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**ANNOTATED CHECKLIST OF THE GORGONACEA FROM
MARTINIQUE AND GUADELOUPE ISLANDS (F. W. I.)**

BY

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ABSTRACT

Seventy-five species of Gorgonians are recorded from Martinique and Guadeloupe. Twenty-two were exclusively collected during the Blake expedition (1877-1880). Fifty were recently observed by SCUBA diving and three were dredged in Guadeloupe. Among them, 13 species (Flexaurina, Eunicea clavigera, E.knighti, E.pinta, E.palmeri, Muricea pinnata, Muriceopsis petila, Lophogorgia hebes, Leptogorgia setacea, L.virgulata, Pseudopterogorgia elisabethae, P.hystrix and Pterogorgia anceps) and 2 forms (Plexaura homomalla forma kuekenthali and Eunicea calyculata forma coronata) are recorded for the first time in the Windward Group of the Lesser Antilles.

I - INTRODUCTION

Previous works have shown the high abundance of the Gorgonacea in the West Indies. Early taxonomic studies were published by several biologists as Duchassaing and Michelotti (1860), Verrill (1883), Kükenthal (1916), Kunze (1916) and Riess (1929). Deichmann (1936) published an important monograph on the octocorallians of the West Indies region and more recently, Bayer (1961) made a general review of the shallow-water Octocorallia.

Ecological assemblages of gorgonians of several West Indies zones have been recently studied. Gordon (1925) described the communities occurring around Curaçao Islands. Guitart-Manday (1959) studied a portion of the coast of Cuba and observations upon Gorgonians living on the Mexican coast were published by Chamberlain (1966). Then, Gonzalez-Brito (1970) published a list of octocorallians from Puerto-Rico and Goldberg (1973) on the reefs of Florida. More recently, several publications increased our knowledge of the Gorgonians in the Caribbean area, with studies on the coast of Mexico (Jordan, 1979), on Swan Islands in Honduras (Tortora and Keith, 1980), and on Carrie Bow Cay, Belize (Muzik, 1982).

From the surface to 40m, 50 species of shallow-water gorgonians were observed and collected by SCUBA diving around Guadeloupe and Martinique. The aim of the present study is to provide a first check list of the Gorgonacea from these islands.

II - THE STUDY AREAS

The two French islands are situated in the Windward Group of the Lesser Antilles and are presented in the figures 1 and 2. They are the result of the volcanic activity of the Caribbean province. The insular shelf is rather narrow. Several types of habitats can be found around these islands and can be described as follows:

1- The Caribbean coasts. (Cc)

These are the leeward coasts, protected from the dominant trade winds by the volcanic mountains both in the two islands and then, are particularly sheltered. The bottom is most often rocky and steep excepted in the bays. However, the southern portion of the leeward coast in Guadeloupe as well as the northern one in Martinique have black sandy bottoms and are often covered by shingles due to the activity of the volcanoes and the high precipitation rate.

2- The southern region of Martinique. (sM)

This zone is occupied by well developed coral reefs. However, it is more sheltered than the Atlantic coast because of the lower influence of the wind.

3- The Atlantic coasts. (Ac)

These are the windward coasts of Martinique and Guadeloupe occupied by a discontinuous fringe of reefs protecting shallow lagoons. The sea is often rough on this coast.

4- The sheltered bays. (sb)

These bays are characterized by the dominance of sandy-mud bottoms. Mangroves, when not destroyed by human activities, occupy the shore lines. Keys are numerous and their slopes may provide restricted zones of hard substrates. In Guadeloupe, the bay of Grand Cul-de-sac Marin is closed by a barrier reef (br), 20km long.

III - MATERIAL AND METHODS

The location of the stations around Martinique and Guadeloupe is shown in figures 1 and 2. The samples were collected by SCUBA diving. They were fixed in 10 per cent formalin, dried, labelled and preserved in plastic bags for storage. Most specimens were kept at the University of Pointe-à-Pitre in Guadeloupe (UAG). Moreover, several specimens were sent to the Musée Océanographique de Monaco (MOM) and to the Muséum National d'Histoire Naturelle of Paris (OCT.S). The classification of the species was based on the systematic work made by Bayer (1956).

IV - ANNOTATED CHECK LIST

Class ANTHOZOA Erhenberg, 1834
 Subclass OCTOCORALLIA Haeckel, 1866
 Order GORGONACEA Lamouroux, 1816 (Emend. Verrill, 1866)
 Suborder SCLERAXONIA Studer, 1887

Family BRIAREIDAE Gray,1859

Genus Briareum Blainville,1830

Briareum asbestinum (Pallas,1766)

Material: UAG, 2 specimens; MOM 120610; OCT.S.1985 18, OCT.S.1985 19.

Remarks: Common in Guadeloupe (Cc, Ac, sb, br) and Martinique (sM, Ac, sb). Surface to 30m. Often dominant species where it occurs, especially on reef slopes. Often with Erythropodium.

Family ANTHOTHELIDAE Broch,1916

Subfamily SEMPERININAE Aurivillius,1931

Genus Iciligorgia Duchassaing,1870

Iciligorgia schrammi Duchassaing,1870

Material: UAG, 3 specimens.

Remarks: Guadeloupe (Cc) and Martinique (Cc). Often beyond a depth of 15-20m. Few low colonies in shallow-water under overhanging rocks. Just observed in relatively shallow-waters near Pigeon island in Guadeloupe. One fragment dredged at 140m deep near Basse-Terre. Larger distribution along southern leeward coast of Martinique. Usually occurs in clear waters where currents are rather strong.

Subfamily SPONGIODERMATINAE Aurivillius,1931

Genus Diodogorgia Kükenthal,1919

Diodogorgia nodulifera (Hargitt,1901)

Material: UAG, 1 small fragment.

Remarks: Guadeloupe (sb). Depth 34m. Dredged in the Petit Cul-de-Sac Marin.

Genus Erythropodium Kolliker,1865

Erythropodium caribaeorum (Duchassaing and Michelotti,1860)

Material: UAG, 2 specimens; MOM 120601; OCT.S.1985 58.

Remarks: Common in Guadeloupe (Cc, Ac, sb, br) and in Martinique (Cc, sM, Ac, sb). Surface to 30m. Particularly abundant on Caribbean coasts, on reef flats and on upper outer reef slopes. Tolerates muddy environment of sheltered bays.

Suborder HOLAXONIA Studer,1887

Family KEROEIDIDAE Kinoshita,1910

Genus Lignella Gray,1870

Lignella richardii (Lamouroux,1816)

Material: UAG, small fragments.

Remarks: Guadeloupe, off Port-Louis. Depth 180m. Single species, belonging to the deep-water fauna, recently dredged.

Family ACANTHOGORGIIDAE Gray, 1859

Genus Acanthogorgia Gray, 1857

Acanthogorgia schrammi (Duchassaing and Michelotti, 1864)

Type-locality : Guadeloupe, no depth given.

Family PARAMURICEIDAE Bayer, 1956

Genus Villogorgia Duchassaing and Michelotti, 1860

Villogorgia nigrescens Duchassaing and Michelotti, 1860

Type-locality : Guadeloupe, no depth given. MCZ 4681, 1 specimen, Blake sta.166, off Martinique, depth 176m. MCZ 5023, 1 specimen, Blake sta.203, off Guadeloupe, depth 275m.

Genus Thesea Duchassaing and Michelotti, 1860

Thesea guadalupensis (Duchassaing and Michelotti, 1860)

Type-locality : Guadeloupe, in deep waters.

T. hebes (Deichmann, 1936)

MCZ 4644, 5 specimens, Blake sta.166, off Guadeloupe, depth 275m.

T. nivea (Deichmann, 1936)

Holotype MCZ 4645, fragments, Blake sta.159, off Guadeloupe, depth 359m.

Genus Scleracis Kükenthal, 1919

Scleracis guadalupensis (Duchassaing and Michelotti, 1860)

Fragment of holotype Br.M from Guadeloupe, no depth given. MCZ 4583, 1 specimen, Blake sta.210, off Martinique, depth 350m. MCZ 4596, 2 specimens, Blake sta.203, off Martinique, depth 176m.

S. petrosa (Deichmann, 1936)

MCZ 4580, 1 specimen, Blake sta.166, off Guadeloupe, depth 275m. MCZ 4581, 1 specimen, Blake sta.174, off Guadeloupe, depth 1607m. MCZ 4582, 1 specimen, Blake sta.206, off Martinique, depth 311m.

Genus Hypnogorgia Duchassaing and Michelotti, 1864

Hypnogorgia pendula (Duchassaing and Michelotti, 1864)

Type-locality : Guadeloupe, no depth given. MCZ 4697, 1 small specimen, Blake sta.203, off Martinique, depth 176m.

Genus Swiftia Duchassaing and Michelotti, 1864

Swiftia exserta Ellis and Solander, 1786

MCZ 4983, 1 specimen, Blake sta.203, off Martinique, depth 176m.

S. koreni (Wright and Studer, 1889)

MCZ 4991, 1 fragment, Blake sta.160, off Guadeloupe, depth 720m.

Family PLEXAURIDAE Gray, 1859

Genus Plexaura Lamouroux, 1812

Plexaura flexuosa Lamouroux, 1821

Material: UAG, 21 specimens; MOM 120579, MOM 120594, MOM 120598; OCT.S.1985 21, OCT.S.1985 37.

Remarks: Common in Guadeloupe (Cc, Ac, sb, br) and in Martinique (Cc, sM, Ac, sb). Surface to 30m. Dominant species after Briareum on fore reef slopes of both islands. Also occurs on rocky habitats, on sedimentary platform of Port-Louis as well as on sandy slopes of the keys in the Petit Cul-de-sac Marin.

P. homomalla (Esper, 1792)

Material: UAG, 24 specimens; MOM 120582, MOM 120583, MOM 120588, MOM 120592; OCT.S.1985 20, OCT.S.1985 38.

Remarks: Common in Guadeloupe (Cc, Ac, sb, br) and in Martinique (Cc, sM, Ac, sb). Surface to 20m. Fluctuations of density quite high according to the habitat and this is more particularly noticeable in Guadeloupe: common on Caribbean coast, on reef habitat of the barrier of the Grand Cul-de-sac Marin, less frequent in the Petit Cul-de-sac Marin, very rare in the south of Grande-Terre. The 2 forms, homomalla and kuekenthali, are found in similar habitats but the latter one is more abundant.

P. nina Bayer and Deichmann, 1958

Material: UAG, 5 specimens; OCT.S.1985 53.

Remarks: Guadeloupe (sb, br) and Martinique (sM). Surface to 30m. The most restricted distribution among Plexaura species. Mainly found in the lagoon of the Grand cul-de-sac Marin where it appears to be well adapted to the keys near the mangrove zones. Occasionally observed in deeper waters on southern reefs of Martinique and on lower part of fore reef slope of the barrier of the Grand cul-de-sac Marin.

Genus Eunicea Lamouroux, 1816

Eunicea asperula Milne Edwards and Haime, 1857

Material: UAG, 2 specimens.

Remarks: Uncommon in Guadeloupe (sb, br) and in Martinique (Cc, sM). Surface to 17m. Small number of colonies where it occurs. Exclusively observed on the reef flat in the Grand Cul-de-sac Marin and on sandy bottoms of Petit Cul-de-sac Marin.

E. calyculata (Ellis and Solander, 1786)

Material: UAG, 26 specimens; OCT.S.1985 6, OCT.S.1985 7, OCT.S.1985 8, OCT.S.1985 9, OCT.S.1985 28, OCT.S.1985 29.

Remarks: Guadeloupe (Cc, Ac, sb, br) and Martinique (Cc, sM, Ac, sb). Surface to 40m. Never reaches high densities but has a wide distribution. Also occurs on calcareous platforms. Tolerate muddy-sand bottoms (Bay of Fort-de-France, Petit Cul-de-Sac Marin). Low abundance

on all fore reef zones. Higher frequency on shallow areas of the Caribbean coasts. Seems to present more morphosis than the typical and coronata forms but the shape of the sclerites always agrees with those drawn by Bayer (1961). Coronata form rare and only found, in deeper waters of outer reef slope of the Grand Cul-de-sac Marin (25m) and of Pigeon island (40m) in Guadeloupe.

E. clavigera Bayer, 1961

Material: UAG, 1 specimen.

Remarks: Guadeloupe (Ac) and Martinique (Cc, sM, sb). Surface to 30m. Single specimen collected on the south coast of Grande-Terre. In Martinique, isolated colonies where it occurs.

E. fusca Duchassaing and Michelotti, 1860

Material: UAG, 2 specimens; OCT.S.1985 25.

Remarks: Guadeloupe (Ac, sb, br) and Martinique (Cc, sM, sb). Surface to 25m. Rare gorgonian occurring on outer reef slope and on inshore side of reef flat of the Grand Cul-de-sac Marin, on the south of Atlantic coast and in the Petit Cul-de-sac Marin. In Martinique, observed with the same low abundance where it occurs.

E. knighti Bayer, 1961

Material: UAG, 1 specimen.

Remarks: Rare in Guadeloupe (Cc, sb) and in Martinique (Cc, sM). Surface to 20m. Isolated colonies where it occurs.

E. laciniata Duchassaing and Michelotti, 1860

Material: UAG, 1 specimen; OCT.S.1985 23.

Remarks: Rare in Guadeloupe (Cc, sb, br) and in Martinique (sM). Surface to 15m. Few colonies found on the edge of the channel of the Petit Cul-de-sac Marin and only one specimen collected on the north of Caribbean coast in Guadeloupe. Isolated colonies on outer reef slopes.

E. laxispica (Lamarck, 1815)

Material: UAG, 14 specimens; MOM 120585, MOM 120608; OCT.S.1985 10.

Remarks: Guadeloupe (Cc, Ac) and Martinique (sM). Surface to 40m. Rare on fore reef slopes. Very small number of colonies observed in Martinique. Common on leeward coast of Guadeloupe. Abundant on shallow platform of Port-Louis, with E. mammosa and G. mariae. Here, specimens have a smaller candelabrum-shape. In deeper waters of Pigeon island in Guadeloupe, branches are long and straight.

E. mammosa Lamouroux, 1816

Material: UAG, 4 specimens; MOM 120609; OCT.S.1985 11.

Remarks: Guadeloupe (sb, br). Surface to 13m. Can reach high densities on shallow platforms (near Port-Louis, reef flat of the Grand Cul-de-Sac Marin) about 2m deep.

E. cf. palmeri Bayer, 1961

Material: UAG, 6 specimens; MOM 120611.

Remarks: Uncommon in Guadeloupe (Cc) and in Martinique (sM, sb). Surface to 10m. Collected on rocky substrates as well as on the sandy slope near Port-Louis. Few colonies in the lagoon and the upper part of

the south reefs in Martinique. Specimens reported as E. palmeri doubtful because partly differ from original description. Only few spindles of the middle rind are purple, most of them being colorless. However, all other spicular and morphologic characters really fit with Bayer's description.

E. pinta Bayer and Deichmann, 1958

Material: UAG, 1 specimen.

Remarks: Martinique (Cc). Beyond 30m. Never observed in shallower waters. Rare where it occurs.

E. succinea (Pallas, 1766)

Material: UAG, 22 specimens; MOM 120590; OCT.S.1985 24, OCT.S.1985 27.

Remarks: Guadeloupe (Cc, Ac, sb) and Martinique (Cc, sM, sb). Surface to 25m. Sparsely distributed in Martinique. Common in the different geographical zones of Guadeloupe with high occurrence on reef flat and on outer reef slope of the Grand Cul-de-sac Marin. Found with E. palmeri in front of Port Louis. The plantaginea form is more common than the typical one, but their distinction is not always easy.

E. tourneforti Milne Edwards and Haime, 1857

Material: UAG, 27 specimens; MOM 120599, MOM 120600, MOM 120618; OCT.S.1985 22, OCT.S.1985 26, OCT.S.1985 30.

Remarks: Common in Guadeloupe (Cc, Ac, sb) and in Martinique (Cc, sM, sb). Surface to 20m. The typical morphosis is the most common Eunicea in both islands. Abundant on outer reef slopes, on sandy bottoms of the Petit Cul-de-sac Marin and sandy-mud area of the Bay of Fort-de-France. Highest densities observed along Caribbean coasts. Atra form rare and just found on fore reef slope of the Grand Cul-de-sac Marin.

Genus Muricea Lamouroux, 1821

Muricea atlantica (Kükenthal, 1919)

Material: UAG, 8 specimens; MOM 120581, MOM 120613.

Remarks: Guadeloupe (Cc, Ac, br) and Martinique (Ac). Surface to 16m. Single specimen collected in Martinique. Abundant on similar reef habitat in Guadeloupe (south coast of Grande-Terre). Isolated colonies collected on Caribbean coast and on sandy slope in front of Port-Louis.

M. elongata Lamouroux, 1821

Material: UAG, 11 specimens; OCT.S.1985 56.

Remarks: Guadeloupe (Ac, br) and Martinique (Cc, sM, Ac, sb). Surface to 20m. Numerous colonies found on Atlantic coasts but quite rare elsewhere. Low number of specimens observed on reef zone of the Grand Cul-de-sac Marin. Isolated colonies occur in the Bay of Fort-de-France and on rocky bottoms of the leeward coast of Martinique. Specimens collected in deeper waters with red coloration which going out when exposed in luminous conditions. Spindles of such colonies longer than those of shallower specimens.

M. laxa Verrill, 1864

Material: UAG, 4 specimens; OCT.S.1985 34.

Remarks: Guadeloupe (Cc, Ac, br) and Martinique (Ac). Surface to 20m.

Rare where it occurs. Exclusively on lower part of outer reef slope of the Grand Cul-de-Sac Marin with other Muricea spp.

M. muricata (Pallas, 1766)

Material: UAG, 11 specimens; MOM 120596; OCT.S.1985 33.

Remarks: Guadeloupe (Cc, Ac, sb, br) and Martinique (Ac). Surface to 25m. Most common Muricea species in Guadeloupe. Occurs on reef slopes and rocky bottoms. Tolerate sandy-mud keys near the mangroves in the south of Port-Louis.

M. pinnata Bayer, 1961

Material: UAG, 5 specimens.

Remarks: Uncommon in Guadeloupe (Ac, br) and in Martinique (Ac, sb). From 16 to 39m. Little number of colonies where it occurs. Higher abundance on Atlantic coasts. Collected in deep-waters on outer reef slope of the Grand Cul-de-sac Marin.

Genus Muriceopsis Aurivillius, 1931

Muriceopsis flavida (Lamarck, 1815)

Material: UAG, 7 specimens; MOM 120606, MOM 120614; OCT.S.1985 35, OCT.S.1985 36.

Remarks: Common in Guadeloupe (Cc, Ac, sb) and in Martinique (Cc, sM, Ac, sb). Surface to 40m. Distribution covers all the habitats. Density higher on rocky areas, where the sea is generally calm. Few spindle colonies found in deeper waters at Pigeon Island in Guadeloupe.

M. petila Bayer, 1961

Material: UAG, 1 specimen.

Remarks: Guadeloupe (Cc), Pigeon Island. Single specimen collected in deep-waters about -40m.

M. sulphurea (Donovan, 1825)

Material: UAG, 12 specimens; OCT.S.1985 57.

Remarks: Martinique (Ac). Surface to 5m. High densities in the rough shallow-waters of the reef zones of the Caravelle peninsula and Les Salines. Colonies are more bushy under rougher conditions. The few specimens found below 3m are rather elongated and flattened. The spicules of the axial sheath of such colonies are purple.

Genus Plexaurella Kolliker, 1865

Plexaurella dichotoma (Esper, 1791)

Material: UAG, 17 specimens; MOM 120597; OCT.S.1985 40, OCT.S.1985 41.

Remarks: Guadeloupe (Cc, Ac, sb, br) and Martinique (Cc, sM, Ac). Surface to 15m. In Guadeloupe, abundant on shallow-waters of the northern Caribbean coast and common on shallow platforms (Port-Louis, north Pointe des Chateaux). Its shape varies with the geographical zone: in calm waters, colonies have long and straight branches and specimens collected on Atlantic coasts are often very thick with short and crooked branches.

P. fusifera Kunze, 1916

Material: UAG, 2 specimens.

Remarks: Guadeloupe (Cc, Ac, br) and Martinique (Cc, sM, sb). Surface to 20m. Apparently, less common than the above one. Samples collected with almost similar external morphology than P. dichotoma. Spiculation of the 2 species is also particularly closed. Several specimens which can be reported as P. fusifera collected in the same stations than the other one.

P. grisea Kunze, 1916

Material: UAG, 8 specimens; MOM 120587, MOM 120591; OCT.S.1985 5.

Remarks: Common in Guadeloupe (Cc, Ac, sb, br). Surface to 25m. Widely distributed in rocky bottoms, on hard calcareous platforms, on the slopes of the keys in the lagoon of the Grand Cul-de-sac Marin and with a lower density on western reef flat. Highest density on the northern part of Caribbean coast, where it is a characteristic component of the community of gorgonians.

P. nutans (Duchassaing and Michelotti, 1860)

Material: UAG, 6 specimens; OCT.S.1985 54.

Remarks: Guadeloupe (Cc, Ac, sb, br) and Martinique (sM, Ac, sb). Surface to 40m. Isolated colonies where it occurs. The deepest specimen collected near Pigeon Island in Guadeloupe has a very slender form. Stout and very tall colonies occur on outer reef slopes of both islands. Highest density along the southern coast of Grande-Terre in Guadeloupe between 10 and 20m deep. Tolerates muddy waters of the keys near the mangroves of Sainte Rose in Guadeloupe and of the Bay of Fort-de-France.

P. pumila Verrill, 1912

Material: UAG, 3 specimens.

Remarks: Rare in Guadeloupe (Ac, br) and in Martinique (sb). From 14m to 25m. Isolated specimens observed in the Bay of Fort-de-France and on reef slopes of Guadeloupe.

Genus Pseudoplexaura Wright and Studer, 1889Pseudoplexaura crucis Bayer, 1961

Material: UAG, 10 samples; MOM 120593, MOM 120604, MOM 120617; OCT.S.1985 2, OCT.S.1985 3.

Remarks: Guadeloupe (Cc, Ac, sb) and Martinique (Cc). Surface to 20m. Single specimen observed in Martinique. Common on rocky substrates of Guadeloupe in especially calm and clear areas. Isolated colonies observed along the south coast of Grande-Terre and on sandy slopes of the keys of Petit Cul-de-sac Marin.

P. flagellosa (Houttuyn, 1772)

Material: UAG, 7 specimens; MOM 12 0605.

Remarks: Guadeloupe (Cc, br) and Martinique (Cc, sM, sb). Surface to 39m. In Martinique, rare where it occurs, especially in the Bay of Fort-de-France. Frequently observed on middle portion of leeward coast of Guadeloupe. Isolated colonies on fore reef zones of both islands and on reef flat of the Grand Cul-de-sac Marin.

P. porosa (Houttuyn, 1772)

Material: UAG, 14 specimens; MOM 120607; OCT.S.1985 4, OCT.S.1985 43.

Remarks: Guadeloupe (Cc, Ac, br) and Martinique (Cc, sM). Surface to 25m. Common on rocky substrates. Very rare in the north part of Caribbean coast in Guadeloupe. Not frequent on outer reef slopes of the southern reefs and on sandy zones of the Grand Cul-de-sac Marin. The different forms described by Bayer (1961) occur both in Guadeloupe and Martinique.

P. wagnaari (Stiasny, 1941)

Material: UAG, 11 specimens; MOM 120602, MOM 120612; OCT.S.1985 1.

Remarks: Rather rare in Guadeloupe (Cc, sb, br). Surface to 10m. Occurs most often on the middle portion of leeward coast together with other *Pseudoplexaura* spp. Isolated specimens observed on outer reef slope of Grand cul-de-sac Marin and on north-western reef flat of Grande-Terre. Seems to be abundant in the Petit Cul-de-sac Marin but insufficient data from this zone prevent us to draw conclusions.

Family GORGONIIDAE Lamouroux, 1812

Genus Gorgonia Linnaeus, 1758Gorgonia flabellum Linnaeus, 1758

Material: UAG, 2 specimens.

Remarks: Guadeloupe (Cc, Ac). Shallow-waters. Rarely collected but distinction with G. ventalina often difficult.

G. mariae Bayer, 1961

Material: UAG, 7 specimens; MOM 120586; OCT.S.1985 16, OCT.S.1985 17.

Remarks: Guadeloupe (Cc, Ac) and Martinique (Ac). From 1,5 to 55m. In Guadeloupe, numerous colonies observed on southern coast of Grande-Terre, on northern Caribbean coast and on shallow calcareous platform of Port-Louis. Sparsely distributed on similar platform near Fajou island in the Grand Cul-de-sac Marin. In Martinique, abundant on similar habitat (Les Salines and Caravelle peninsula). Yellow coloration of colonies disappears with increasing of depth and tends to be pale grey or white.

G. ventalina Linnaeus, 1758

Material: UAG, 9 specimens; MOM 120580; OCT.S.1985 15, OCT.S.1985 31.

Remarks: Common in Guadeloupe (Cc, Ac, sb, br) and in Martinique (Cc, sM, Ac, sb). Surface to 20m. High occurrence along Caribbean coasts. Common on reef flat and on fore reef slopes. Does not seem to tolerate muddy waters of the bay of Fort-de-France and of the lagoon of the Grand Cul-de-Sac Marin.

Genus Pseudopterogorgia Kukenthal, 1919Pseudopterogorgia acerosa (Pallas, 1766)

Material: UAG, 15 specimens; MOM 120584.

Remarks: Common in Guadeloupe (Cc, Ac, sb, br) and in Martinique (Cc, sM). Surface to 20m. Occurs on muddy shallow keys near the mangroves

(Sainte Rose and south of Port-Louis in Guadeloupe) as well as in clear waters of Caribbean coasts. Common on all outer reef slopes. Depending upon the habitats, colonies show various forms. Specimens collected from muddy-sand shallow bottoms often present a tendency to form short and widely spaced branchlets along the stems.

P. americana (Gmelin,1791)

Material: UAG, 4 specimens; MOM 120603; OCT.S.1985 14.

Remarks: Common in Guadeloupe (Cc, Ac, sb, br) and in Martinique (Cc, sM, Ac, sb). Surface to 20m. Often occurs together with P. acerosa. Abundance generally lower, except at Pigeon Island in Guadeloupe.

P. elisabethae Bayer,1961

Material: UAG, 2 specimens.

Remarks: Rare in Guadeloupe (Cc) and in Martinique (Cc). From 30 to 39m. Only two specimens collected fit with Bayer's description.

P. hystrix Bayer,1961

Material: UAG, 2 specimens.

Remarks: Guadeloupe (Cc). From 36 to 40m. Only observed on the drop of Pigeon Island. This depth range fits with that suppose Bayer (1961, p253): P. hystrix appears to be one of a non-reef assemblage made up of the deep-water representatives of the typical reef genera".

P. rigida (Bielschowsky,1929)

Material: UAG, 4 specimens; OCT.S.1985 55.

Remarks: Guadeloupe (Ac). From 10 to 20m. Uncommon species only collected along southern coast of Grande-Terre. Morphology and spiculation characters agree with taxonomical considerations given by Bayer (1961).

Genus Leptogorgia Milne Edwards and Haime,1857

Leptogorgia setacea (Pallas,1766)

Material: UAG, 2 specimens; OCT.S.1985 32.

Remarks: Guadeloupe (sb), Depth 6m. Purple specimens with several very long and flexible branches collected in muddy shallow waters, at the mouth part of the Riviere Salée in the Petit Cul-de-sac Marin.

L. virgulata (Lamarck,1815)

Material: UAG, 1 specimen.

Remarks: Guadeloupe (Cc), Pigeon Island. Depth 40m. Few colonies observed which exactly fit with the description supplied by Bayer (1961).

Genus Lophogorgia Milne Edwards and Haime,1857

Lophogorgia miniata (Milne Edwards and Haime,1857)

Material: UAG, 1 specimen.

Remarks: Guadeloupe (Cc), Basse-Terre. Depth 55m. Single specimen collected on a rocky drop. Early reported from Guadeloupe by Valenciennes (1855).

L. hebes (Verrill, 1869)

Material: UAG, 1 specimen.

Remarks: Guadeloupe (Cc), Basse-Terre. Deep-waters. Single specimen collected on similar habitat than L. miniata.

Genus Pterogorgia Ehrenberg, 1834Pterogorgia anceps (Pallas, 1766)

Material: UAG, 13 specimens; MOM 120589.

Remarks: Guadeloupe (Cc, Ac, sb) and Martinique (Cc, Ac). Surface to 20m. Restricted distribution in the two islands. High density on shallow calcareous platforms (Port-Louis and northern portion of Caribbean coast in Guadeloupe, Les Salines and Caravelle Peninsula in Martinique). Moderate abundance on fore reef zone of the coast of Grande-Terre and along the southern Caribbean coast of Guadeloupe. Few specimens observed on Atlantic and northern Caribbean coasts of Martinique. Reaches its highest density near the surface.

P. citrina (Esper, 1792)

Material: UAG, 17 specimens; OCT.S.1985 12, OCT.S.1985 44.

Remarks: Guadeloupe (Cc, Ac, sb) and Martinique (Ac). Surface to 10m. Approximately similar distribution than the above one, in Guadeloupe. In Martinique, Just collected on the shallow platform of Les Salines.

P. guadalupensis Duchassaing and Michelin, 1846

Material: UAG, 7 specimens; MOM 120595; OCT.S.1985 13.

Remarks: Guadeloupe (Cc, Ac). From 5 to 20m. Uncommonly observed on calcareous bottoms of northern Caribbean coast. Numerous colonies collected on southern coast of Grande-Terre.

Genus Phyllogorgia Milne Edwards and Haime, 1850Phyllogorgia dilatata (Esper, 1806)

Some specimens presumably collected in Guadeloupe reported as P. dilatata from literature. Bayer's doubts upon such a locality may be confirmed by the present study because no colonies of this species have been observed in that area.

Family ELLISELLIDAE Gray, 1859Genus Ellisella Gray, 1858Ellisella atlantica (Toeplitz, 1929)

MCZ 4713, 2 specimens, Blake sta.203, off Martinique, depth 176m.

E. barbadensis (Duchassaing and Michelotti, 1864)

Material: UAG, 1 specimen.

Remarks: Guadeloupe. Depth 77m. Dredged on windward coast of Basse-Terre island, off Capesterre.

E. funiculina (Duchassaing and Michelotti, 1864)

Type-locality : Guadeloupe, no depth given.

E. grandiflora (Deichmann,1936)

Holotypes MCZ 4732, 2 specimens, Blake sta.210, off Martinique, depth 350m.

Genus Nicella Gray,1870

Nicella obesa Deichmann,1939

MCZ 4743, 1 fragment, Blake sta.164, off Guadeloupe, depth 275m. MCZ 4769, 1 fragment, Blake sta.166, off Guadeloupe, depth 275m.

N. guadalupensis (Duchassaing and Michelotti,1860)

Type-locality : Guadeloupe, in deep waters. MCZ 4747, 3 large specimens, Blake sta.203, off Martinique, depth 176m.

Family CHYSOGORGIIDAE Verrill,1883

Subfamily CHRYSOGORGIINAE Verrill,1883

Genus Chrysogorgia Duchassaing and Michelotti,1864

Chrysogorgia desbonni Duchassaing and Michelotti,1864

Type-locality : Guadeloupe, depth not mentioned in original description. According to Deichmann (1936) presumably about one hundred fathoms. MCZ 4837, 1 specimen, Blake sta.203, off Martinique, depth 176m.

C. elegans (Verrill,1883)

MCZ 4857, 3 specimens, Blake sta.195, off Martinique, depth 917m. MCZ 4858, 1 specimen, Blake sta.200, off Martinique, depth 864m. MCZ 4859, 1 specimen, Blake sta.205, off Martinique 611m.

Genus Iridogorgia Verrill,1883

Iridogorgia pourtalesii Verrill,1883

Type-locality : Guadeloupe, Blake sta. 173, depth 1343m.

Family PRIMNOIDAE Gray,1857

Subfamily PRIMNOINAE Gray,1857

Genus Callogorgia Gray,1858

Callogorgia verticillata (Pallas,1766)

MCZ 4816, fragments, Blake sta.208; off Martinique, depth 388m.

Subfamily CALYPTROPHORINAE Gray,1870

Genus Narella Gray,1870

Narella regularis (Duchassaing and Michelotti,1860)

Type-locality : Guadeloupe, no depth given.

Family ISIDIDAE Lamouroux,1812

Subfamily KERATOISIDINAE Gray,1870

Genus Keratoisis Wright, 1869Keratoisis simplex (Verrill, 1883)

Holotype MCZ 4886, fragment, Blake sta. 205, off Martinique, depth 611m.

Genus Lepidisis Verrill, 1883Lepidisis caryophyllia Verrill, 1883

Holotype MCZ 4904, 1 specimen, Blake sta. 205, off Martinique, depth 607m. MCZ 4904, fragment, Blake sta. 205, off Martinique, 611m. MCZ 4903, fragment, Blake sta. 161, off Guadeloupe, depth 1067.

V - CONCLUSION

The gorgonians are very abundant around the French islands of the Caribbean area. Observations on the distribution of the assemblages fit with Kinzie's studies (1973) which showed relations between covering by hard substrata and density of colonies.

Species richness of the fauna of gorgonians is high in both islands as 75 species were recorded. Forty-three were common to Martinique and Guadeloupe. Fifty species were recently observed by SCUBA diving and 3 were dredged in deeper waters. The 22 others are exclusively recorded from literature (without Phyllogorgia dilatata, the location of which in the Lesser Antilles is doubtful). According to the previous works (Deichmann, 1936; Bayer, 1961), about 106 species were recorded from the Windward Group of the Lesser Antilles. About 70% of them are therefore present in the French islands.

Thirteen species belonging to 7 genera, and 2 forms were observed for the first time in the Lesser Antilles. They include 7 species of Plexauridae: Plexaura nina, Eunicea clavigera, E. knighti, E. palmeri, E. pinta, Muricea pinnata, Muriceopsis petila and 2 forms: Plexaura homomalla forma kuekenthali and Eunicea calyculata forma coronata. The 6 other species belong to the family Gorgonidae: Lophogorgia hebes, Leptogorgia setacea, L. virgulata, Pseudopterogorgia elisabethae, P. hystrix and Pterogorgia anceps.

The shallow-water families of Plexauridae and Gorgonidae include a totality of 47 species, with respectively 32 and 15 species. Several publications also confirmed the dominance of these gorgonians in the West Indies zones (Goldberg, 1973; Gonzalez-Brito, 1970; Muzik, 1982; Tortora and Keith, 1980; Kinzie, 1973). In the French West Indies, the following species are the most common ones and are widely distributed in shallow-waters: Briareum asbestinum, Erythropodium caribaeorum, Plexaura flexuosa, P. homomalla, Eunicea tourneforti, Muriceopsis flavida, Pseudopterogorgia acerosa and Gorgonia ventalina. A recent study on the distribution of the gorgonians around Martinique (Philippot, 1986) shows their strong dominance.

Gorgonians are distributed in two bathymetric ranges in the sense of Bayer (1961). The shallow-water species extend from the surface to 45m deep and the deep-water ones inhabit beyond this limit. Thirty-eight shallow-water species are recorded both in the Windward Group of the Lesser Antilles (Bayer, 1961) and in the French islands.

However, 6 species of the first list were found neither in Guadeloupe nor in Martinique and 9 other ones were recently observed for the first time in these areas. Four gorgonians recorded as deep-water species by Bayer (1961) occur in more than 45m deep in the French islands: Eunicea pinta, Pseudopterogorgia hystrix, Plexaura nina and Muricea pinnata. Among the 61 deep-waters species occurring in the Windward Group of the Lesser Antilles, 24 were recorded in Guadeloupe or Martinique with dominance of the family Paramuriceidae.

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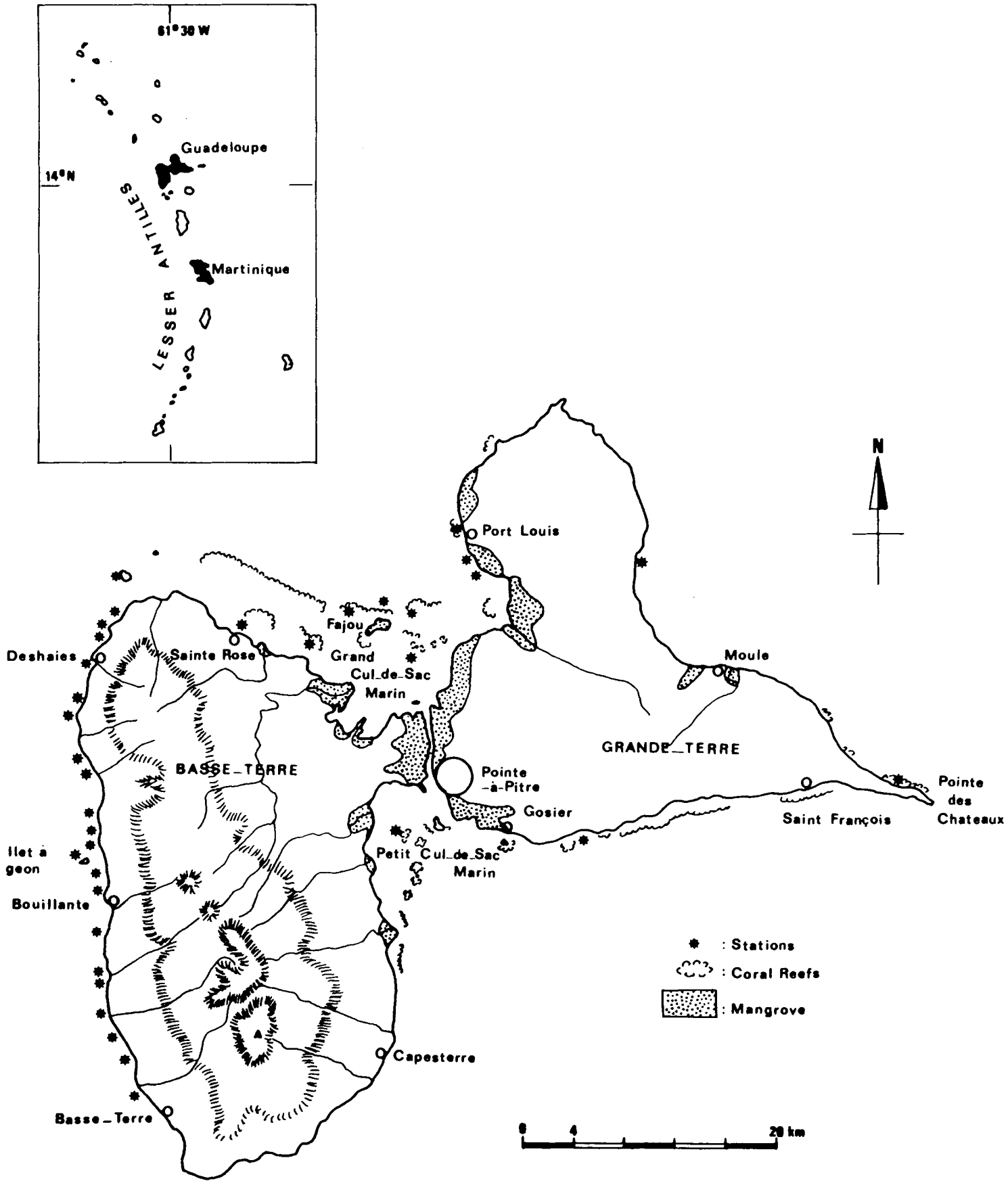


Figure 1 : Guadeloupe Island. Location of the stations.

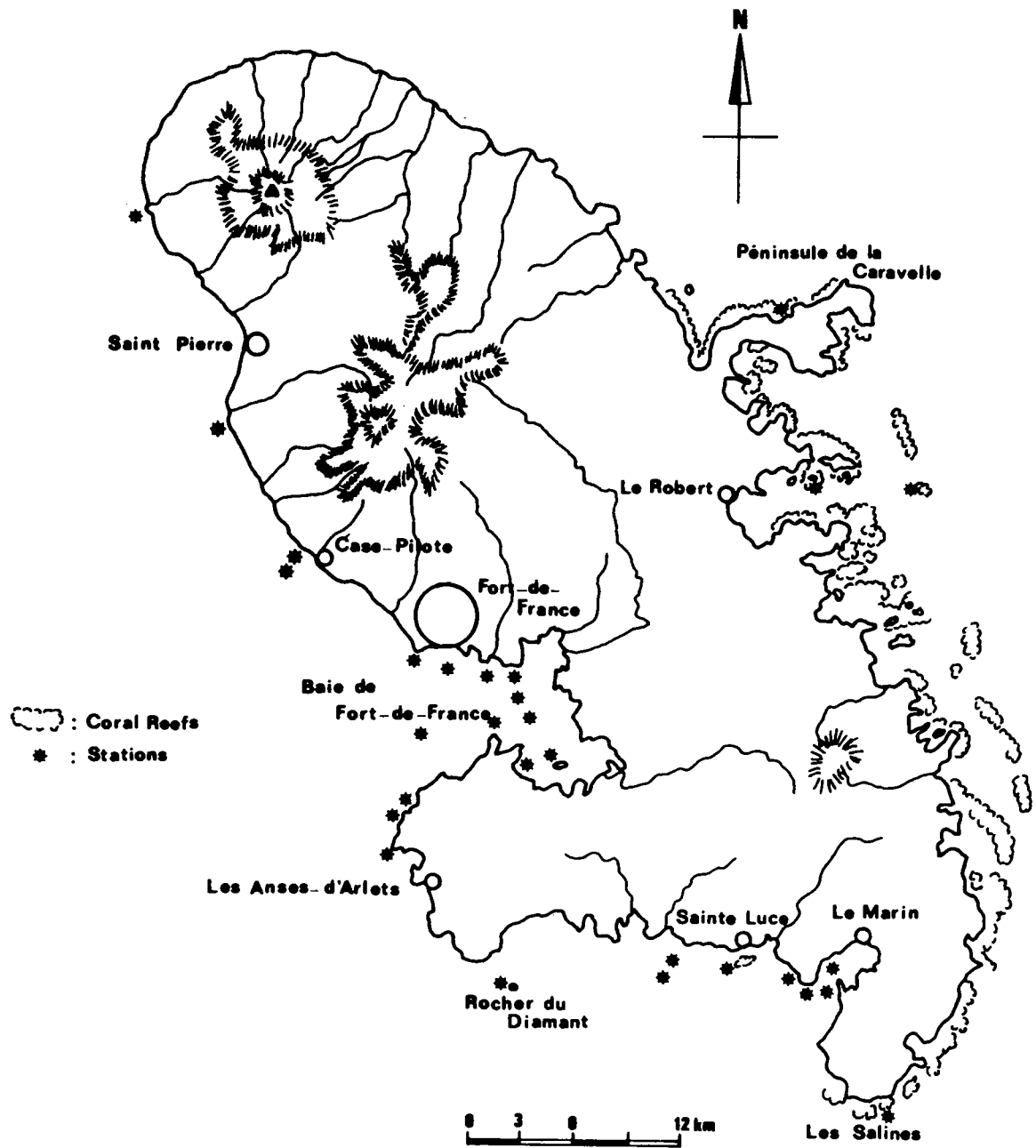


Figure 2 : Martinique Island. Location of the stations.