomosans* Weber-van Bosse, 1921:309, pl. VII: fig. X).

E. antillarum (Howe) P.C. Silva, new combination (*Dasyopsis antillarum* Howe, 1920:577).

E. apertus (Weber-van Bosse) P.C. Silva, new combination (*Dasyopsis aperta* Weber-van Bosse, 1913b:128, pl. 13: fig. 17; pl. 14: fig. 32).

E. apiculatus (C. Agardh) P.C. Silva, new combination (*Bonnemaisonia apiculata* C. Agardh, 1835: no. XXXIX, pl. 39).

E. cervicornis (J. Agardh) Kützing, 1849:802.
E. geppii (Weber-van Bosse) P.C. Silva, new combination (*Dasyopsis geppii* Weber-van Bosse, 1913b:130, pl. 13: figs. 18–20; pl. 14: fig. 33).
E. palmatifidus (Weber-van Bosse) P.C. Silva, new combination (*Dasyopsis palmatifida* Weber-van Bosse, 1913b:130, pl. 13: fig. 21).
E. penicillatus (Zanardini) P.C. Silva, new combination (*Dasya penicillata* Zanardini, 1865:379, pl. XIV [XLI]).
E. pilosus (Weber-van Bosse) P.C. Silva, new combination (*Dasyopsis pilosa* Weber-van Bosse, 1923:377, fig. 137).
E. pinnatifolius (Suhr) P.C. Silva, new combination (*Ptilota ? pinnatifolia* Suhr, 1834:732, pl. II: figs. 18 and *t*).
E. planus (C. Agardh) Kützing, 1845:312.
E. pulchellus (Weber-van Bosse) P.C. Silva, new combination (*Dasyopsis pulchella* Weber-van Bosse, 1921:309, pl. VII: fig. VII).
E. spinellus (C. Agardh) Kützing, 1849:801.
E. stanleyi (Weber-van Bosse) P.C. Silva, new combination (*Dasyopsis stanleyi* Weber-van Bosse, 1913b:128, pl. 13: fig. 16).
E. tenellus (Weber-van Bosse) P.C. Silva, new combination (*Dasyopsis tenella* Weber-van Bosse, 1921:309, pl. VII: fig. VI).

Hincksia as a Replacement for *Giffordia*

While John Edward Gray was Keeper of the Zoology Department of the British Museum, he prepared a catalog "merely to enable Mrs. Gray to arrange her collection of British Algae according to the most recent methods." In this scholarly but generally overlooked work, Gray (1864) defined some common filamentous genera more narrowly than was customary at that time, creating new genera among blue-green, red, brown, and green algae. One of the genera segregated from *Ectocarpus* was *Hincksia,* to which Gray assigned a single species, *H. ramulosa,* based on *Ectocarpus hincksiae* Harvey (1841:40). This species was transferred to *Giffordia* Batters (1893:86) by Hamel (1939:xv). Gray (1864:12) characterized *Hincksia* as follows: "Frond secundly branched; fruit conical, sessile, produced along the inner face of the branches and ramuli, one arising from almost every joint, giving the branch a serrated appearance." Although this diagnosis lacks two essential generic characters (discoid plastids and lack or irregular occurrence of meristematic regions), it is clear that Gray had a species of *Giffordia* in hand and that *Hincksia* should supersede *Giffordia.* Both generic names commemorate female British phycologists, Hannah Hincks (1798–1871) of Belfast and Isabella Gifford (1823?–1891) of Minehead, Somerset, respectively.

The genus *Hincksia* includes the following species.

Hincksia andamanensis (Krishnamurthy and Baluswami) P.C. Silva, new combination (*Giffordia andamanensis* Krishnamurthy and Baluswami, 1982:104, figs. 1–11; 1983:47).
H. bhimlipatnamensis (Krishnamurthy and Baluswami) P.C. Silva, new combination (*Giffordia bhimlipatnamensis* Krishnamurthy and Baluswami, 1982:105, figs. 12–15; 1983:47).
H. clavata (Krishnamurthy and Baluswami) P.C. Silva, new combination (*Giffordia clavata* Krishnamurthy and Baluswami, 1982:106, figs. 23–28; 1983:48).
H. fenestrata (Berkeley ex Harvey) P.C. Silva, new combination (*Ectocarpus fenestratus* Berkeley ex Harvey, 1849 [1847–1851]: pl. CCLVII; 1849:58).
H. fuscata (Zanardini) P.C. Silva, new combination (*Ectocarpus fuscatus* Zanardini in Meneghini, 1846:381).
H. ghardaqaensis (Nasr) P.C. Silva, new combination (*Ectocarpus ghardaqaensis* Nasr, 1939:59, figs. 8, 9).
H. granulosa (J.E. Smith) P.C. Silva, new combination (*Conferva granulosa* J.E. Smith, 1811 [1811–1812]: pl. 2351).
H. hincksiae (Harvey) P.C. Silva, new combination (*Ectocarpus hincksiae* Harvey, 1841:40).
H. hincksiae var. *californica* (Hollenberg and Abbott) P.C. Silva, new combination (*Giffordia hincksiae* var. *californica* Hollenberg and Abbott, 1968:1238, fig. 3).
H. intermedia (Rosenvinge) P.C. Silva, new combination (*Ectocarpus ovatus* var. *intermedius* Rosenvinge in Rosenvinge and S. Lund, 1941:49, figs. 21, 22).
H. mitchelliae (Harvey) P.C. Silva, new combination (*Ectocarpus mitchelliae* Harvey, 1852:142, pl. XII:G, "*mitchellae*").
H. mitchelliae var. *neilii* (Krishnamurthy and Baluswami) P.C. Silva, new combination (*Giffordia mitchelliae* var. *neilii* Krishnamurthy and Baluswami, 1982:106, figs. 16–22; 1983:47).
H. onslowensis (Amsler and Kapraun) P.C. Silva, new combination (*Giffordia onslowensis* Amsler and Kapraun, 1985:94, figs. 1–3).
H. ovata (Kjellman) P.C. Silva, new combination (*Ectocarpus ovatus* Kjellman, 1877:35).
H. prolifera (Krishnamurthy and Baluswami) P.C. Silva, new combination (*Giffordia prolifera* Krishnamurthy and Baluswami, 1982:107, figs. 29–41; 1983:48).
H. rallsiae (Vickers) P.C. Silva, new combination (*Ectocarpus rallsiae* Vickers, 1905:59).
H. sandriana (Zanardini) P.C. Silva, new combination (*Ectocarpus sandrianus* Zanardini, 1843:41).
H. saundersii (Setchell and Gardner) P.C. Silva, new combination (*Ectocarpus saundersii* Setchell and Gardner, 1922:411).
H. secunda (Kützing) P.C. Silva, new combination (*Ectocarpus secundus* Kützing, 1847a:54).
H. sordida (Harvey) P.C. Silva, new combination (*Ectocarpus sordidus* Harvey, 1860c:294).
H. terminalis (Krishnamurthy and Baluswami) P.C. Silva, new combination (*Giffordia terminalis* Krishnamurthy and Baluswami, 1982:108, figs. 46–57; 1983:48).
H. thyrsoidea (Børgesen) P.C. Silva, new combination (*Ectocarpus thyrsoideus* Børgesen, 1937:12, figs. 6, 7).

The Correct Name for *Hormophysa triquetra*

The nomenclature of this species was investigated by Papenfuss (1968), who, after considering several synonyms, concluded that the correct name was *Hormophysa triquetra* (C. Agardh) Kützing. As will be shown, this name must be superseded.

When uncritically compiling the hitherto described species of *Fucus,* J.F. Gmelin (1792) confronted two pairs of homonyms, both now believed to involve *Hormophysa triquetra.* One pair was *Fucus triqueter* S.G. Gmelin (1768:122, pl. VIII: fig. 4) and *F. triqueter* Linnaeus (1771:312). Swartz (1788:148) had previously attempted to rectify the homonymy, but erred in proposing a substitute name, *Fucus trifarius,* for the senior homonym rather than the junior homonym. The first species is now known as *Bryothamnion triquetrum* (S.G. Gmelin) Howe (1915:222), a rhodomelaceous red alga from the Caribbean. *Fucus triqueter* Linnaeus was the first description of a species of *Hormophysa.* J.F.

Gmelin (1792:1382, 1383) erred in the same manner as Swartz, retaining the junior homonym and substituting the name *Fucus triangularis* for the Caribbean alga (which was called *Bryothamnion triangulare* until Howe pointed out the illegitimacy of that name). On transferring *F. triqueter* Linnaeus to *Cystoseira*, C. Agardh (1820b:61) provided a binomial (*C. triquetra*) that may be treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN.

The second pair of homonyms was *Fucus articulatus* S.G. Gmelin (1768:77) and *F. articulatus* Forsskål (1775:191). The first species was described, but not illustrated (the reference to pl. II: fig. 1, apparently being erroneous, judging from the legend and a comparison of the cited figure with the description). The provenance was said to be "Oceanus Indicus." In the absence of a type specimen, a definitive identification is not possible. The Forsskål species was united with *F. triqueter* Linnaeus in the genus *Cystoseira* by C. Agardh (1820b: 61), and subsequent authors have considered the two species as congeneric, but not always conspecific. J. Agardh (1848:215–216) recognized separate species, and on transferring *F. articulatus* Forsskål to *Cystoseira*, provided a binomial (*C. articulata*) that may be treated as a nomen novum in accordance with Article 72, Note 1, of the ICBN. On the basis of priority or perhaps purely by chance, J.F. Gmelin (1792:1381, 1389) retained the senior homonym and substituted the name *Fucus cuneiformis* for *F. articulatus* Forsskål. By an examination of Forsskål's collection at Copenhagen (C), Bφrgesen (1932:11) confirmed that *Fucus articulatus* Forsskål is referable to *Hormophysa*. Hence, *Fucus cuneiformis* is the earliest legitimate name for this species and its correct name is *Hormophysa cuneiformis* (J.F. Gmelin) P.C. Silva, new combination.

Validation of the Green Algal Order Ctendocladales

The order Ctenocladales was proposed by Silva (1982:147) to accommodate those green algae previously placed in the Chaetophoraceae with ulvophycean rather than chlorophycean ultrastructure. The nature of the publication (an encyclopedia) precluded the provision of a Latin diagnosis essential to the validity of the name. Validation is effected herewith: Chlorophytae (algae virides) filamenta uniseriata ramosa aut sarcinas cellularum constantes; thallus erectus aut prostratus aut heterotrichus, filamentis prostratis libris aut cohaerentibus; cellulae omnes nucleum unum et chloroplastum singulum parietalem laminatem plerumque pyrenoidibus thylakoidiperductis (uno aut aliquot) continentes; cellulae motiles squamatae aut nudae cum uno aut multis flagellis; flagella apicaliter affixa, symmetrica radialiter, cum systemate radicum microtubulare cruciato, radicibus rotationem contra horologii habentibus; cytokinesis per sulco cum phycoplasto nihil consociato effectus.

Familia typificata: Ctenocladaceae (Borzì) Borzì (1892:48, "Ctenocladiaceae").

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Index

(Valid taxa (centered heads in the text) appear in roman; invalid taxa in italic.)

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