

# Guide for the Identification of the Shallow Water Corals of the Wider Caribbean

Ernesto Weil and Héctor Ruiz

Department of Marine Sciences, University of Puerto Rico.

Identification of coral species in the field could be difficult even for marine biologists. Even today, there is confusion with the identity of many of the common shallow water coral species of the wider Caribbean. Of the 27 zooxanthellae coral genera recognized, 21 (77 %) present some taxonomic problem with the component species. New approaches and better technologies have produced new information that has allowed scientists to separate species from what was considered for decades to be morphologically-variable ecomorphs, redescribe as one single species two or more morphological variations that were considered as separate taxa, or describe new species. The main goal of these laminated ID cards is to facilitate and standardize the identification in the field of the common corals and hydrocorals of the wider Caribbean. We have selected representative photos and prepared simple, clear and concise descriptions of each species. To facilitate the identifications, the species were organized according to their common morphologies instead of their evolutionary relationships. Below we present a guide to use the information in these ID cards efficiently. Some rare species and “formae” (uncommon morphologies) are not included.

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Reference scale to estimate approximate colony sizes in photos.

Standardized species abbreviation. Useful when collecting underwater data for analyses.

Species scientific name.

***Montastraea faveolata*** (Mfav): Large, massive, crustose and platy colonies with a smooth surface. Green, gray and pale-dark brown. Medium size corallites (2-3 mm) with 24 septa in two cycles. Very common in most reef habitats. (0.5-30 m).

Depth interval (in meters) where the species is commonly found.

Brief description of the most common characteristics of the species such as: Most common morphologies and colony traits - Most common colors - General characteristics of the corallites (size, number of septa, etc.) or the valleys and ridges (width, # of septa/cm, pattern, etc.) and - Relative abundance (abundant, common or rare) in most areas.



# Shallow water corals of the wider Caribbean - 1



**Acropora palmata** (Apal): Large colonies with thick, wide, long branches. Dark orange with white edges. Small, tubular and protruded corallites with 12 septa. Abundant in shallow, exposed, platform and slope reef zones. (0.5 – 12 m).



**Acropora cervicornis** (Acer): Long, cylindrical, thick or thin branches. Dark orange with white axial polyp. Small, tubular and protruded corallites with 12 septa. Forms thickets in intermediate depth zones. Abundant/common. (0.5–40 m).



**Acropora prolifera** (Apro): A hybrid taxon with thick, wide or cylindrical branches that ramificate into thin, short finger-like ends. Dark orange with white tips. Small, tubular, protruded corallites with 12 septa. Common/rare. (0.5 - 5 m).



**Porites porites** (Ppor): Compact colonies with thick, short rounded branches or loose colonies with thick, long, open pointed branches. Gray and tan colors. Small corallites with 12 septa. Forms extended patches. Abundant. (0.5 - 45 m).



**Porites furcata** (Pfur): Colonies with longer, thinner branches than *P. por*, dicotomic pattern and rounded tips. Gray or tan colors. Small, round corallites with 12 septa. Forms small colonies or extensive patches. Common/rare. (0.5 - 20 m).



**Porites divaricata** (Pdiv): Small colonies with short, thin, open, and dicotomic branches. Yellow, gray or tan colors. Small, round corallites with 12 septa. Forms patches in back-reef and seagrass areas. Common/rare. (0.5 - 20 m).

Branching



# Shallow water corals of the wider Caribbean - 2



***Cladocora arbuscula*** (Carb): Small, loose colonies with long, cylindrical, thin corallites or branches. Pale brown with dark mouths. Corallites with 36 septa. Shallow and deep sedimentary zones. Common/rare. (1 - 20 m).



***Madracis mirabilis*** (Mmir): Long, thin, dichotomous branches with round tips. Yellow to pale tan. Small, round, separated corallites with ten primary septa. Forms small clusters and extensive patches. Common. (5 - 20 m).



***Madracis formosa*** (Mfor): Medium to large colonies with thick, long, wide, dichotomous branches. Chocolate brown with yellow centers. Small, separated corallites with 8 primary septa. Mostly deep environments. Rare. (15 - 50 m).



***Madracis decactis*** (Mdec): Short branching, nodulose or crustose colonies. Olive green to dark purple or gray. Small, round, separated corallites with ten primary septa. Intermediate to deep zones. Common/abundant. (3 - 40 m).



***Oculina diffusa*** (Odif): Small colonies with thin (<10 mm), long branches. Pale yellow to tan colors. Large, protruded, separated corallites with three cycles of septa. Granulose surface. Common/rare. (1 - 15 m).



***Oculina valenciennesi*** (Oval): Small colonies with long, medium thick (>10 mm), hard branches. Pale yellow to tan and dark centers. Large, protruded, separated, corallites. Might form large clusters. Deep habitats. Rare. (10 - 20 m).

Branching / Nodulose

# Shallow water corals of the wider Caribbean - 3

Clusters / Columnar / Solitary



2 cm

***Eusmilia fastigiata*** (Efas): Hemispheric clusters of large, single, bi-lobate, or elongated corallites on long, centrally-converging stalks. Pale yellow to greenish. 14 well developed septa (out of 72 total). Common/rare. (3 - 25 m).



5 cm

***Mussa angulosa*** (Mang): Hemispheric and compact clusters of large (> 5 cm), fleshy, rough-looking polyps at the tip of short stalks that converge centrally. Variable coloration (red-blue-greens). Thick, spiny septa. Common/rare. (8 - 35 m).



18 cm

***Montastraea annularis*** (Mann): Clusters of long, thick, cylindrical columns. Live tissue only at the dome-like tops. Round boulders in shallow waters. Golden yellow or tan. Round, medium-size corallites with 24 septa. Abundant. (0.5 - 25 m).



15 cm

***Dendrogyra cylindrus*** (Dcyl): Heavy, thick, tall, cylindrical pillars growing from a wide, crustose base. Tan to golden yellow. Colony has meandroid pattern with deep, narrow valleys and thick septa (7-10/cm). Common/rare. (1 - 25 m).



1 cm

***Scolymia cubensis*** (Scub): Solitary, round, fleshy, medium size (< 5 cm in diameter) polyps. Variable coloration. Six cycles of spiny, thick and thin alternating septa. Found in cryptic, deep habitats. Common/rare. (10-30 m).



2 cm

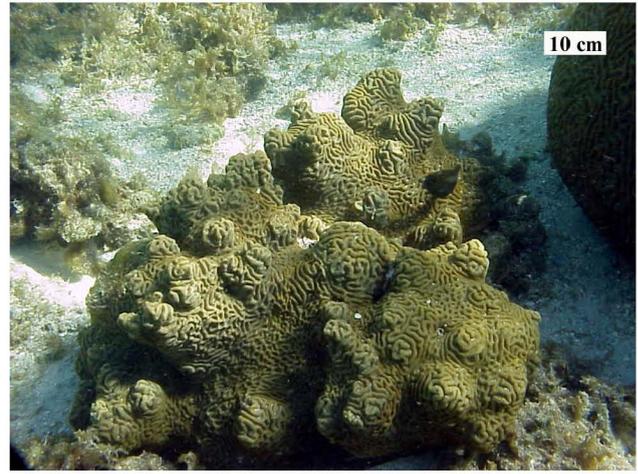
***Scolymia lacera*** (Slac): Largest (5 - 12 cm) single-polyp, solitary coral in the Caribbean. Variable coloration. Round, fleshy, rough looking polyps with 6 cycles of thick, long, spiny septa. Deep, sandy, cryptic habitats. Rare. (15 - 30 m).



# Shallow water corals of the wider Caribbean - 4



**Montastraea cavernosa** (Mcav): Crustose, platy or large domes. Variable coloration (green, orange, red, gray, etc). Large, protruded corallites (5-12 mm) with 48 septa in four cycles. Common in most reef habitats. (0.5 - 95 m).



**Diploria clivosa** (Dcli): Crustose to massive, nodulose colonies. Mostly gray. Narrow, meandroid valleys and round ridges. Thin, small septa (25-38/cm). Common in Shallow reef habitats with good water movement. (0.5-5 m).



**Diploria labyrinthiformis** (Dlab): Large, hemispherical and crustose colonies with meandroid, narrow, deep and continuous valleys. Pale to dark golden yellow. Ridges with a wide groove and thin septa (14-17/cm). Common. (0.5-35 m).



**Diploria strigosa** (Dstr): Large massive, hemispheric, platy or crustose colonies. Pale brown, green or gray. Wide, meandroid, continuous valleys. Rounded ridges with 15-20 septa/cm. Very common in all reef habitats (0.5 - 35 m).



**Colpophyllia natans** (Cnat): Large hemispherical, massive, or platy colonies. Brown, green, reddish or combinations. Narrow, meandroid. continuous or closed valleys with steep, grooved ridges, thin septa (8-9/cm). Abundant. (0.5-45 m).



**Colpophyllia amaranthus** (Cama): Massive thick plates on a stalk. Green, brown or other colors. Wide, deep, meandroid, mostly continuous valleys with tall, thick ridges with central groove. Rare. (5 - 30 m).

Massive / Meandroid

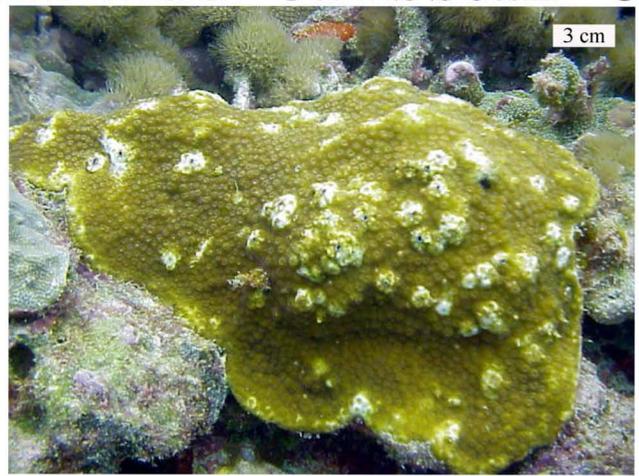


# Shallow water corals of the wider Caribbean - 5

Massive / Crustose



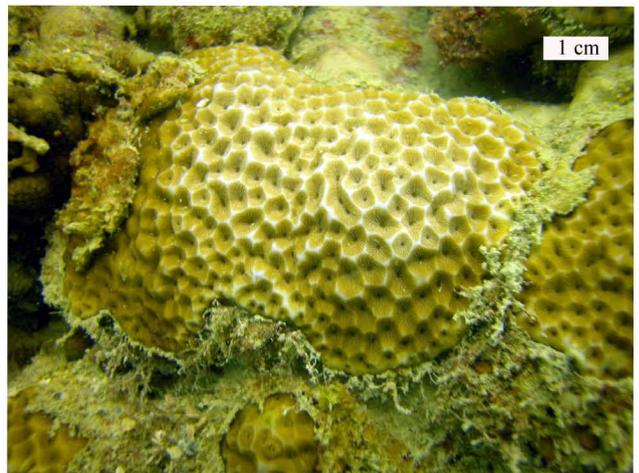
**Montastraea faveolata** (Mfav): Large massive, crustose and platy, smooth-looking colonies. Green, gray and brown. Medium size (3-4 mm), exerted, uniform corallites, 24 septa in two cycles. Abundant in all reef habitats. (0.5 - 30 m).



**Montastraea franksi** (Mfra): Medium to large massive, crustose and platy colonies with an irregular, knobby surface. Green to reddish brown. Protruding, unevenly distributed corallites (3-6 mm) with 24 septa. Abundant. (4 - 80 m).



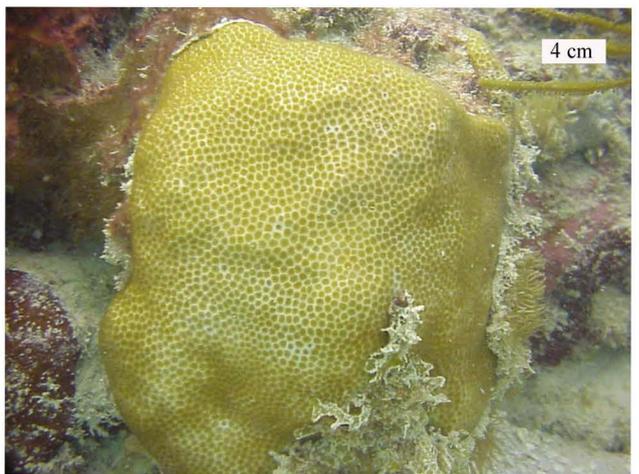
**Siderastrea siderea** (Ssid): Hemispheric, crustose or massive, medium-to-large colonies. Variable coloration (reddish, tan, pale blue). Small (3-5 mm), sunken corallites with many septa (48 or more). Abundant in most depths. (0.5 - 35 m).



**Siderastrea stellata** (Sste). Small to medium size, hemispherical, massive colonies. Reddish and tan colors. Wide open, sunken, polygonal corallites (5-7 mm) that are larger than in *S. siderea* and *S. radians*. Rare. (10 - 20 m).



**Siderastrea radians** (Srad): Small to medium size, crustose, massive or loose, round colonies in shallow areas. Tan to yellow. Medium (4-5 mm), wide, sunken corallites with 24-30 septa. Abundant to common in shallow habitats. (0.1 - 5 m).



**Stephanocoenia intersepta** (Sint): Crustose, massive and hemispherical colonies. Light to dark brown or tan. Polygonal-looking, medium-size (2-3 mm), separated and uniform corallites with 24 septa. Common. (1 - 95 m).



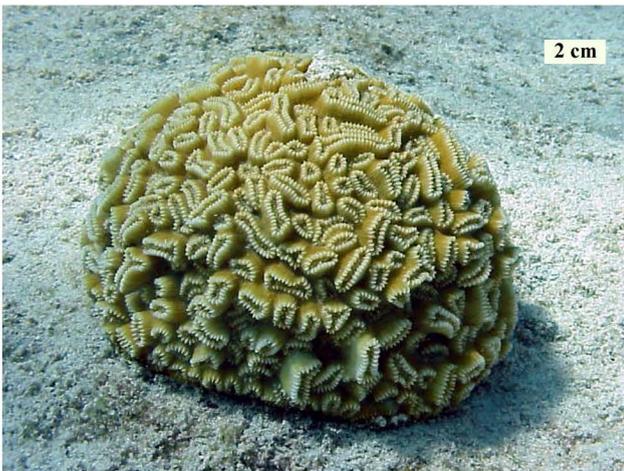
# Shallow water corals of the wider Caribbean - 6



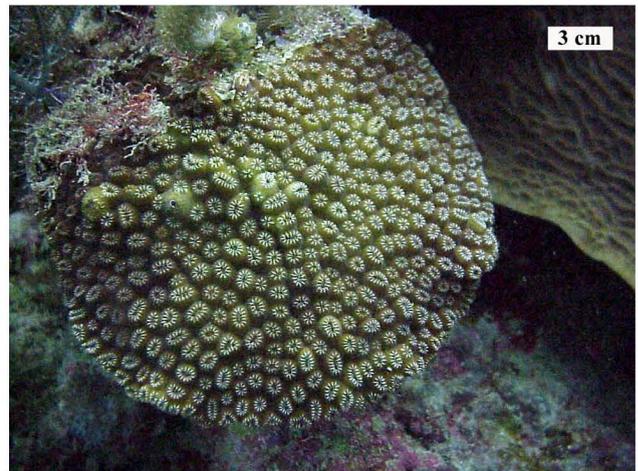
**Madracis pharensis** (Mpha): Thin, crustose, sub-massive or nodulose colonies. Dark purple in cryptic areas (forma luciphogous) or green in deep open areas (forma luciphylla). Small corallites (1.5 mm) with 20 septa. Common. (3 - 90 m).



**Madracis senaria** (Msen): Small crustose and massive colonies. Olive green to dark brown. Small, uniform corallites (2 - 3 mm) with 10 septa, five of which are conspicuously exerted over the colony surface. Common/rare. (12 - 40 m).



**Dichocoenia stokesi** (Dsto): Small hemispherical or platy colonies with highly protruded corallites. Golden yellow or pale brown. Corallites are large, round with a single polyp or elongated with two or more mouths. Common. (1 - 50 m).



**Dichocoenia stellaris** (Dste): Thick crusts or plates with elevated corallites. Dark orange or brown. Large, widely separated, round to oval corallites with a single polyp or mouth. Intermediate to deep habitats. Rare/common. (5 - 30 m).



**Porites "branneri"** (Pbra): Small massive or crustose-platy colonies with smooth surface. Blue and green to pale gray. Small corallites with 12 septa. Might be different from the species in Brasil. South Caribbean. Rare/common. (< 6 m).

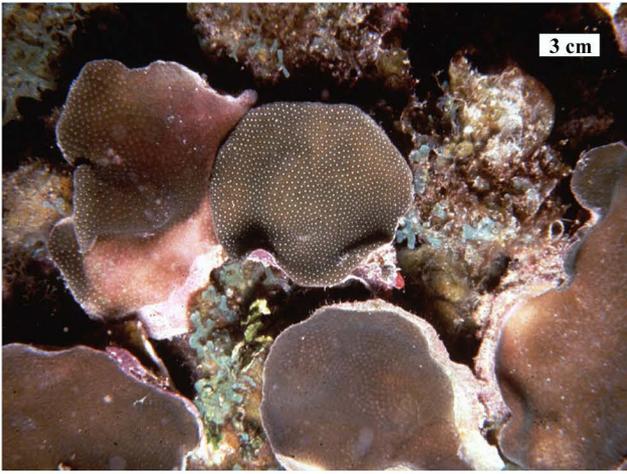


**Porites astreoides** (Past): Small to medium size, crustose, platy or massive colonies. Variable colors (bright yellow, green, brown or gray). Coarse surface with knobs and small, sunken corallites with 12 septa. Abundant. (0.2 - 70 m).

Crustose / Sub-massive / Plates

# Shallow water corals of the wider Caribbean - 7

Plate / Massive / Sub-massive



***Porites colonensis*** (Pcol): Small, thin, foliose or sub-massive colonies with a smooth surface. Variable colors (dark brown with light mouths or green with red mouths). Small corallites (1.5 mm). Endemic to Panama and Costa Rica. (4 - 15 m).



***Solenastrea bournoni*** (Sbou): Massive or crustose, medium-size colonies with crests and knobs. Dark tan, pale or golden yellow. Medium (3-6 mm), round, protruded corallites with 24 septa. On sandy bottoms, Rare/common. (1 - 45 m).



***Manicina aerolata*** (Maer): Small, elongated or round, thick, unattached colonies. Variable coloration. Deep, wide, long, central valley with short lateral extensions. Tall, thick ridges. Common in seagrass and sandy habitats. (2 - 25 m).



***Manicina mayori*** (Mmay): Small, sub-massive, hemispherical or crustose attached colonies. Green, brown or mixed colors. Wide, deep, meandroid valleys and thick, tall, fleshy ridges with central groove. Deep habitats. Rare. (15 - 25 m).



***Isophyllastrea rigida*** (Irig): Small, hemispherical or crustose. Green and blue green with pink tones. Large, deep, polygonal corallites with one or two centers. Thick, grooved ridges and spinous septa (25-30). Common. (4 - 45 m).



***Favia fragum*** (Ffra): Small, hemispherical or crustose colonies. Tan, yellow or orange. Large, sunken, separated corallites with one or more mouths and three cycles of septa (36 - 48). Abundant in shallow habitats. (0.2 - 10 m).

# Shallow water corals of the wider Caribbean - 8



***Isophyllia sinuosa*** (Isin): Small, round, thick platy or crustose colonies. Olive, blue-green with pink tones. Short but continuous, wide, deep valleys. Thick, fleshy, tall ridges with central groove and thick septa (7-8/cm). Common. (10-25 m).



***Isophyllia multiflora*** (Imul): Massive hemispherical or thick platy colonies. Green or bluish with purple and pink tones. Wide, deep, closed valleys with one or more mouths. Thick, tall, fleshy ridges with central groove. Rare. (5 - 15 m).



***Meandrina meandrites*** (Mmea): Sub-massive, platy or crustose colonies. Light yellow or pale tan colors. Long, wide, shallow valleys and low, narrow ridges with intercalated, short septa (8 - 13/cm). Common. (3 - 30 m).



***Meandrina memorialis*** (Mmem): Large massive, thick platy or crustose colonies. Golden to mustard yellow. Long, deep, narrow valleys and wide, tall ridges formed by thick, wide, alternating septa. (7 - 12/cm). Common. (3 - 30 m).



***Meandrina "brasiliensis"*** (Mbra): Small, unattached, elongated colonies. Mustard to dark brown. Long central valley with wide lateral extensions. Thick, wide, alternated septa (7 - 10/cm). Deep, sandy habitats. Common/rare. (15 - 50 m).



***Undaria agaricites*** (Uaga): Small, massive, hemispherical or crustose colonies. Yellow, green and pale brown. Short, deep, reticulated closed valleys with one to five mouths. Small corallites (3-5/cm). Abundant. (0.5 - 30 m).

Sub-massive / Plates



# Shallow water corals of the wider Caribbean - 9



***Undaria humilis*** (Uhum): Wide, thin, radially-extending plates. Dark golden to brown with golden to dark mouths. Long, narrow, concentric valleys with short, steep ridges. Small corallites (3-5/cm). Common. (3 - 30 m).



***Undaria purpurea*** (Upur): Wide, thin plates with occasional bifacial, upward blades. Olive green or light purple. Reticulated surface due to short, closed valleys and steep, tall ridges. Small corallites (3-5/cm). Common. (3 - 30 m).



***Undaria tenuifolia*** (Uten): Thin, foliose, bifacial, vertical blades forming clusters and extensive patches. Pale brown to gray. Wavy ridges and long, wide valleys. Small corallites (3-5/cm). Abundant/rare in some areas. (1 - 20 m).



***Undaria carinata*** (Ucar). Small colonies with a thin, wide, platy, unifacial base and upward, tall, thick bifacial blades. Olive green or tan. Short, reticulated valleys and small corallites (3-5/cm). Rare/common. (4 - 30 m).



***Undaria danai*** (Udan): Medium size colonies with wide or foliose base and thick, wide, tall, vertical, bifacial blades. Olive green to gray. Long, undulated valleys with small corallites (2-5/cm). Common. (1 - 30 m).



***Heliocercis cucullata*** (Hcuc): Small, foliose, unifacial colonies. Dark brown or green with white edge and yellow centers sometimes. Tall, discontinuous or broken ridges with small (3 mm) calices at base. Common. (5 - 40 m).

Plates / Foliose

# Shallow water corals of the wider Caribbean - 10



**Agaricia undata** (Aund): Cluster of thin, wide, foliose, unifacial plates that develop radially. Light brown to tan. Wide, open valleys and tall but flat ridges with corallites at the base. Uniform septa. Deep habitat. Rare. (> 20 m).



**Agaricia fragilis** (Afra): Small, wide-round, unifacial, foliose or thin plates. Dark orange-brown or green with white edge. Narrow, long and deep, continuous valleys. Small corallites (5-7/cm). Common/rare. (5 - 40 m).



**Agaricia lamarcki** (Alam): Large, wide, thin plates. Reddish brown with white, star-like centers. Wide, continuous valleys with one-two series of small corallites (3-5/cm). Alternating thin and thick septa. Common. (5 - 60 m).



**Agaricia grahamae** (Agra): Large, wide, thin, unifacial plates centrally attached. Light brown to yellow. Long, wide and shallow valleys with protruding ridges. Small corallites (4-5 /cm). Uniform septa thicker than interspaces. Rare. (> 15m).



**Mycetophyllia ferox** (Mfer): Thin, wide plates with border ridge. Green-bluish with brightly colored, protruded centers. Wide, continuous or closed valleys. Low, flat, grooved ridges that extend through the colony. Common. (4 - 40 m).



**Mycetophyllia aliciae** (Mali): Large, thick, wide plates with bordering ridge. Purple or olive to bright green. Wide valleys with 2-3 centers. Thick, radiating ridges absent from center of colony. Common/rare. (12 - 45 m).

Foliose \ Plates

# Shallow water corals of the wider Caribbean - 11



***Mycetophyllia danaana*** (Mdan): Thick, small plates. Dark green and blue with pink tones. Deep, narrow valleys with single line of centers. Thick, fleshy, grooved ridges extend across center of colony. Rare/common. (15 - 45 m).



***Mycetophyllia lamarckiana*** (Mlam): Thick, elongated, wide plates. Varied coloration. Wide valleys with one/two series of centers. Thin, long, continuous or broken ridges that do not reach the colony center. Common/rare. (10 - 30 m).



***Mycetophyllia ressi*** (Mres): Large, thin, wide plates or crusts. Dark purple, red-green. Continuous border ridge. Absent ridges across colony or short at the edges. Large, separated, protruding corallites. Deep. Rare. (18 - 50 m).



***Millepora alcicornis*** (Malc): Hydrocoral with thin, short, abundant, cylindrical, pointed branches in different planes. Light brown or yellow. Many small pores on surface. Stings. Can form wide crusts. Abundant. (0.2 - 35 m).



***Millepora complanata*** (Mcom): Tall, thin, wide, erect blades well attached at the base. Yellow to light brown. Smooth surfaces with many small, separated pores. Can form wide thickets in shallow areas. Stings. Abundant. (0.2 - 20 m).



***Millepora squarrosa*** (Msqu): Small, crustose or sub-massive colonies. Cream to yellow. Thick ridges give the colony a bee-hive appearance. Small pores all over. Less stinging than the other two species. Rare/common. (3-20 m).