A Photo Field Guide to Coral Species Located at Scott's Head and Champagne Reef

By Meagan Meyer

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Dr. Lacher
Dr. Woolley

Abstract

Champagne and Scott's Head are two coral reefs that are located on the south-west side of Dominica. The purpose of this project was to provide a photo field guide to coral species found at these two reefs. A total of four dives was completed and fifteen species identified.

Introduction

Dominica is well known for its unscathed landscape, but few are aware of the dramatic scenery that is found below the surface. Dominica is among the top dive sites in the Caribbean. The dive sites are primarily found on the west coast, due to calmer waters, less current, and great visibility. Champagne reef and Scott's Head are the two sites of focus for the development of a photo field guide to coral species on the west coast of Dominica.

Champagne is located south of Roseau and North of Pointe Guignard. It is a hot, sub-aquatic freshwater spring located near the shore and beside a shallow reef. The reef covers an area of appoximately three hundred square feet, with depths between 0-80 feet. There are small vents at the bottom of the ocean floor that release sulphur gas bubbles to the surface. This bubbling of the water is how the reef got its name. There are an estimated twenty species of corals in Champagne reef, as well as an abundance of different fish species.

Scott's Head is located at the southwestern point of Dominica. Along the northern side of Scott's Head runs a shallow ledge with a dramatic increase in depth. The reef is on average between 30-65 feet. There are several sandy locations throughout the reef.

Materials and Methods

On four separate occasions coral species were studied and photographed. There were two trips made to each site, Champagne and Scott's Head. The initial trip to Scotts' Head was more of an educational trip than a data collecting trip. It was first important to become comfortable with using flippers and a mask with a snorkel. It was also beneficial to swim a majority of the reef to get a feel of what one was looking at. After becoming comfortable in the water, it was easier to focus on different types of coral. A waterproof slate with pictures of coral species was useful in identifying the more common and abundant species. Photographs were not taken on this dive, due to the lack of knowledge of what should be photographed. This first trip to Scott's Head helped in the realization that the use of wetsuits would be very beneficial, not only to prevent sunburns but to aid in buoyancy.

The second trip to study the coral was to Champagne reef. After going over several species in the Reef Coral Identification book, it was then possible to distinguish between species in the open water. Observations were made by snorkeling along the surface to find diverse coral species. The wetsuit proved to be very helpful when photographs were taken because it helped with remaining stationary. The photographs were taken by first locating a distinct representation of a species and then diving down as close as possible to take the picture. For identification purposes, it was easier to take pictures of larger subjects. It was also found to be more beneficial if the coral was illuminated by sunlight, this helped with the clarity of the photograph. Once a species was photographed, the common name was recorded on a waterproof slate. If a species was unidentifiable, then a

picture would be taken of it and it would be identified later. This process was repeated at Champagne on one more occasion.

The final data collection was at Scott's Head. After gaining experience at Champagne, the second trip to Scott's Head was much more successful. The coral was easily identifiable because it was much more familiar. After the photographs were developed, each one was classified as either identifiable or unidentifiable. A photograph was labeled unidentifiable if it was not in focus, if the species was a poor representation or if too many species were present to single out only one.

Results

There were a total of fifteen coral species photographed and identified for the field guide. Each species was placed in taxonomic order for easy reference. The physical description, distribution, as well as a picture was provided below each coral species.

Class Anthozoa

Subclass Hexacorallia

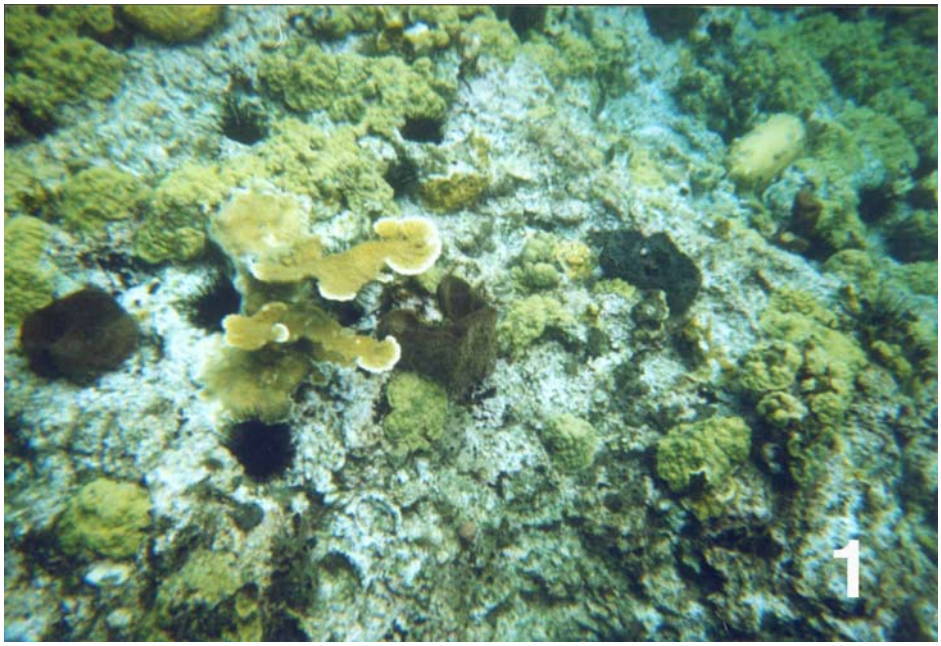
Order Scleractinia (Stony Corals)

Suborder Astrocoeniina

Family Acroporidae

Elkhorn Coral (*Acropora palmata*) (Figure 1)

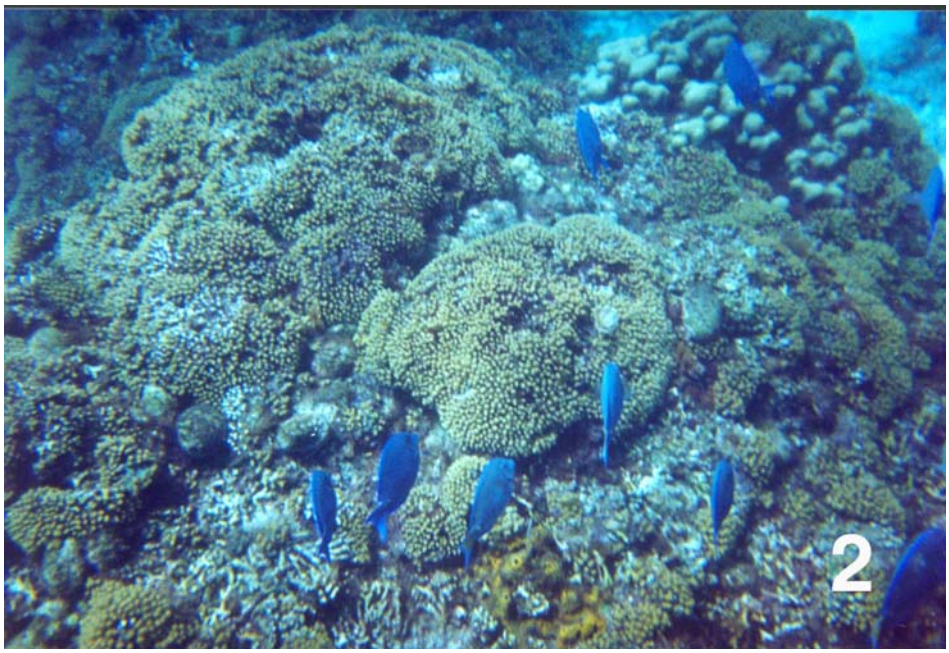
Description: A brown to yellow-brown color all over with a white outline on the edges of the branches. Resembles antler-like racks. It is 3-12 feet in size and is found at a depths of 1-55 feet.
Distribution: South Florida, Bahamas, and Caribbean.



Family Pocilloporidae

Yellow-Pencil Coral (*Madracis mirabilis*) (Figure 2)

Description: Similar to a pencil in shape, with blunt ends. It is a uniform yellow color, typically in small clumps. It ranges in size from 5 inches to 4 feet and is located at depths of 3-190 feet.
Distribution: South Florida, Bahamas, and Caribbean.

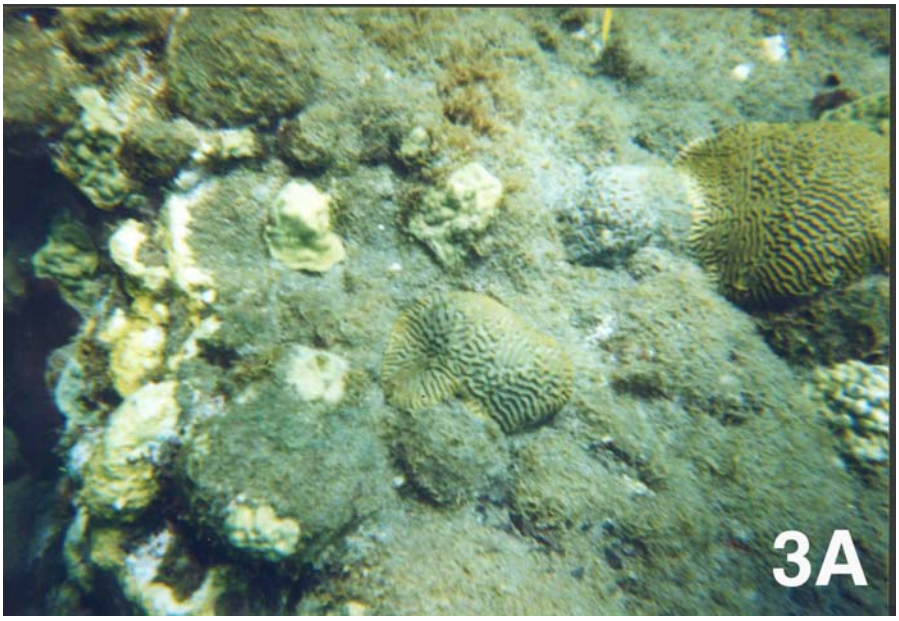


Suborder Faviida

Family Faviidae

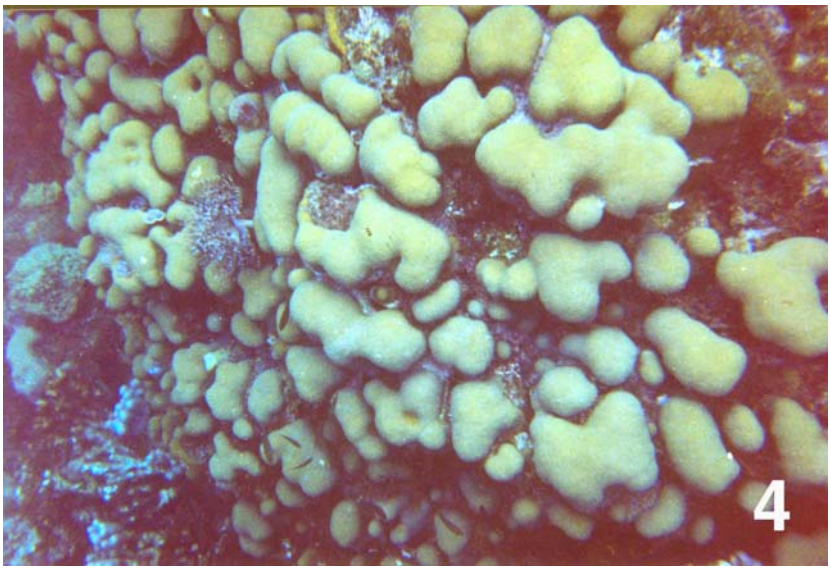
Symmetrical Brain Coral (*Diploria strigosa*) (Figure 3A & 3B)

Description: Found in the shape of domes, with a smooth texture. It can have irregular knobs with ridges that rise sharply. It resembles the human brain.
Distribution: Florida, Bahamas, and Caribbean.



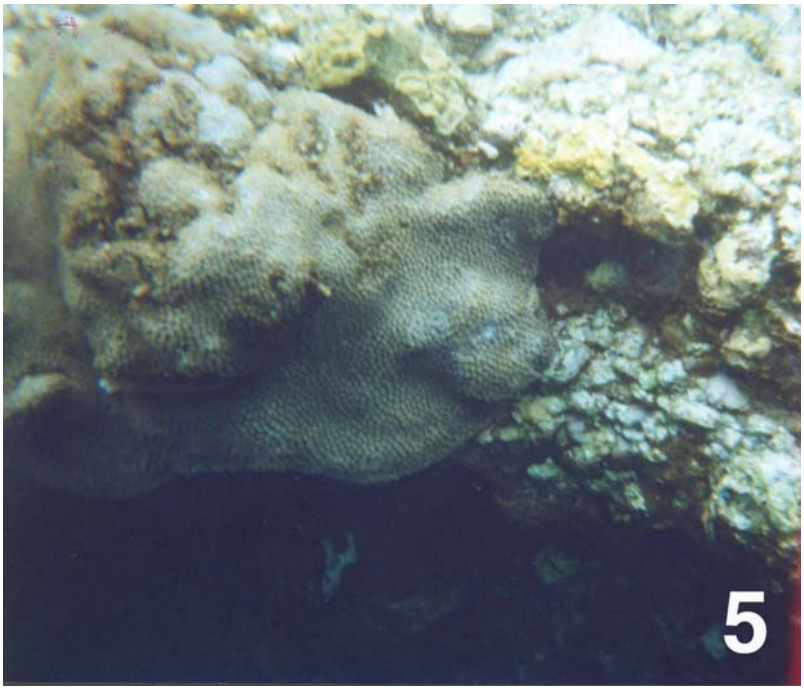
Boulder Star Coral (*Montastraea annularis*) (Figure 4)

Description: Typically grows in irregular mounds. Appears to have a smooth texture with projecting lumps. It is pale green in color. It ranges from 1-10 feet in size and is found at depths of 6-130 feet.
Distribution: South Florida, Bahamas, and Caribbean.



Mountainous Star Coral (*Montastraea faveolata*) (Figure 5)

Description: It is gray in color, with lighter shades throughout the surface. It grows in irregular mounds and encrustations. It has tiny projections of corallites.
Distribution: South Florida, Bahamas, and Caribbean.



Great Star Coral (*Montastraea cavernosa*) (Figure 6)

Description: Forms in massive boulders and domes. Surface has distinctive blister-like corallites. It can be different shades of green, brown, yellow-brown, and gray. It is from 2-8 feet in size and found at depths of 6-300 feet.
Distribution: South Florida, Bahamas, and Caribbean.

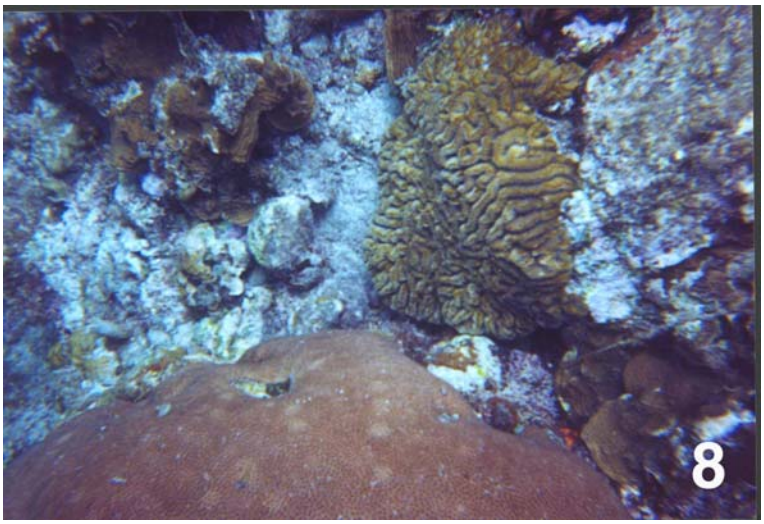
Family Meandrinidae

Elliptical Star Coral (*Dichocoenia stokesii*) (Figure 7)

Description: Form in colonies of round, ball-like domes. Typically cream to yellow and brown in color. Has very distinctive corallites that sometime appear to be in the shape of a Y. Range in size from 4-15 inches and is found at depths of 12-225 feet.
Distribution: South Florida, Bahamas and Caribbean.

Maze Coral (*Meandrina meandrites*) (Figure 8)

Description: Is found in a variety of shapes from a raised dome to flat across any surface. It can be tan, brown and yellow-brown in color. The ridges are very distinctive and are formed by smooth, widely separated vertical plates. It appears to be an unorganized maze. Their size ranges from 1-3 feet and they can be found at depths of 2-240 feet.
Distribution: South Florida, Bahamas and Caribbean.



Family Mussidae

Spiny Flower Coral (*Mussa angulosa*) (Figure 9)

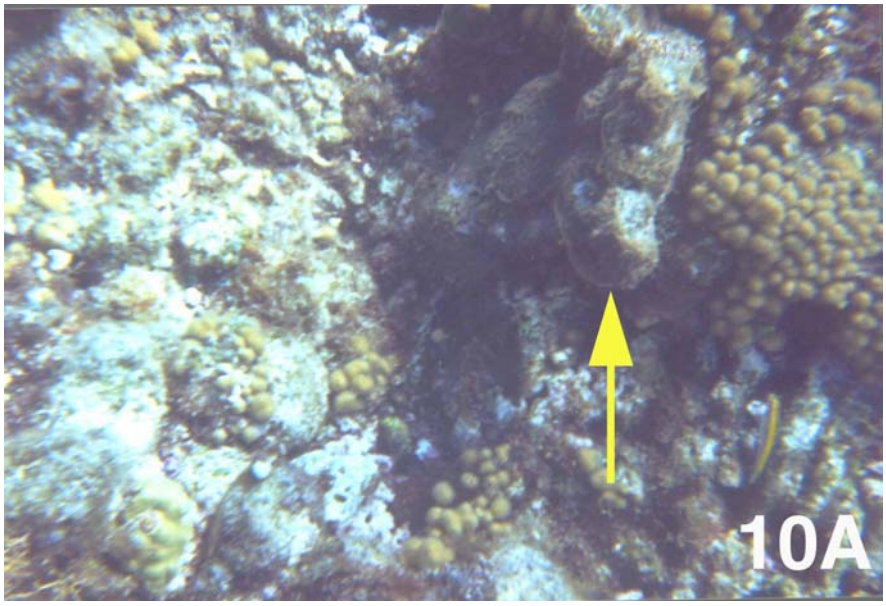
Description: Appear to be white or lavender in color. They form in small clusters, are cone shaped, and often are in circular rims with deep pits (holes) in the middle. They are between .5-2 feet in size and are located at depths of 5-180 feet.
Distribution: South Florida, Bahamas and Caribbean.

Suborder Fungiida

Family Agariciidae

Lettuce Coral (*Agaricia agaricites*) (Figure 10A & 10B)

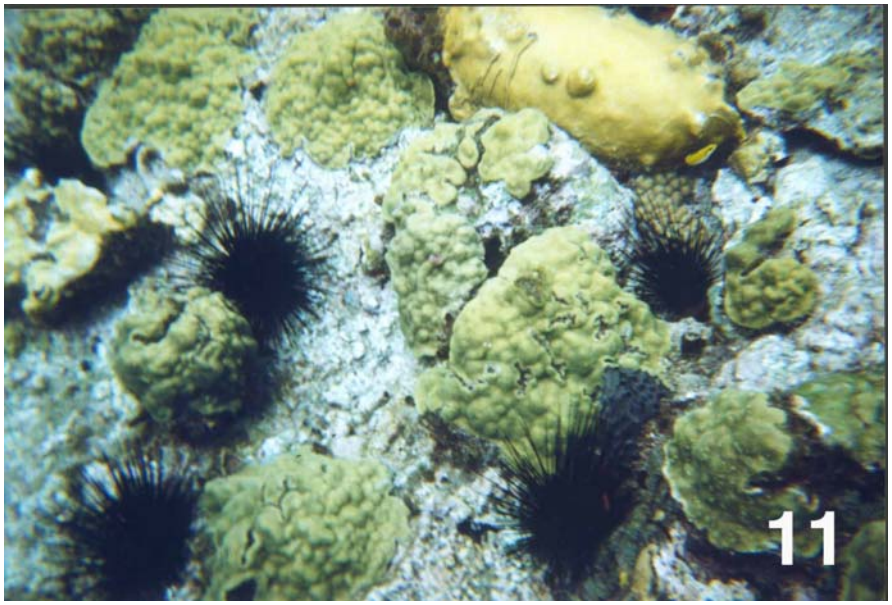
Description: A deep gray to dark green color. Encrusting with discontinuous valleys and ridges. It looks like a shriveled lettuce leaf. It is about 4 inches to 3 feet in size and is found at depths of 3-240 feet.
Distribution: Florida, Bahamas and Caribbean.



Family Poritidae

Mustard Hill Coral (*Porites astreoides*) (Figure 11)

Description: Lime green color with a gray variety. It forms in round domes with a lumpy surface. It is between 6 inches to 2 feet in size and is found at depths of 3-160 feet.
Distribution: Florida, Bahamas and Caribbean.



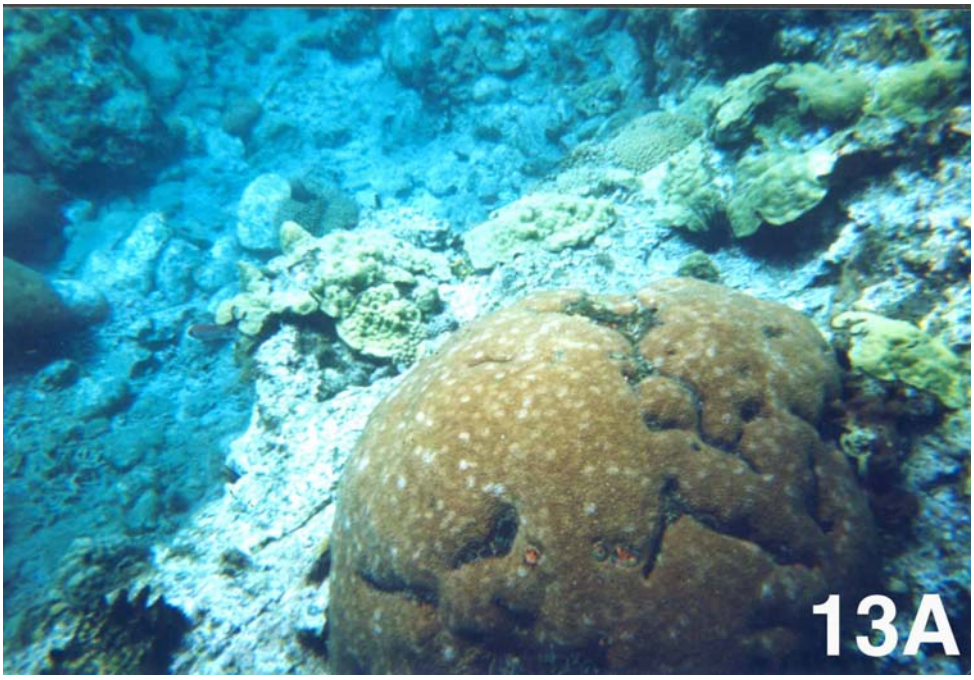
Finger Coral (*Porites porites*) (Figure 12)

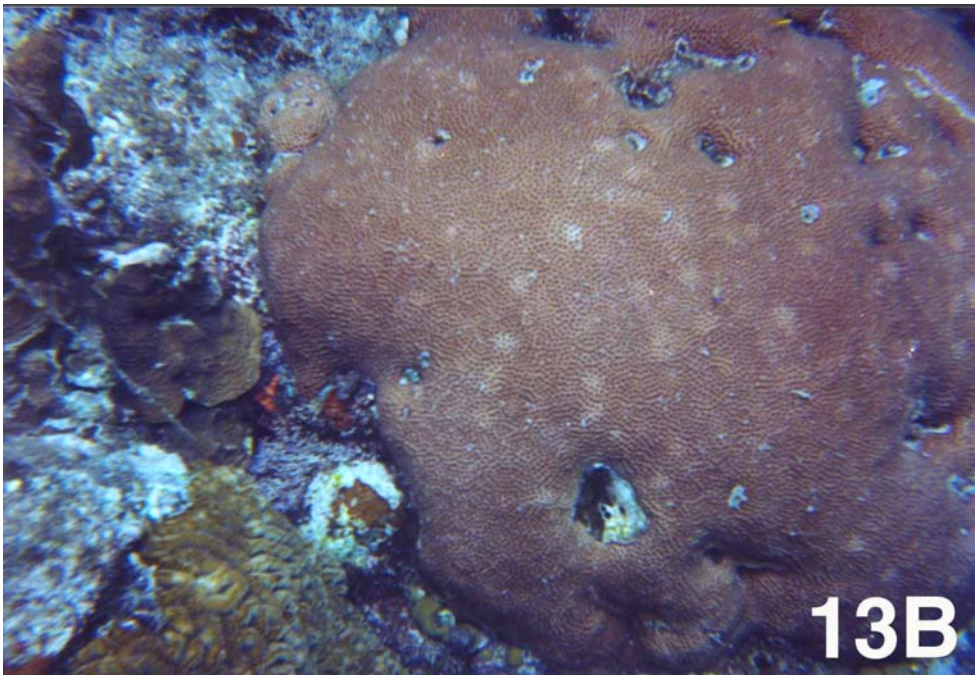
Description: Appears in bunches of stubby branch-like projections. It is gray in color, and resembles the shape of fingers. The tips are usually slightly enlarged, and can appear fluffy at times. It ranges in size from 1-4 feet and is found at depths of 3-160 feet.
Distribution: South Florida, Bahamas and Caribbean.

Family Siderastreidae

Massive Starlet Coral (*Siderastrea siderea*) (Figure 13A & 13B)

Description: It is gray to golden brown in color. It is in large round boulders, with small pitted corallites. It is between 1-6 feet in size and found at depths of 2-220 feet.
Distribution: Florida, Bahamas and Caribbean.





Subclass Octocorallia

Order Gorgonacea

Suborder Holaxonia

Family Gorgoniidae

Common Sea Fan (*Gorgonia* spp.) (Figure 14)

Description: A large, leaf coral, that looks like a giant fan. They grow perpendicular to the current. They are composed of tightly-meshed, interconnected network of branches. They are from 2-6 feet in size and can be found at depths of 3-100 feet.
Distribution: South Florida, Bahamas and Caribbean.

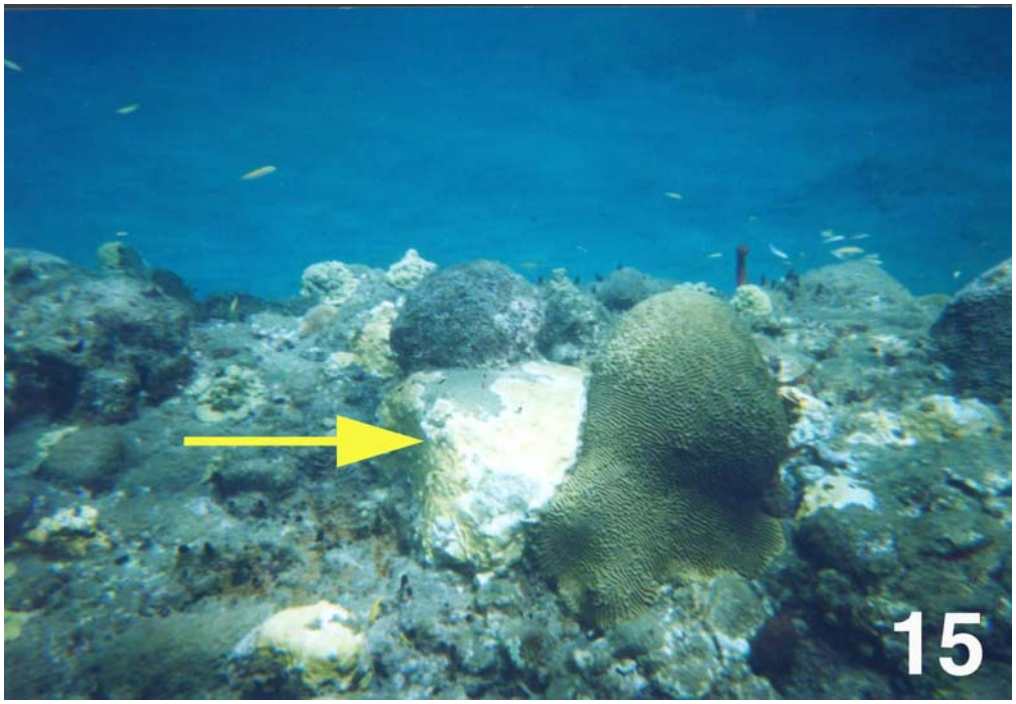
Class Hydrozoa

Hydrocorals

Family Milliporidae

Fire Coral (*Millepora* spp.) (Figure 15)

Description: Appear to be a yellow to orange color. It has a smooth texture with numerous pin-hole size pores. It produces a painful burning sensation when it touches skin. It ranges in size from 1-18 inches, and can be found at depths of 3-130 feet.
Distribution: Florida, Bahamas and Caribbean.



Discussion:

This field guide provided a general overview of the coral species found on the south-west coast of Dominica. A total of fifteen species were identified and photographed. Several coral species that are found on the west coast are not represented in this field guide, because of the poor quality of pictures taken of a coral, or inexperience with identifying diverse species. Snorkeling also limits visibility. There were several species that appeared to be different that were not photographed because they were located at depths that were unreachable without the use of scuba equipment. Nevertheless, the field

guide includes identifications of many common corals and can be made more complete by subsequent study abroad classes.

In some instances two pictures are provided for one coral species. This is because several of the same coral species have variable growth forms. For example, *Siderastrea siderea* is represented by a photograph twice because it appears to be two different colors, maroon or brown.

Some of the species photographed were in a high abundance and were not difficult to locate and photograph, while others, such as *Acropora palmata*, are rare on the west coast, and the odds of finding a representative of the species were quite low. Overall, the most abundant and visible coral species are represented.

Literature Cited

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