

## Annotated Checklist of the Hermatypic Corals of the Philippines<sup>1</sup>

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**ABSTRACT:** All known reef-building corals of the Philippines are listed in systematic order. Records are from original field studies combined with reevaluations of major taxonomic collections in Philippines universities. Field studies were conducted in 1986 and 1988 on reefs near Bolinao (Luzon), Puerto Galera (Mindoro), Mactan (Cebu), Apo Island (Negros), and El Nido (Palawan), an area of over half the east–west and north–south extent of the country. Detailed studies were made of collections at the University of the Philippines (Marine Science Institute, Zoology Department, and Bolinao Marine Laboratory), the University of San Carlos, and Silliman University. Synonymies are proposed, based on reevaluations of all available type specimens that have the Philippines as type locality. All taxa are indexed.

THIS STUDY IS intended to provide a basis for comparisons between the hermatypic corals of the Philippines and those of other Indo-Pacific regions. This has been done by making a checklist of species, which is as complete as possible, using the taxonomic framework of *Scleractinia of Eastern Australia* (Veron et al. 1977, Veron and Pichon 1976, 1982, Veron and Wallace 1984) and subsequent additions and modifications.

Original field work was carried out by Veron at the University of the Philippines Marine Station at Bolinao (western Luzon), Puerto Galera, Cebu, and Apo Island (southern Negros) and by Hodgson at all those localities as well as those indicated in Hodgson and Ross (1982), Ross and Hodgson (1982), and Hodgson and Dixon (1988), especially northwestern Palawan (Figure 1).

A second major source of information is the collections of previous researchers. The most important of these are the collections of Professor F. Nemenzo of the University of the Philippines, who after a lifetime of study has created a detailed taxonomy of Philippine reef corals. Professor Nemenzo and his colleagues have made their collections (at the University of the Philippines, the University of San Carlos, and Silliman University) freely available to us, and these have been essential to the present study.

Many of Nemenzo's original names have been retained in this study. Others have been synonymized where appropriate. These synonymies are based on original reevaluations of all type specimens that have the Philippines as type locality. Possible synonymy of these species with nominal species of other countries has not been studied, and thus names of Philippine species accepted here are tentative only. It should be noted that this study does not attempt to reevaluate Nemenzo's re-descriptions of species originally described from other localities. Thus, names used in this study may not be applicable to Nemenzo's re-descriptions.

Unless otherwise indicated, specimen numbers refer to reference collections made as part of this study. These include 232 reference specimens deposited in the Bolinao Marine Station and 354 reference specimens deposited

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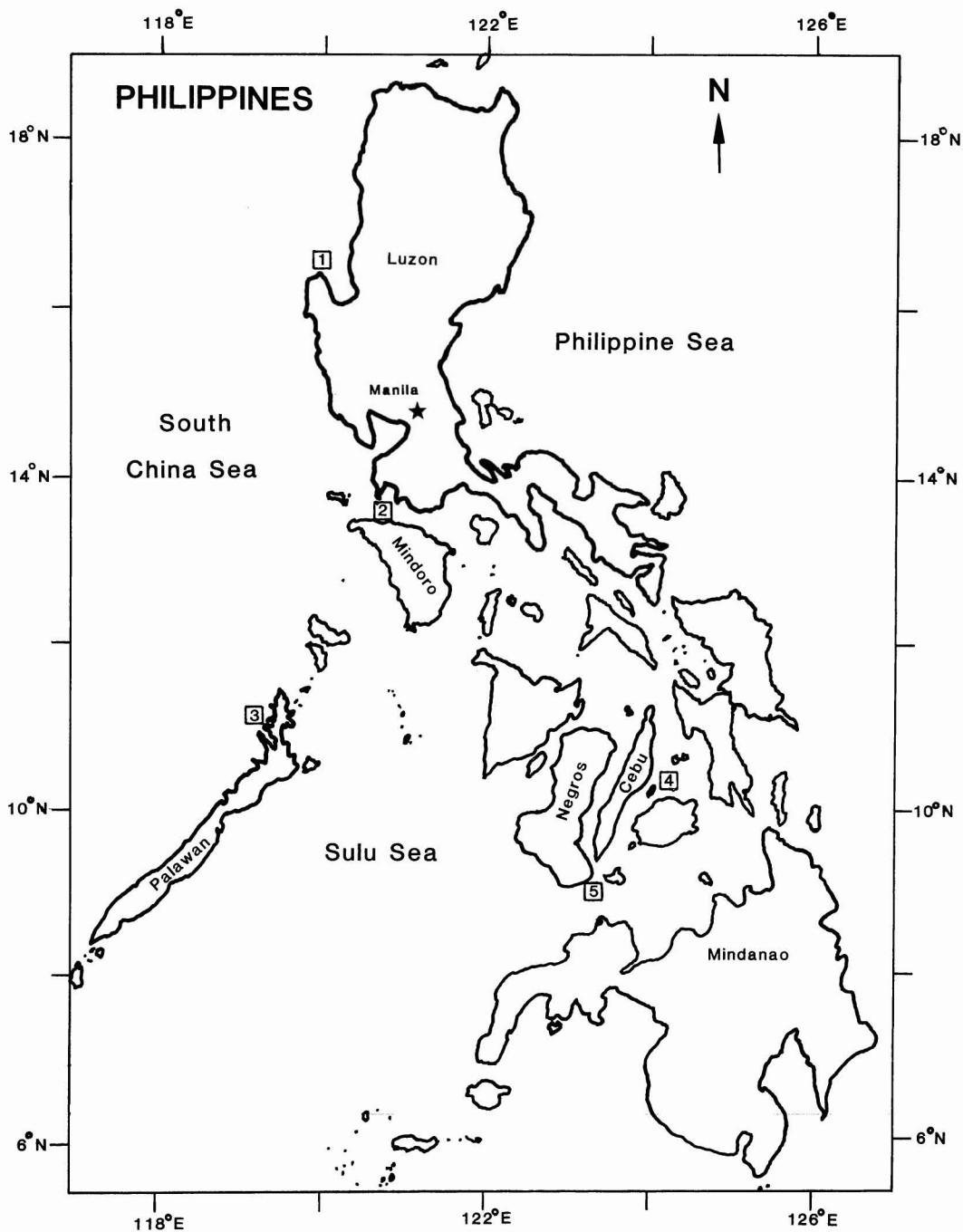


FIGURE 1. The five primary field study sites in the Philippines: (1) Bolinao, Luzon Island; (2) Puerto Galera, Mindoro Island; (3) El Nido (Bacuit Bay), Palawan Island; (4) Mactan Island and Danajon Bank, off Cebu Island; (5) Apo Island, off Negros Island.

in the Marine Science Institute, University of the Philippines. A further series of 432 specimens has been studied at the Australian Institute of Marine Science.

Visual identifications noted below are in situ except those from Palawan, which are referenced to collected specimens as part of a separate study (Hodgson and Dixon 1988).

#### Abbreviations

AIMS = Australian Institute of Marine Science [specimens from Palawan (P), Bolinao (B), Puerto Galera (PG), Cebu (C), Negros (N)]

BMS = Bolinao Marine Station, Bolinao

GBR = Great Barrier Reef (Australia)

MLSU = Marine Laboratory, Silliman University, Dumaguete

MSI = University of the Philippines Marine Science Institute, Quezon City

UPC = University of the Philippines Marine Science Institute, Cebu

UPZD = University of the Philippines Zoology Department, Quezon City

USC = University of San Carlos Biology Department, Cebu

#### FAMILY ASTROCOENIIDAE KOBY

##### GENUS *Stylocoeniella* YABE & SUGIYAMA

Shows no geographic variation in the central tropical Indo-Pacific.

##### *Stylocoeniella guentheri* Bassett-Smith

Unusually abundant at Bolinao, where, as elsewhere, it is very polymorphic. Colonies are mostly mottled dark green and have encrusting to nodular growth forms.

##### OCCURRENCES:

Specimens: MSI 152; BMS 6; USC; AIMS.

Visual Records: Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Hodgson and Ross 1982.

##### *Stylocoeniella armata* Ehrenberg

Less common than *S. guentheri*, pale colored, usually encrusting.

##### OCCURRENCES:

Specimens: UPZD 1038; AIMS.

Visual Records: Palawan, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1964 as *S. hanzawai* Yabe and Sugiyama 1933.

#### FAMILY POCILLOPORIDAE GRAY

##### GENUS *Pocillopora* LAMARCK

Shows little or no variation in the central tropical Indo-Pacific.

##### *Pocillopora damicornis* (Linnaeus)

Very common, usually pale brown or green; has the same range of variation as on the GBR.

##### OCCURRENCES:

Specimens: MSI 144; BML 4, 130, 175, 176.

Visual Records: Puerto Galera, Palawan, Cebu, Negros.

Supplementary Records: Faustino 1927.

##### *Pocillopora verrucosa* (Ellis & Solander)

Common, has the same range of variation as on the GBR.

##### OCCURRENCES:

Specimens: MSI 145, 147; BML 131, 173; UPZD 311, 314, 782, 791, 805.

Visual Records: Puerto Galera, Bolinao, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1964, Ross and Hodgson 1982 (and as *P. danae* Verrill), Nemenzo 1964 (as *P. elegans* Dana).

##### *Pocillopora meandrina* Dana

Common on some reef slopes.

##### OCCURRENCES:

Specimens: MSI; UPZD 809.

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1964 (and as *P. brevicornis* Lamarck).

##### *Pocillopora woodjonesi* Vaughan

Uncommon and difficult to distinguish from *P. eydouxi*.

## OCCURRENCES:

Specimens: MLSU.

Supplementary Records: Nemenzo 1964 (as *P. meandrina* var. *nobilis* Verrill).*Pocillopora eydouxi* Edwards & Haime

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 146.

Visual Records: Bolinao, Puerto Galera, Palawan.

Supplementary Records: Nemenzo 1964 (as *P. modumanensis* Vaughan).GENUS *Seriatopora* LAMARCK

Shows little variation in the central tropical Indo-Pacific.

*Seriatopora hystrix* Dana

Common; colonies are mostly pink or tan.

## OCCURRENCES:

Specimens: BML 135, 181; UPZD 115.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1964, Ross and Hodgson 1982. Probably includes *S. crassa* Quelch (Nemenzo 1964) and *S. angulata* Klunzinger (Faustino 1927, Nemenzo 1964).*Seriatopora caliendrum* (Ehrenberg)

Relatively common on some lower reef slopes; usually cream, yellow, or brown.

## OCCURRENCES:

Specimens: UPZD.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1964 (also as *S. octoptera* Ehrenberg), Ross and Hodgson 1982.SYNONYM: *Seriatopora prescillae* Nemenzo (holotype, UPZD). *Seriatopora caliendrum* var. *subtilis* Nemenzo is a deep-water ecomorph of *S. hystrix*.GENUS *Stylophora* SCHWEIGGER

Although the range of nominal species described from the Philippines suggests the presence of more than one true species, the range

of variation observed in situ was often environment correlated. This may require further study.

*Stylophora pistillata* Esper

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 138; BML 231; UPZD 68, 70, 367, 715, 743, 744, 868.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1964 [also as *S. danae* Edwards & Haime (both authors)].SYNONYMS: *Stylophora flabellata* Quelch, *Stylophora cellulosa* Quelch, *Stylophora expanda* Nemenzo (holotype, UPZD), *Stylophora nana* Nemenzo (holotype, UPZD; a specimen with few branches at the extreme of the growth form range of *S. pistillata*), and *Stylophora dendritica* Nemenzo (holotype, UPZD).GENUS *Madracis* EDWARDS & HAIME*Madracis kirbyi* Veron & Pichon

Rare; has the same colors and same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI.

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Pichon 1977, Hodgson and Ross 1982, Ross and Hodgson 1982, Nemenzo and Hodgson 1983.

GENUS *Palauastrea* YABE & SUGIYAMA

A large colony at Puerto Galera, 4–8 m depth, may be a second species primarily characterized by the presence of extensive coenosteum spinules. This remains to be studied.

*Palauastrea ramosa* Yabe & Sugiyama

Forms extensive monospecific stands at Puerto Galera; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: BMS.

Visual Records: Puerto Galera.



Supplementary Records: Nemenzo and Ferraris, 1982.

FAMILY ACROPORIDAE VERRILL

GENUS *Montipora* DE BLAINVILLE

*Montipora monasteriata* (Forskål)

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: UPZD; BMS; AIMS (B).

Visual Records: Puerto Galera, Cebu, Negros, Palawan.

Supplementary Records: Nemenzo 1967 (as *M. conferta*).

SYNONYM: *Montipora conferta* Nemenzo (UPZD).

*Montipora tuberculosa* (Lamarck)

Common; not studied in detail.

OCCURRENCES:

Specimens: BMS; UPZD.

Visual Records: Puerto Galera, Cebu, Negros.

*Montipora hoffmeisteri* Wells

Cryptic; not studied in detail.

OCCURRENCES:

Specimens: UPZD; BMS.

Visual Records: Puerto Galera, Negros.

*Montipora millepora* Crossland

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: UPZD; MSI 121; AIMS (B).

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: ?Nemenzo 1967 (as *M. conicula* Wells) (UPZD 1200).

*Montipora* sp. 1

This is the same species as *Montipora* sp. 1 of Veron and Wallace (1984).

OCCURRENCES:

Specimens: BMS.

*Montipora mollis* Bernard

Known only from a single specimen.

OCCURRENCES:

Specimens: BMS; AIMS (B).

Visual Records: Puerto Galera, Cebu, Negros.

SYNONYM: *Montipora biformis* Nemenzo (Nemenzo [in press (b)]).

*Montipora setosa* Nemenzo

Colonies are small bushes of highly irregular anastomosing branches that grade continuously into tuberculae. A small number of small thecal papillae may be found around each corallite.

OCCURRENCES:

Specimens: MLSU (holotype); AIMS (C).

Visual Records: Cebu.

Supplementary Records: Nemenzo 1976.

*Montipora spongodes* Bernard

Recorded from two specimens. Not studied in situ.

OCCURRENCES:

Specimens: UPZD; AIMS (C).

*Montipora peltiformis* Bernard

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: BMS 66, 211; UPZD 231; AIMS (B).

Visual Records: Puerto Galera, Palawan.

Supplementary Records: Nemenzo 1967, Hodgson and Ross 1982.

SYNONYM: *Montipora reniformis* Nemenzo (holotype, UPZD). The holotypes of *M. reniformis* and *M. peltiformis* are very similar; the latter have slightly larger, more widely spaced corallites.

*Montipora turgescens* Bernard

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 119.

Visual Records: Puerto Galera, Palawan, Negros.

*Montipora effusa* Dana

Colonies are submassive or form extensive, thick unifacial plates. Skeletal characters are

similar to those of *M. turgescens* except that corallites are larger and the reticulum coarser, with a tendency to develop papillae.

## OCCURRENCES:

Specimens: AIMS (PG).

Visual Records: Puerto Galera.

*Montipora capricornis* Veron

Recorded from a single specimen.

## OCCURRENCE:

Specimen: BMS.

*Montipora spumosa* (Lamarck)

Uncommon. Reticulum spinules are less coarse than those observed in GBR coralla.

## OCCURRENCES:

Specimens: MSI 200; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Palawan, Negros.

*Montipora confusa* Nemenzo

Similar to *M. undata*, but forms distinctive columnar colonies with vertical ridges of fused reticulum. Very distinctive in situ.

## OCCURRENCES:

Specimens: UPZD (holotype); AIMS (P, PG, C).

Visual Records: Puerto Galera, Cebu, Negros, Palawan.

Supplementary Records: Nemenzo 1967, Nemenzo and Montecillo 1981 (as *M. contorta*).

SYNONYMS: *Montipora contorta* (holotype, USC) Nemenzo & Montecillo, *Montipora vaughani* Hoffmeister of Nemenzo. The holotype of *M. contorta* is an encrusting plate with a single, upright, dividing branch. Nemenzo's specimen of *M. vaughani* is composed of highly anastomosed tips of a colony from shallow water.

*Montipora undata* Bernard

Uncommon but conspicuous.

## OCCURRENCES:

Specimens: MSI 117; UPZD; AIMS (C).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1979, Ross and Hodgson 1982.

*Montipora mactanensis* Nemenzo

Colonies are thin plates with tuberculae fused into neat radiating ridges. Skeletal characters are close to those of *M. danae*, but the latter does not have well-developed radiating ridges, and corallites have longer septa.

## OCCURRENCES:

Specimens: UPZD (holotype); AIMS (C, N).

Visual Records: Cebu, Negros.

Supplementary Records: Nemenzo 1979.

*Montipora danae* (Edwards & Haime)

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: UPZD 248; MSI 120, 197; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1967, and as *M. undans* Crossland (UPZD 1398).

*Montipora verrucosa* (Lamarck)

## OCCURRENCES:

Specimens: MSI 116, 202; BMS 62, 65, 154; AIMS (B).

Visual Records: Puerto Galera, Cebu, Negros, Palawan.

Supplementary Records: Nemenzo 1967 (UPZD 343, 908, 1105).

*Montipora capitata* Dana

Colonies are arborescent when fully developed. Skeletal detail is similar to that of *M. verrucosa* except that tuberculae tend to be smaller and more pointed. Coralla from the Philippines are very similar to those from Hawaii (type locality), where this species (usually called *M. verrucosa*) is common.

## OCCURRENCES:

Specimens: UPZD; AIMS (C).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1967 (*pars*, as *M. verrucosa*).

*Montipora venosa* (Ehrenberg)

Uncommon.

## OCCURRENCES:

Specimens: BMS.  
Visual Records: Palawan.

*Montipora foveolata* Dana

Uncommon; not studied in situ.

## OCCURRENCES:

Specimens: UPZD 202.  
Visual Records: Cebu.  
Supplementary Records: Nemenzo 1967.

*Montipora caliculata* (Dana)

Known from a single specimen.

## OCCURRENCE:

Specimen: UPZD.

*Montipora angulata* (Lamarck)

## OCCURRENCES:

Specimens: MSI 118; UPZD; AIMS (B, N).  
Visual Records: Negros.  
Supplementary Records: Nemenzo 1964 (as *M. irregularis* Quelch), Nemenzo 1967 (as *M. libera* Bernard).

*Montipora samarensis* Nemenzo

Very abundant on shallow, protected reef slopes. Distinguished from *M. digitata* by having a coarse reticulum visible in situ.

## OCCURRENCES:

Specimens: BMS; UPZD (holotype); AIMS (P).  
Visual Records: Palawan, Negros.  
Supplementary Records: Nemenzo 1967.

*Montipora altasepta* Nemenzo

Very abundant on shallow, protected reef slopes. Skeletal detail is very similar to that of *M. samarensis*, but branches are highly fused and anastomosed.

## OCCURRENCES:

Specimens: UPZD (holotype); AIMS (P).  
Visual Records: Cebu, Palawan.  
Supplementary Records: Nemenzo 1964 (also as *M. crista-galli* Ehrenberg).  
SYNONYMS: *Montipora coalita* Nemenzo (UPZD) and *Montipora inconstans* Nemenzo. The holotype of *M. coalita* has short, thick, highly anastomosed branches; that of *M. inconstans* is open and irregular. This variation is readily observed in situ.

*Montipora digitata* (Dana)

Very abundant and has the same range of variation as on the GBR. Occurs as two distinct color morphs (pink and blue) at Apo Island, Mindoro.

## OCCURRENCES:

Specimens: MSI 114, 128, 198, 199; AIMS (B); BMS 61, 67.  
Visual Records: Bolinao.  
Supplementary Records: Nemenzo 1967 (as *M. ramosa* Bernard, *M. levis* Quelch, *M. compressa* (Esper), *M. rubra* Quoy & Gaimard, and *M. tortuosa* Dana).

SYNONYM: This is a polymorphic species with a complex taxonomic history (Veron and Wallace 1984); possibly includes *M. sumilonensis* Nemenzo.

*Montipora gaimardi* Bernard

Common; characterized by a fine reticulum and short, contorted branches. Otherwise like *M. digitata*.

## OCCURRENCES:

Specimens: AIMS (P).

*Montipora hispida* (Dana)

Colonies have the same range of variation and color as those of the GBR.

## OCCURRENCES:

Specimens: BMS 64, 153; AIMS (P, N).  
Visual Records: Puerto Galera, Cebu, Bolinao, Palawan, Negros.  
SYNONYM: *Montipora plateformis* Nemenzo (holotype, UPZD).

*Montipora informis* Bernard

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: BMS; AIMS (B, N).  
Visual Records: Puerto Galera, Cebu, Palawan, Negros.  
Supplementary Records: Nemenzo 1967 (as *M. berryi* Hoffmeister [UPZD]). Nemenzo's specimens of *M. berryi* (UPZD 299, 673) differ from *M. informis* in having some fused reticulum tuberculae.

*Montipora orientalis* Nemenzo

Colonies are flat, glabrous, unifacial or bifacial plates, or may form columns.

## OCCURRENCES:

Specimens: UPZD (holotype); MLSU; AIMS (N).

Visual Records: Palawan, Negros.

Supplementary Records: Nemenzo 1967.

SYNONYM: *Montipora conspicua* Nemenzo.

*Montipora efflorescens* Bernard

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: UPZD; AIMS (B).

Visual Records: Puerto Galera, Palawan, Negros.

*Montipora grisea* Bernard

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: BMS; AIMS (B).

Visual Records: Puerto Galera, Palawan, Negros.

Supplementary Records: Nemenzo 1967 [as *M. ehrenbergii* (Verrill)].

*Montipora hirsuta* Nemenzo

Common; in shallow water. Colonies are cream in color. Readily distinguished from *M. stellata* in situ by having smaller branches and finer corallites.

## OCCURRENCES:

Specimens: AIMS (C [six specimens], N).

Visual Records: Puerto Galera, Cebu, Negros, Palawan.

Supplementary Records: Nemenzo 1967.

SYNONYM: *Montipora carinata* Nemenzo.

The holotypes of *M. hirsuta* and *M. carinata* are very similar. The range of variation encompassed was readily observed in situ at Mactan Island, where the more finely branched colonies occur subtidally or intertidally.

*Montipora stellata* Bernard

Common on shallow upper reef slopes at Mactan Island, Cebu. Similar to *M. hirsuta* except branches and corallites are larger and reticulum spinules do not form prominent ridges.

## OCCURRENCES:

Specimens: BMS 60, 130; AIMS (B, C).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros, Palawan.

Supplementary Records: Nemenzo 1967, Ross and Hodgson 1982 (as *M. strigosa*).

SYNONYM: *Montipora strigosa* Nemenzo (see comment under *M. malampaya*, below).

*Montipora malampaya* Nemenzo

Very common on upper reef slopes; forming arborescent colonies with branches intermediate in size between *M. stellata* and *M. cactus*.

## OCCURRENCES:

Specimens: AIMS (C, N [four specimens]).

Visual Records: Cebu, Negros.

Supplementary Records: Nemenzo 1967.

SYNONYM: *Montipora nodulosa* Nemenzo. The holotypes of *M. strigosa* and *M. malampaya* have similar corallite and reticulum structures. Reticulum tuberculae are more prominent in the latter and branches are less flattened and less anastomosed. The holotype of *M. nodulosa* has coarser skeletal characters and longer branches, similar to those of *M. cactus*. Further field study is required to validate the present synonymy.

*Montipora cactus* Bernard

Colonies have submassive bases and form tall columns and branches. In situ, tips of reticulum papillae are white, especially on distal parts of colonies.

## OCCURRENCES:

Specimens: AIMS (P, N).

Visual Records: Puerto Galera, Palawan, Cebu, Negros.

Supplementary Records: Nemenzo 1967.

SYNONYM: *Montipora prava* Nemenzo (UPZD 1202).

*Montipora* sp. 2

A distinct species in situ consisting of very thin plates like those of *M. foliosa* with irregular coenostial ridges and elongate papillae. Corallites are minute and widely spaced. Occurs in shallow water on reef edges.

## OCCURRENCES:

Specimens: AIMS (C, N [eight specimens]).

Visual Records: Cebu.

Supplementary Records: Nemenzo 1976 (as *M. pulcherrima* Bernard). The holotype of *M. pulcherrima* from Macclesfield bank is a deep-water ecomorph of *M. foliosa*.

*Montipora foliosa* (Pallas)

OCCURRENCES:

Specimens: MSI 201, 203; AIMS (B).

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Hodgson and Ross 1982, Ross and Hodgson 1982 (also as *M. tubifera* Bernard).

SYNONYM: Possibly includes *M. multipapillosa* Nemenzo 1983 (holotype, MLSU). Some coralla have skeletal characters intermediate between those of *M. foliosa* and *M. cebuensis*, which suggests that a third species in this group (*M. multipapillosa*) may be valid. This requires further study.

*Montipora cebuensis* Nemenzo

Colonies are similar to *M. foliosa* except that coenostial ridges are more prominent. Readily distinguished in situ.

OCCURRENCES:

Specimens: UPZD (holotype); AIMS (M).

Visual Records: Bolinao, Cebu, Negros. Supplementary Records: Nemenzo 1976.

*Montipora aequituberculata* Bernard

OCCURRENCES:

Specimens: MSI 201; BMS 63, 187; AIMS (B, PG, C, N).

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1967 (as *M. foliosa*).

*Montipora friabilis* Bernard

Colonies form flat whorls like *M. florida* and are distinguished from the latter only by the presence of coarse reticulum spinules. There remains a possibility that these species are synonyms.

OCCURRENCES:

Specimens: MSI; AIMS (P).

Supplementary Records: Nemenzo 1967 (as *M. angusta*).

SYNONYM: *Montipora angusta* Nemenzo (holotype, UPZD). The holotype of *M. friabilis* from an unknown locality and that of *M. angusta* are almost identical.

*Montipora florida* Nemenzo

Colonies are thin, unifacial plates forming whorls. The reticulum is coarse with small tuberculae, most of which have calices. The latter are often inclined irregularly on tuberculae.

OCCURRENCES:

Specimens: UPZD (holotype); AIMS (B, N, C).

Visual Records: Cebu, Palawan.

Supplementary Records: Nemenzo 1967 (also as *M. porosa* Bassett-Smith). Type specimens of *M. porosa* Bassett-Smith have not been reexamined in this study.

*Montipora crassituberculata* Bernard

Recorded from two specimens only; not studied in situ.

OCCURRENCES:

Specimens: UPZD; AIMS (B).

GENUS *Anacropora* RIDLEY

*Anacropora forbesi* Ridley

Rare.

OCCURRENCES:

Specimens: BMS; AIMS (P, N [two specimens]).

Visual Records: Bolinao, Cebu, Palawan.

SYNONYM: *Anacropora firma* Nemenzo & Ferraris (holotype, UPZD). Two specimens collected from Negros are identical to the holotype of *A. firma*. They are primarily characterized by terete branches and immersed corallites. This falls within the range of variation of *A. forbesi*.

*Anacropora puertogalerae* Nemenzo

Forms extensive monospecific stands (> 20 m across) in shallow-water habitats. Such stands may have branches 1.5 m long. Pale pink.

OCCURRENCES:

Specimens: BMS; AIMS (P, N).

Visual Records: Puerto Galera, Bolinao, Cebu, Negros, Palawan.

*Anacopora spinosa* Rehberg

Rare.

OCCURRENCES:

Specimens: UPZD 897; AIMS (P).

Visual Records: Cebu, Palawan.

Supplementary Records: Nemenzo 1964.

*Anacopora matthai* Pillai

Rare; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: AIMS (P).

Visual Records: Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1979 (as *A. gracilis* Quelch).

*Anacopora reticulata* Veron & Wallace

Branches are very robust; up to 12 mm diameter 20 mm from the tip.

OCCURRENCES:

Specimens: AIMS (P, N [two specimens]).

Visual Records: Cebu, Negros.

Supplementary Records: Nemenzo 1967 (as *A. reptans* Bernard).

*Anacopora* sp.

Rare; known from a single specimen. Branches are like those of *A. forbesi*, only more tapered. Primarily characterized by having numerous small corallites with small thecal spines, giving a fine rasplike appearance.

OCCURRENCES:

Specimens: AIMS (N).

Visual Records: Negros.

GENUS *Acropora* OKEN

The taxonomic status of five nominal *Acropora* species described from the Philippines has not been determined during this study: *Acropora angulata* (Quelch), *A. luzonica* (Verrill), *A. elliptica* (Rehberg), *A. philippinensis* (Rehberg), and *A. demani* (Rehberg).

Three species have been observed and collected but not identified. These are not listed here, as they require further study.

*Acropora palifera* (Lamarck)

Common on some exposed reef slopes; has a similar range of variation as on the GBR.

OCCURRENCES:

Specimens: UPZD 13, 257, 325; MSI 124, 165, 176, 177; BMS 42.

Visual Records: Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1967 [and as *A. securis* (Dana)].

SYNONYMS: *Acropora reclinata* Nemenzo (holotype, UPZD) and *Acropora prominens* Nemenzo (holotype, UPZD). A specimen of *A. prominens* (USC), a single column, that is marked type is *A. cuneata*.

*Acropora cuneata* (Dana)

Uncommon; usually gray; corallites tend to be smaller than normal for the GBR. The distinction between this species and *A. palifera* is usually clearer than on the GBR.

OCCURRENCES:

Specimens: MSI 125, 178.

Visual Records: Puerto Galera.

Supplementary Records: Nemenzo 1967 (as *A. securis* Dana).

SYNONYM: *Acropora hispida* (Brook). *A. hispida* (paratype from the Philippines) was a new name for *A. securis* (Dana).

*Acropora brueggemanni* (Brook)

Very common on reef flats and upper reef slopes.

OCCURRENCES:

Specimens: UPZD 10, 929; MSI 126, 127, 175; BMS 33; AIMS (PG, C, N).

Visual Records: Bolinao, Palawan, Cebu.

Supplementary Records: Nemenzo 1967.

SYNONYM: *Acropora meridiana* Nemenzo (holotype, UPZD).

*Acropora humilis* (Dana)

Mostly uncommon or rare.

OCCURRENCES:

Specimens: MSI 185; BMS 37, 39; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Palawan, Cebu.

Supplementary Records: Faustino 1927, Nemenzo 1967 [also as *A. obscura* (Brook)], Ross and Hodgson 1982.

*Acropora gemmifera* (Brook)

More abundant than *A. humilis*.

OCCURRENCES:

Specimens: MSI 23; BMS 52; AIMS (N).

Visual Records: Bolinao, Puerto Galera, Negros.

Supplementary Records: Nemenzo 1967 [as *A. pyramidalis* (Klunzinger)].

*Acropora monticulosa* (Brüggemann)

Recorded from a single specimen.

OCCURRENCE:

Specimen: MSI.

*Acropora samoensis* (Brook)

Sometimes common.

OCCURRENCES:

Specimens: MSI 1, 2.

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

*Acropora digitifera* (Dana)

Common on subtidal and intertidal reef flats at Bolinao.

OCCURRENCES:

Specimens: UPZD 822, 1031, 1097; MSI 3, 122, 155, 168; BMS 30, 59.

Visual Records: Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1967, Ross and Hodgson 1982.

*Acropora multiacuta* Nemenzo

Uncommon, but forms much larger colonies than observed on the GBR.

OCCURRENCES:

Specimens: UPZD (holotype); MSI.

Visual Records: Puerto Galera, Cebu.

Supplementary Records: Nemenzo 1967.

SYNONYM: *Acropora fastigata* Nemenzo (holotype, UPZD) may be an aberrant corallum of this species primarily characterized by having proliferous branches and relatively prominent radial corallites. This specimen does not fall within the range of variation of

any species observed in situ. It superficially resembles *A. gemmifera*.

*Acropora robusta* (Dana)

Uncommon. The range of variation has not been studied in the Philippines.

OCCURRENCES:

Specimens: UPZD 263; MSI 4.

Visual Records: Palawan.

Supplementary Records: Nemenzo 1967, Ross and Hodgson 1982.

SYNONYM: *Acropora ponderosa* Nemenzo (UPZD).

*Acropora danai* (Edwards & Haime)

Uncommon. The range of variation has not been studied in the Philippines.

OCCURRENCES:

Specimens: MSI.

Visual Records: Negros.

*Acropora nobilis* (Dana)

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: UPZD 264, 1103, 1227, 1229; BMS 29, 38.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1967.

SYNONYMS: Probably *A. virilis* Nemenzo (holotype, UPZD) and *A. canalis* (Quelch), BM(NH) are synonyms. The holotype of *A. virilis* is probably a shallow-water ecomorph. It has a heavily calcified skeleton with branching at frequent intervals, giving a sub-bushy appearance.

*Acropora listeri* (Brook)

Known from only two specimens.

OCCURRENCES:

Specimens: BMS 34, 54.

*Acropora grandis* (Brook)

Common in some localities.

OCCURRENCES:

Specimens: MSI 8, AIMS (B, P).

Visual Records: Puerto Galera, Palawan.

Supplementary Records: Nemenzo 1979 (as *A. vanderhorsti* Hoffmeister).



SYNONYM: *Acropora dispar* Nemenzo (holotype, UPZD).

*Acropora formosa* (Dana)

Very common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: UPZD 267, 733, 736, 1115; MSI 6, 166; BMS 44; AIMS (P).

Visual Records: Puerto Galera, Bolinao, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1967, Ross and Hodgson 1982.

SYNONYM: *Acropora varia* Nemenzo.

*Acropora teres* (Verrill)

Not studied in situ.

OCCURRENCES:

Specimens: UPZD.

Supplementary Records: Ross and Hodgson 1982.

*Acropora accuminata* (Verrill)

Uncommon; the range of variation appears similar to that of GBR colonies.

OCCURRENCES:

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

*Acropora valenciennesi* (Edwards & Haime)

Rare; not studied in situ.

OCCURRENCES:

Specimens: MSI 5; BMS 32; AIMS (B).

Visual Records: Bolinao, Palawan, Puerto Galera, Cebu, Negros.

SYNONYM: *Acropora splendida* Nemenzo (holotype, UPZD).

*Acropora pruinosa* Brook

OCCURRENCES:

Specimens: UPZD; AIMS (C).

Supplementary Records: Nemenzo 1967.

*Acropora parilis* Quelch

Colonies have very fine anastomosed branches or are sub-arborescent. Corallites are similar to those of *A. microphthalma* in size but are more tubular and exsert.

OCCURRENCES:

Specimens: BMS; AIMS (B).

Visual Records: Bolinao.

Supplementary Records: Ross and Hodgson 1982.

The type specimen of *A. parilis* has not been reexamined during this study.

*Acropora exquisita* Nemenzo

Common in a wide range of environments.

OCCURRENCES:

Specimens: UPZD (holotype); MSI; BMS; AIMS (B, PG).

Visual Records: Bolinao, Puerto Galera, Cebu.

Supplementary Records: Ross and Hodgson 1982.

*Acropora microphthalma* (Verrill)

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 158, 161, 195; BMS 32; AIMS (P, C, PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

*Acropora copiosa* Nemenzo

This species is close to *A. microphthalma*, but branches and corallites are both larger.

OCCURRENCES:

Specimens: UPZD 414 (holotype).

Visual Records: Bolinao.

*Acropora kirstyi* Veron & Wallace

Recorded only from Bolinao.

OCCURRENCES:

Specimens: BMS 51.

Visual Records: Bolinao.

*Acropora horrida* (Dana)

Forms very extensive stands at Puerto Galera, where it is the same blue color as it normally is on the GBR.

OCCURRENCES:

Specimens: MSI; BMS; AIMS (N).

Visual Records: Palawan, Puerto Galera, Negros.

*Acropora vaughani* Wells

Common; has the same range of variation as on the GBR.



## OCCURRENCES:

Specimens: MSI 7, 192; AIMS (C).

Visual Records: Puerto Galera, Cebu, Palawan.

*Acropora austera* (Dana)

## OCCURRENCES:

Specimens: BMS 31; AIMS (B).

Visual Records: Palawan.

Supplementary Records: Ross and Hodgson 1982.

SYNONYM: *Acropora multiramosa* Nemenzo (holotype, UPZD).

*Acropora aspera* (Dana)

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: UPZD 784; MSI 9, 11, 12, 13, 172.

Visual Records: Puerto Galera, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1967, Ross and Hodgson 1982.

SYNONYM: *Acropora manni* (Quelch).

*Acropora pulchra* (Brook)

Forms very extensive stands in protected biotopes, where it is usually blue or cream in color.

## OCCURRENCES:

Specimens: UPZD 464; MSI 10, 153, 163, 174.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1967 (as *A. pulchra* var. *alveolata*).

*Acropora millepora* (Ehrenberg)

## OCCURRENCES:

Specimens: UPZD 11; MSI 14; AIMS (B).

Visual Records: Puerto Galera, Palawan, Negros.

Supplementary Records: *A. convexa* (Dana) of Faustino 1927 and Nemenzo 1967 and *A. surculosa* (Dana) of Nemenzo 1967 may also be this species.

SYNONYMS: *Acropora librata* Nemenzo (holotype, UPZD) and *Acropora singularis* Nemenzo (holotype, UPZD).

*Acropora tenuis* (Dana)

Commonly the same cream color as found on the GBR.

## OCCURRENCES:

Specimens: MSI 193.

Visual Records: Bolinao, Puerto Galera, Negros.

Supplementary Records: Ross and Hodgson 1982 (as *A. plana* Nemenzo).

SYNONYM: *Acropora plana* Nemenzo (holotype, UPZD).

*Acropora selago* (Studer)

## OCCURRENCES:

Specimens: MSI 157, 194; BMS 46; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Palawan, Negros.

Supplementary Records: Ross and Hodgson 1982 (as *A. delicatula*).

SYNONYM: *Acropora insignis* Nemenzo is possibly this species (holotype, UPZD). The holotype is finely structured, near the limit of variability of GBR *A. selago*.

*Acropora donei* Veron & Wallace

Uncommon, but may form very large colonies.

## OCCURRENCES:

Specimens: MSI 16, 191.

Visual Records: Cebu, Negros.

*Acropora dendrum* (Bassett-Smith)

Uncommon.

## OCCURRENCES:

Specimens: MSI.

Visual Records: Bolinao, Puerto Galera.

*Acropora yongei* Veron & Wallace

## OCCURRENCES:

Specimens: UPZD 730, 1090; MSI 15; BMS 27.

Supplementary Records: Nemenzo 1967 (as *A. haime* Edwards & Haime).

*Acropora cytherea* (Dana)

## OCCURRENCES:

Specimens: MSI 190; BMS 50.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

*Acropora microclados* (Ehrenberg)

Colonies are mostly cream or yellow. Otherwise they show no difference from GBR colonies.

## OCCURRENCES:

Specimens: MSI 169; BMS 48; AIMS (B, PG, C).

Visual Records: Bolinao, Puerto Galera, Cebu.

*Acropora tenella* (Brook)

Colonies are flat thin plates, like *A. magnifica*, only thinner and finer. Rare.

## OCCURRENCES:

Specimens: MSI.

Supplementary Records: Nemenzo and Ferraris 1982, Ross and Hodgson 1982 (as *A. magnifica* Nemenzo).

*Acropora magnifica* Nemenzo

Uncommon; found mostly on vertical substrates.

## OCCURRENCES:

Specimens: UPZD (holotype).

Visual Records: Puerto Galera.

Supplementary Records: Nemenzo 1971.

*Acropora paniculata* Verrill

Rare; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 184; AIMS (B).

Visual Records: Palawan.

*Acropora hyacinthus* (Dana)

Common; colonies have the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: UPZD 806; MSI 27, 154, 162, 181; BMS 36, 57.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1967 [also as *A. corymbosa* (Lamarck)], Ross and Hodgson 1982.

SYNONYM: *Acropora bifurcata* Nemenzo (holotype, UPZD).

*Acropora anthocercis* (Brook)

Rare.

## OCCURRENCES:

Specimens: UPZD 876.

Visual Records: Negros.

Supplementary Records: Nemenzo 1967.

*Acropora spicifera* (Dana)

## OCCURRENCES:

Specimens: MSI; UPZD 824.

Visual Records: Negros.

Supplementary Records: Nemenzo 1967, Ross and Hodgson 1982.

*Acropora latistella* (Brook)

## OCCURRENCES:

Specimens: UPZD 14, 741; MSI 171, 186; BMS 41; AIMS (P).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1967 [also as *A. patula* (Brook)], Ross and Hodgson 1982.

SYNONYMS: *Acropora imperfecta* Nemenzo (holotype, UPZD) and *Acropora loricata* Nemenzo (holotype, UPZD). The holotype of *A. imperfecta* has more appressed corallites than usual for this species, but still falls within its range of variation.

*Acropora subulata* (Dana)

## OCCURRENCES:

Specimens: UPZD 418, 737, 992; MSI 180; BMS 47.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1967.

*Acropora nana* (Studer)

Has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: UPZD 1104; MSI 22; BMS 53, 56.

Visual Records: Puerto Galera.

Supplementary Records: Nemenzo 1967.

*Acropora aculeus* (Dana)

Uncommon.

## OCCURRENCES:

Specimens: MSI; UPZD 994, 999, 1001; AIMS (B).

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1967, Ross and Hodgson 1982.

*Acropora cerealis* (Dana)

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: UPZD 682, 734, 739, 797; MSI 18, 189.

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Faustino 1927, Ross and Hodgson 1982.

*Acropora nasuta* (Dana)

OCCURRENCES:

Specimens: UPZD 1117; MSI 170; BMS 49; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Palawan.

Supplementary Records: Nemenzo 1967.

*Acropora valida* (Dana)

OCCURRENCES:

Specimens: UPZD 17; MSI 17; BMS 35; AIMS (B).

Visual Records: Puerto Galera.

Supplementary Records: Nemenzo 1967, Ross and Hodgson 1982 [as *A. dissimilis* (Verrill)].

SYNONYM: *Acropora excelsa* Nemenzo 1971 (*pars*). One syntype is *A. divaricata* (Dana) (syntypes, UPZD).

*Acropora secale* (Studer)

OCCURRENCES:

Specimens: MSI 19, 20; UPZD 18, 1238; AIMS (B).

Visual Records: Puerto Galera, Negros.

Supplementary Records: Nemenzo 1967 (also as *A. schmitti* Wells).

*Acropora clathrata* (Brook)

OCCURRENCES:

Specimens: MSI 26; AIMS (B).

Supplementary Records: Ross and Hodgson 1982 [as *A. complanata* (Brook)].

*Acropora divaricata* (Dana)

Uncommon; the range of variation was not determined during this study.

OCCURRENCES:

Specimens: BMS 40, 58; MSI 24, 173; AIMS (P).

Visual Records: Puerto Galera, Cebu.

SYNONYM: *Acropora excelsa* Nemenzo 1971 (*pars*). One syntype is *A. valida* (Dana) (syntypes, UPZD).

*Acropora* sp. 1

An undescribed species that has been observed in Thailand is reported (J. C. Sy, pers. comm.) to occur in the Philippines but was not found by us. It is close to *A. divaricata* but has bulbous radial corallites.

*Acropora rambleri* Bassett-Smith

Rare. Colonies have a sprawling growth form with small, elongate, tapering axial and incipient axial corallites.

OCCURRENCES:

Specimens: MSI; AIMS (B).

Supplementary Records: Ross and Hodgson 1982.

The type locality of this species is the South China Sea.

*Acropora solitaryensis* Veron & Wallace

Rare; recorded from a few specimens only.

OCCURRENCES:

Specimens: BMS; AIMS (P).

*Acropora stoddarti* Pillai & Scheer

Rare; recorded from a few specimens only.

OCCURRENCES:

Specimens: MSI; AIMS (B).

*Acropora echinata* (Dana)

Common in some biotopes, where colonies are white with blue corallites, as on the GBR.

OCCURRENCES:

Specimens: UPZD 322, 454, 1064, 10891; MSI 153, 159, 160.

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927.

*Acropora subglabra* (Brook)

Common in protected biotopes; pale brown, usually with yellow tips: the same color pattern usually seen on the GBR.

## OCCURRENCES:

Specimens: UPZD 731; MSI 196.

Visual Records: Puerto Galera, Cebu.

Supplementary Records: Nemenzo 1971 [var. *rugosa* (Brook)], Ross and Hodgson 1982.

*Acropora carduus* (Dana)

Common in protected biotopes; has the same color and range of variations as on the GBR.

## OCCURRENCES:

Specimens: MSI 30; UPZD 995, 996.

Visual Records: Puerto Galera, Cebu.

Supplementary Records: Faustino 1927, Nemenzo 1967.

*Acropora elseyi* (Brook)

## OCCURRENCES:

Specimens: MSI; AIMS (B).

Visual Records: Cebu, Palawan, Negros.

*Acropora longicyathus* (Edwards & Haime)

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 29, 189.

Visual Records: Puerto Galera, Cebu.

Supplementary Records: Nemenzo 1967.

*Acropora loripes* (Brook)

## OCCURRENCES:

Specimens: MSI 31; AIMS (B).

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1967 [as *A. squarrosa* (Ehrenberg)], Ross and Hodgson 1982 [as *A. cancellata* (Brook)].

SYNONYM: *Acropora lianae* Nemenzo may be a synonym of *A. loripes* (see Veron and Wallace 1984).

*Acropora granulosa* (Edwards & Haime)

## OCCURRENCES:

Specimens: MSI 32, 33, 34, 35, 182, 183.

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1971 [as *A. speciosa* (Quelch)], Ross and Hodgson 1982 [as *A. speciosa* (Quelch)].

*Acropora caroliniana* Nemenzo

## OCCURRENCES:

Specimens: USC (holotype); MSI 164, 167, 187, 188; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1976.

The name *A. speciosa* Quelch (type locality, Tahiti) has been used for this species by Nemenzo, whereas Veron & Wallace (1984) have placed *A. speciosa* in synonymy with *A. granulosa* (Edwards & Haime). The holotype of *Acropora caroliniana* Nemenzo (USC) is more finely structured than has been observed in any colony in situ. Further study may indicate that *A. speciosa* sensu Nemenzo (specimen, USC) and *A. caroliniana* are different species. If so, the present species will require a new name and the name *caroliniana* will be applicable to the more finely structured species.

*Acropora willisae* Veron & Wallace

## OCCURRENCES:

Specimens: BMS 123; AIMS (B).

Visual Records: Bolinao, Palawan.

*Acropora florida* (Dana)

## OCCURRENCES:

Specimens: MSI 27, 36, 169, 179; BMS 55; AIMS (B, PG).

Visual Records: Bolinao, Puerto Galera, Negros.

SYNONYM: Possibly *Acropora profusa* Nemenzo (holotype, UPZD) is a synonym. The holotype is a very bushy colony with exsert dimidiate radial corallites. Similar colonies were observed in situ but appear to integrate with colonies identical to those normally found on the GBR.

*Acropora sarmentosa* (Brook)

## OCCURRENCES:

Specimens: MSI 186; UPZD 259, 324.

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1967, Ross and Hodgson 1982.

SYNONYM: *Acropora vermiculata* Nemenzo (holotype, UPZD).

*Acropora mirabilis* (Quelch), with the Banda Sea as type locality, was not recognized as a distinct species during this study. It is discussed by Veron and Wallace 1984.

#### *Acropora* sp. 2

This species is *Acropora* sp. 6 of Veron and Wallace 1984.

OCCURRENCES:

Specimens: MSI 28.

#### GENUS *Astreopora* DE BLAINVILLE

#### *Astreopora myriophthalma* (Lamarck)

This is the only common *Astreopora* in the Philippines.

OCCURRENCES:

Specimens: MSI 206; BMS 169.

Visual Records: Bolinao, Cebu, Puerto Galera, Negros.

Supplementary Records: Nemenzo 1964.

#### *Astreopora gracilis* Bernard

OCCURRENCES:

Specimens: MSI 205; BMS 193.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

SYNONYM: *Astreopora stellae* Nemenzo (holotype, UPZD).

#### *Astreopora explanata* Veron

OCCURRENCES:

Specimens: MSI 204; AIMS (PG).

Visual Records: Puerto Galera.

Supplementary Records: Nemenzo 1964 (as *A. incrustans* Bernard).

#### *Astreopora ocellata* Bernard

OCCURRENCES:

Specimens: MSI.

#### *Astreopora suggesta* Wells

OCCURRENCES:

Visual Records: Puerto Galera, Palawan.

#### *Astreopora cucullata* Lamberts

OCCURRENCES:

Visual Records: Palawan.

#### *Astreopora listeri* Bernard

OCCURRENCES:

Specimens: AIMS (C).

Visual Records: Puerto Galera, Palawan.

### FAMILY PORITIDAE GRAY

#### GENUS *Porites* LINK

The holotype of *Porites globosa* (UPZD) is a corallith and is not readily associated with any recognizable species. It is probably *P. lobata*.

Seven arborescent species have been distinguished by this study: *Porites cylindrica*, *P. nigrescens*, *P. sillimaniani*, *P. latistella*, *P. attenuata*, *P. deformis*, and *Porites* sp. *P. ornata* Nemenzo may prove to be an eighth valid species. The holotype consists of a thicket of anastomosed branches. Calices are superficial and have irregular septa.

We have not studied massive *Porites* extensively, and it is therefore likely that the present list of species is incomplete.

#### *Porites solida* (Forskål)

OCCURRENCES:

Specimens: MSI 84; BMS 150; AIMS (B).

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

#### *Porites lobata* Dana

OCCURRENCES:

Specimens: MSI 85; AIMS (B, C).

Supplementary Records: Nemenzo 1967, Ross and Hodgson 1982.

#### *Porites murrayensis* Vaughan

OCCURRENCES:

Specimens: BMS 145; AIMS (P, C).

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1955 (as *P. brighami* Vaughan 1907), Ross and Hodgson 1982.

*Porites australiensis* Vaughan

## OCCURRENCES:

Specimens: UPZD 62, 183, 191; AIMS (P, PG, C).

Visual Records: Cebu, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross and Hodgson 1982.

*Porites lutea* Edwards & Haime

## OCCURRENCES:

Specimens: MSI 268, 270; BMS 144; AIMS (C).

Visual Records: Cebu, Palawan.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

*Porites tenuis* Verrill

## OCCURRENCES:

Specimens: UPZD.

Supplementary Records: Faustino 1927, Nemenzo 1955.

*Porites stephensoni* Crossland

## OCCURRENCES:

Specimens: BMS 147; AIMS (C).

Supplementary Records: Ross and Hodgson 1982.

*Porites mayeri* Vaughan

Recorded in the Philippines from a single specimen.

## OCCURRENCE:

Specimen: AIMS (C).

*Porites* cf. *evermanni* Vaughan

This is a distinctive massive columnar species primarily identified in situ by having yellow-brown polyps extended during the day (Veron 1986, p. 218, Fig. 2). It is widely distributed in the central Indo-Pacific and was recorded from the GBR under the present name by Crossland (1952).

## OCCURRENCES:

Specimens: AIMS (C).

Visual Records: Puerto Galera, Cebu, Negros.

The present specimens differ from the description of Vaughan (1907) in having little evidence of bifurcation of septa near

the corallite wall and having less tendency towards fused directive triplets.

*Porites cylindrica* Dana

Very abundant; has the same range of variation as on the GBR. Colonies are usually a uniform blue or yellow.

## OCCURRENCES:

Specimens: BMS 12, 121, 149.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1976 (as *P. andrewsi*).

SYNONYMS: *Porites planocella* Nemenzo (holotype, UPZD) and possibly *Porites galeata* Nemenzo (holotype, UPZD). The holotype of *P. galeata* has a stunted structure, often found in colonies from very shallow reef flats.

A second ramose species, like *P. cylindrica*, has been recognized in situ and is under study.

*Porites nigrescens* Dana

Almost as abundant as *P. cylindrica* and has the same range of variation as on the GBR. Colonies are usually pale yellow or yellow-green.

## OCCURRENCES:

Specimens: BMS; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

*Porites sillimaniani* Nemenzo

Colonies resemble *P. nigrescens* but are more finely branched; the branches are flattened and fused at their bases. Usually found on reef flats, where colonies are yellow or brown. Corallites have six distinct pali and an indistinct pattern of septal fusion.

## OCCURRENCES:

Specimens: AIMS (PG).

Visual Records: Puerto Galera, Negros.

*Porites latistella* Quelch

Colonies have irregular, flattened branches. Corallites are excavated like *P. attenuata* but

are smaller and are separated by ridges of coenosteum.

OCCURRENCES:

Specimens: AIMS (PG, N).

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1971.

*Porites attenuata* Nemenzo

Very common; usually bright greenish yellow. Some colonies have submassive bases, and branches are irregular in shape and size. Corallites are more excavated than those of *P. cylindrica*, making these species readily separable in situ. Holes, presumably made by parasites, are found in the center of many corallites, which consequently have a well-developed inner synapticular ring and no columella.

OCCURRENCES:

Specimens: UPZD (holotype); BMS; AIMS (B, PG, C, N).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros, Palawan.

Supplementary Records: Nemenzo 1955.

*Porites deformis* Nemenzo

Usually uncommon; readily recognized in situ by its smooth surface and highly anastomosed irregular branches.

OCCURRENCES:

Specimens: BMS 226; UPZD (holotype); AIMS (P, C, N).

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

SYNONYMS: Possibly includes *Porites violettiae* Nemenzo. Similarities between the species are discussed by Nemenzo 1971. The holotypes of *P. deformis* and *P. violettiae* (UPZD) have similar growth forms and similar calice structures.

*Porites* sp.

An uncommon, distinct species, gray and white in situ, with short, irregular, anastomosed branches. Similar to *P. deformis*, but with deeply excavated corallites, giving a scalloped appearance.

OCCURRENCES:

Specimens: AIMS (C).

Visual Records: Cebu, Negros.

Supplementary Records: ?Nemenzo 1955 (as *P. irregularis* Verrill).

Corallites are very distinctive: the columella is large, the triplet fused, and there are five well-developed pali. Septa are very uniform in size and appearance.

*Porites cumulatus* Nemenzo

OCCURRENCES:

Specimens: UPZD (holotype); AIMS (B).

Supplementary Records: Nemenzo 1955.

This species, known from two specimens, has few distinctive characters. Further study may indicate that these specimens are an ecomorph of another species.

*Porites lichen* Dana

OCCURRENCES:

Specimens: MSI 269, 271; BMS 146; AIMS (C).

Visual Records: Bolinao.

Supplementary Records: Ross and Hodgson 1982.

*Porites vaughani* Crossland

OCCURRENCES:

Specimens: MSI 269.

Visual Records: Puerto Galera, Cebu.

SYNONYM: *Porites semilunaris* Nemenzo.

*Porites annae* Crossland

OCCURRENCES:

Specimens: MSI; AIMS (B).

Visual Records: Palawan, Negros.

*Porites eridani* Umbgrove

OCCURRENCES:

Specimens: BMS; AIMS (P).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1980a.

This species was incorrectly synonymized with *P. lichen* by Veron & Pichon 1982.

*Porites aranetai* Nemenzo

Colonies are irregular, encrusting. Corallites are irregularly spaced and have very irregular septa.

OCCURRENCES:

Specimens: UPZD (holotype).



This species has not been identified in situ during the present study, but has been recorded by Veron from other central Indo-Pacific localities.

*Porites horizontalata* Hoffmeister

The distinction between this species and *P. rus* has not been clearly defined by this study.

OCCURRENCES:

Specimens: UPZD 110; AIMS (PG).

Visual Records: Puerto Galera, Negros, Cebu.

Supplementary Records: Nemenzo 1976.

*Porites rus* (Forskål)

Common and very distinctive. At Puerto Galera it occurs as two color morphs: blue and cream.

OCCURRENCES:

Specimens: MSI 89, 272; BMS 148, 205; AIMS (PG, C, N).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982 (as *P. convexa* Verrill).

*Porites faustinoi* Hoffmeister, recorded from Australia and Samoa but not the Philippines, is a synonym of *P. rus*.

GENUS *Goniopora* DE BLAINVILLE

We did not study this genus extensively, so the following list is likely to be incomplete. *Goniopora petiolata* Nemenzo was not recognized in situ nor collected.

*Goniopora djiboutiensis* Vaughan

OCCURRENCES:

Specimens: MSI; AIMS (C).

Visual Records: Puerto Galera, Cebu.

*Goniopora stokesi* Edwards & Haime

Uncommon, but may form extensive clones through the production of daughter colonies. Has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 266, 267.

Visual Records: Bolinao, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross and Hodgson 1982.

*Goniopora lobata* Edwards & Haime

OCCURRENCES:

Specimens: MSI 82; BMS 142.

Visual Records: Bolinao, Puerto Galera, Palawan, Negros.

*Goniopora pendulus* Veron

Uncommon; has the same color and appearance as colonies from Western Australia.

OCCURRENCES:

Specimens: BMS 265.

Visual Records: Bolinao, Puerto Galera, Cebu.

*Goniopora columna* Dana

OCCURRENCES:

Specimens: MSI 83; BMS 9, 140.

Visual Records: Bolinao, Puerto Galera, Palawan.

Supplementary Records: Nemenzo 1955.

*Goniopora somaliensis* Vaughan

OCCURRENCES:

Specimens: MSI 87, 263, 264; BMS 143, 184.

Visual Records: Bolinao, Puerto Galera, Palawan.

SYNONYM: *Goniopora undulata* Nemenzo (holotype, UPZD).

*Goniopora tenuidens* Quelch

Common; has the same range of color and the same appearance as colonies from the GBR.

OCCURRENCES:

Specimens: UPZD 168; MSI; AIMS (P).

Visual Records: Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1955.

*Goniopora burgosi* Nemenzo

A distinct species characterized by very small corallites. Polyps are likewise small but are very elongate when fully extended.

OCCURRENCES:

Specimens: UPZD (holotype); AIMS (PG).



Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

*Goniopora minor* Crossland

Common; has the same appearance as colonies from the GBR.

OCCURRENCES:

Specimens: MSI 86, 261; BMS 8, 141.

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982 (and as *G. pedunculata* Quoy & Gaimard).

*Goniopora norfolkensis* Veron & Pichon

Rare; recorded from a single specimen.

OCCURRENCES:

Specimens: UPZD.

*Goniopora palmensis* Veron & Pichon

OCCURRENCES:

Specimens: AIMS (P, PG).

*Goniopora fruticosa* Saville-Kent

OCCURRENCES:

Specimens: BMS.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

*Goniopora pandoraensis* Veron & Pichon

OCCURRENCES:

Specimens: AIMS (PG).

Visual Records: Puerto Galera, Palawan.

*Goniopora* sp.

This is a common as yet undescribed species of the Ryukyu Islands characterized by corallites like those of *G. lobata* and colony shape like that of *G. fruticosa*.

OCCURRENCES:

Specimens: AIMS (PG).

GENUS *Alveopora* DE BLAINVILLE

One corallum collected from Puerto Galera is an encrusting plate with strongly inclined corallites. It may be a distinct species.

*Alveopora catalai* Wells

Forms very extensive stands at Puerto Galera. Has the same range of variation and color as on the GBR.

OCCURRENCES:

Specimens: MSI 273, 274; BMS 138.

Visual Records: Bolinao, Puerto Galera, Negros.

Supplementary Records: Nemenzo 1980a.

*Alveopora allingi* Hoffmeister

Common at Puerto Galera, where colonies are very pale, almost white.

OCCURRENCES:

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Ross and Hodgson 1982.

*Alveopora marionensis* Veron & Pichon

OCCURRENCES:

Specimens: MSI 262.

*Alveopora fenestrata* (Lamarck)

OCCURRENCES:

Specimens: BMS 183.

*Alveopora verrilliana* Dana

OCCURRENCES:

Specimens: MSI 14; UPZD 1938.

Supplementary Records: Nemenzo 1971.

SYNONYMS: *Alveopora naomiae* Nemenzo (holotype, MLSU) and *Alveopora trihedralis* Nemenzo.

The palisade of trabecular rods, which characterize the species, are well developed in Philippine coralla.

*Alveopora spongiosa* Dana

Common; usually chocolate brown; has the same range of variation as on the GBR, except that colonies are relatively common in shallow water, where they often develop columns.

OCCURRENCES:

Specimens: MSI 275, 276; BMS 7.

Visual Records: Bolinao, Puerto Galera, Negros.

SYNONYM: *Alveopora alcalai* (holotype, MLSU). The holotype is a submassive corallum, 70 mm diameter, with corallites indistinguishable from those of GBR coralla of this species.

*Alveopora excelsa* Verrill

Colonies are irregular, submassive, frequently over 2 m diameter, with very small

corallites. Polyps are very elongate and have long tentacles when extended. When polyps are retracted, colonies are pale pinkish brown.

## OCCURRENCES:

Specimens: AIMS (PG [four specimens]).

On all specimens trabecular rods are well formed and taper to points on thecal walls. The latter may form distinct circles connected by irregular synapticalae. The compound structure of septal rods is clearly visible in one specimen.

*Alveopora tizardi* Bassett-Smith

Rare; pale brown to pinkish brown. This record needs to be confirmed.

## OCCURRENCES:

Visual Records: Puerto Galera.

## FAMILY SIDERASTREIDAE VAUGHAN &amp; WELLS

GENUS *Pseudosiderastrea* YABE & SUGIYAMA*Pseudosiderastrea tayami* Yabe & Sugiyama

Colonies are indistinguishable from those found elsewhere in the central Indo-Pacific.

## OCCURRENCES:

Specimens: MSI 71, 232; BMS 108.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Pichon 1977, Nemenzo 1980a (as *Siderastrea savignyana* Edwards & Haime).

GENUS *Siderastrea* DE BLAINVILLE

This genus has not been previously recorded from the Pacific.

*Siderastrea savignyana* Edwards & Haime

## OCCURRENCES:

Specimens: AIMS (B).

There are no important differences between this specimen and coralla from the western Indian Ocean and the Red Sea. This genus has not been recognized in situ.

GENUS *Psammocora* DANA*Psammocora contigua* (Esper)

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 148, 150.

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross and Hodgson 1982.

*Psammocora superficialis* Gardiner

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 149.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Hodgson and Ross 1982, Ross and Hodgson 1982.

*Psammocora explanulata* van der Horst

Uncommon.

## OCCURRENCES:

Specimens: MSI 151; BMS; AIMS (PG).

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo and Ferraris 1982.

*Psammocora digitata* Edwards & Haime

Much less common than on the GBR.

## OCCURRENCES:

Specimens: BMS 75; AIMS (P).

Visual Records: Bolinao, Cebu.

*Psammocora haimeana* Edwards & Haime

Known from the Philippines from a single specimen.

## OCCURRENCES:

Specimens: AIMS (PG).

*Psammocora profundacella* Gardiner

Rare.

## OCCURRENCES:

Specimens: BMS 74; AIMS (B).

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955.

*Psammocora nierstraszi* van der Horst

Rare.

## OCCURRENCES:

Specimens: CPZD C-676.

Supplementary Records: Nemenzo 1976,

Ross and Hodgson 1982 (as *P. samoensis* Hoffmeister).

*Psammocora* sp.

This record is based on a single specimen from Puerto Galera characterized by small corallites and thin septo-costae, which gives the corallum a porous appearance.

OCCURRENCE:

Specimen: AIMS (PG).

GENUS *Coscinaraea* EDWARDS & HAIME

*Coscinaraea exesa* (Dana)

Uncommon; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 152.

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955 (as *Psammocora exesa*).

*Coscinaraea columna* (Dana)

Uncommon; not studied in detail.

OCCURRENCES:

Specimens: BMS 188.

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1955.

*Coscinaraea wellsi* Veron & Pichon

Rare.

OCCURRENCES:

Visual Records: Puerto Galera, Palawan, Cebu.

Supplementary Records: Hodgson and Ross 1982 (as *C. ostraeformis* van der Horst), Ross and Hodgson 1982, Nemenzo & Hodgson 1983.

*Coscinaraea crassa* Veron & Pichon

Rare; known from a single specimen.

OCCURRENCE:

Specimen: BMS.

FAMILY AGARICIIDAE GRAY

*Pavona* is abundant throughout the Philippines. Leafy species tend to be found together in some biotopes, while massive and encrusting species are found together in others.

GENUS *Pavona* LAMARCK

*Pavona cactus* (Forskål)

Common only in restricted biotopes. Has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 218, 219; BMS 81, 82.

Visual Records: Puerto Galera, Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1971, Nemenzo 1980a (as *P. venusta* Dana).

*Pavona decussata* (Dana)

Common in restricted biotopes. Colonies may have finer plates with more exsert septo-costae than is usually found on the GBR.

OCCURRENCES:

Specimens: MSI 40, 41, 113; BMS 215, 216, 217.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955.

*Pavona explanulata* (Lamarck)

Uncommon; found only on steeply sloping surfaces.

OCCURRENCES:

Specimens: MSI 39, 220; BMS 37, ?163, 174, 185; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Hodgson and Ross 1982, Nemenzo and Hodgson 1983.

*Pavona danai* (Edwards & Haime)

Uncommon.

OCCURRENCES:

Visual Records: Bolinao, Puerto Galera, Cebu.

SYNONYM: *Pavona dilatata* Nemenzo. The holotype is composed of fine plates, as occur in sheltered environments.

*Pavona frondifera* (Lamarck)

Uncommon.

OCCURRENCES:

Specimens: MSI 223; BMS 79, 80.

Visual Records: Bolinao, Puerto Galera, Cebu.

Supplementary Records: Faustino 1927, Nemenzo 1955.

*Pavona maldivensis* (Gardiner)

Rare.

## OCCURRENCES:

Visual Records: Palawan.

*Pavona clavus* (Dana)

Forms very extensive stands in shallow, protected waters. Usually pale cream and has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 224; BMS 206; AIMS (C).

Visual Records: Puerto Galera, Bolinao, Cebu, Palawan, Negros.

*Pavona minuta* Wells

Rare; very large colonies have been observed only at Palawan.

## OCCURRENCES:

Specimens: MSI 42.

Visual Records: Cebu, Palawan.

Supplementary Records: Nemenzo and Ferraris 1982, Ross and Hodgson 1982.

*Pavona bipartita* Nemenzo

Common in some sheltered bays where water circulation is good. Forms large, flat explanate colonies on the sides of vertical surfaces; becomes columnar on horizontal surfaces.

## OCCURRENCES:

Specimens: MSI 38, 226; MLSU (holotype); BMS; AIMS (PG).

Visual Records: Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1980.

The holotype is the top of a columnar colony.

*Pavona varians* Verrill

Common, especially on protected overhangs and walls. Has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 37, 221, 222; BMS 230.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

*Pavona venosa* (Ehrenberg)

Uncommon.

## OCCURRENCES:

Specimens: MSI 225; BMS 220.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

*Pavona* sp. 1

An encrusting species similar to *P. bipartita* in fine structures but with smaller corallites. Often found in the same biotope as *P. bipartita* and *P. clavus*. Usually dark green. The same species has been recorded from Western Australia (Veron and Marsh 1988), Papua New Guinea (Veron and Kelley 1988), and elsewhere in the central Indo-Pacific.

## OCCURRENCES:

Specimens: AIMS (PG, C).

Visual Records: Puerto Galera, Cebu, Negros.

*Pavona* sp. 2

An encrusting species with corallites finer than those of *Pavona* sp. 1 and separated by meandering ridges. Known only from a single specimen.

## OCCURRENCE:

Specimen: AIMS (C).

GENUS *Leptoseris* EDWARDS & HAIME*Leptoseris papyracea* (Dana)

Much more common than on the GBR and frequently found in shallow water, where colonies have tightly convoluted fronds.

## OCCURRENCES:

Specimens: MSI 45, AIMS (C).

Visual Records: Cebu.

Supplementary Records: Faustino 1927, Nemenzo 1976, Ross and Hodgson 1982 (as *L. zamboi* Nemenzo).

SYNONYM: *Leptoseris zamboi* Nemenzo (holotype, UPZD).

*Leptoseris gardineri* van der Horst

Rare; found only in very isolated biotopes.

## OCCURRENCES:

Specimens: MSI 43, 44.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Hodgson and Ross 1982, Ross and Hodgson 1982, Nemenzo and Hodgson 1983.

*Leptoseria explanata* Yabe & Sugiyama

Uncommon.

OCCURRENCES:

Specimens: MSI 47, 210; BMS 178.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

*Leptoseria scabra* Vaughan

Common on vertical substrates. Colonies have the same range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 46, 48, 208, 212; AIMS (PG, C).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Hodgson and Ross 1982, Ross and Hodgson 1982, Nemenzo and Hodgson 1983.

*Leptoseria hawaiiensis* Vaughan

Uncommon.

OCCURRENCES:

Specimens: MSI 207, BMS 192.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1976, Ross and Hodgson 1982.

*Leptoseria mycetoseroides* Wells

Very common, especially on vertical substrates. Colonies have the same range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 211; BMS 201, 229; AIMS (C).

Visual Records: Puerto Galera, Bolinao, Cebu, Negros.

SYNONYM: Possibly includes *Coscinaraea rugosa* Nemenzo. No type material of this species has been found.

*Leptoseria incrustans* (Quelch)

Uncommon.

OCCURRENCES:

Specimens: BMS; AIMS (B, C).

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Ross and Hodgson 1982.

*Leptoseria yabei* (Pillai & Scheer)

Uncommon.

OCCURRENCES:

Specimens: MSI 213; BMS 180.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

SYNONYM: *Coscinaraea foliata* Nemenzo.

*Leptoseria foliosa* Dineson

Rare.

OCCURRENCES:

Specimens: MSI 209, 350.

Visual Records: Bolinao, Cebu.

Supplementary Records: Nemenzo and Ferraris 1982 (as *L. tenuis* van der Horst).

*Leptoseria solida* (Quelch)

Uncommon except in isolated biotopes.

OCCURRENCES:

Specimens: MSI 348; AIMS (PG).

Visual Records: Cebu.

Supplementary Records: Nemenzo and Ferraris 1982.

GENUS *Gardineroseris* SCHEER & PILLAI

*Gardineroseris planulata* (Dana)

Usually uncommon; has the same color and range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 53, 54, 227; BMS 164.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1971, Ross and Hodgson 1982 [both as *Pavona (Polyastra) planulata* Dana].

GENUS *Coeloseria* VAUGHAN

*Coeloseria mayeri* Vaughan

Uncommon; has the same appearance in situ as colonies on the GBR.

OCCURRENCES:

Specimens: MSI 49, 215; BMS 77.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross and Hodgson 1982.

GENUS *Pachyseris* EDWARDS & HAIME

*Pachyseris rugosa* (Lamarck)

Uncommon.

OCCURRENCES:

Specimens: MSI 51, 228, 229, 231; BMS.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross & Hodgson (as *P. valenciennesi* Edwards & Haime).

*Pachyseris speciosa* (Dana)

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: MSI 52, 230; BMS 78, 179.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

SYNONYM: *Pachyseris clementei* Nemenzo (holotype, UPZD).

*Pachyseris gemmae* Nemenzo

Colonies are platelike or submassive. Collines between the valleys are irregular in height and thickness, giving a wavy appearance to the corallum surface. This species is similar to platelike *P. rugosa*, but the columella is poorly developed or absent. Common in some biotopes.

OCCURRENCES:

Specimens: UPZD (holotype), AIMS (PG [three specimens], C).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros, Palawan.

Supplementary Records: Nemenzo 1955, Hodgson and Ross 1982.

*Pachyseris* sp.

Well-developed colonies are easily recognised in situ by having divided fronds arranged in whorls, giving a leafy appearance. Usually found in turbid water. Skeletal fine structures are virtually identical with those of *P. speciosa*. Uncommon.

OCCURRENCES:

Specimens: AIMS (PG, C).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1976, Ross and Hodgson 1982 (both as *P. involuta* Studer).

No type specimens of *P. involuta* Studer have been examined during this study, but the original description and that of van der Horst 1921 indicate that the name *involuta* is not applicable to this species.

FAMILY FUNGIIDAE DANA

GENUS *Cycloseris* EDWARDS & HAIME

*Cycloseris* is very common in some biotopes with flat, sandy substrates.

*Cycloseris cyclolites* (Lamarck)

Usually uncommon.

OCCURRENCES:

Specimens: UPZD 80; AIMS (PG, C).

Visual Records: Cebu, Palawan.

Supplementary Records: Nemenzo 1955.

*Cycloseris sinensis* (Edwards & Haime)

Usually uncommon.

OCCURRENCES:

Specimens: UPZD 541, 589; AIMS (P).

Visual Records: Puerto Galera, Cebu, Palawan.

*Cycloseris hexagonalis* (Edwards & Haime)

Rare.

OCCURRENCES:

Specimens: MSI 331; AIMS (PG).

Supplementary Records: Nemenzo 1980a.

*Cycloseris somervillei* (Gardiner)

Uncommon.

OCCURRENCES:

Specimens: MSI 105, 235, 344; BMS 133; AIMS (PG).

Visual Records: Puerto Galera.

Supplementary Records: Nemenzo 1980a.

*Cycloseris* sp. 1

Oval, very thin, arched, and primarily characterized by prominent tentacular lobes. Collected on a flat, soft substrate at 12 m depth.

OCCURRENCES:

Specimens: AIMS (C).

*Cycloseris erosa* (Döderlein)

Occasionally common on flat, soft substrates.

## OCCURRENCES:

Specimens: AIMS (C, N).

*Cycloseris patelliformis* (Boschma)

Common on some flat, sandy substrates.

## OCCURRENCES:

Specimens: MSI 333; AIMS (C, N).

Visual Records: Cebu, Negros.

Supplementary Records: Nemenzo 1980a.

*Cycloseris vauhani* (Boschma)

Common on some flat, sandy substrates. The range of variation in 10 specimens at AIMS indicates that they may belong to more than one species. This requires further study.

## OCCURRENCES:

Specimens: MSI; AIMS (PG).

Visual Records: Palawan.

*Cycloseris* sp. 2

The corallum is subcircular, strongly arched, and has the septal characters of *C. vauhani*. Costae are markedly cyclical and well developed. The three specimens of the present series are separable, by these characters, from other species collected from the same biotope.

## OCCURRENCES:

Specimens: AIMS (PG, C).

*Cycloseris marginata* (Boschma)

Rare.

## OCCURRENCES:

Specimens: BMS 21; MSI 332.

Visual Records: Palawan.

Supplementary Records: Nemenzo 1980a.

*Cycloseris costulata* (Ortmann)

Common on some flat, sandy substrates.

## OCCURRENCES:

Specimens: UPZD 119, 752, 753, 754, 756, 757, 1274, 1275; AIMS (C).

Visual Records: Palawan.

Supplementary Records: Nemenzo 1971 (as *C. doderleini* Yabe & Sugiyama).

GENUS *Diaseris* EDWARDS & HAIME*Diaseris distorta* (Michelin)

Probably rare except in isolated biotopes.

## OCCURRENCES:

Specimens: MSI 315.

Visual Records: Cebu.

Supplementary Records: Nemenzo 1980a [as *Cycloseris distorta* (Michelin)].

*Diaseris fragilis* Alcock

Very abundant in subtidal sea grass beds at Mactan, Cebu, where rapid rates of autotomy result in large numbers of tiny individuals almost covering the sand in some places. Rare or absent in most reefal biotopes.

## OCCURRENCES:

Specimens: MSI 111, 234; AIMS (C).

Visual Records: Cebu.

GENUS *Heliofungia* WELLS*Heliofungia actiniformis* (Quoy & Gaimard)

Usually uncommon. Polyps are pale to dark blue-gray with white tips to the tentacles.

## OCCURRENCES:

Specimens: MSI 105, 237; BMS.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955.

GENUS *Fungia* LAMARCK

*Fungia* are exceptionally abundant in some biotopes, especially at Puerto Galera, where free-living fungiids were frequently observed to occupy all available substrates in shallow water, between thickets of *Millepora*.

*Fungia (Fungia) fungites* (Linnaeus)

Very common.

## OCCURRENCES:

Specimens: MSI 233, 247; BMS 127.

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross and Hodgson 1982.

SYNONYM: *Cycloseris sinuosa* Nemenzo 1983 (holotype, UPZD).

*Fungia (Danafungia) danai* Edwards & Haime

Common in a wide range of biotopes.

## OCCURRENCES:

Specimens: BMS 129; AIMS (PG).

Visual Records: Cebu.



Supplementary Records: Faustino 1927, Nemenzo 1955.

*Fungia (Danafungia) scabra* Döderlein

OCCURRENCES:

Specimens: MSI 104, 242; BMS 132.

Visual Records: Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross and Hodgson 1982.

*Fungia (Danafungia) corona* Döderlein

Uncommon in most biotopes.

OCCURRENCES:

Specimens: MSI 243, 250; AIMS (B, PG).

Visual Records: Cebu.

*Fungia (Danafungia) scruposa* Klunzinger

Common.

OCCURRENCES:

Specimens: MSI 239, 244, 245, 248.

Visual Records: Cebu.

Supplementary Records: Nemenzo 1976.

*Fungia (Danafungia) horrida* Dana

Common; may have extremely large septal dentations.

OCCURRENCES:

Specimens: MSI 238, 240; BMS 130; AIMS (B, PG).

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

*Fungia (Danafungia) fralineae* Nemenzo

Uncommon, but very distinctive, with fine exsert septa that extend up to 8 mm beyond the disc margin. Polyps have thick, terete tentacles extended during the day. These may have tips with two lobes, each lobe with a black dot. The species is sufficiently distinct to justify a separate subgenus.

OCCURRENCES:

Specimens: UPZD (holotype); BMS; MSI; AIMS (C [three specimens]).

Visual Records: Cebu, Palawan.

Supplementary Records: Nemenzo 1955.

SYNONYM: *Cycloseris similis* Nemenzo (a juvenile specimen).

*Fungia (Verrillofungia) repanda* Dana

Very common.

OCCURRENCES:

Specimens: BMS 126; AIMS (PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross and Hodgson 1982 (as *F. samboangensis* Vaughan).

*Fungia (Verrillofungia) concinna* Verrill

OCCURRENCES:

Specimens: BMS 128.

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955.

*Fungia (Verrillofungia) granulosa* Klunzinger

Common in many reef biotopes; does not differ from GBR coralla.

OCCURRENCES:

Specimens: MSI 109, 249; BMS 131; AIMS (PG).

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1955.

*Fungia (Verrillofungia) spinifera* Claereboudt & Hoeksema

Primarily characterized by a thin, flat disc, with septa strongly arched above the central fossa and tentacular lobes like those of *F. scutaria*. The species was not found during the present study.

OCCURRENCES:

Supplementary Records: Claereboudt & Hoeksema 1987.

*Fungia (Verrillofungia) sp.*

An unidentified species primarily characterized by a moderately arched disc, fine triangular, septal dentations and costal spines (which are very similar), compact, subequal costal, and the presence of costal alveoli and low tentacular lobes.

OCCURRENCES:

Specimens: AIMS (PG, C).

*Fungia (Pleuractis) scutaria* Lamarck

Rare.



## OCCURRENCES:

Specimens: AIMS (B).

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1955.

*Fungia (Pleuractis) paumotensis* Stutchbury

Very common.

## OCCURRENCES:

Specimens: MSI 108, 241; BMS 22.

Visual Records: Bolinao, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1955.

SYNONYMS: *Fungia gravis* Nemenzo (holotype, UPZD) and *Fungia alta* Nemenzo 1983 (holotype, UPZD). These holotypes fall within the range of variation of *F. paumotensis*, which includes coralla with or without a prominent ridge around the central fossa and with or without low tentacular lobes. Costae, in all coralla, show very little variation. This range was observed in a suite of collected specimens.

*Fungia (Pleuractis) moluccensis* van der Horst

Common.

## OCCURRENCES:

Specimens: MSI 325; AIMS (PG).

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

*Fungia (Ctenactis) echinata* (Pallas)

Very common.

## OCCURRENCES:

Specimens: MSI 107, 236; BMS 14, 18, 218.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1955, Ross and Hodgson 1982.

*Fungia (Ctenactis) simplex* (Gardiner)

Uncommon.

## OCCURRENCES:

Specimens: MSI 101, 254.

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1955 [as *Herpolitha* (= *Herpetoglossa*) *simplex*].

SYNONYM: Includes *Herpolitha secunda* Nemenzo (Nemenzo [in press (a)] (described from a single juvenile specimen).

GENUS *Herpolitha* ESCHSCHOLTZ*Herpolitha limax* (Houttuyn)

Very common.

## OCCURRENCES:

Specimens: MSI 253; BMS 191; AIMS (PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982 (as *H. stricta* Dana).*Herpolitha weberi* (van der Horst)Rare. The present specimens are not clearly distinguished from immature *H. limax*.

## OCCURRENCES:

Specimens: MSI 175, 251; BMS 190.

Visual Records: Bolinao, Cebu, Palawan.

GENUS *Polyphyllia* QUOY & GAIMARD*Polyphyllia talpina* (Lamarck)

Usually uncommon; has the same appearance in situ as on the GBR, with moplake tentacles extended day and night.

## OCCURRENCES:

Specimens: MSI 106, 256, 257; BMS 171.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955.

GENUS *Sandalolitha* QUELCH*Sandalolitha robusta* (Quelch)

Very common in a wide range of environments.

## OCCURRENCES:

Specimens: MSI 103, 259; BMS 15, 16.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955, Nemenzo and Ferraris 1982 [as *Parahalomitra shuiteri* (van der Horst)].GENUS *Halomitra* DANA*Halomitra pileus* (Linnaeus)

Common in a wide range of environments.

## OCCURRENCES:

Specimens: MSI 102, 258.

Visual Records: Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1955 (both as *H. philippinensis* Studer), Ross and Hodgson 1982.

SYNONYMS: *Halomitra philippinensis* Studer from the Philippines and *Halomitra louwiniæ* van der Horst from the Philippines.

#### GENUS *Lithophyllon* REHBERG

The genus *Lithophyllon* is in need of revision. Although species are distinct, names given to them here are tentative only, as older type specimens have not been studied.

##### *Lithophyllon undulatum* Rehberg

Dineson (1980) and Hoeksema (pers. comm.) both confirm that the holotype of *Leptoseris edwardsi* Rousseau is a *Leptoseris* and not a senior synonym of the present species, as indicated by Veron and Pichon 1980. Rare.

##### OCCURRENCES:

Specimens: MSI ?136; BMS 13.

Visual Records: Cebu, Palawan.

##### *Lithophyllon lobata* van der Horst

This species was incorrectly synonymized with *L. edwardsi* by Veron and Pichon 1980. It probably includes *L. involuta* (van der Horst) from Singapore and the *L. elegans* (Edwards & Haime) of van der Horst (1921) and Yabe et al. (1936), both from Japan. It could also include *L. dispar* (Verrill), which would be a senior synonym.

##### OCCURRENCES:

Specimens: MSI 90, 133, 134, 252; BMS 17, 20; AIMS (B, PG).

Visual Records: Puerto Galera, Cebu.

##### *Lithophyllon levistei* Nemenzo

Rare.

##### OCCURRENCES:

Specimens: UPZD (holotype).

Visual Records: Bolinao, Cebu, Palawan.

Supplementary Records: Nemenzo 1971.

#### GENUS *Podabacia* EDWARDS & HAIME

##### *Podabacia crustacea* (Pallas)

##### OCCURRENCES:

Specimens: MSI 98, 260; BMS; AIMS (B, PG).

Visual Records: Puerto Galera, Bolinao, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1955.

##### *Podabacia* sp.

A second species of *Podabacia* is distinguished from *P. crustacea* by having smaller corallites and final skeletal characters. Previously recorded from Papua New Guinea by Veron and Kelley 1988. Usually uncommon.

##### OCCURRENCES:

Specimens: AIMS (N).

Visual Records: Puerto Galera, Cebu, Negros.

#### GENUS *Zoopilus* DANA

##### *Zoopilus echinatus* Dana

Rare; restricted to lower reef slopes.

##### OCCURRENCES:

Specimens: MSI 94, 255.

Supplementary Records: Nemenzo 1976.

SYNONYM: *Zoopilus gomezi* Nemenzo (holotype, MSI).

#### FAMILY OCULINIDAE GRAY

#### GENUS *Galaxea* OKEN

*Galaxea astreata*, *G. fascicularis*, and *G. alta* form a series primarily characterized by increase in corallite size and number and degree of development of septa. They are all identifiable in situ.

##### *Galaxea astreata* (Lamarck)

Common; has the same range of variation as on the GBR.

##### OCCURRENCES:

Specimens: MSI 96, 315; BMS 136.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959 (as *G. clavus*).

SYNONYMS: *Galaxea laticostata* Nemenzo (holotype, UPZD), *Galaxea negrensis* Nemenzo (holotype, MLSU), and *Galaxea susanae* Nemenzo & Ferraris. The holotype of *G. laticostata* is a deep-water ecomorph of *G. astreata*. The holotype of *G. negrensis* has corallites ca. 3 mm in diameter with

strongly alternating septa. It falls within the normal range of variation of *G. astreata*.

*Galaxea fascicularis* (Linnaeus)

Very common and may be the dominant species in some areas (e.g., Apo Island), where colonies are frequently > 2 m high. Colonies with pink septa are very common in the Philippines.

OCCURRENCES:

Specimens: MSI 95; BMS 5, 208.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Ross and Hodgson 1982.

SYNONYMS: *Galaxea lawisiana* Nemenzo (holotype, UPZD) and, possibly, *Galaxea prolifera* Nemenzo & Ferraris. *G. prolifera* is characterized by very exsert corallites, a condition that normally occurs in coralla from turbid water. It could, however, be a synonym of *G. alta*.

*Galaxea alta* Nemenzo

Common in some biotopes. Primarily characterized by very large, exsert, tubular corallites and numerous highly compacted septa. Coralla without field data may not be separable from *G. fascicularis*, but identification is greatly facilitated if both species occur together in situ or are collected from the same biotope.

OCCURRENCES:

Specimens: MLSU (holotype); AIMS (N).

Visual Records: Puerto Galera, Cebu, Negros.

GENUS *Acrhelia* EDWARDS & HAIME

*Acrhelia horrescens* (Dana)

Common in some biotopes. Has a similar range of variations as on the GBR except that it commonly occurs in turbid environments, where it has a lax growth form.

OCCURRENCES:

Specimens: MSI 91; BMS 119.

Visual Records: Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959.

FAMILY PECTINIIDAE VAUGHAN & WELLS

GENUS *Echinophyllia* KLUNZINGER

*Echinophyllia aspera* (Ellis & Solander)

Common in a wide range of habitats.

OCCURRENCES:

Specimens: BMS 2, 151.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959, Ross and Hodgson 1982.

SYNONYMS: Possibly includes *Echinophyllia hirsuta* Nemenzo and *Echinophyllia subglabra* Nemenzo. The latter has not been recognized from the description and no type specimens have been examined. *Echinophyllia hirsuta* (holotype, MLSU) has corallites approximately 7 mm in diameter and septa in three orders, the third being abortive.

*Echinophyllia orpheensis* Veron & Pichon

Rare, with little tendency to become sub-massive, as is common on the GBR.

OCCURRENCES:

Specimens: MSI 61, 332.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

*Echinophyllia echinata* (Saville-Kent)

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: BMS 1.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo and Hodgson 1983.

*Echinophyllia echinoporoides* Veron & Pichon

Rare except in some protected biotopes; mostly brick red.

OCCURRENCES:

Specimens: BMS 96, 212.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

*Echinophyllia patula* (Hodgson & Ross)

A common species on vertical substrates at 10–40 m depth. Usually gray-green. The full range of variation has not been determined. It

is not easily separated from *E. aspera* and requires further study.

## OCCURRENCES:

Specimens: AIMS (C).

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Hodgson and Ross 1982 (as *Physophyllia patula*).

GENUS *Oxypora* SAVILLE-KENT

The following three species of *Oxypora* form a series primarily characterized by decreasing abundance and size of costae. This can be readily observed in situ.

*Oxypora crassispinosa* Nemenzo

An ill-defined species but recognized in situ, where it is common on steeply sloping substrates. It is primarily characterized by having thick, exsert septa and costae with prominent thick spines and ridges. Usually dark green.

## OCCURRENCES:

Specimens: MLSU (holotype); AIMS (PG).

Visual Records: Puerto Galera, Cebu.

*Oxypora lacera* (Verrill)

## OCCURRENCES:

Specimens: MSI 330, 331; BMS 202, 203.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959, Hodgson and Ross 1982.

*Oxypora glabra* Nemenzo

Uncommon; frequently thin, brittle sheets, almost white.

## OCCURRENCES:

Specimens: UPZD (holotype); BMS 3; AIMS (PG).

Visual Records: Puerto Galera, Bolinao, Cebu, Palawan.

Supplementary Records: Nemenzo 1959, Ross and Hodgson 1982.

GENUS *Mycedium* OKEN*Mycedium elephatotus* (Pallas)

Common; has the same colors and range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 334, 335; BMS 177.

Visual Records: Puerto Galera, Bolinao, Cebu, Palawan.

Supplementary Records: Nemenzo 1959, Ross and Hodgson 1982.

SYNONYM: Possibly includes *Mycedium mancaoi* Nemenzo, which requires further study: type specimens have not been found.

*Mycedium robokaki* Moll & Borel Best

Rare.

## OCCURRENCES:

Specimens: MSI 333; AIMS (B, PG).

Visual Records: Bolinao, Puerto Galera.

GENUS *Physophyllia* DUNCAN*Physophyllia ayleni* (Wells)

Known in the Philippines from a single specimen.

## OCCURRENCES:

Specimens: MSI (holotype of *P. wellsii*).

SYNONYM: *Physophyllia wellsii* Nemenzo. This specimen was collected from deep mud near Liminangcong, Palawan. Distinctions between it and *Pectinia lactuca* from similar biotopes remain unresolved.

GENUS *Pectinia* OKEN

The identity of *Pectinia laxa* Nemenzo 1983 has not been adequately determined during this study, as no type specimens have been found.

*Pectinia lactuca* (Pallas)

Very common; always battleship gray and has the same range of variation as on the northern GBR.

## OCCURRENCES:

Specimens: MSI 336; BMS 196, 197.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959, Hodgson and Ross 1982.

*Pectinia paeonia* (Dana)

Uncommon; the range of variation was not determined during this study.

## OCCURRENCES:

Specimens: MSI 338; BMS 219.  
 Visual Records: Bolinao, Puerto Galera,  
 Cebu, Palawan.  
 Supplementary Records: Nemenzo 1959.

*Pectinia alcornonis* (Saville-Kent)

Uncommon; has the same range of variations as on the GBR.

## OCCURRENCES:

Specimens: MSI 337; BMS 198.  
 Visual Records: Bolinao, Puerto Galera,  
 Cebu, Palawan, Negros.  
 SYNONYM: *Pectinia plicata* Nemenzo (holotype, UPZD).

*Pectinia teres* Nemenzo & Montecillo

Uncommon; usually restricted to lower reef slopes.

## OCCURRENCES:

Specimens: AIMS (PG).  
 Visual Records: Puerto Galera, Cebu,  
 Negros.  
 Supplementary Records: Nemenzo and  
 Montecillo 1981.  
 SYNONYM: *Pectinia diversa* Nemenzo &  
 Montecillo. The holotype (USC) is very  
 similar to that of *P. teres*.

## FAMILY MUSSIDAE ORTMANN

GENUS *Blastomussa* WELLS

*Blastomussa lawtoni* Nemenzo [in press (a)],  
 collected from "100–120 fathoms" appears to  
 be ahermatypic. It is not *Blastomussa*.

*Blastomussa wellsi* Wijsman-Best

Some colonies have very large, flat coral-  
 lites that become plocoid. Uncommon. The  
 colors are the same as those of GBR colonies.

## OCCURRENCES:

Specimens: BML 73.  
 Visual Records: Bolinao, Puerto Galera,  
 Cebu, Palawan.  
 Supplementary Records: Hodgson and  
 Ross 1982, Nemenzo and Hodgson 1983.

*Blastomussa merleti* (Wells)

Rare; has the same range of variation and  
 color as on the GBR.

## OCCURRENCES:

Specimens: BML 72.  
 Visual Records: Bolinao, Cebu, Palawan.  
 Supplementary Records: Hodgson and  
 Ross 1982, Nemenzo and Hodgson 1983.

GENUS *Cynarina* BRÜGGEMANN

Rare; has a wide range of colors, as on the  
 GBR.

*Cynarina lacrymalis* (Edwards & Haime)

## OCCURRENCES:

Specimens: MSI 60, 319, 320, 321; BMS  
 68.  
 Visual Records: Bolinao, Cebu, Palawan.  
 Supplementary Records: Nemenzo and  
 Ferraris 1982.

GENUS *Scolymia* HAIME*Scolymia vitiensis* Brüggemann

Rare; usually dark green, as on the GBR.

## OCCURRENCES:

Specimens: MSI 99.  
 Visual Records: Puerto Galera, Cebu,  
 Negros.  
 Supplementary Records: Pichon 1977,  
 Nemenzo and Ferraris 1982 (both as  
*Parascolymia vitiensis* Brüggemann).

GENUS *Australomussa* VERON*Australomussa rowleyensis* Veron

Rare.

## OCCURRENCES:

Specimens: AIMS (B).  
 Visual Records: Bolinao, Cebu.

GENUS *Acanthastrea* EDWARDS & HAIME

Two specimens at MSI are possibly a sixth  
 species of *Acanthastrea*. They are primarily  
 characterized by the presence of a very large  
 central corallite.

*Acanthastrea echinata* (Dana)

Usually uncommon; has the same range of  
 variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 78, 318.  
 Visual Records: Bolinao, Puerto Galera,  
 Cebu, Palawan.

Supplementary Records: Pichon 1977, Hodgson and Ross 1982.

*Acanthastrea rotundoflora* Chevalier

Uncommon; usually found on lower reef slopes.

OCCURRENCES:

Specimens: BMS 70; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Hodgson and Ross 1982, Nemenzo and Hodgson 1983.

This species was incorrectly synonymized with *A. echinata* by Veron and Pichon 1980.

*Acanthastrea hillae* Wells

Rare.

OCCURRENCES:

Visual Records: Cebu.

Supplementary Records: Hodgson and Ross 1982, Nemenzo and Hodgson 1983.

*Acanthastrea* sp.

Uncommon but very distinctive, with large, deep, cerioid corallites.

OCCURRENCES:

Specimens: MSI 322; BMS 71; AIMS (B).

Visual Records: Bolinao.

*Acanthastrea lordhowensis* Veron & Pichon

Very rare.

OCCURRENCES:

Visual Records: Bolinao.

GENUS *Lobophyllia* DE BLAINVILLE

*Lobophyllia* seems to be relatively uncommon in the Philippines. Little original work has been done by us and it is likely that the present list of species is incomplete.

*Lobophyllia hemprichii* (Ehrenberg)

The most common species. Has a range of variation similar to that of GBR coralla.

OCCURRENCES:

Specimens: MSI 58, 326, 327; BMS 59, 172.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927 (as *Mussa multilobata*), Nemenzo 1959, Ross and Hodgson 1982.

*Lobophyllia corymbosa* (Forskål)

Common. Septal dentations are more prominent than usual for GBR coralla.

OCCURRENCES:

Specimens: MSI 59, 329.

Visual Records: Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959, Ross and Hodgson 1982.

*Lobophyllia pachysepta* Chevalier

Rare. The characteristic yellow exsert septo-costae are seldom well developed.

OCCURRENCES:

Visual Records: Puerto Galera, Palawan, Negros.

*Lobophyllia hataii* Yabe, Sugiyama & Eguchi

Usually uncommon.

OCCURRENCES:

Specimens: MSI 328.

Visual Records: Bolinao, Cebu, Palawan.

Supplementary Records: Nemenzo 1959.

*Lobophyllia* sp.

This species is illustrated by Veron and Pichon 1982. Unlike GBR colonies, this species, or one closely allied to it, forms very large colonies in the Philippines. This species or species pair requires further study.

OCCURRENCES:

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1959 (as *L. costata*).

GENUS *Symphyllia* EDWARDS & HAIME

The first three species listed below form a series with increasing valley sizes. They are usually readily distinguished in situ.

*Symphyllia recta* (Dana)

Sometimes common; has the same appearance in situ as on the GBR.

Specimens: MSI 56, 323, 324.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959.

*Symphyllia radians* Edwards & Haime

The most common *Symphyllia*; has the same appearance in situ as on the GBR.

## OCCURRENCES:

Specimens: MSI 57, 325.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959.

*Symphyllia agaricia* Edwards & Haime

Rare: recorded from only a few occurrences.

## OCCURRENCES:

Specimens: MSI.

Visual Records: Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959.

*Symphyllia valenciennesii* Edwards & Haime

Rare.

## OCCURRENCES:

Specimens: MSI 55.

Visual Records: Bolinao, Cebu, Palawan.

## FAMILY MERULINIDAE VERRILL

GENUS *Hydnophora* FISCHER DE WALDHEIM

Two fully arborescent *Hydnophora* species occur in the Indo-West Pacific, including the Philippines but excluding the Great Barrier Reef. No reliable taxonomic characters other than branch size separate these species. Both co-occur abundantly at Bolinao; one forms large colonies with relatively thick branches, the other is much finer. In this study, the former is called *H. grandis*, the latter *H. rigida*. These names require verification by further taxonomic study. *H. arrorae* (Nemenzo [in press (b)]) appears to be a branch from *H. exesa*.

*Hydnophora rigida* (Dana)

Common in isolated biotopes.

## OCCURRENCES:

Specimens: BMS 134; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959 (as *Merulina laxa*), Hodgson and Ross 1982.

SYNONYM: *Hydnophora brevicornis* Nemenzo.

*Hydnophora grandis* Gardiner

This species is widespread in the Indo-West Pacific. It is like *H. rigida*, but all skeletal structures are considerably thicker and coarser. Common.

## OCCURRENCES:

Specimens: BMS 133; MSI 300, 301; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

SYNONYM: *Hydnophora ramosa* Nemenzo.

*Hydnophora exesa* (Pallas)

Very common. Has a wide range of growth forms. Tentacles are usually extended during the day.

## OCCURRENCES:

Specimens: MSI 304, 305, 306.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

*Hydnophora pilosa* Veron

This species has not been satisfactorily separated from *H. exesa* in the Philippines, as the latter frequently has tentacles extended during the day (a useful character elsewhere for identification in situ). This record requires verification.

## OCCURRENCES:

Specimens: AIMS (C).

Visual Records: Puerto Galera, Cebu.

*Hydnophora microconos* (Lamarck)

Rare.

## OCCURRENCES:

Specimens: MSI 303.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

GENUS *Merulina* EHRENBERG*Merulina ampliata* (Ellis & Solander)

Common; colonies frequently form flat plates with or without nodular upgrowths.



## OCCURRENCES:

Specimens: MSI 92, 308; BMS 137, 170.  
 Visual Records: Bolinao, Puerto Galera, Cebu, Negros.  
 Supplementary Records: Nemenzo 1959 (as *M. vaughani* Horst), Ross and Hodgson 1982.

*Merulina scabricula* Dana

Common; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 100; BMS 221, 222.  
 Visual Records: Bolinao, Puerto Galera, Cebu, Negros.  
 Supplementary Records: Nemenzo 1959 (as *M. ampliata*), Ross and Hodgson 1982.

GENUS *Scapophyllia* EDWARDS & HAIME*Scapophyllia cylindrica* (Edwards & Haime)

Rare; has the same range of variation as on the GBR.

## OCCURRENCES:

Specimens: MSI 317; BMS 224.  
 Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.  
 Supplementary Records: Pichon 1977, Hodgson and Ross 1982, Nemenzo and Hodgson 1983.

## FAMILY FAVIIDAE GREGORY

GENUS *Caulastrea* DANA

This genus is in need of further revision. Names used here are in accordance with Veron et al., 1977.

*Caulastrea furcata* Dana

Uncommon.

## OCCURRENCES:

Specimens: MSI; BMS 223; AIMS (B).  
 Visual Records: Bolinao, Cebu, Palawan.  
 Supplementary Records: Nemenzo 1959.

*Caulastrea tumida* Matthai

The most common *Caulastrea* of the Philippines. colonies from shallow water become sub-phaceloid, or even plocoid.

## OCCURRENCES:

Specimens: MSI 68, 277.  
 Visual Records: Cebu, Puerto Galera, Palawan.  
 Supplementary Records: Nemenzo 1959.  
 SYNONYM: *Caulastrea plana* Hodgson & Ross (type series, MSI).

*Caulastrea curvata* Wijisman-Best

Rare.

## OCCURRENCES:

Specimens: MSI 348; BMS 98; MLSU.  
 Visual Records: Bolinao.  
 Supplementary Records: Hodgson and Ross 1982.

*Caulastrea echinulata* Edwards & Haime

Rare.

## OCCURRENCES:

Visual Records: Palawan.  
 Supplementary Records: Nemenzo 1959.

GENUS *Favia* OKEN

There are few differences between Philippines *Favia* and GBR *Favia*, either in species composition or in geographic variation within species. Several coralla collected remain unidentified, and it is likely the following list is incomplete.

*Favia stelligera* (Dana)

Uncommon.

## OCCURRENCES:

Specimens: BMS 204.  
 Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.  
 Supplementary Records: Hodgson and Ross 1982, Ross and Hodgson 1982.  
 SYNONYM: *Plesiastrea carli* Nemenzo.

*Favia laxa* (Klunzinger)

Uncommon.

## OCCURRENCES:

Specimens: BMS.  
 Visual Records: Puerto Galera, Cebu, Palawan.  
 Supplementary Records: Nemenzo 1959, Ross and Hodgson 1982.

*Favia helianthoides* Wells

Uncommon.



## OCCURRENCES:

Specimens: BMS 112, 215.

Visual Records: Puerto Galera, Cebu.

Supplementary Records: Hodgson and Ross 1982, Nemenzo [in press (b)].

SYNONYM: *Plesiastrea salebrosa* Nemenzo.*Favia pallida* (Dana)

Common; corallites have dark centers as do those of GBR colonies.

## OCCURRENCES:

Specimens: MSI 65, 297, 281; BMS 90, 91.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

*Favia speciosa* (Dana)Relatively common but readily confused with *F. pallida*.

## OCCURRENCES:

Specimens: MSI 283; BMS 89.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

*Favia danae* Verrill

Possibly common but little studied.

## OCCURRENCES:

Specimens: UPZD 211.

Visual Records: Puerto Galera, Palawan.

Supplementary Records: Nemenzo 1959, Ross and Hodgson 1982.

*Favia fавus* (Forskål)

Very common.

## OCCURRENCES:

Specimens: MSI 278, 280, 286; BMS 225.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

*Favia matthaii* Vaughan

Sometimes common.

## OCCURRENCES:

Specimens: MSI 285, 352, 353; BMS 120.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Ross and Hodgson 1982.

*Favia rotumana* (Gardiner)

Conspicuous but seldom common.

## OCCURRENCES:

Specimens: MSI.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Ross and Hodgson 1982.

*Favia maxima* Veron & Pichon

Rare; usually pale colors.

## OCCURRENCES:

Specimens: BMS 165.

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1984.

*Favia rotundata* (Veron & Pichon)

Usually uncommon.

## OCCURRENCES:

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1984.

*Favia lizardensis* Veron & Pichon

Common; with the same color as GBR colonies.

## OCCURRENCES:

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

*Favia veroni* Moll & Borel Best

Uncommon.

## OCCURRENCES:

Specimens: MSI 64, 284; BMS 92.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

*Favia maritima* (Nemenzo)

Uncommon in most biotopes.

## OCCURRENCES:

Specimens: MSI; UPZD (holotype).

Visual Records: Cebu, Palawan.

*Favia* sp.

This is a rare, distinctive, massive species,

primarily characterized by small corallites (4–5.5 mm diameter) with neat, well-developed paliform crowns. The costae and coenosteum are uniformly ornamented with fine spinules. Previously recorded from Thailand.

## OCCURRENCES:

Specimens: AIMS (PG).

GENUS *Barabattoia* YABE & SUGIYAMA*Barabattoia amicornum* Edwards & Haime

Uncommon in most biotopes.

## OCCURRENCES:

Specimens: MSI 287; BMS 124.

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Ross and Hodgson, 1982 (as *Favia amicornum* Edwards & Haime).

SYNONYM: *Barabattoia modesta* Nemenzo (holotype, UPZD).

GENUS *Favites* LINK

As with *Favia*, there are few differences between the *Favites* of the Philippines and those of the GBR.

*Favites abdita* (Eills & Solander)

Very common.

## OCCURRENCES:

Specimens: MSI 69, 291; BMS 156.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

*Favites halicora* (Ehrenberg)

Usually uncommon.

## OCCURRENCES:

Specimens: MSI 292; BMS 158.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1959.

*Favites flexuosa* (Dana)

Common.

## OCCURRENCES:

Specimens: BMS 157; AIMS (PG).

Visual Records: Puerto Galera, Bolinao, Cebu, Palawan.

Supplementary Records: Nemenzo 1959.

*Favites chinensis* (Verrill)

Sometimes common.

## OCCURRENCES:

Visual Records: Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1959 (as *F. yamanarii* Yabe & Sugiyama).

*Favites complanata* (Ehrenberg)

Common.

## OCCURRENCES:

Specimens: BMS 155; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1971.

*Favites pentagona* (Esper)

Common.

## OCCURRENCES:

Specimens: MSI 351; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Hodgson and Ross 1982.

SYNONYM: *Favites parvicella* Nemenzo (holotype, UPZD).

*Favites russelli* (Wells)

Uncommon.

## OCCURRENCES:

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo [in press (*b*)].

GENUS *Goniastrea* EDWARDS & HAIME*Goniastrea retiformis* (Lamarck)

Common in shallow water.

## OCCURRENCES:

Specimens: BMS 93.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

*Goniastrea edwardsi* Chevalier

Uncommon.

## OCCURRENCES:

Specimens: MSI 67, 293; BMS 94.

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1959, Ross and Hodgson [as *G. parvistella* (Dana)].

*Goniastrea favulus* (Dana)

Uncommon.

## OCCURRENCES:

Visual Records: Puerto Galera, Cebu, Palawan.

*Goniastrea aspera* Verrill

Usually uncommon.

## OCCURRENCES:

Specimens: MSI 294; BMS 95.

Visual Records: Puerto Galera, Negros.

Supplementary Records: Nemenzo 1959 (as *G. mantonae* Crossland).

SYNONYM: *Goniastrea equisepta* Nemenzo (holotype, UPZD).

*Goniastrea pectinata* (Ehrenberg)

Common.

## OCCURRENCES:

Specimens: BMS 97, 111.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

SYNONYM: *Platygyra exigua* Nemenzo (holotype, UPZD) is probably this species with unusually thin walls. Two specimens in USC labeled *P. exigua* are *P. ryukyuensis* and *P. verweyi*.

*Goniastrea australensis* (Edwards & Haime)

Rare.

## OCCURRENCES:

Visual Records: Negros (identity confirmed after collection).

*Goniastrea palauensis* Yabe & Sugiyama

Rare.

## OCCURRENCES:

Visual Records: Palawan.

GENUS *Platygyra* EHRENBERG*Platygyra daedalea* (Ellis & Solander)

Common.

## OCCURRENCES:

Specimens: MSI 80, 297; BMS 103; AIMS (PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927 [as *Meandrina daedalea* (Ellis & Solander)], Nemenzo 1959, Ross and Hodgson 1982.

*Platygyra lamellina* (Ehrenberg)

Probably uncommon.

## OCCURRENCES:

Specimens: MSI 295; BMS 85, 86.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927 [as *Meandrina lamellina* (Ehrenberg)], Nemenzo 1959, Ross and Hodgson 1982.

*Platygyra sinensis* (Edward & Haime)

Sometimes common.

## OCCURRENCES:

Specimens: BMS 87.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927 [as *Meandrina sinensis* (Edwards & Haime)], Nemenzo 1959, Ross and Hodgson 1982.

*Platygyra ryukyuensis* Yabe & Sugiyama

Rare.

## OCCURRENCES:

Specimens: BMS; USC.

Visual Records: Bolinao, Negros.

*Platygyra pini* Chevalier

Rare.

## OCCURRENCES:

Specimens: MSI 72, 73, 290, 299; BMS 88, 159.

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

*Platygyra verweyi* Wijsman-Best, 1976

Rare.

## OCCURRENCES:

Specimens: BMS; USC; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Negros.

*Platygyra* sp.

Sometimes common. A common species of Japan, superficially resembling the holotype of *Boninastrea*.

## OCCURRENCES:

Specimens: AIMS (PG).

Supplementary Records: Nemenzo 1984 (as *Platygyra zelli* Veron & Pichon).GENUS *Australogyra* VERON*Australogyra zelli* (Veron, Pichon & Wijsman-Best)

Very rare.

## OCCURRENCES:

Visual Records: Cebu.

GENUS *Leptoria* EDWARDS & HAIME*Leptoria phrygia* (Ellis & Solander)

Common.

## OCCURRENCES:

Specimens: UPZD 1045; MSI 74, 296; BMS 123.

Visual Records: Puerto Galera, Bolinao, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1971, Hodgson and Ross 1982.

GENUS *Oulophyllia* EDWARDS & HAIME*Oulophyllia crispata* (Lamarck)

Common; has a wider range of variation than that observed on the GBR.

## OCCURRENCES:

Specimens: MSI 66, 207.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Pichon 1977.

SYNONYM: *Coelogyra laevis* Nemenzo (holotype, UPZD) is probably a synonym. This requires further study.

*Oulophyllia bennettiae* (Veron, Pichon & Wijsman-Best)

Common; has the same color as the GBR colonies.

## OCCURRENCES:

Specimens: MSI 81.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

GENUS *Montastrea* DE BLAINVILLE

There is a much greater degree of geographic variation in the skeletal structure of *Montastrea* species (except *M. curta*) than in most other faviid genera.

*Montastrea curta* (Dana)

Usually uncommon.

## OCCURRENCES:

Specimens: MSI 63; BMS 122; AIMS (PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Pichon 1977, Hodgson and Ross 1982, Nemenzo and Hodgson 1983.

*Montastrea annuligera* (Edwards & Haime)

Rare. The only specimen of this species collected lacks the "groove and tubercle" formation usually found in most coralla. These records require verification.

## OCCURRENCES:

Specimens: AIMS (PG).

Visual Records: Puerto Galera, Cebu.

Supplementary Records: ?Nemenzo 1976 (as *Leptastrea solida* Edwards & Haime).*Montastrea multipunctata* Hodgson

Uncommon except in some isolated biotopes. Usually mottled red colors.

## OCCURRENCES:

Specimens: MSI (type series); AIMS (PG, C).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

*Montastrea magnistellata* Chevalier

Usually uncommon.

## OCCURRENCES:

Specimens: BMS 100; AIMS (PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Pichon 1977, Hodgson and Ross 1982, Nemenzo and Hodgson 1983.

*Montastrea valenciennesi* (Edwards & Haime)

Coralla from the Philippines as well as other central western Pacific countries have substantially smaller corallites than those from the GBR. The most common (and distinctive) coloration is the same in both regions (Veron 1986, p. 507, Figs. 1 and 2). A second color morph (Veron 1986, Fig. 3) is also found throughout the western Pacific, and there remains a possibility that this is a separate species.

OCCURRENCES:

Specimens: MSI 62; BMS 101, 102, 107; AIMS (B, PG [three specimens]).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982 (as *Favia valenciennesi*).

SYNONYM: *Favia lylei* Nemenzo is probably a synonym, although this requires further study.

GENUS *Oulastrea* EDWARDS & HAIME

*Oulastrea crispata* (Lamarck)

Rare except in isolated subtidal biotopes.

OCCURRENCES:

Specimens: MSI 350.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955.

SYNONYM: *Oulastrea alta* Nemenzo (holotype, UPZD).

GENUS *Plesiastrea* EDWARDS & HAIME

*Plesiastrea versipora* (Lamarck)

OCCURRENCES:

Specimens: MSI 77, 289, 299; BMS 121.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo and Ferraris 1982.

SYNONYM: *Simplastrea leytensis* Nemenzo (holotype, UPZD).

GENUS *Diploastrea* MATTHAI

*Diploastrea heliopora* (Lamarck)

Relatively uncommon although always distinctive.

OCCURRENCES:

Specimens: MSI 93, 307; BMS 99.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1955, Ross and Hodgson 1982.

GENUS *Leptastrea* EDWARDS & HAIME

*Leptastrea inaequalis* Klunzinger

Usually uncommon.

OCCURRENCES:

Specimens: BMS.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1959.

*Leptastrea purpurea* (Dana)

Common.

OCCURRENCES:

Specimens: BMS 125, 160; AIMS (PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

*Leptastrea transversa* Klunzinger

Usually uncommon but little studied.

OCCURRENCES:

Specimens: BMS.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

*Leptastrea pruinosa* Crossland

Frequently forms small colonies with small corallites (3–4 mm diameter) with a greenish-yellow color. Polyps are sometimes brightly colored. Septa are compact, with highly granulated sides.

OCCURRENCES:

Specimens: BMS 161, 214, 228; AIMS (PG, C).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Ross and Hodgson 1982.

GENUS *Cyphastrea* EDWARDS & HAIME

*Cyphastrea glomerata* Nemenzo [in press (a)] is described from a single specimen, a corallith (MSI). It is primarily characterized by exsert, tapering corallites that have equal costae and 12 first-order septa. As coralliths usually have abnormal corallite characters, this specimen is likely to be an abnormal *C. serailia*. This requires further study.

*Cyphastrea serailia* (Forskål)

Very common; has a wide range of corallite characters.

OCCURRENCES:

Specimens: MSI 313; BMS 227; AIMS (PG, C).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982 (and as *C. conferta*).

SYNONYMS: *Cyphastrea conferta* Nemenzo (holotype, UPZD) and *Cyphastrea laticostata* Nemenzo.

*Cyphastrea chalcidicum* (Forskål)

Probably uncommon.

OCCURRENCES:

Specimens: MSI.

Visual Records: Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1959.

*Cyphastrea tanabensis* Yabe & Sugiyama

Primarily characterized by small corallites and septa similar to those of *C. chalcidicum*, but with prominent, irregular dentations.

OCCURRENCES:

Specimens: AIMS (B, PG, C).

Visual Records: Bolinao, Cebu.

*Cyphastrea ocellina* (Dana)

Uncommon; little is known of the variation of this species.

OCCURRENCES:

Specimens: BMS 105, 106; AIMS (C).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Nemenzo 1959.

*Cyphastrea microphthalma* (Lamarck)

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: BMS 104; AIMS (PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

SYNONYM: *Cyphastrea minuta* Nemenzo & Ferraris.

*Cyphastrea agassizi* (Vaughan)

Rare; primarily characterized by large, widely spaced corallites, separated by a smooth coenosteum and exsert, irregular primary septa. Irregular "groove and tubercle" formation may be present.

The name given here is tentative only, because the holotype, from Hawaii, has not been recently examined. Vaughan (1907) placed the species in the genus *Leptastrea* and, indeed, it shares characters of both *Leptastrea* and *Cyphastrea*.

OCCURRENCES:

Specimens: AIMS (C).

*Cyphastrea japonica* Yabe & Sugiyama

OCCURRENCES:

Specimens: MSI 311, 312.

Visual Records: Cebu, Palawan.

Supplementary Records: Nemenzo and Ferraris 1982, Ross and Hodgson 1982.

GENUS *Echinopora* LAMARCK

*Echinopora lamellosa* (Esper)

OCCURRENCES:

Specimens: MSI 79, 314; BMS 83, 109.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

SYNONYM: *Echinopora litae* Nemenzo (holotype, USC). The holotype has very exsert tubular corallites on the undersurface of fronds. This sometimes occurs in otherwise normal *E. lamellosa*. Corallites on the upper surfaces of fronds, together with all other skeletal characters, are identical with those of normal *E. lamellosa*.

*Echinopora* sp.

A common species forming fine, contorted branches and tightly compacted upright lamellae. Corallites are similar in structure to those of *E. lamellosa*. Recorded from Western Australia as *Echinopora* sp. (Veron and Marsh 1988, p. 116).

OCCURRENCES:

Specimens: AIMS (PG [four specimens]).

Visual Records: Puerto Galera, Cebu, Negros.

*Echinopora gemmacea* (Lamarck)

Common; has the same range of variation as on the GBR.

OCCURRENCES:

Specimens: BMS 86, 189.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Ross and Hodgson 1982, Nemenzo and Ferraris 1982.

*Echinopora hirsutissima* Edwards & Haime

Uncommon; gray in color.

OCCURRENCES:

Specimens: BMS 84; AIMS (PG).

Visual Records: Puerto Galera, Cebu.

Supplementary Records: Ross and Hodgson 1982, Nemenzo [in press (b)].

*Echinopora mammiformis* (Nemenzo)

Very common; sometimes forming extensive monospecific stands.

OCCURRENCES:

Specimens: MSI 70, 309, 310; BMS 85, 152; AIMS (PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1959 (as *Leptastrea mammiformis*).

*Echinopora horrida* (Dana)

Uncommon, except in isolated biotopes.

OCCURRENCES:

Visual Records: Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Faustino 1927, Nemenzo 1959, Ross and Hodgson 1982.

FAMILY TRACHYPHYLLIIDAE VERRILL

GENUS *Trachyphyllia* EDWARDS & HAIME

*Trachyphyllia geoffroyi* (Audouin)

Almost all colonies at Puerto Galera had retracted mantles and were nearly white in color. At Cebu, colonies had colorful fleshy mantles and showed no differences from GBR colonies. There are no geographic differences in skeletal structure.

OCCURRENCES:

Specimens: MSI 97; BMS 132.

Visual Records: Puerto Galera, Cebu, Palawan.

Supplementary Records: Faustino 1927 (as *T. amarantum*), Nemenzo 1959.

SYNONYMS: *Trachyphyllia lelandi* Nemenzo (holotype, UPZD) and *Wellsophyllia radiata* Pichon. *Wellsophyllia radiata* is primarily characterized by having adjoined, rather than phaceloid, corallites. This appears to be an ecomorph correlated with soft substrates.

FAMILY CARYOPHYLLIIDAE GRAY

The Philippines has a very high diversity of hermatypic caryophylliids.

GENUS *Euphyllia* DANA

*Euphyllia glabrescens* (Chamisso & Eysenhardt)

Colonies are often up to 300 mm in diameter. They usually have long gray tentacles with white tips. Other colors, such as bright orange, sometimes occur. Usually uncommon.

OCCURRENCES:

Specimens: MSI 339, 340, 341.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.



Supplementary Records: Faustino 1927, Nemenzo 1960a, Ross and Hodgson 1982.

*Euphyllia cristata* Chevalier

Rare.

OCCURRENCES:

Specimens: MSI 341.

Visual Records: Bolinao, Cebu, Palawan.

Supplementary Records: Hodgson and Ross 1982, Nemenzo and Hodgson 1983.

*Euphyllia ancora* Veron & Pichon

Common in some biotopes, where colonies may be different colors, including green, pink, and gray.

OCCURRENCES:

Specimens: BMS 118.

Visual Records: Puerto Galera, Cebu, Palawan, Bolinao, Negros.

*Euphyllia divisa* Veron & Pichon

Much less common than *E. ancora*.

OCCURRENCES:

Visual Records: Cebu, Palawan.

*Euphyllia yaeyamaensis* (Shirai)

Uncommon; colonies have the same color and appearance as those from Japan.

OCCURRENCES:

Specimens: BMS.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

Supplementary Records: Nemenzo 1960a (as *E. pecteti* Bedot), Nemenzo and Hodgson 1983.

*Euphyllia* sp. 1

An undescribed species. Colonies are phaceloid, with branching tentacles like those of *E. divisa*. Branches are 40–60 mm long. Branches are of uniform thickness within colonies but vary among different colonies.

OCCURRENCES:

Specimens: BMS; AIMS (B).

Visual Records: Bolinao, Cebu, Palawan.

*Euphyllia* sp. 2

An undescribed species. Colonies are phaceloid, with kidney-shaped tentacles like those of *E. ancora*. Skeletal characters are as for *Euphyllia* sp. 1.

OCCURRENCES:

Specimens: BMS 117; AIMS (B).

Visual Records: Bolinao. Cebu, Palawan.

GENUS *Catalaphyllia* WELLS

*Catalaphyllia jardinei* (Saville-Kent)

Rare.

OCCURRENCES:

Specimens: MSI 344.

Visual Records: Cebu, Palawan.

Supplementary Records: Ross and Hodgson 1982, Hodgson and Ross 1982, Hodgson and Nemenzo 1983.

GENUS *Plerogyra* QUELCH

*Plerogyra simplex* Rehberg

Rare, but conspicuous when seen in situ. The branching growth form is usually obscured by grapelike vesicles.

OCCURRENCES:

Specimens: MSI 129, 343; BMS 114, 166.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Ross and Hodgson 1982, Hodgson and Ross, 1982, Nemenzo and Hodgson 1982.

*Plerogyra eurysepta* Nemenzo

Usually uncommon, but very conspicuous, with very large vesicles.

OCCURRENCES:

Specimens: UPZD (holotype); MSI 130; BMS; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

Supplementary Records: Nemenzo 1960a, Ross and Hodgson 1982.

Living colonies extend very large vesicles during the day, which may be grape-shaped to elongate and tapering.

*Plerogyra sinuosa* (Dana)

Common; has the same range of variations as on the GBR.

OCCURRENCES:

Specimens: BMS 113, 114, 115.

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan, Negros.

*Plerogyra turbida* (Hodgson & Ross)

This species, described from a number of coralla that were probably derived from a single colony, was originally placed in a new genus, *Nemenzophyllia* Hodgson & Ross, 1982. The present study indicates that these coralla are an extreme ecomorph attributable to the soft mud substrate in which they grew. The species is common at Bolinao, where coralla are flabello-meandroid and are more finely structured than other *Plerogyra* species. Living colonies extend brown, grapelike vesicles about 5 mm in diameter during the day, when tentacles are retracted.

## OCCURRENCES:

Specimens: MSI 132, 135.

Visual Records: Bolinao, Puerto Galera.

Supplementary Records: Hodgson and Ross 1982 (as *Nemenzophyllia turbida*).

GENUS *Physogyra* QUELCH*Physogyra lichtensteini* (Edwards & Haime)

Uncommon in most biotopes. Colonies have the same range of variation as on the GBR except that vesicles are often tapered or tubular rather than spherical or ovoid.

## OCCURRENCES:

Specimens: MSI 346; BMS 199, 200; AIMS (B).

Visual Records: Bolinao, Puerto Galera, Cebu, Palawan.

Supplementary Records: Pichon 1977, Nemenzo and Ferraris 1982.

*Physogyra exerta* Nemenzo & Ferraris

This species is common at Bolinao, where it is distinguished from *P. lichtensteini* by having larger valleys that are widely separated, leaving conspicuous vesicular exothecal coenosteum. Septa are larger and more exsert.

## OCCURRENCES:

Specimens: MSI 131, 345; BMS 182.

Visual Records: Bolinao, Puerto Galera, Cebu.

Supplementary Records: Nemenzo and Ferraris 1982.

## FAMILY DENDROPHYLLIIDAE GRAY

GENUS *Turbinaria* OKEN

*Turbinaria* is relatively uncommon in the Philippines. In other countries it increases in abundance in higher latitudes and non-reefal biotopes. The holotype of *Turbinaria yaelae* Nemenzo is likely to be a highly aberrant corallum of some other species.

*Turbinaria peltata* (Esper)

Rare in most biotopes; has the same range of variation as in the GBR.

## OCCURRENCES:

Specimens: MSI 347.

Visual Records: Bolinao, Puerto Galera, Cebu.

Supplementary Records: Faustino 1927, Nemenzo 1960b.

*Turbinaria frondens* (Dana)

Uncommon. Highly convoluted colonies that occur in very shallow waters of the GBR have not been observed.

## OCCURRENCES:

Specimens: UPZD 410; BMS 25, 166, 168.

Visual Records: Bolinao, Puerto Galera.

Supplementary Records: Nemenzo 1960b, Ross and Hodgson 1982 (as *T. rugosa*).

SYNONYM: *Turbinaria carcarensis* Nemenzo (holotype, UPZD). This is a crateriform corallum with widely spaced, nonexsert corallites.

*Turbinaria mesenterina* (Lamarck)

Uncommon. The growth form range observed is similar to that of *T. frondens*.

## OCCURRENCES:

Specimens: BMS 217.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

SYNONYM: *Turbinaria crassa* Nemenzo (holotype, UPZD). The name is preoccupied by *Turbinaria crassa* Bernard, which is also *T. mesenterina*.

*Turbinaria reniformis* Bernard

Uncommon; has a similar appearance in situ as GBR colonies.

## OCCURRENCES:

Specimens: BMS 24, 110.

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

SYNONYM: *Turbinaria disparata* Nemenzo (holotype, MLSU) is probably a synonym. This is a small piece of a corallum, 91 mm across, with widely separated, immersed corallites. The specimen lacks distinctive characters and is not conclusively attributable to any species.

*Turbinaria irregularis* Bernard

Common; primarily characterized by coralla having a wide range in the length of corallites.

## OCCURRENCES:

Specimens: BMS 26, 216; AIMS (B, PG).

Visual Records: Bolinao, Puerto Galera, Cebu, Negros.

SYNONYMS: *Turbinaria attenuata* Nemenzo and *Turbinaria eminens* Nemenzo. The holotypes of these nominal species are similar; *T. attenuata* has more exsert corallites. *Turbinaria diversa* is also likely a synonym; the holotype (UPZD) is an encrusting margin of a corallum, 82 mm in diameter, which lacks very exsert corallites. This is normal for *T. irregularis*.

*Turbinaria stellulata* (Lamarck)

Usually uncommon; has a similar appearance in situ to GBR colonies.

## OCCURRENCES:

Specimens: BMS 167.

Visual Records: Bolinao, Puerto Galera, Cebu.

Supplementary Records: Nemenzo 1980b.

SYNONYMS: *Turbinaria nitida* Nemenzo (holotype, UPZD) and *Turbinaria carinata* Nemenzo (holotype, UPZD). These specimens are either part of a single polymorphic species or else part of a species complex composed of geographically restricted subspecies or species (Veron and Pichon 1980, p. 400).

*Turbinaria heronensis* Wells

Rare.

## OCCURRENCES:

Visual Records: Cebu.

SYNONYM: *Turbinaria cylindrica* Nemenzo (holotype, UPZD) is probably a synonym. Corallites are smaller and the degree of fusion between them is greater than normal for GBR *T. heronensis*. This synonymy requires verification.

GENUS *Heteropsammia* EDWARDS & HAIME

Restricted to isolated biotopes with soft, flat substrates.

*Heteropsammia cochlea* (Spengler)

## OCCURRENCES:

Specimens: UPZD.

Visual Records: Puerto Galera, Palawan.

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