

## **An annotated checklist of hydrozoan and scleractinian corals collected from Guam and other Mariana Islands**

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**Abstract**—An annotated checklist of scleractinian and hydrozoan corals that have been collected from the Mariana Islands archipelago is presented for a special volume of *Micronesica* titled “The Marine Biodiversity of Guam and the Marianas.” A total of 403 scleractinian and hydrozoan coral species representing 21 families and 108 genera are listed for the Mariana Islands. A total of 112 species are listed that have not been previously recorded from the Mariana Islands. Twelve of the new listings are azooxanthellate hydrozoan species, and of the 100 new scleractinians listed 25 are zooxanthellate species and 75 are azooxanthellate species. Each listed species is accompanied with a literature citation that provides a photographic illustration and a representative voucher specimen, or the authors field collection note citation and a representative voucher specimen when a published record was not available.

### **Introduction**

#### GENERAL GEOGRAPHIC AND GEOLOGIC SETTING

The Mariana Islands consists of 15 principal emergent islands scattered along a mostly submergent arc ridge axis that lies west of the Mariana Trench subduction zone. A number of active submarine volcanoes, shallow banks with reef-building corals, and deeper submarine prominences lacking them also occur along the ridge axis. The islands can be divided into two distinct geologic groups consisting of the six southern islands of Guam, Rota, Aguijan, Tinian, Saipan, and Farallon de Medinella that lie on the old Mariana fore-arc ridge axis; and the nine northern islands of Anatahan, Sarigan, Guguan, Alamagan, Pagan, Agrihan, Asuncion, Maug, and Farallon de Pajaros that are offset 25 to 35 km west of the southern group along the young Mariana active volcanic arc ridge axis. Zealandia Bank, which consists of two small wave-washed islets located between Sarigan and Guguan, and a number of other small emergent islets are also associated with some of the other principal islands. As a group the six southern islands can be characterized as relatively old inactive volcanic islands overlain on much, or all,

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of their emergent surfaces by limestone deposits. In contrast all the nine northern islands are geologically young active volcanic islands and lack significant emergent limestone deposits.

#### APPROACH TO THE CONCEPT OF CORAL DIVERSITY

The concept of coral diversity as used here is the number of morphospecific taxa that have been recognized from the Mariana Islands. A morphospecific taxon includes ecomorphic forms that vary because of differing environmental settings in which they developed; polymorphic forms resulting from genetic variation; ontological changes in form as a result of normal growth and development; forms induced by associations with other organisms, disease, or injury; and color forms or phases that occur as a result of genetic and ecologic variation.

Coral diversity of a specific geographic region is generally related to the amount of collecting and taxonomic and ecological research effort and degree to which all the coral habitats within the region have been sampled. Both scleractinian and hydrozoan corals live in an extremely wide range of marine habitats from shallow, well-lighted reef-building depths that have been most intensively investigated and collected from by snorkeling and scuba diving (generally < 50-75 m) to less well-lighted forereef and deep aphotic island slopes that have been less intensively investigated and collected from by dredging (> 75 m). Table 1 gives an estimate of collecting effort and the degree to which the shallow reef-building and deeper forereef coral habitats have been sampled from the Mariana Islands. The total number of field stations from which coral specimens were collected or recorded is listed for each geographic location in the first column and the total number of coral specimens collected from all the field stations of each geographic location is listed in the second column. A collecting station as defined here indicates a physiographic zone or region with uniform habitat and community structural conditions at a specific geographic location from which coral specimens have been collected, coral species lists compiled, or quantitative and quantitative assessments of corals conducted. Column three gives an estimate of the percentage of an island's total coral habitats that has been adequately investigated. The amount of collecting station effort for each geographic area is given as a relative percent of all the collecting stations of an island group in the last column.

#### A REVIEW OF PREVIOUS PUBLISHED CORAL CHECKLISTS

The first checklist of scleractinian and hydrozoan corals from the Mariana Islands was compiled by Cloud (1959) from collections made during a geological survey of Saipan that were identified by J. W. Wells of Cornell University. In this report 12 families, 26 genera, and 64 species (including subspecific categories) of scleractinian corals and one hydrozoan coral were listed.

A checklist of corals from Guam was compiled by the University of Guam Marine Laboratory faculty and students in Technical Report No. 70. In this report 2 families, 4 genera, and 9 species of hydrozoan corals were listed (Randall 1981a); 2 families, 2 genera, and 2 species of octocorallian reef-building corals were listed (Randall & Gawel 1981); and 19 families, 71 genera, and 268 species of scleractinian corals were listed (Randall 1981b). The scleractinian checklist included 240 zooxanthellate and 28 azooxanthellate species, with the list of the latter group being most incomplete.

Table 1. Sampling effort in Marianas

Island	# stations	# specimens	% coral habitats sampled	% total effort
S. MARIANAS	2325	12388		
Guam	1724	9771	95	74.2
Rota	116	253	10	5.0
Aguijan	16	79	5	0.7
Tinian	121	594	20	5.2
Saipan	333	1421	50	14.3
Farallon de Medinella	6	94	2	0.3
Galvez Bank	7	164	3	0.3
Santa Rosa Reef	2	12	<1	0.1
N. MARIANAS	209	1485		
Esmerelda Bank	1	1	<1	0.5
Anatahan	29	364	10	13.9
Sarigan	6	33	5	2.9
Zealandia Bank	2	16	10	1.0
Guguan	20	115	7	9.6
Alamagan	2	9	<1	1.0
Pagan	78	428	20	37.3
Agrihan	17	146	7	8.1
Asuncion	8	58	3	3.8
Maug Islands	46	280	15	22.0
Farallon de Pajaros	6	35	<2	2.9
TOTAL	2534	13873		

Randall & Myers (1983) compiled a photographic atlas and descriptive key for 15 families, 62 genera, and 234 species of scleractinian corals; 2 families, 3 genera, and 6 species of hydrozoan corals; and 2 families, 2 genera, and 2 species of octocorallian corals from Guam. The scleractinian listed included 229 zooxanthellate and 5 azooxanthellate species.

The most recent checklist of corals was compiled by Randall (1995) for the zooxanthellate hydrozoan, octocorallian, and scleractinian reef-building faunas of Palau and Mariana Islands. In this checklist 15 families, 53 genera, and 247 species of scleractinian corals; 2 families, 2 genera, and 2 species of octocorallian corals; and 1 family, 1 genus, and 5 species of hydrozoan corals were listed for the Mariana Islands.

## CHECKLIST OF CORAL SPECIES FOR THE MARIANA ISLANDS

All the scleractinian and hydrozoan corals that have been collected from the Mariana Islands to date are listed in Appendix 1. Each coral species listed is followed by a number of categories of information that are arranged serially in a horizontal format. Species names are arranged alphabetically under their appropriate higher taxonomic categories on the left side of the appendix. When a species name is well established its full scientific name, genus (subspecies in parentheses if established) and species followed by the author and date are given. When the genus is known, but the species is unidentified or not described, the specific name is listed numerically, sometimes followed with a short descriptor in parentheses, e.g.: *Acropora* sp. 1 (thick arborescent branches).

Literature citations recording a listed species from the Mariana Islands are given as a numerical code for the author(s) and year, followed with figure(s) references, and are restricted to those that give photographic illustrations of a listed species. When such a citation provides a field photograph of a listed species it is indicated as *in situ* in parentheses. The coral museum specimens figured in the literature citation become the representative voucher specimen. A University of Guam (UGC) catalog number(s) follows the figure citation(s) in parentheses. When a record in a literature citation is different from the listed checklist name, as a result of being synonymized or misidentified, the synonym(s) is indicated in brackets. The voucher specimen(s) indicated in the literature citation for each species listed has been deposited in the University of Guam Marine Laboratory Museum Coral repository (UGC) with an attached label bearing its specific name, catalog number, name of collector and determiner, date of collection, and geographic location from where it was collected. If no literature citation is available for a listed specimen that provides a photographic record, then the authors field note number from which such a specimen was collected is given as a reference followed by a University of Guam specimen catalog number of the specimen selected to represent the listed species. Azooxanthellate species are indicated with an asterisk following the name, and additional information for a listed species is indicated by numerical superscripts that are explained at the end of the checklist.

Since the University of Guam repository offers no guaranteed long-term care or access, such voucher specimens constitute a reference or working collection. As the remaining coral specimens in the author's extensive collections are formally described and published they will be deposited in other repositories that offer long-term care and access.

### Discussion

A total of 403 scleractinian and hydrozoan coral species representing 22 families and 108 genera have been collected from the Mariana Islands to date. Of this total number 377 are scleractinian species that occur within 20 families and 99 genera and 26 are hydrozoan species that occur 2 families and 9 genera.

About 70 percent of the coral fauna (281 species) contain zooxanthellae in their tissues and about 30 percent (122 species) are azooxanthellate, although several genera (*Polycyathus* and *Madracis*) contain both azooxanthellate and zooxanthellate species.

In regard to the scleractinian fauna about 73 percent (276 species) within 54 genera are zooxanthellate and about 27 percent (101 species) within 45 genera are azooxanthellate. In regard to the hydrozoan fauna about 19 percent (5 species) in the genus *Millepora* are zooxanthellate and about 81 percent (21 species) within 8 genera are azooxanthellate.

Increases in the number of known scleractinian and hydrozoan species from the Mariana Islands will most likely come from further collections in the dimly-lighted upper forereef slope zone for zooxanthellate species, and from both the upper forereef and deeper aphotic lower forereef zones for azooxanthellate species.

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Appendix 1. Checklist of hydrozoan and scleractinian corals collected from the Marianas

Refs: Literature or field citation: 1 = Randall & Myers 1983; 2 = Randall Field Notes; 3 = specimen collected by Dr. Gustav Paulay, Univ. of Florida, Florida Museum of Natural History

Figures & Voucher Specimens: Cited figures are from Randall & Myers 1983 and voucher specimen from RHR station (RHR-###) in RHR collection (catalog number in parenthesis)

Taxon	Ref.	Figures & Voucher Specimens
PHYLUM CNIDARIA Hatschek, 1888		
CLASS HYDROZOA Owen, 1843		
ORDER ATHECATAE Hincks, 1868		
FAMILY MILLEPORIDAE Fleming, 1828		
<i>Millepora dichotoma</i> Forskål, 1775	1	Figs. 12, 14, 15 ( <i>in situ</i> ) & 146 (22041)
<i>Millepora foveolata</i> Crossland, 1952	2	RHR-933 (19277)
<i>Millepora latifolia</i> Boschma, 1948	1	Figs. 12 ( <i>in situ</i> ) & 147 (22045)
<i>Millepora platyphylla</i> Hemprich & Ehrenberg, 1834	1	Figs. 15 ( <i>in situ</i> ) & 148 (19711)
<i>Millepora tuberosa</i> Boschma, 1966	1	Figs. 13 ( <i>in situ</i> ), 149 (19631) & 150 (19631)
FAMILY STYLASTERIDAE Gray, 1847		
<i>Lepidopora</i> sp. 1*	2	RHR-1146 (23155)
<i>Lepidotheca</i> sp. 1*	2	RHR-1182 (24075)
<i>Distichopora gracilis</i> Dana, 1846*	1	Fig. 151 (626)
<i>Distichopora violacea</i> (Pallas, 1766)*	2	RHR-1183 (24095)
<i>Distichopora</i> sp. 1 (flabellate, ivory)*	2	RHR-896 (18309)
<i>Distichopora</i> sp. 2*	2	RHR-1232 (25123)
<i>Distichopora</i> sp. 3*	2	RHR-1232 (25124)
<i>Errina</i> sp. 1*	2	RHR-1146 (23120)
<i>Stylaster</i> (Group A) <sup>1</sup> sp. 1*	2	RHR-1134 (23050)
<i>Stylaster</i> (Group A) <sup>1</sup> sp. 2*	2	RHR-274 (3647)
<i>Stylaster</i> (Group B) <sup>1</sup> sp. 1*	2	RHR-1182 (24034)
<i>Stylaster</i> (Group B) <sup>1</sup> sp. 2*	2	RHR-1182 (24026)
<i>Stylaster</i> (Group B) <sup>1</sup> sp. 3*	2	RHR-764 (13168)
<i>Stylaster</i> (Group C) <sup>1</sup> sp. 1*	2	RHR-426 (8186.1)
<i>Stylaster</i> (Group C) <sup>1</sup> sp. 2*	2	RHR-1183 (24094)
<i>Stylaster</i> (Group C) <sup>1</sup> sp. 3*	2	RHR-181 (2078)
<i>Stylaster</i> (Group C) <sup>1</sup> sp. 4*	1	[= <i>S. gracilis</i> , Figs. 16 ( <i>in situ</i> ) & 152 (21888)]
<i>Conopora</i> (Group A) <sup>2</sup> sp. 1*	2	RHR-1182 (24061)
<i>Conopora</i> (Group B) <sup>2</sup> sp. 1*	2	RHR-274 (3676.1)
<i>Astyra</i> sp. 1*	2	RHR-1716 (29116)
<i>Crypthelia</i> sp. 1*	2	RHR-1182 (24060)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
CLASS ANTHOZOA Ehrenberg, 1834		
SUBCLASS ZOANTHARIA de Blainville, 1830		
ORDER SCLERACTINIA Bourne, 1900		
SUBORDER ASTROCOENIINA Vaughan & Wells, 1943		
FAMILY ASTROCOENIIDAE Koby, 1890		
SUBFAMILY ASTROCOENIINAE Koby, 1890		
<i>Stylocoeniella armata</i> (Ehrenberg, 1834)	1	Figs. 19 ( <i>in situ</i> ) & 155 (9990)
<i>Stylocoeniella guentheri</i> (Bassett Smith, 1890)	1	Figs. 156 (4852) & 157 (3628.1)
FAMILY POCILLOPORIDAE Gray, 1842		
<i>Stylophora mordax</i> (Dana, 1846)	1	Figs. 22 ( <i>in situ</i> ) & 174 (15010)
<i>Seriatopora aculeata</i> Quelch, 1886	1	Figs. 23 ( <i>in situ</i> ) & 175 (13249)
<i>Seriatopora caliendrum</i> Ehrenberg, 1834	2	RHR-634 (16070)
<i>Seriatopora hystrix</i> Dana, 1846	1	Figs. 24 ( <i>in situ</i> ), 178 (19837) & 180 (19837)
<i>Seriatopora</i> sp. 1 (slender 1mm branches)	1	Fig. 176 (10635)
<i>Pocillopora ankei</i> Sheer & Pillai, 1974	1	Figs. 181 (14544) & 184 (13225)
<i>Pocillopora damicornis</i> (Linnaeus, 1758)	1	Figs. 25, 26 ( <i>in situ</i> ) & 193 (8009)
<i>Pocillopora danae</i> Verrill, 1864	1	Figs. 27 ( <i>in situ</i> ) & 194 (8168), [= <i>P. brevicornis</i> , Fig. 186 (15612)]
<i>Pocillopora elegans</i> Dana, 1846	1	Figs. 29 ( <i>in situ</i> ) & 196 (18220)
<i>Pocillopora eydouxi</i> Edwards & Haime, 1860	1	Figs. 32, 33 ( <i>in situ</i> ) & 197 (18345)
<i>Pocillopora ligulata</i> Dana, 1846	1	Figs. 187 (10138) & 190 (10138)
<i>Pocillopora meandrina</i> Dana, 1846	1	Figs. 30 ( <i>in situ</i> ), 177 (13320), 179 (13320) & 182 (9253)
<i>Pocillopora setchelli</i> Hoffmeister, 1929	1	Figs. 28, 113 ( <i>in situ</i> ), 183 (18007) & 185 (1211)
<i>Pocillopora verrucosa</i> (Ellis & Solander, 1786)	1	Figs. 31, 65 ( <i>in situ</i> ) & 195 (18871)
<i>Pocillopora woodjonesi</i> Vaughan, 1918	1	Figs. 188 (13341) & 189 (18365)
<i>Pocillopora</i> sp. 1 (compact nodular branches)	2	RHR-1125 (22727)
<i>Pocillopora</i> sp. 2 (reduced verrucae)	1	Figs. 191 (17015) & 192 (17015)
<i>Pocillopora</i> sp. 3 (spiny wall margin)	2	RHR-609 (15618)
<i>Madracis asanoi</i> Yabe & Sugiyama, 1936	2	RHR-1232A (29272)
<i>Madracis</i> cf. <i>pharensis</i> (Heller, 1868)	2	RHR-1398 (29079)
<i>Madracis kirbyi</i> Veron & Pichon, 1976	1	Fig. 198 (10499)
<i>Madracis</i> cf. <i>palaensis</i> Yabe & Sugiyama, 1936	2	RHR-1181D (29309)
<i>Madracis</i> sp. 1 (ramose)	2	RHR-1181B (29243)
<i>Madracis</i> sp. 2 (reptoid budding, forming small buttons)	2	RHR-1147 (23170)
<i>Madracis</i> sp. 3 (glabrous coenosteum)	2	RHR-1723 (29331)
FAMILY ACROPORIDAE Verrill, 1902		
Subgenus <i>Acropora</i> ( <i>Acropora</i> ) Veron & Wallace, 1984		
<i>Acropora</i> ( <i>A.</i> ) <i>abrotanoides</i> (Lamarck, 1816)	1	[= <i>A. irregularis</i> , Figs. 45, 46, 47 ( <i>in situ</i> ) & 217 (9924)]
<i>Acropora</i> ( <i>A.</i> ) <i>aculeus</i> (Dana, 1846)	1	Figs. 199 (4692) & 200 (4692)
<i>Acropora</i> ( <i>A.</i> ) <i>acuminata</i> (Verrill, 1864)	1	Figs. 34 ( <i>in situ</i> ) & 202 (21201)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
<i>Acropora (A.) aspera</i> (Dana, 1846)	1	Figs. 35, 36 ( <i>in situ</i> ) & 203 (4731)
<i>Acropora (A.) austera</i> (Dana, 1846)	1	[= <i>A. abrotanoides</i> , Figs. 43, 44 ( <i>in situ</i> ) & 201 (19601)]
<i>Acropora (A.) azurea</i> Veron & Wallace, 1984	1	[= <i>A. variabilis</i> , Figs. 62 ( <i>in situ</i> ) & 238 (1576)]
<i>Acropora (A.) cerealis</i> (Dana, 1846)	1	Figs. 65 ( <i>in situ</i> ) & 204 (16088)
<i>Acropora (A.) digitifera</i> (Dana, 1846)	1	[= <i>A. nasuta</i> , Figs. 57 ( <i>in situ</i> ) & 221 (837)]
<i>Acropora (A.) cf. florida</i> (Dana, 1846)	1	Figs. 209 (4867) & 210 (4867)
<i>Acropora (A.) formosa</i> (Dana, 1846)	1	Figs. 6, 39, ( <i>in situ</i> ), 211 (22078) & 40 ( <i>in situ</i> , not <i>A. virgata</i> )
<i>Acropora (A.) gemmifera</i> (Brook, 1892)	2	RHR-897 (18312)
<i>Acropora (A.) granulosa</i> (Edwards & Haime, 1860)	1	Figs. 52 ( <i>in situ</i> ) & 212 (4846)
<i>Acropora (A.) cf. gravida</i> (Dana, 1846)	1	Figs. 51 ( <i>in situ</i> ) & 213 (3791)
<i>Acropora (A.) hebes</i> (Dana, 1846)	1	Figs. 37, 38 ( <i>in situ</i> ) & 214 (22063)
<i>Acropora (A.) humilis</i> (Dana, 1846)	1	Figs. 54 ( <i>in situ</i> ) & 215 (18370)
<i>Acropora (A.) longicyathus</i> (Edwards & Haime, 1860)	1	[= <i>A. echinata</i> , Figs. 207 (19629) & 208 (19629)]
<i>Acropora (A.) loripes</i> (Brook, 1892)	1	[= <i>A. squarrosa</i> , Figs. 41 ( <i>in situ</i> ) & 229 (496)]
<i>Acropora (A.) lutkeni</i> Crossland, 1952	1	[= <i>Acropora</i> sp.1, Figs. 50 ( <i>in situ</i> ) & 241 (1165)]
<i>Acropora (A.) monticulosa</i> (Brüggemann, 1879)	1	[= <i>A. smithi</i> , Figs. 56 ( <i>in situ</i> ), 227 (1342)]
<i>Acropora (A.) multiacuta</i> Nemenzo, 1967	1	Figs. 219 (17025) & 220 (17025)
<i>Acropora (A.) nasuta</i> (Dana, 1846)	2	RHR-319B (4323)
<i>Acropora (A.) cf. ocellata</i> (Klunzinger, 1897)	1	Figs. 55 ( <i>in situ</i> ), 222 (1323) & 223 (1323)
<i>Acropora (A.) palmerae</i> Wells, 1954	1	[= <i>A. monticulosa</i> , Figs. 216 (1346) & 218 (545)]
<i>Acropora (A.) quelchi</i> (Brook, 1893)	1	Figs. 66 ( <i>in situ</i> ) & 225 (13309)
<i>Acropora (A.) rambleri</i> (Bassett Smith, 1890)	1	Figs. 53 ( <i>in situ</i> ) & 226 (16984)
<i>Acropora (A.) secale</i> (Studer, 1878)	1	[= <i>A. diversa</i> , Figs. 63 ( <i>in situ</i> ) & 206 (18244)]
<i>Acropora (A.) selago</i> (Studer, 1878)	1	[= <i>Acropora</i> sp. 2, Figs. 242 (13236) & 243 (13236)]
<i>Acropora (A.) striata</i> (Verrill, 1866)	1	Figs. 228 (18483) & 231 (1848)
<i>Acropora (A.) stuederi</i> (Brook, 1893)	1	Figs. 67 ( <i>in situ</i> ) & 230 (18368)
<i>Acropora (A.) surculosa</i> (Dana, 1846)	1	Figs. 31, 58 ( <i>in situ</i> ) & 232 (836)
<i>Acropora (A.) tenuis</i> (Dana, 1846)	1	Figs. 48, 49, ( <i>in situ</i> ) & 233 (1280)
<i>Acropora (A.) teres</i> (Verrill, 1866)	1	Figs. 234 (4734) & 235 (4734)
<i>Acropora (A.) valida</i> (Dana, 1846)	1	Figs. 61 ( <i>in situ</i> ) & 237 (17048)
<i>Acropora (A.) vauhani</i> Wells, 1954	1	Figs. 42 ( <i>in situ</i> ) & 239 (2658)
<i>Acropora (A.) cf. verweyi</i> Veron & Wallace, 1984	2	RHR-1417 (26411)
<i>Acropora (A.) virgata</i> (Dana, 1846)	1	Fig. 236 (22080), not Fig. 40 ( <i>in situ</i> , see <i>A. formosa</i> )
<i>Acropora (A.) wardii</i> Verrill, 1902	1	Figs. 64 ( <i>in situ</i> ) & 240 (14)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
<i>Acropora (A.)</i> sp. 1 (finely branched tabulate)	1	[= <i>A. delicatula</i> , Figs. 59, 60 ( <i>in situ</i> ) & 205 (22618)]
<i>Acropora (A.)</i> sp. 2 (sub arborescent tabulate)	2	RHR-74 (822)
Subgenus <i>Isopora</i> Studer, 1878		
<i>Acropora (I.) palifera</i> (Lamarck, 1816)	1	Figs. 68 ( <i>in situ</i> ) & 224 (9979)
<i>Astreopora elliptica</i> Yabe & Sugiyama, 1941	1	Figs. 244 (18249) & 245 (18249)
<i>Astreopora gracilis</i> Bernard, 1896	1	Figs. 69 ( <i>in situ</i> ) & 246 (18290)
<i>Astreopora listeri</i> Bernard, 1896	1	Figs. 247 (10071) & 248 (10071)
<i>Astreopora myriophthalma</i> (Lamarck, 1816)	1	Figs. 70 ( <i>in situ</i> ) & 249 (15671)
<i>Astreopora ocellata</i> Bernard, 1896	1	Figs. 250 (15424) & 251 (15424)
<i>Astreopora randalli</i> Lamberts, 1890	1	Figs. 71 ( <i>in situ</i> ) & 252 (19704)
<i>Montipora acanthella</i> Bernard, 1897	2	RHR-24 (237)
<i>Montipora aequituberculata</i> Bernard, 1897	1	[= <i>M. composita</i> , Figs. 260 (4575) & 261 (4575)]
<i>Montipora berryi</i> Hoffmeisteri, 1925	1	Figs. 253 (21159) & 254 (21159)
<i>Montipora caliculata</i> (Dana, 1846)	1	Figs. 255 (475) & 257 (475)
<i>Montipora colei</i> Wells, 1954	1	Figs. 256 (9904) & 259 (9904)
<i>Montipora conicula</i> Wells, 1954	1	Figs. 258 (21108) & 262 (21108)
<i>Montipora danae</i> Edwards & Haime, 1851	1	Figs. 263 (4532) 264 (19529)
<i>Montipora ehrebergii</i> Verrill, 1872	1	Figs. 73 ( <i>in situ</i> ) & 265 (1524)
<i>Montipora elschneri</i> Vaughan, 1918	1	Figs. 72 ( <i>in situ</i> ) & 266 (21104)
<i>Montipora floweri</i> Wells, 1954	1	Figs. 267 (13260) & 269 (13260)
<i>Montipora foliosa</i> (Pallas, 1766)	1	Figs. 268 (1024) & 271 (1024)
<i>Montipora foveolata</i> (Dana, 1846)	1	Figs. 74 ( <i>in situ</i> ) & 270 (19603)
<i>Montipora granulosa</i> Bernard, 1897	1	Figs. 272 (8452) & 274 (8452)
<i>Montipora grisea</i> Bernard, 1897	1	[= <i>Montipora</i> sp. 1, Figs. 71 ( <i>in situ</i> ) & 289 (19709)]
<i>Montipora hoffmeisteri</i> Wells, 1954	1	Figs. 273 (21966) & 275 (21966)
<i>Montipora lobulata</i> Bernard, 1897	1	Figs. 75 ( <i>in situ</i> ) & 276 (19662)
<i>Montipora monasteriata</i> (Forskål, 1775)	1	Figs. 277 (9909) & 278 (9909)
<i>Montipora myriophthalma</i> Bernard, 1897	2	RHR-905 (18584)
<i>Montipora planiuscula</i> (Dana, 1846)	1	Figs. 279 (19648) & 281 (19648)
<i>Montipora pulcherrima</i> Bernard, 1897	1	Figs. 280 (19597) & 282 (19597)
<i>Montipora socialis</i> Bernard, 1897	1	Figs. 283 (1569) & 283 (1569)
<i>Montipora tuberculosa</i> (Lamarck, 1816)	1	Figs. 285 (18190) & 286 (18190)
<i>Montipora venosa</i> (Ehrenberg, 1834)	1	[= <i>Montipora</i> sp. 3, Figs. 78 ( <i>in situ</i> ) & 292 (13150)]
<i>Montipora verrilli</i> Vaughan, 1907	1	Figs. 76 ( <i>in situ</i> ) & 287 (21125)
<i>Montipora verrucosa</i> (Lamarck, 1816)	1	Figs. 79 ( <i>in situ</i> ) & 288 (9583)
<i>Montipora</i> sp. 1 (fused tubercules)	1	[= <i>Montipora</i> sp. 2, Figs. 77 ( <i>in situ</i> ) & 291 (18475)]
<i>Montipora</i> sp. 2 (glabrous)	1	[= <i>Montipora</i> sp. 4, Figs. 290 (8550) & 293 (8550)]
<i>Montipora</i> sp. 3 (spiny tubercules)	1	[= <i>Montipora</i> sp. 5, Figs. 294 (13334) & 295 (13334)]
<i>Montipora</i> sp. 4 (papillate tuberculate)	2	RHR-1068B, (21997)
<i>Montipora</i> sp. 5 (glabrous)	2	RHR-996, (2106)
<i>Montipora</i> sp. 6 (thick branching, sub columnar)	2	RHR-249, (3250)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
SUBORDER FUNGIINA Verrill, 1865		
SUPERFAMILY AGARICIICAE Gray, 1847		
FAMILY AGARICIIDAE Gray, 1847		
<i>Pavona cactus</i> (Forskål, 1775)	1	Figs. 83 ( <i>in situ</i> ) & 296 (22418)
<i>Pavona clavus</i> (Dana, 1846)	1	Figs. 297 (1296) & 298 ( <i>in situ</i> )
<i>Pavona decussata</i> (Dana, 1846)	1	Figs. 80 & 81 ( <i>in situ</i> ) & 299 (9870)
<i>Pavona difflens</i> (Lamarck, 1816)	1	Figs. 300 (18103) & 301 (18103)
<i>Pavona divaricata</i> (Lamarck, 1816)	1	Figs. 80 & 82 ( <i>in situ</i> ) & 302 (839)
<i>Pavona duerdeni</i> Vaughan, 1907	1	Figs. 84 ( <i>in situ</i> ) & 303 (3754)
<i>Pavona explanulata</i> (Lamarck, 1816)	1	Figs. 304 (855) & 305 (855)
<i>Pavona maldivensis</i> (Gardiner, 1905)	1	Figs. 306 (22410) & 307 (18144)
<i>Pavona minuta</i> Wells, 1954	1	Figs. 129 ( <i>in situ</i> ), 308 (22448) & 309 (12679)
<i>Pavona varians</i> Verrill, 1864	1	Figs. 85 ( <i>in situ</i> ) & 310 (1194)
<i>Pavona venosa</i> (Ehrenberg, 1834)	1	Figs. 82 ( <i>in situ</i> ) & 311 (1250)
<i>Pavona</i> sp. 1 (thick collines)	1	Figs. 86 ( <i>in situ</i> ) & 312 (19775)
<i>Pavona</i> sp. 2 (thin collines)	1	Figs. 87 ( <i>in situ</i> ) & 313 (22417)
<i>Pavona</i> sp. 3 (large hydnochoroid)	1	Fig. 314 (3750)
<i>Pavona</i> sp. 4 (small hydnochoroid)	2	RHR-1066 (21178)
<i>Leptoseris explanata</i> Yabe & Sugiyama, 1941	1	Figs. 88 ( <i>in situ</i> ) & 316 (801)
<i>Leptoseris foliosa</i> Dineson, 1980	1	Figs. 317 (9157) & 318 (9157)
<i>Leptoseris gardineri</i> van der Horst, 1921	1	Figs. 319 (19507) & 320 (19507)
<i>Leptoseris hawaiiensis</i> Vaughan, 1907	1	Figs. 321 (219) & 325 (219)
<i>Leptoseris incrustans</i> (Quelch, 1886)	1	Figs. 90 ( <i>in situ</i> ) & 322 (16063)
<i>Leptoseris mycetoseroides</i> Wells, 1954	1	Figs. 89 ( <i>in situ</i> ) & 324 (9014)
<i>Leptoseris papyracea</i> (Dana, 1846)	2	RHR-1066 (21895)
<i>Leptoseris scabra</i> Vaughan, 1907	1	Figs. 323 (9425) & 326 (9425)
<i>Leptoseris solida</i> (Quelch, 1886)	1	Figs. 327 (9032) & 328 (9032)
<i>Leptoseris</i> sp. 1 (glabrous)	2	RHR-1257K (25310)
<i>Leptoseris</i> sp. 2 (collines)	2	RHR-1066 (21172.2)
<i>Leptoseris</i> sp. 3 (foliaceous)	2	RHR-1182 (24043)
<i>Gardineroseris planulata</i> (Dana, 1846)	1	Figs. 92 ( <i>in situ</i> ) & 315 (842)
<i>Pachyseris speciosa</i> (Dana, 1846)	1	Figs. 91 ( <i>in situ</i> ) & 329 (965)
FAMILY SIDERASTREIDAE Vaughan & Wells, 1943		
<i>Psammocora contigua</i> (Esper, 1797)	1	Figs. 21 ( <i>in situ</i> ) & 165 (4788)
<i>Psammocora digitata</i> Edwards & Haime, 1851	1	Figs. 20 ( <i>in situ</i> ) & 159 (588)
<i>Psammocora explanulata</i> van der Horst, 1921	1	Figs. 160 (2083) & 161 (2083)
<i>Psammocora haimeana</i> Edwards & Haime, 1851	1	Figs. 162 (4588) & 164 (4588)
<i>Psammocora nierstraszi</i> van der Horst, 1921	1	Figs. 158 (8184) & 163 (8184)
<i>Psammocora obtusangula</i> (Lamarck, 1816)	1	Figs. 21 ( <i>in situ</i> ) & 168 (78)
<i>Psammocora profundacella</i> Gardiner, 1898	1	[= <i>Coscinaraea</i> sp.1, Figs. 331 (10147) & 332 (10147)]
<i>Psammocora stellata</i> (Verrill, 1866)	1	Figs. 21 ( <i>in situ</i> ) & 169 (34980)
<i>Psammocora superficiales</i> Gardiner, 1898	1	Figs. 166 (1411) & 167 (1411)
<i>Psammocora</i> sp. 1 (massive)	1	Figs. 170 (3278) & 171 (3278)
<i>Psammocora</i> sp. 2 (nodular)	1	Figs. 172 (836) & 173 (835)
<i>Psammocora</i> sp. 3 (fine ramose)	2	RHR-709A (12505)
<i>Coscinaraea columnna</i> (Dana, 1846)	1	Figs. 93 ( <i>in situ</i> ) & 330 (1041)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
SUPERFAMILY FUNGIICAE Dana, 1846		
FAMILY FUNGIIDAE Dana, 1846		
<i>Cycloseris costulata</i> (Ortmann, 1889)	1	Figs. 333 (4250) & 334 (4250)
<i>Cycloseris cyclolites</i> (Lamarck, 1801)	2	RHR-1704 (27492)
<i>Cycloseris hexagonalis</i> Edwards & Haime, 1848	2	RHR-1257A (25286)
<i>Cycloseris marginata</i> (Boschma, 1923)	2	RHR-1713 (28408)
<i>Cycloseris patelliformis</i> (Boschma, 1923)	2	RHR-1713 (28407)
<i>Cycloseris somervillei</i> (Gardiner, 1909)	2	RHR-1704 (27491)
<i>Cycloseris sinensis</i> Edwards & Haime, 1851	2	RHR-1703 (27453)
<i>Cycloseris tenuis</i> (Dana, 1846)	2	RHR-1713 (28451)
<i>Cycloseris vaughani</i> (Boschma, 1923)	1	Figs. 335 (2625) & 336 (2625)
<i>Cycloseris</i> sp. 1 (high convex)	2	RHR-1398 (26097)
<i>Diaseris fragilis</i> Alcock, 1893	1	Figs. 337 (3734) & 338 (3734)
<i>Diaseris distorta</i> (Michelin, 1843)	2	RHR-1713 (28387)
<i>Diaseris</i> sp. 1	2	RHR-1703 (27456)
Subgenus <i>Fungia</i> ( <i>Verrillofungia</i> ) Wells, 1956		
<i>Fungia</i> ( <i>V.</i> ) <i>concinna</i> Verrill, 1864	1	Figs. 97 ( <i>in situ</i> ), 339 (3561) & 340 (3561)
<i>Fungia</i> ( <i>V.</i> ) <i>repanda</i> Dana, 1846	2	RHR-270B (3562)
<i>Fungia</i> ( <i>V.</i> ) <i>spinifer</i> Claereboudt & Hoeksema, 1987	2	RHR-135 (1473)
Subgenus <i>Fungia</i> ( <i>Danafungia</i> ) Wells, 1966		
<i>Fungia</i> ( <i>D.</i> ) <i>horrida</i> Dana, 1846	1	Figs. 348 (22322) & 349 (22322)
<i>Fungia</i> ( <i>D.</i> ) <i>scruposa</i> Klunzinger, 1879	1	[= <i>F. (D.) danii</i> , Figs. 341 (19685) & 342 (19685)]
Subgenus <i>Fungia</i> ( <i>Wellsofungia</i> ) Hoeksema, 1989		
<i>Fungia</i> ( <i>W.</i> ) <i>granulosa</i> Klunzinger, 1879	1	[= <i>F. (V.) scabra</i> , Figs. 356 (3730) & 357 (3730)]
Subgenus <i>Fungia</i> ( <i>Fungia</i> ) Lamarck, 1801		
<i>Fungia</i> ( <i>F.</i> ) <i>fungites</i> (Linnaeus, 1758)	1	Figs. 96 ( <i>in situ</i> ), 343 (9873) & 345 (9873)
Subgenus <i>Fungia</i> ( <i>Lobactis</i> ) Verrill, 1864		
<i>Fungia</i> ( <i>L.</i> ) <i>scutaria</i> Lamarck, 1801	1	Figs. 94 ( <i>in situ</i> ), 352 (3727) & 353 (3727)
Subgenus <i>Pleuractis</i> Verrill, 1864		
<i>Fungia</i> ( <i>P.</i> ) <i>moluccensis</i> van der Horst, 1919	2	RHR-135 (1472)
<i>Fungia</i> ( <i>P.</i> ) <i>paumotensis</i> Stutchbury, 1833	1	Figs. 346 (1316) & 347 (1316)
<i>Ctenactis albitentaculata</i> Hoeksema, 1989	2	RHR-270B (3545)
<i>Ctenactis echinata</i> (Pallas, 1766)	1	Figs. 95 ( <i>in situ</i> ), 350 (3396) & 351 (3396)
<i>Herpolitha limax</i> (Esper, 1797)	1	Figs. 98 ( <i>in situ</i> ), 354 (8) & 355 (8)
<i>Herpolitha weberi</i> (van der Horst, 1921)	1	Figs. 358 (1445) & 359 (1445)
<i>Polyphyllia talpina</i> (Lamarck, 1801)	1	Figs. 99 ( <i>in situ</i> ), 360 (1475) & 361 (1475)
<i>Sandalolitha robusta</i> (Quelch, 1886)	1	Figs. 364 (19695) & 365 (19695)
<i>Halomitra pileus</i> (Linnaeus, 1758)	1	Figs. 362 (3721) & 363 (3721)
<i>Podabacia crustacea</i> (Pallas, 1766)	1	Figs. 366 (10044) & 367 (10044)
FAMILY FUNGIACYATHIDAE Chevalier, 1987		
Subgenus <i>Fungiacyathus</i> ( <i>Fungiacyathus</i> ) Sars, 1872		
<i>Fungiacyathus</i> ( <i>F.</i> ) <i>paliferus</i> (Alcock, 1902)*	2	RHR-1257 (25282)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
Subgenus <i>Fungiacyathus</i> ( <i>Bathyactis</i> ) Moseley, 1881		
<i>Fungiacyathus</i> ( <i>B.</i> ) cf. <i>turbinolioides</i> Cairns, 1989*	2	RHR-1700 (27024)
FAMILY MICRABACIIDAE Vaughan, 1905		
<i>Stephanophyllia complicata</i> Moseley, 1876*	2	RHR-1148 (23440)
<i>Stephanophyllia fungulus</i> Alcock, 1902*	2	RHR-1707 (27528)
<i>Stephanophyllia neglecta</i> Boschma, 1923*	2	RHR-1700 (27021)
<i>Stephanophyllia</i> sp. 1*	2	RHR-1147 (23347)
SUPERFAMILY PORITICAE Gray, 1842		
FAMILY PORITIDAE Gray, 1842		
Subgenus <i>Porites</i> ( <i>Porites</i> ) Link, 1807		
<i>Porites</i> ( <i>P.</i> ) <i>annae</i> Crossland, 1952	1	Figs. 382 (270) & 384 (270)
<i>Porites</i> ( <i>P.</i> ) <i>australiensis</i> Vaughan, 1918	1	Figs. 104 ( <i>in situ</i> ), 383 (18698) & 386 (22240)
<i>Porites</i> ( <i>P.</i> ) <i>cylindrical</i> Dana, 1846	1	Figs. 103 ( <i>in situ</i> ) & 385 (379)
<i>Porites</i> ( <i>P.</i> ) <i>densa</i> Vaughan, 1918	1	Figs. 394 (22457) & 397 (22457)
<i>Porites</i> ( <i>P.</i> ) <i>lichen</i> Dana, 1846	1	Figs. 106 ( <i>in situ</i> ) & 387 (19792)
<i>Porites</i> ( <i>P.</i> ) <i>lobata</i> Dana, 1846	1	Figs. 388 (21195) & 389 (21195)
<i>Porites</i> ( <i>P.</i> ) <i>lutea</i> Edwards & Haime, 1860	1	Figs. 106 ( <i>in situ</i> ) & 390 (511)
<i>Porites</i> ( <i>P.</i> ) <i>murrayensis</i> Vaughan, 1918	1	Figs. 107 ( <i>in situ</i> ), 391 (22418.1) & 392 (22418.1)
<i>Porites</i> ( <i>P.</i> ) <i>solida</i> (Forskål, 1775)	1	Figs. 393 (16992) & 395 (16992)
<i>Porites</i> ( <i>P.</i> ) <i>stephensoni</i> Crossland, 1952	1	Figs. 108 ( <i>in situ</i> ) & 396 (22070)
<i>Porites</i> ( <i>P.</i> ) <i>superfusa</i> Gardiner, 1898	1	Fig. 398 (592)
<i>Porites</i> ( <i>P.</i> ) sp. 1 (subcolumnar)	1	Fig. 108 ( <i>in situ</i> ), RHR-52 (514)
<i>Porites</i> ( <i>P.</i> ) sp. 2 (columnar)	2	RHR-1443 (26827)
Subgenus <i>Porites</i> ( <i>Synaraea</i> ) Verrill, 1864		
<i>Porites</i> ( <i>S.</i> ) cf. <i>convexa</i> Verrill, 1864	1	Figs. 111 ( <i>in situ</i> ) & 402 (1372)
<i>Porites</i> ( <i>S.</i> ) cf. <i>monticulosa</i> (Dana, 1846)	2	RHR-1420 (26535)
<i>Porites</i> ( <i>S.</i> ) <i>rus</i> (Forskål, 1775)	1	Figs. 7, 109, 110 ( <i>in situ</i> ) & 403 (10984)
<i>Porites</i> ( <i>S.</i> ) sp.1 (encrusting)	1	Fig. 404 (14464)
Subgenus <i>Porites</i> ( <i>Napopora</i> ) Quelch, 1884		
<i>Porites</i> ( <i>N.</i> ) <i>horizontalata</i> Hoffmeister, 1925	1	Figs. 400 (18142) & 401 (22445)
<i>Porites</i> ( <i>N.</i> ) <i>vaughani</i> Crossland, 1952	1	Fig. 399 (615)
<i>Porites</i> ( <i>N.</i> ) sp. 1 (finely branched)	2	RHR-1326 (25633)
<i>Stylarea punctata</i> (Linnaeus, 1758)	1	Fig. 405 (4290)
<i>Goniopora columna</i> Dana, 1846	1	Figs. 368 (478) & 369 (478)
<i>Goniopora dijiboutiensis</i> Vaughan, 1907	1	Figs. 370 (2676) & 371 (2676)
<i>Goniopora eclipsensis</i> Veron & Pichon, 1982	2	RHR-1564 (27170)
<i>Goniopora fruticosa</i> Saville Kent, 1893	1	Figs. 372 (18399) & 373 (18399), not 49 ( <i>in situ</i> )
<i>Goniopora lobata</i> Edwards & Haime, 1860	1	Figs. 374 (8165) & 375 (10967)
<i>Goniopora minor</i> Crossland, 1955	1	Figs. 100 ( <i>in situ</i> ), 376 (3801) & 377 (3801)
<i>Goniopora somaliensis</i> Vaughan, 1907	1	Figs. 101 ( <i>in situ</i> ), 378 (18135) & 379 (18135)
<i>Goniopora tenuidens</i> Quelch, 1886	1	Figs. 102 ( <i>in situ</i> ), 380 (3282) & 381 (3282)
<i>Alveopora allingi</i> Hoffmeister, 1925	2	RHR-1066 (21675)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
<i>Alveopora catalai</i> Wells, 1968	2	RHR-1398 (26101)
<i>Alveopora fenestrata</i> (Lamarck, 1816)	1	Figs. 406 (9541) & 407 (9541)
<i>Alveopora superficiales</i> Sheer & Pillai, 1976	1	Figs. 112 ( <i>in situ</i> ), 408 (2655) & 410 ( <i>in situ</i> )
<i>Alveopora verrilliana</i> Dana, 1872	2	RHR-25 (29336)
<i>Alveopora viridis</i> Quoy & Gaimard, 1833	1	Figs. 113 ( <i>in situ</i> ), 409 (22009) & 411 (22009)
<i>Alveopora</i> sp. 1 (small calices)	2	RHR-1106 (28999)
SUBORDER FAVIINA Vaughan & Wells, 1943		
SUPERFAMILY FAVIICAE Gregory, 1900		
FAMILY FAVIIDAE Gregory, 1900		
SUBFAMILY FAVIINAE Gregory, 1900		
<i>Favia danae</i> Verrill, 1872	2	RHR-158 (1637)
<i>Favia fava</i> (Forskål, 1775)	1	Figs. 114 ( <i>in situ</i> ) & 412 (22601)
<i>Favia helianthoides</i> Wells, 1954	2	RHR-185 (2165)
<i>Favia maritima</i> Nemenzo, 1971	1	Fig. 413 (19698)
<i>Favia mathaii</i> Vaughan, 1918	1	Figs. 115 ( <i>in situ</i> ) & 414 (1028)
<i>Favia pallida</i> (Dana, 1846)	1	Figs. 116 ( <i>in situ</i> ) & 415 (2787)
<i>Favia rotumana</i> (Gardiner, 1899)	1	Figs. 416 (19697) & 417 (19697)
<i>Favia speciosa</i> (Dana, 1846)	2	RHR-55 (589)
<i>Favia stelligera</i> (Dana, 1846)	1	Figs. 117 ( <i>in situ</i> ) & 418 (19670)
<i>Favites abdita</i> (Ellis & Solander, 1786)	1	Figs. 419 (773) & 420 (773)
<i>Favites flexuosa</i> (Dana, 1846)	1	Figs. 421 (22549) & 422 (22549)
<i>Favites russelli</i> (Wells, 1954)	1	Figs. 118 ( <i>in situ</i> ) & 423 (22088)
<i>Goniastrea edwardsi</i> Chevalier, 1971	1	Figs. 425 (18426) & 426 (18426)
<i>Goniastrea palauensis</i> (Yabe, Sugiyama, & Eguchi, 1936)	3	UF 771
<i>Goniastrea pectinata</i> (Ehrenberg, 1834)	1	Figs. 120 ( <i>in situ</i> ) & 427 (1274)
<i>Goniastrea retiformis</i> (Lamarck, 1816)	1	Figs. 121 ( <i>in situ</i> ) & 428 (22408)
<i>Leptoria phrygia</i> (Ellis & Solander, 1786)	1	Figs. 126 ( <i>in situ</i> ) & 435 (827)
<i>Platygyra daedalea</i> (Ellis & Solander, 1786)	1	Figs. 124 ( <i>in situ</i> ) & 436 (902)
<i>Platygyra pini</i> Chevalier, 1971	1	Figs. 125 ( <i>in situ</i> ) & 437 (1099)
<i>Oulophyllia crispa</i> (Lamarck, 1816)	1	Figs. 119 ( <i>in situ</i> ) & 424 (990)
SUBFAMILY MONTASTREINAE Vaughan & Wells, 1943		
<i>Montastrea curta</i> (Dana, 1846)	1	Figs. 438 (19671) & 439 (19671)
<i>Montastrea magnistellata</i> Chevalier, 1971	1	Figs. 440 (19783) & 441 (18046)
<i>Plesiastrea versipora</i> (Lamarck, 1816)	1	Figs. 122 ( <i>in situ</i> ) & 443 (7402)
<i>Diploastrea heliopora</i> (Lamarck, 1816)	1	Figs. 123 ( <i>in situ</i> ) & 442 (350)
<i>Leptastrea bottae</i> (Edwards & Haime, 1849)	1	Figs. 131 ( <i>in situ</i> ) & 444 (1155)
<i>Leptastrea</i> cf. <i>immersa</i> Klunzinger, 1879	2	RHR-110 (1293)
<i>Leptastrea purpurea</i> (Dana, 1846)	1	Figs. 132 ( <i>in situ</i> ) & 445 (4468)
<i>Leptastrea transversa</i> Klunzinger, 1879	1	Figs. 130 ( <i>in situ</i> ) & 446 (4510)
<i>Cyphastrea chalcidicum</i> (Forskål, 1775)	1	Figs. 448 (2988) & 449 (2988)
<i>Cyphastrea microphthalma</i> (Lamarck, 1816)	1	Figs. 450 (15731) & 451 (15731)
<i>Cyphastrea serailia</i> (Forskål, 1775)	1	Figs. 452 (2968) & 453 (2968)
<i>Cyphastrea</i> cf. <i>ocellina</i> (Dana, 1864)	2	RHR-260 (3401)
<i>Cyphastrea</i> sp. 1 (ramose form)	2	RHR-1066 (21918)
<i>Cyphastrea</i> sp. 2 (encrusting form)	2	RHR-326 (4540)
<i>Echinopora lamellosa</i> (Esper, 1795)	1	Figs. 129 ( <i>in situ</i> ) & 447 (479)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
FAMILY RHIZANGIIDAE d'Orbigny, 1851		
<i>Culicia japonica</i> Yabe & Eguchi, 1936*	2	RHR-1148 (23420)
<i>Culcita</i> sp. 1*	1	[= <i>C. rubeola</i> , Fig. 454 (23087)]
FAMILY OCULINIDAE Gray, 1847		
SUBFAMILY OCULININAE Gray, 1847		
<i>Cyathelia axillaris</i> (Ellis & Solander, 1786)*	2	RHR-1146 (28521)
<i>Cyathelia</i> sp. 1 (small calices)*	2	RHR-1146 (23256)
<i>Madrepora oculata</i> Linnaeus, 1758*	2	RHR-1146 (23129)
<i>Neohelia porcellana</i> Moseley, 1881*	2	RHR-1147 (23312)
<i>Archohelia rediviva</i> Wells & Alderslade, 1979*	2	RHR-1182 (24046)
SUBFAMILY GALAXEINAE Vaughan & Wells, 1943		
<i>Galaxea fascicularis</i> (Linnaeus, 1767)	1	Figs. 133 ( <i>in situ</i> ) & 455 (1676)
<i>Acrhelia horrescens</i> (Dana, 1846)	1	Figs. 134 ( <i>in situ</i> ), 456 (67) & 459 (8142)
FAMILY MERULINIDAE Verrill, 1866		
<i>Hydnophora exesa</i> (Pallas, 1766)	1	Figs. 127 ( <i>in situ</i> ), 429 (9898) & 433 (9898)
<i>Hydnophora microconos</i> (Lamarck, 1816)	1	Figs. 128 ( <i>in situ</i> ) & 434 (8864)
<i>Hydnophora</i> cf. <i>rigida</i> (Dana, 1846)	1	Fig. 430 (10614)
<i>Hydnophora</i> sp. 1 (explanate form)	1	[= <i>H. tenella</i> , Figs. 431 (2620) & 432 (2620)]
<i>Merulina ampliata</i> (Ellis & Solander, 1786)	1	Figs. 135 ( <i>in situ</i> ), 457 (10159) & 458 (10159)
<i>Merulina</i> sp. 1 (high narrow collines)	1	[= <i>M. vaughani</i> , Figs. 460 (11186) & 461 (11186)]
<i>Scapophyllia cylindrical</i> (Edwards & Haime, 18480)	1	Figs. 462 ( <i>in situ</i> ) & 463 (1530)
FAMILY MUSSIDAE de Blainville, 1830		
<i>Scolymia australis</i> Edwards & Haime, 1849	2	RHR-260 (3405.1)
<i>Scolymia</i> sp. 1	1	Figs. 139 ( <i>in situ</i> ) & 471 (3405)
<i>Acanthastrea echinata</i> (Dana, 1846)	1	Figs. 140 ( <i>in situ</i> ) & 464 (814)
<i>Acanthastrea hillae</i> Wells, 1955	1	Figs. 141 ( <i>in situ</i> ) & 465 (1037)
<i>Lobophyllia corymbosa</i> (Forskål, 1775)	1	Figs. 138 ( <i>in situ</i> ) & 468 (226)
<i>Lobophyllia costata</i> (Dana, 1846)	1	Figs. 137 ( <i>in situ</i> ) & 469 (1270)
<i>Lobophyllia hataii</i> Yabe, Sugiyama & Eguchi, 1936	1	Fig. 466 (1425)
<i>Lobophyllia hemprichii</i> (Ehrenberg, 1834)	1	Figs. 136 ( <i>in situ</i> ) & 467 (24)
<i>Symphyllia valenciennesii</i> Edwards & Haime, 1849	1	Fig. 470 (1440)
FAMILY PECTINIIDAE Vaughan & Wells, 1943		
<i>Echinophyllia aspera</i> (Ellis & Solander, 1786)	1	Figs. 472 (14587) & 473 (14587)
<i>Echinophyllia echinata</i> (Saville Kent, 1871)	2	RHR-1701 (27330)
<i>Echinophyllia</i> sp. 1	2	RHR-1066 (21686)
<i>Mycedium elephantotus</i> (Pallas, 1766)	1	Figs. 143 ( <i>in situ</i> ) & 474 (11174)
<i>Pectinia paeonia</i> (Dana, 1846)	1	Figs. 142 ( <i>in situ</i> ) & 475 (19835)
FAMILY ANTHEMIPHYLLIDAE Vaughan, 1907		
<i>Anthemiphyllia dentata</i> (Alcock, 1902)*	2	RHR-444 (8502)
SUBORDER CARYOPHYLLIINA Vaughan & Wells, 1943		
SUPERFAMILY CARYOPHYLLIICAE Dana, 1846		
FAMILY CARYOPHYLLIIDAE Dana, 1846		
SUBFAMILY CARYOPHYLLIINAE Gray, 1847		
Subgenus <i>Caryophyllia</i> ( <i>Caryophyllia</i> ) Lamarck, 1816		
<i>Caryophyllia</i> ( <i>C.</i> ) <i>atlantica</i> (Duncan, 1873)*	2	RHR-1715 (29151)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
<i>Caryophyllia (C.) rugosa</i> Moseley, 1881*	2	RHR-1146 (23206)
<i>Caryophyllia</i> sp. 1*	2	RHR-1147 (23246)
<i>Caryophyllia</i> sp. 2*	2	RHR-1257A (25238)
<i>Caryophyllia</i> sp. 3*	2	RHR-606 (15556)
<i>Caryophyllia</i> sp. 4*	2	RHR-226A (3097)
<i>Caryophyllia</i> sp. 5*	2	RHR-1125 (22744)
<i>Concentrotheca</i> sp. 1*	2	RHR-141A (3325)
<i>Trochocyathus cooperi</i> (Gardiner, 1905)*	2	RHR-1148 (23489)
<i>Crispatotrochus rubescens</i> (Moseley, 1881)*	2	RHR-606 (15552)
<i>Crispatotrochus</i> sp. 1*	2	RHR-606 (15546)
<i>Crispatotrochus</i> sp. 2*	2	RHR-1147 (23195)
<i>Crispatotrochus</i> sp. 3*	2	RHR-606 (15533)
<i>Labrinthocyathus</i> sp. 1*	2	RHR-606 (15557)
<i>Paracyathus</i> sp. 1*	2	RHR-274 (3665)
<i>Paracyathus</i> sp. 2*	2	RHR-274 (3651)
<i>Paracyathus</i> sp. 3*	2	RHR-274 (3662)
<i>Paracyathus</i> sp. 4*	2	RHR-268 (3479)
<i>Paracyathus</i> sp. 5*	2	RHR-226A (3100)
<i>Polycyathus</i> sp. 1*	1	[= <i>Paracyathus</i> cf. <i>parvulus</i> , Figs. 476 & 477 (3256)]
<i>Polycyathus</i> sp. 2*	1	[= <i>Paracyathus</i> sp. 1, Fig. 481 (8003)]
<i>Polycyathus</i> sp. 3*	2	RHR-228A (3160)
<i>Polycyathus</i> sp. 4*	2	RHR-228A (3161)
<i>Deltocyathus vaughani</i> Yabe & Eguchi, 1932*	2	RHR-1148 (23509)
<i>Deltocyathus</i> sp. 1*	2	RHR-606 (28466)
<i>Deltocyathus</i> sp. 2*	2	RHR-606 (28470)
<i>Deltocyathus</i> sp. 3*	2	RHR-1717 (29127)
<i>Bourneotrochus stellulatus</i> (Cairns, 1984)*	2	RHR-1700 (27025)
<i>Conotrochus funicolumna</i> (Alcock, 1902)*	2	RHR-606 (15513)
<i>Aulocyathus</i> cf. <i>recidivus</i> (Dennant, 1906)*	2	RHR-1257J (25284)
<i>Heterocyathus aequicostatus</i> Edwards & Haime, 1848*	2	RHR-1714 (28835)
<i>Heterocyathus alternatus</i> Verrill, 1865*	2	RHR-1714 (28838)
<i>Heterocyathus sulcatus</i> (Verrill, 1866)*	2	RHR-1148 (23498)
Genus (new caryophylliid genus) <sup>3</sup> *	2	RHR-1322 (23442)
Genus (new caryophylliid genus) <sup>4</sup> *	2	RHR-268 (3633)
SUBFAMILY TURBINOLIINAE Edwards & Haime, 1848		
<i>Peponocyathus australiensis</i> (Duncan, 1870)*	2	RHR-1700 (27024)
<i>Tropidocyathus</i> ? sp. 1*	2	RHR-1703 (27461.4)
<i>Idiotrochus kikutii</i> (Yabe & Eguchi, 1941)*	2	RHR-1700 (27119)
SUBFAMILY DESMOPHYLLINAE Vaughan & Wells, 1943		
<i>Desmophyllum</i> sp. 1*	1	Fig. 482 (3081)
<i>Desmophyllum</i> sp. 2*	2	RHR-1713 (28429)
<i>Dactyloctrochus cervicornis</i> (Moseley, 1881)*	2	RHR-1702 (27455)
SUBFAMILY PARASMILIINAE Vaughan & Wells, 1943		
<i>Anomocora</i> cf. <i>carinata</i> Cairns, 1991*	2	RHR-1410 (26379)
SUBFAMILY EUSMILIINAE Edwards & Haime, 1857		
<i>Euphyllia cristata</i> Chevalier, 1971	1	Fig. 478 (1203)
<i>Euphyllia glabrescens</i> (Chamisso & Eysenhardt, 1821)	1	Figs. 145 ( <i>in situ</i> ) & 479 (205)

## Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / (continued)

Taxon	Ref.	Figures & Voucher Specimens
<i>Plerogyra simplex</i> Rehberg, 1892	1	[= <i>P. sinuosa</i> , Figs. 144 ( <i>in situ</i> ) & 480 (87)]
SUPERFAMILY FLABELLICAE Bourne, 1905		
FAMILY GUYNIIDAE Hicson, 1910		
<i>Guynia annulata</i> Duncan, 1872*	2	RHR-1066 (21929)
FAMILY FLABELLIDAE Bourne, 1905		
Subgenus <i>Flabellum</i> ( <i>Flabellum</i> ) Lesson, 1831		
<i>Flabellum</i> ( <i>F.</i> ) sp. 1*	2	RHR-1140 (23104.2)
<i>Flabellum</i> ( <i>F.</i> ) sp. 2*	2	RHR-1715 (29161)
<i>Flabellum</i> ( <i>F.</i> ) sp. 3*	2	RHR-1700 (27141)
<i>Truncatoflabellum</i> cf. <i>pusillum</i> Cairns, 1989*	2	RHR-1700 (27089)
<i>Truncatoflabellum</i> sp. 1*	2	RHR-1180 (23680)
<i>Truncatoflabellum</i> sp. 2*	2	RHR-1715 (29155)
<i>Truncatoflabellum</i> sp. 3*	2	RHR-1714 (28777)
<i>Javania</i> sp. 1*	2	RHR-1182 (24033)
<i>Placotrochides scaphula</i> Alcock, 1902*	2	RHR-1700 (27119)
<i>Placotrochides</i> sp. 1*	2	RHR-1714 (28817)
<i>Placotrochides</i> sp. 2*	2	RHR-1180 (23681)
<i>Rhizotrochus</i> sp. 1*	2	RHR-1713 (28461)
<i>Gardineria</i> sp. 1 (dead corallum)*	2	RHR-606 (15565)
SUBORDER DENDROPHYLLIINA Vaughan & Wells, 1943		
FAMILY DENDROPHYLLIIDAE Gray, 1847		
<i>Balanophyllia</i> cf. <i>gigas</i> van der Horst, 1922*	2	RHR-218B (2726)
<i>Balanophyllia</i> sp. 1*	2	RHR-1102 (28904)
<i>Balanophyllia</i> sp. 2*	2	RHR-1147 (23289)
<i>Balanophyllia</i> sp. 3*	2	RHR-268 (3481)
<i>Balanophyllia</i> sp. 4*	2	RHR-1147 (28640)
<i>Balanophyllia</i> sp. 5*	2	RHR-1714 (28826)
<i>Bathypsammia</i> ?, sp. 1*	2	RHR-1147 (23252)
<i>Cladopsammia eguchii</i> (Wells, 1982)*	2	RHR-1147 (23331)
<i>Cladopsammia</i> sp. 1*	2	RHR-1181 (23699)
<i>Cladopsammia</i> sp. 2*	2	RHR-1147 (23350)
<i>Cladopsammia</i> sp. 3*	2	RHR-1146 (23210)
<i>Cladopsammia</i> sp. 4*	2	RHR-1147 (23330)
<i>Dendrophyllia florulenta</i> Alcock, 1902*	2	RHR-1147 (23351)
<i>Dendrophyllia</i> sp. 1*	2	RHR-1182 (24069.1)
<i>Dendrophyllia</i> sp. 2*	2	RHR-1147 (23275)
<i>Dendrophyllia</i> sp. 3*	2	RHR-193A (2401.1)
<i>Dendrophyllia</i> sp. 4*	2	RHR-1146 (23213)
<i>Dendrophyllia</i> sp. 5*	2	RHR-1720 (29180)
<i>Endopsammia</i> sp. 1*	2	RHR-606 (28722)
<i>Eguchipsammia</i> sp. 1*	2	RHR-1147 (23182)
<i>Enallopsammia rostrata</i> (Pourtalès, 1878)*	2	RHR-1179 (23678.1)
<i>Enallopsammia</i> sp. 1*	2	RHR-1182 (29061)
<i>Enallopsammia</i> sp. 2*	2	RHR-1147 (23250)
<i>Heteropsammia</i> cf. <i>cochlea</i> (Spengler, 1781) <sub>5</sub> *	2	RHR-1410 (26331)
<i>Rhizopsammia</i> sp. 1*	2	RHR-192C (2393)
<i>Rhizopsammia</i> sp. 2*	2	RHR-1718 (29137)
<i>Rhizopsammia</i> sp. 3*	2	RHR-1146 (23247)
<i>Tubastaea coccinea</i> Lesson, 1829*	1	[= <i>T. aurea</i> , Fig. 483 (1657)]

Appendix 1. Checklist of hydrozoan and scleractinian corals from the Marianas / *(continued)*

Taxon	Ref.	Figures & Voucher Specimens
<i>Tubastraea floreana</i> Wells, 1982*	2	RHR-192C (2391)
<i>Tubastraea</i> cf. <i>tagusensis</i> Wells, 1982*	2	RHR-199 (2576.12)
<i>Tubastraea</i> sp. 1*	2	RHR-1719 (29166)
<i>Turbinaria reniformis</i> Bernard, 1896	1	Figs. 484 (3616) & 485 (3616)
<i>Turbinaria stellulata</i> (Lamarck, 1816)	1	Figs. 486 (3617) & 487 (3617)

\* Azooxanthellate species names are followed with an asterisk.

Superscripts following the species name: 1) The letter grouping of *Stylaster* species follows that of Cairns (1983); 2) The letter grouping of *Conopora* species follows that of Cairns (1983); 3) A caryophyllid species resembling the Cretaceous genus *Discocyathus*; 4) A caryophyllid species with reptoid budding.