# A Guide to the Identification of the Common Corals of St. Croix

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## INTRODUCTION

This guide was designed as an aid in identifying both live and dead corals from St. Croix which form hard, calcium carbonate skeletons. This encompasses representatives both from the Class Anthozoa (the true or scleractinian corals) and from the Class Hydrozoa (hydrocorals). Representatives from the third class of Cnidaria, the Scyphozoa, produce no calcium carbonate skeletons and are not discussed.

Of the 60 or so species of "stony" corals found in the western Atlantic region, this guide focuses on 37 species which are found relatively commonly on St. Croix. Other representatives which may be common in other locations such as St. Thomas, Puerto Rico, Jamaica or Florida, but are not common on St. Croix, have not been included. Various references listed at the end of the text include many of those other species.

The guide is arranged in two sections. First is a descriptive section including taxonomic and natural history information on each species represented. Following that section is a series of plates which depict three conditions for each species. First is a habitat photo, as the coral colony would appear to a swimmer or diver approaching it in the field. Second is a close-up of the live polyps as they appear during the day only. Third is a close-up of the dried skeleton (tissue removed) with a metric scale. The smallest divisions are millimeters. Scleractineans are ordered alphabetically by genus. Hydrocorals are listed last.

## CLASS ANTHOZOA

### ORDER SCLERACTINIA

#### SUBORDER ASTROCOENIINA

##### Family Acroporidae

***Acropora cervicornis*** (staghorn coral) - Usually occurs in waters to approximately 30-35 m depth although it can occur deeper (to at least 40 m). Forms loosely aggregated thickets, often with only the terminal branches alive. Can be found on Tague Bay forereef, Buck Island Channel and Davis and Cane Bay reefs. Polyps partially expanded during the day.

***Acropora palmata*** (elkhorn coral) - The most common shallow water species which dominates many forereef, reef crest and backreef zones around St. Croix. Scattered colonies can be found from the low-water mark to depths of 10-15 m, but diminish rapidly below this depth. Polyps partially extended during the day.

***Acropora prolifera*** (fused staghorn coral) - Common in shallow backreef and lagoon environments, this species usually occurs in waters less than 15 m deep. Distinguished from A. *cervicornis* by highly branched and often fused tips near terminal polyps and the fact that colonies are usually much more dense and compact. Polyps partially expanded during the day.

##### Family Astrocoeniidae

***Stephanocoenia michelini*** (blushing star coral) - This is an encrusting species which can form massive head-like structures. A distinguishing field characteristic is the spotted nature of the dark expanded polyps against the white inter-calyx regions. "Blushing" occurs when polyps are disturbed and retract into calices. It can range from very shallow (1-2 m) to deep regions approximately 40-50 m in depth. Polyps expanded by day.

Family Seriatoporidae

***Madracis mirabilis*** (yellow pencil coral) - Commonly found on deeper reefs such as Davis Bay and Cane Bay, this coral occurs to depths of approximately 35 m. It can form dense yellow-colored thickets 3-4 m across. Polyps are fully expanded during the day.

SUBORDER CARYOPHYLLIINA

Family Caryophylliidae

***Eusmilia fastigiata*** (flower coral) - This coral usually occurs as a colony of a few to 20-30 polyps. Color is yellow to light brown. Almost never found in very shallow habitats. It usually ranges from approximately 5-35-m depth, although it has been reported to 65 m. Polyps mostly contracted during the day.

SUBORDER DENDROPHYLLIINA

Family Dendrophylliidae

***Tubastraea aurea*** (orange tube coral) - This is a magnificent coral often with its orange polyps fully expanded during the day. An ahermatypic (non-reef-building) coral, this species occurs from very shallow (approx. 1 m) waters to deep regions (at least 25-m depth) usually in dimly lit conditions.

SUBORDER FAVIINA

Family Faviidae

***Colpophyllia natans*** (giant brain coral) - The distinguishing field character for this coral is the thin, deep groove which runs along the center of each of its raised ridges. Heads are usually 30-50 cm but may reach 1-2-m across and can occur from 5-30-m depth. Color of valleys and ridges are often different with various combinations of greens, white and browns. Polyps completely retracted during the day.

***Diploria clivosa*** (knobby brain coral) - This is commonly a dull greenish, bluish, or green-brown encrusting species which forms knob-like protrusions from the colony surface. Usually occurs in relatively shallow environments (1-4 m), but can be found to 15 m. Polyps may be slightly expanded during the day.

***Diploria labyrinthiformis*** (grooved brain coral) - This species is characterized by a distinct (and usually broad) groove running along the center of each raised ridge. Colonies often appear yellowish or light brown in color and may grow to 2 m across. Depth range is usually 2-15 m, but it can be found to 40-m depth. Polyps are usually contracted during the day.

***Diploria strigosa*** (smooth brain coral) - A very common brain coral which can form heads over 2 m across. Color can be yellow to light brown or greenish. It is common from 2-15 m, but can be found to 40 m. Polyps are contracted during the day.

***Favia fragum*** (golfball coral) - Occurs in very shallow water (1-5 m) as yellowish golfball-sized colonies either attached to coral rubble or directly on sediment. Polyps are mostly retracted by day.

***Manicina areolata*** (rose coral) - Often found loose (unattached to any hard substrate) in grass beds or on sediment. Can be confused with *Meandrina meandrites* which sometimes occurs in these same habitats. Common in shallow backreef environments close to the sediment which it can easily remove by mucus secretion. Colonies usually not larger than approximately 12 cm. Polyps contracted during the day.

***Montastrea annularis*** (mountainous star coral) - The morphology of this coral changes with depth from head-like or encrusting forms in shallow waters (1-20 m) to broad plate-like forms in deep zones (20-60 m). Colonies can reach several meters in height in the outer, shallow-reef zones surrounding Buck Island. Polyps are completely retracted by day.

***Montastrea cavernosa*** (cavernous star coral) - Easily distinguished in the field by its large (5-10 mm diameter) corallites which project up from the colony surface. It has a broader depth distribution than does *M. annularis*, ranging from very shallow zones (1-5 m) to very deep reefs (reportedly to 90 m). Polyps completely retracted during the day.

Family Mussidae

***Isophyllastrea rigida*** (rough star coral) - Valleys tend to be closed and may contain up to three polyps but generally fewer. Occurs as small colonies (usually no larger than approximately 30 cm) and most predominantly in shallow zones (to 5 m), but can be found as deep as 15 m. Large, fleshy polyps are completely retracted during the day.

***Isophyllia sinuosa*** (sinuous cactus coral) - Septal spines, hidden from view by the fleshy polyps but very sharp to the touch, distinguish this coral from *Isophyllastrea rigida* in the field. Colonies occur as small rounded heads rarely exceeding 30 cm. Common in shallow forereef and backreef habitats, especially at Buck Island. Fleshy polyps completely retracted by day.

***Mussa angulosa*** (large flower coral) - Easily distinguished in the field by its extremely large and fleshy polyps (up to 12 cm across) giving it the distinction of having the largest individual polyp size of all the St. Croix corals. Corallites, radiating out from the central core of the colony on long stalks (old skeletal material) are separated from each other, but from the surface appear to be nearly contiguous. Large rounded colonies may reach over a meter in width. This species usually occurs from approximately 5-30-cm depth with its fleshy polyps retracted during the day.

***Mycetophyllia aliciae*** (thin fungus coral) - Usually circular in shape with raised ridges radiating from, but not connecting with the central portion of the colony. Ridges diminish in height with depth. Color usually greenish or brownish or a mixture of both. Depth range at St. Croix varies from approximately 8 m to greater than 40 m. It has been reported from 75-m depths. Polyps retracted by day.

***Mycetophyllia ferox*** (grooved fungus coral) - The raised ridges in this species interconnect in the central portion of the colony, distinguishing it from *M. aliciae*. Occurs in the same habitats as *M. aliciae*. Colonies usually dull green or brownish in color. Polyps retracted during the day.

***Mycetophyllia lamarckiana*** (fungus coral) - Not a common coral on St. Croix, but can be found at Salt River Canyon. Color, as in other *Mycetophyllia* species, ranges from greenish to brownish, sometimes with the raised ridges being lighter in color than the rest of the colony. Usually found in deeper habitats than the other two ***Mycetophyllia*** species, ranging from approximately 15-60 m. Polyps retracted by day.

***Scolymia lacera*** (fleshy disc coral) - Solitary, circular polyps usually *range* to approximately 5-6 cm in diameter in St. Croix but have been reported to grow to at least 15 cm in Jamaica. Prefers dimly lit habitats and usually is found in deeper reef environments (15-80 m). Small tentacles are retracted during the day.

Family Trochosmiliidae

***Dendrogyra cylindrus*** (pillar coral) - An impressive and beautiful coral which can reach almost 3 m in height. The expanded thick tentacles by day cause this species to be "fleshy" to the touch and "fuzzy" in appearance. Depth varies from approximately 1-20 m and can be found in a wide variety of habitats from sandy bottoms to hard reef environments.

***Dichocoenia stokesii*** (elliptical star coral) - The common name is derived from the elongate nature of the corallites which are raised up from the main body of the colony, especially at depth. Colonies usually form rounded heads approximately 20-40 cm in diameter and range in depth form very shallow (1-5 m) to fairly deep habitats (30-40 m). Polyps contracted by day.

***Meandrina meandrites*** (butterprint brain coral) - Has distinctively large and widely- (but unevenly) spaced septa comprising its ridges and deep, narrow valleys in between with a skeletal ridge running along the floor of each valley. Colonies usually form rounded heads 10-40 cm in diameter and can occur either on hard reef habitats or directly on soft sediment as does *Manicina areolata.* It is usually found from about 5-30 m. The skeletal ridges are completely hidden at night by the extremely large and fleshy tentacles, which are completely retracted by day.

SUBORDER FUNGIINA

Family Agariciidae

***Agaricia agaricites*** (leaf coral) - A very common encrusting sheet coral which has an extreme depth range from 1 or 2 m to approximately 65 m. It is often the dominant coral on deep reefs, occurring in very large plate-like formations growing out from steep walls (presumably in order to obtain more light). Often with a diverse cryptic fauna growing on its undersides. Polyp tentacles, minute in size, tend to be expanded during the day.

***Agaricia lamarcki*** (sheet coral) - Another large plate-forming coral which is usually restricted to deeper-reef regions (approximately 10-30 m). Common at Salt River Canyon. Easily distinguished from A. *agaricites* by the characteristic white polyp centers against an otherwise dark background forming more or less parallel rows of white dots. Tentacles are tiny like A. *agaricites* and polyps are usually expanded during the day.

***Helioseris cucullata*** (saucer coral) - Characteristically slightly bowl-shaped with raised ridges at polyp centers. Prefers somewhat dimly-lit environments but can be found in shallow (approximately 2-3 m) to deep (20 m) habitats. Tentacles tiny and partially extended during the day.

Family Poritidae

***Porites astreoides*** (mustard coral) - In shallow environments (1-5 m) colonies tend to occur in encrusting or mounded formations, but in deeper zones (5-30 m) tend to form plate-like structures, although plates are sometimes found in shallow habitats. It has been reported from depths greater than 50 m. Color varies from yellow or greenish-yellow to mustard brown. Individual polyps are minute and have their tentacles extended during the day.

***Porites furcata*** (finger coral) - Has relatively thinly branched colonies with characteristic bifurcations near the branch tips. Colonies° tend to be compact masses which can attain sizes of several meters across. Color is usually yellowish, light grey or light brown. Colonies may be found from the shallowest waters (especially in sheltered lagoons or backreef areas) to approximately 20 m. The expanded polyps give colonies a very fuzzy appearance during the day.

***Porites porites*** (club finger coral) - Branches tend to be slightly larger in diameter than *P. furcata* (although there is some overlap in size). Branch tips also lack the common bifurcations of *P. furcata.* Color is typically light grey to very light purple. Colonies can cover huge areas of reef many meters across and, as in *P. furcata,* can occur from very shallow water to near 20-m depth. This species is also very fuzzy in appearance with normally fully expanded polyps by day.

Family Siderastreidae

***Siderastrea radians*** (rough starlet coral) - Corallites tend to be irregularly shaped and spaced although relatively flush with the colony surface. Attached colonies are usually small (no larger than 20-30 cm), often rounded, and commonly occur on or near the sediment surface. Spheroid colonies are sometimes found which roll freely along the bottom. Color is cream to light brown. Usually grows in very shallow environments, never occurring deeper than approximately 10 m. Polyps are retracted by day.

***Siderastrea siderea*** (smooth starlet coral) - The larger, more regularly shaped and pitted corallites (occurring in depressions) distinguish this species from S. *radians.* Colonies attain a much larger size (1-2 m across) and are darker in color (often reddish-brown) than S. *radians* and are never found rolling freely. Usually occurs from 1-10 m although it has been reported from 40 m depth. Polyps are retracted by day.

## CLASS HYDROZOA

ORDER HYDROCORALLINA

SUBORDER MILLEPORINA

Family Milleporidae

***Millepora alcicornis*** (branched or encrusting fire coral) - Stinging tentacles protrude from minute pores in the skeleton. This species has a very wide depth range from near reef crest habitats to 30-40 m depth. It can occur on its own as highly digitate, branched colonies (often growing in a single plane) or as an encrusting form. Can also overgrow other invertebrates such as gorgonians. It may even use chemosensory mechanisms to detect and grow upcurrent toward a potential host gorgonian, eventually overtaking it. Color is very light to mustard brown. Polyps are usually extended during the day.

***Millipora complanata*** (leafy fire coral) - There is considerable debate whether this represents a distinct species from *M. alcicornis,* because a gradient of growth forms occurs between them with depth. *M. complanata* is found commonly at the shallowest regions of the reef crest, often exposed at low tide and its abundance diminishes rapidly below that level. It is distinguished by its wavy plates, but these can often be found with digitate processes emanating from them as in *M. alcicornis.* Color and polyp extension is the same as *M. alcicornis.*

***Millipora squarrosa*** (square fire coral) - The growth form is distinctly different from the other two *Millepora* species. It occurs as isolated low ruffled colonies often forming square or box-like arrangements, usually not exceeding 10-20 cm in diameter or 5-10 cm in height. Colonies occur commonly from 1 m to at least 10-m depth and preferring, but not restricted to, habitats with low light levels. Color is mostly light grey to light brown or reddish brown. Minute tentacles extended by day.

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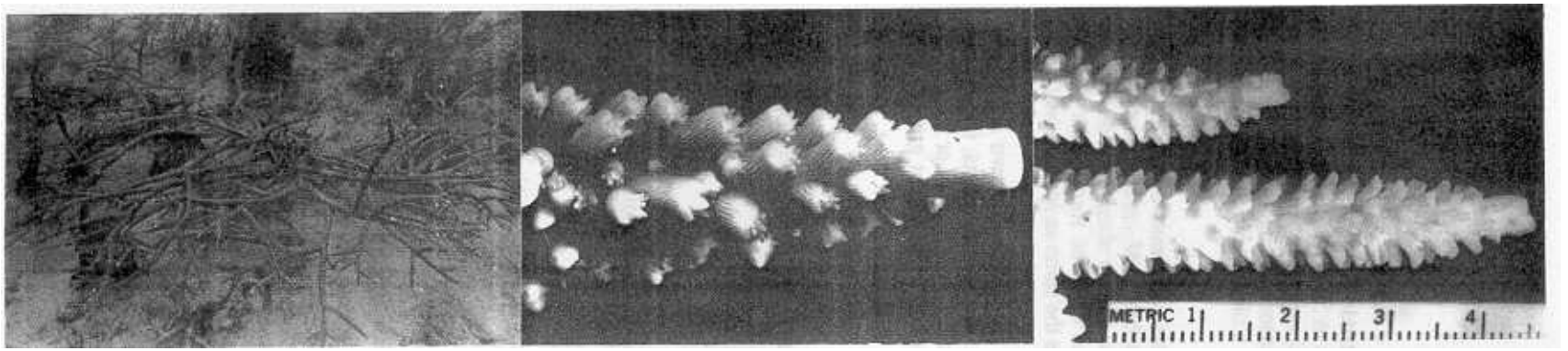
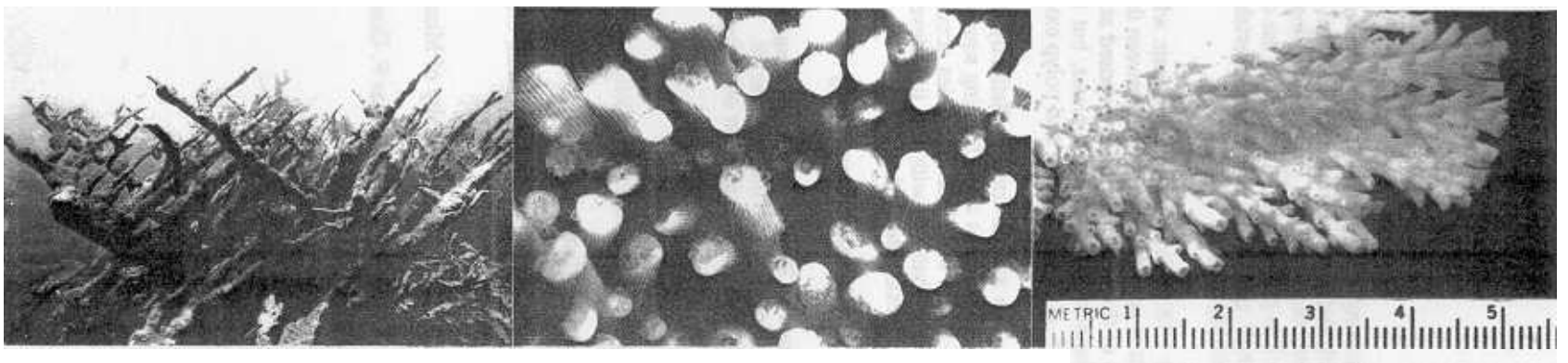
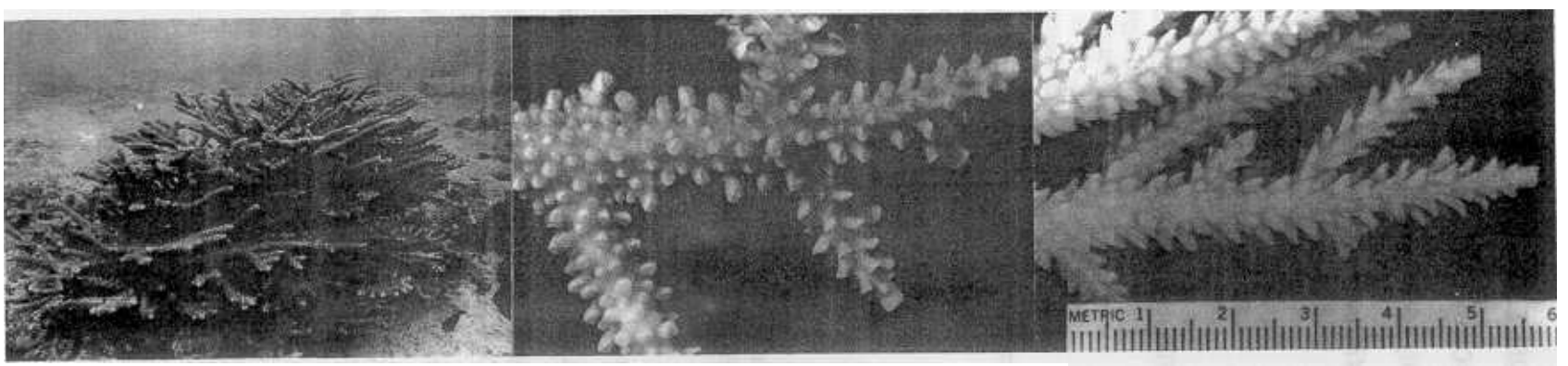


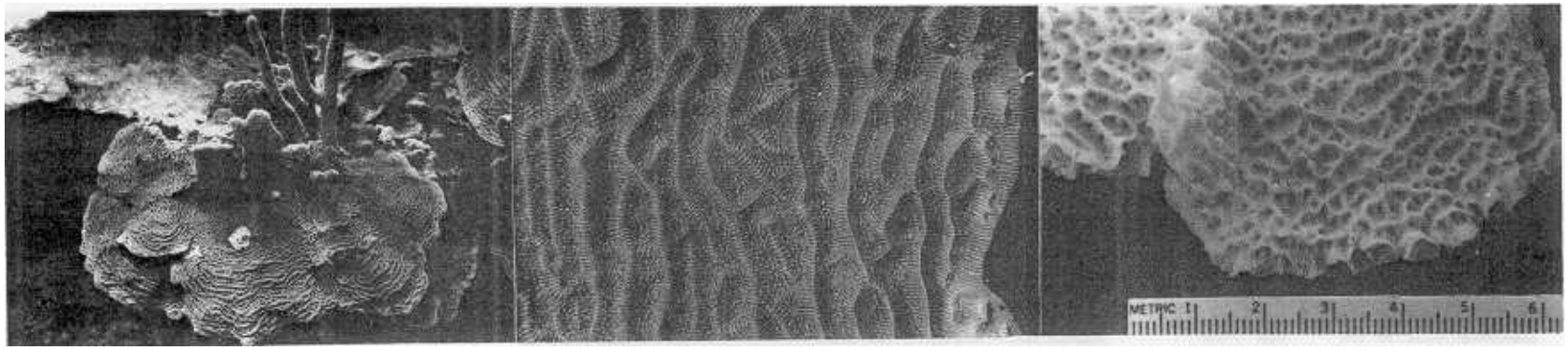

***Acropora cervicornis***



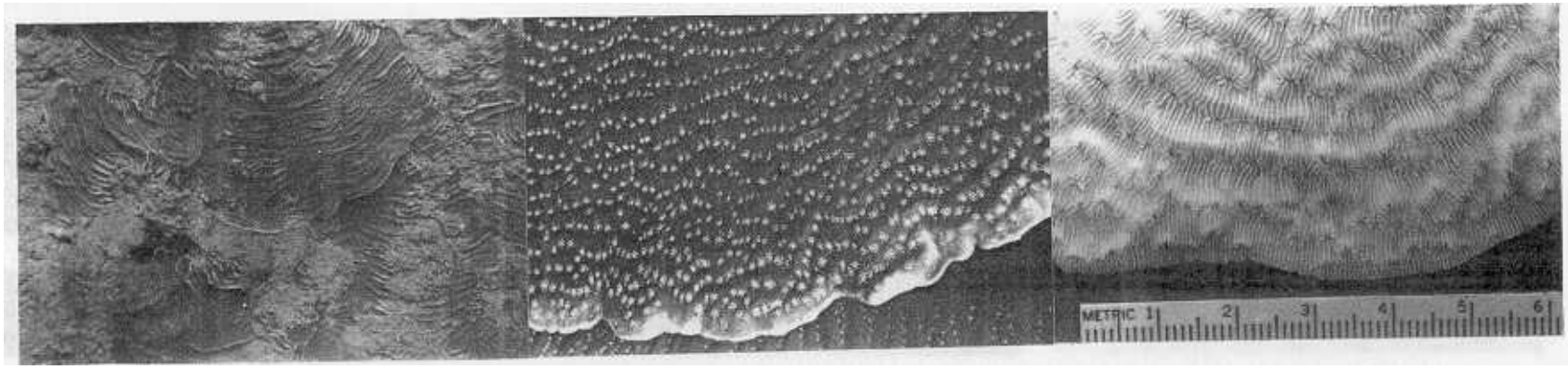

***Acropora palmata***



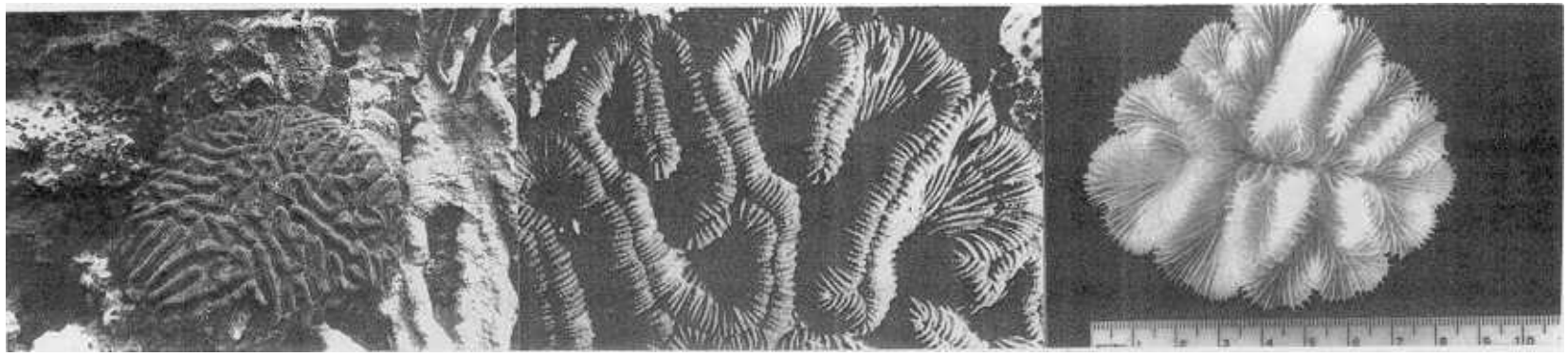

***Acropora prolifera***



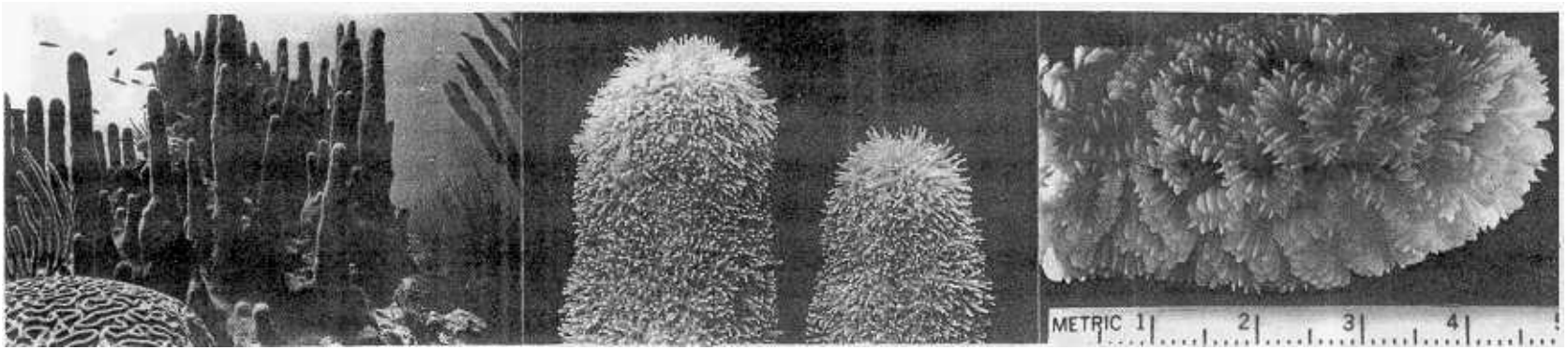

*Agaricia agaricites*



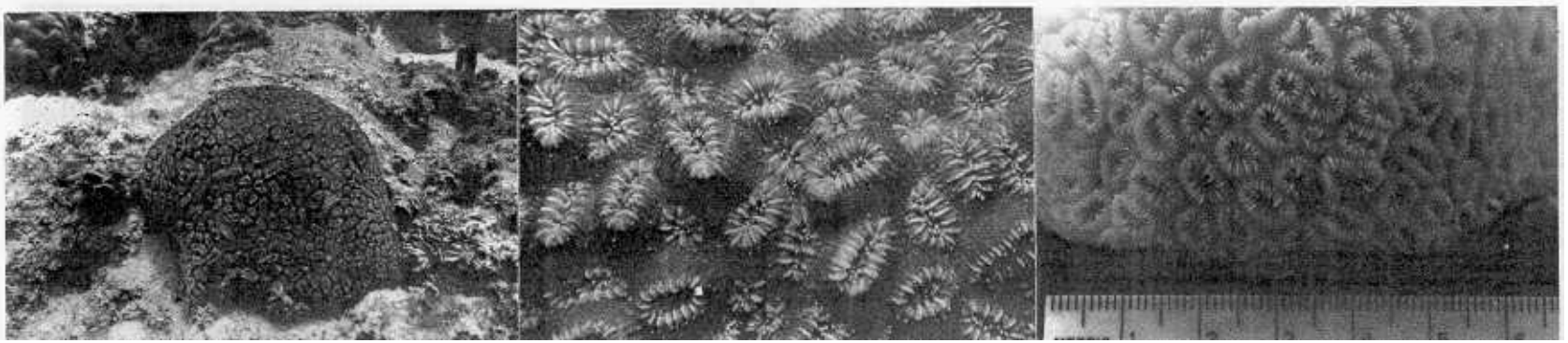

*Agaricia lamarcki*



*Colpophyllia natans*

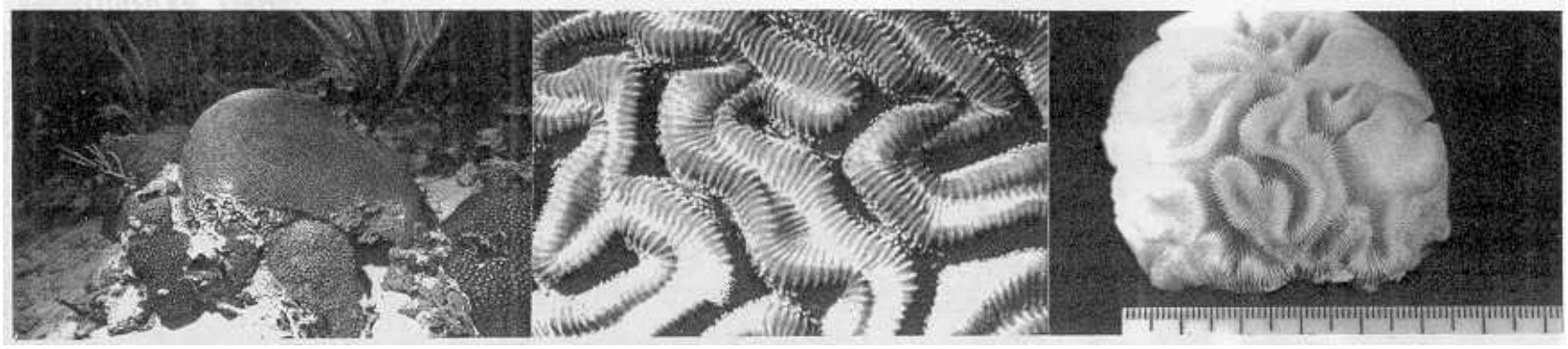



*Dendrogyra cylindrus*

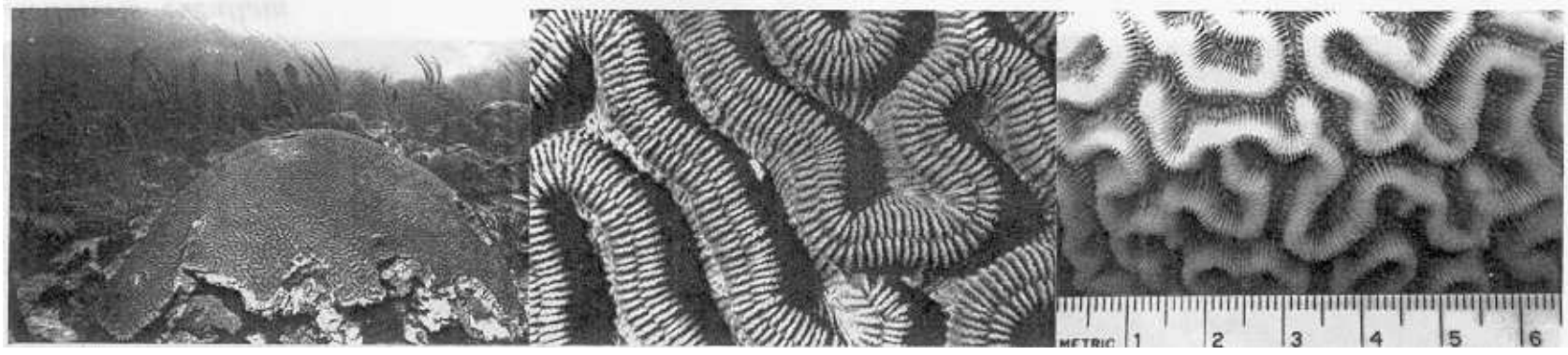


*Dichocoenia stokesii*


*Diploria clivosa*



*Diploria labyrinthiformis*

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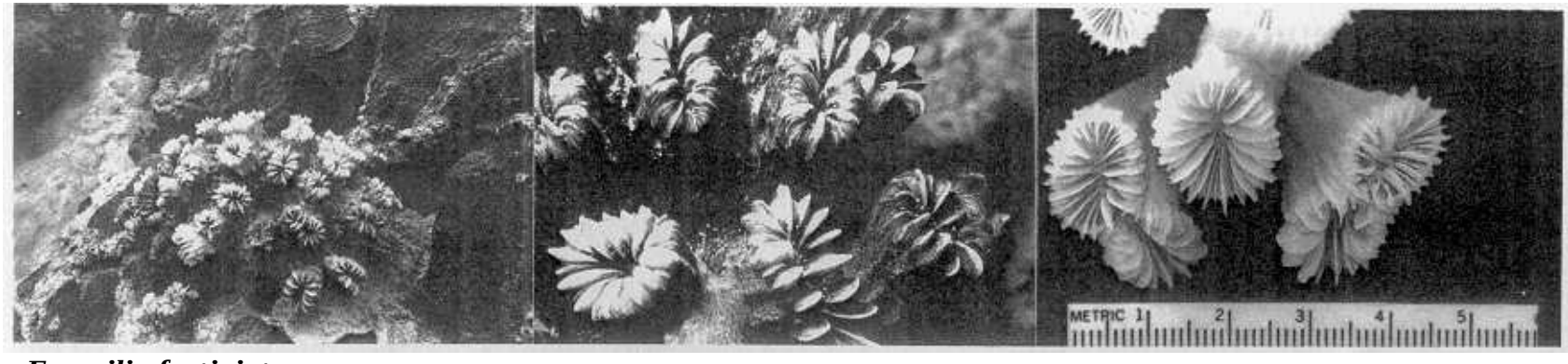
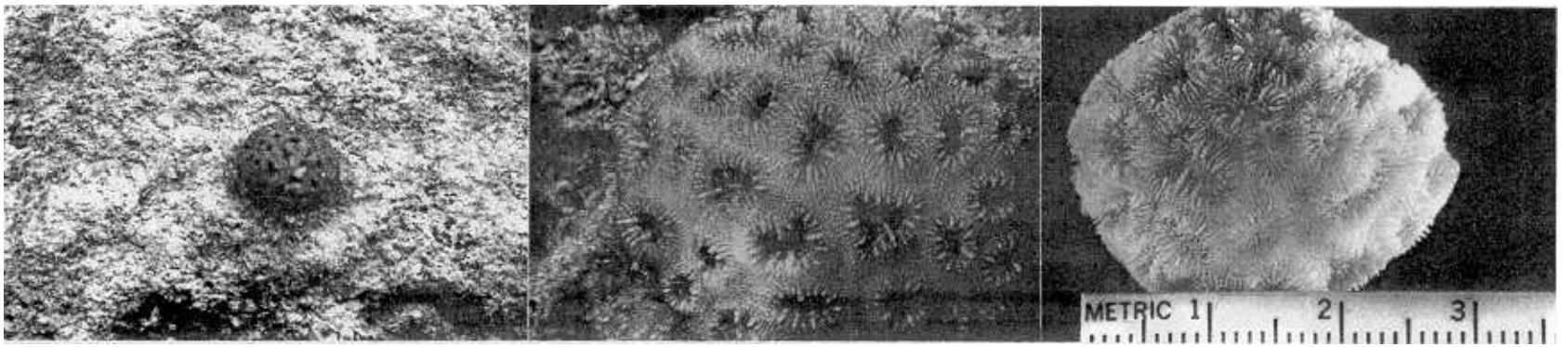
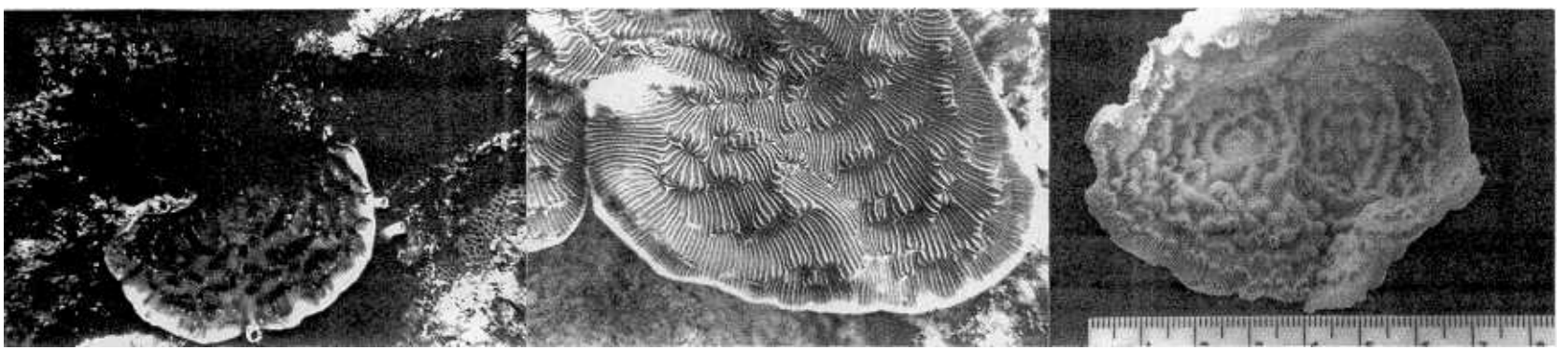



*Eusmilia fastigiata*



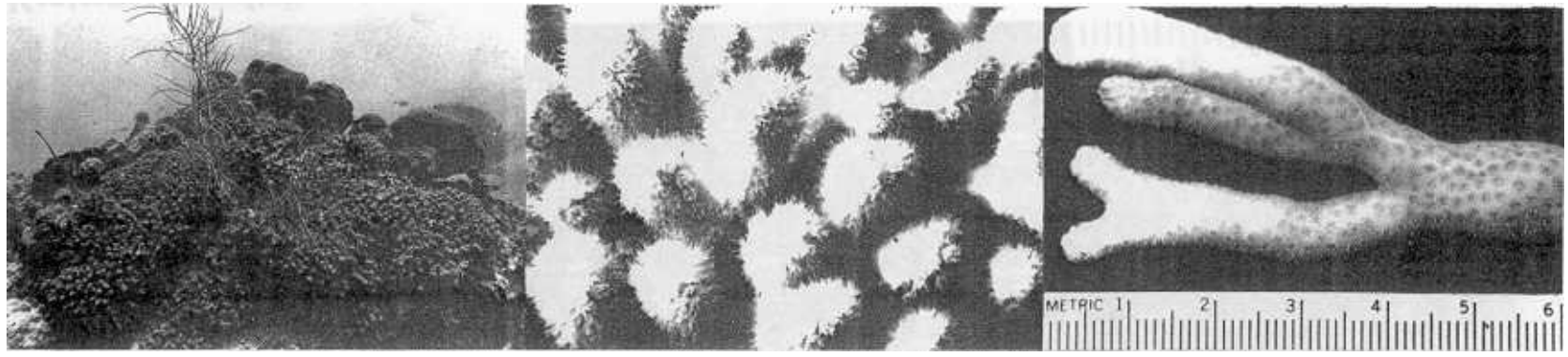

*Favia fragum*



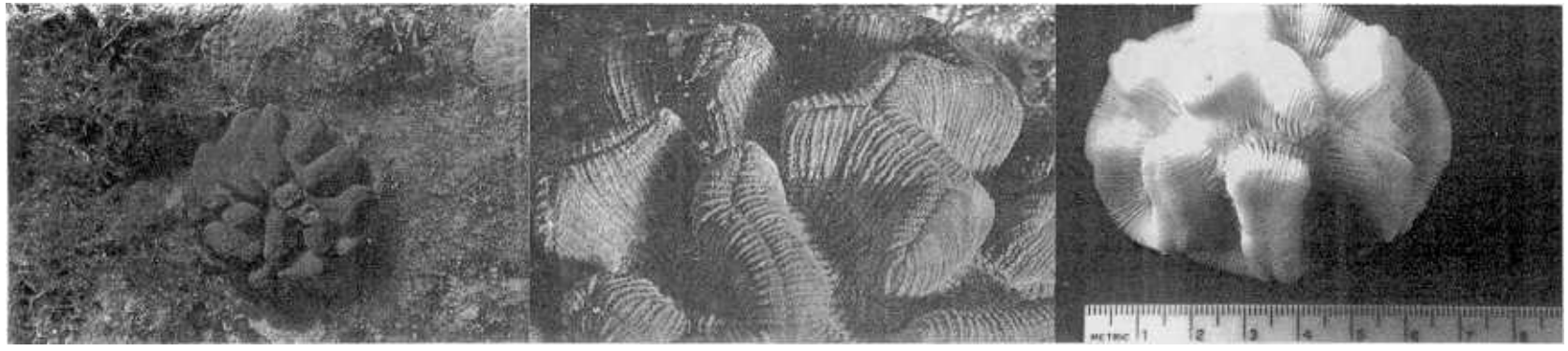
*Helioseris cucullata*


*Isophyllastrea rigida*

*Isophyllia sinuosa*

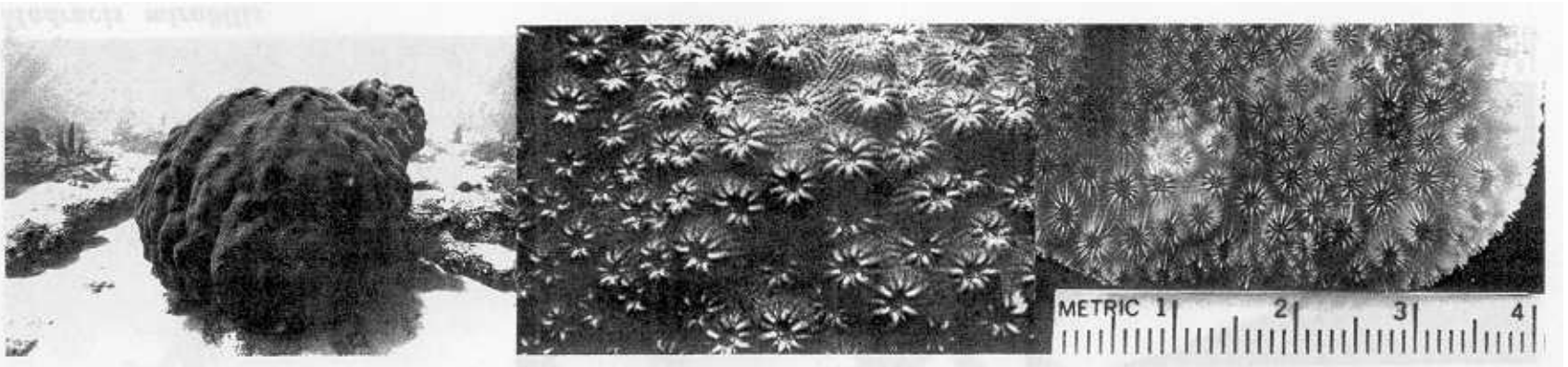



*Madracis mirabilis*

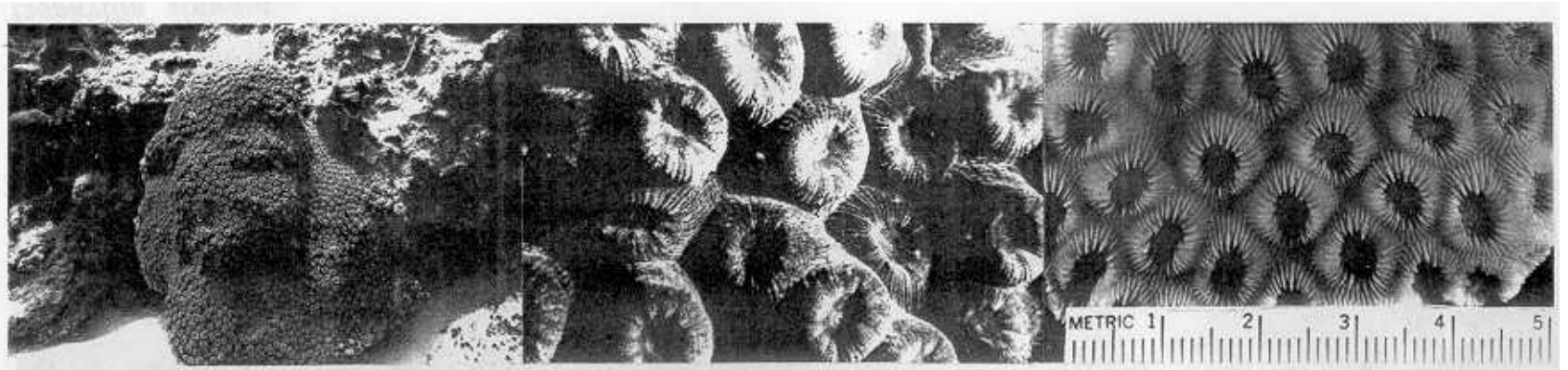


*Manicina areolata*

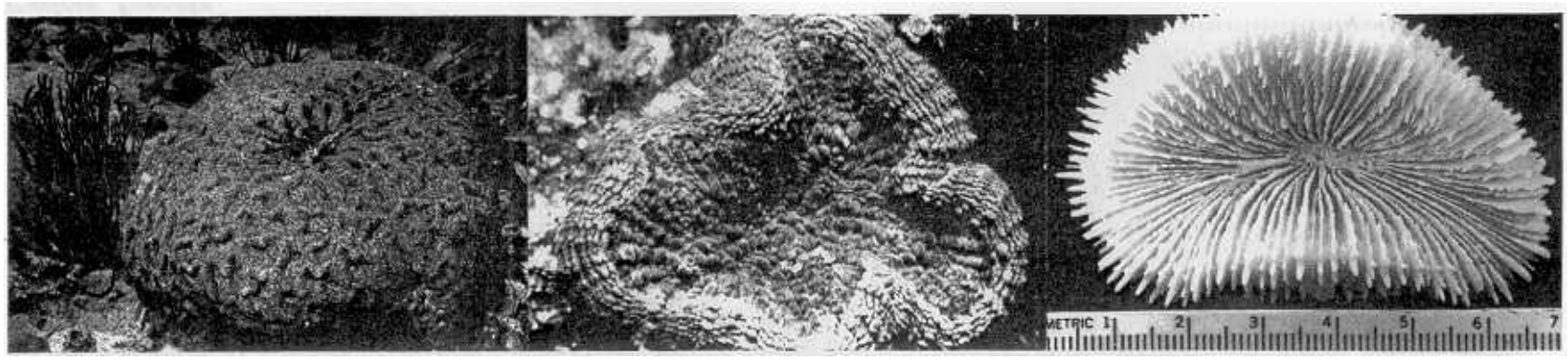
*Meandrina meandrites*



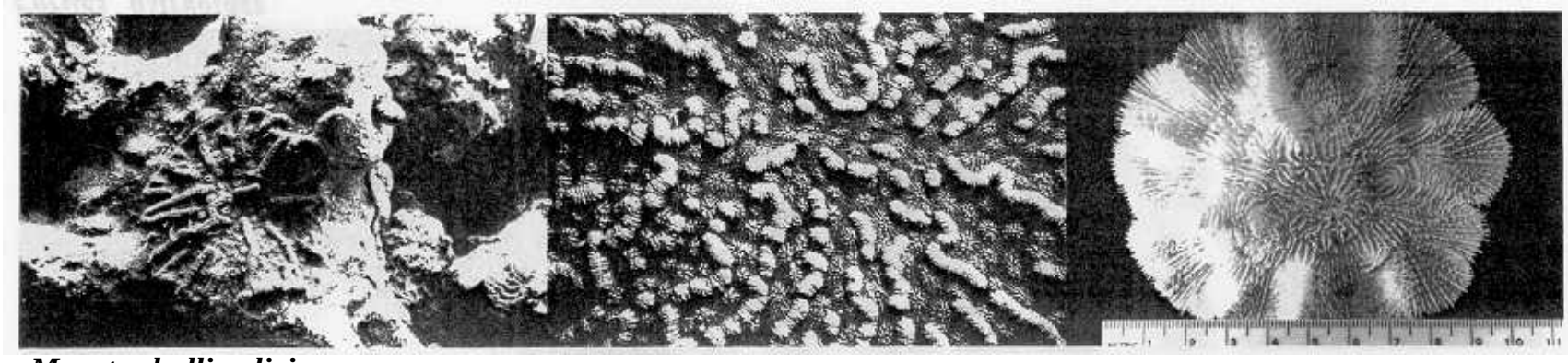

*Montastrea annularis*




*Montastrea cavernosa*




***Mussa angulosa***



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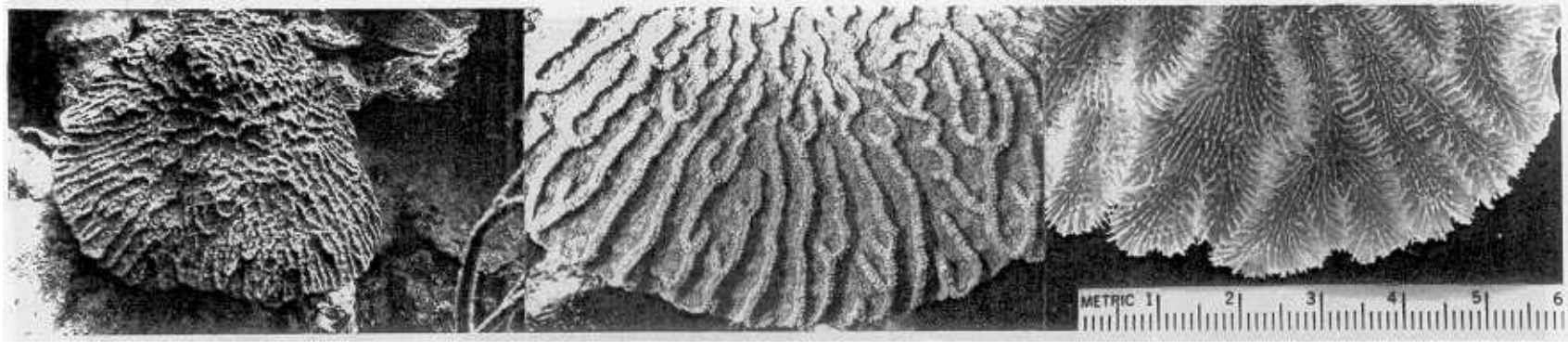


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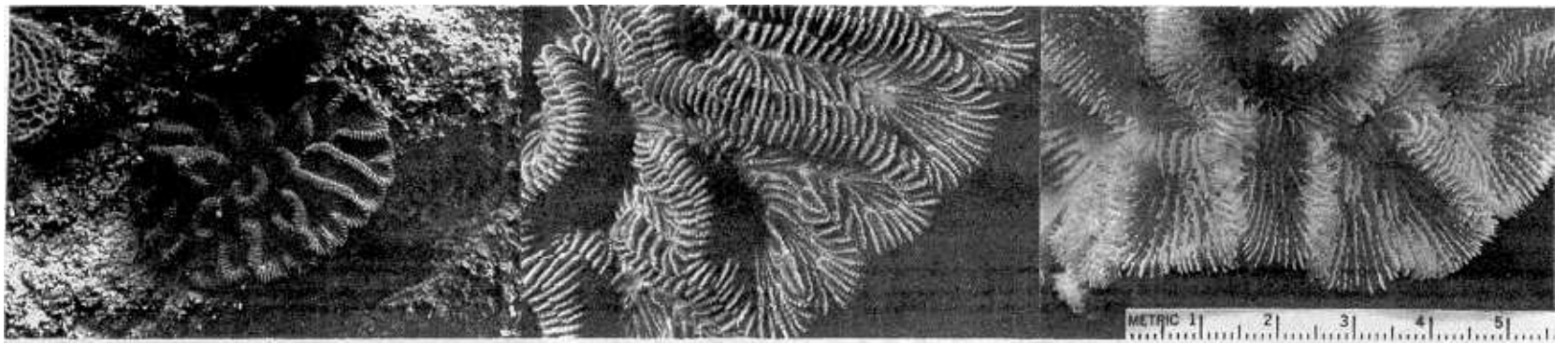


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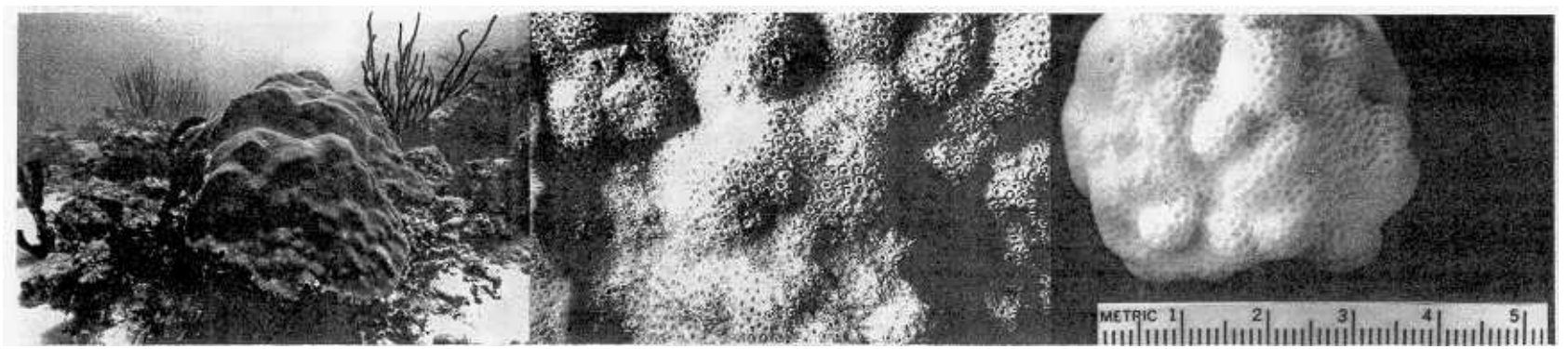


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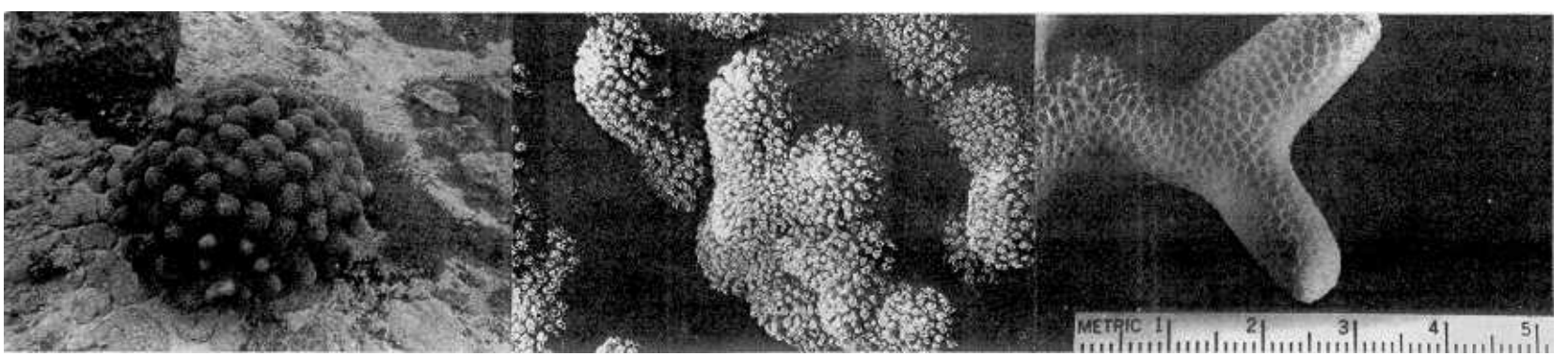


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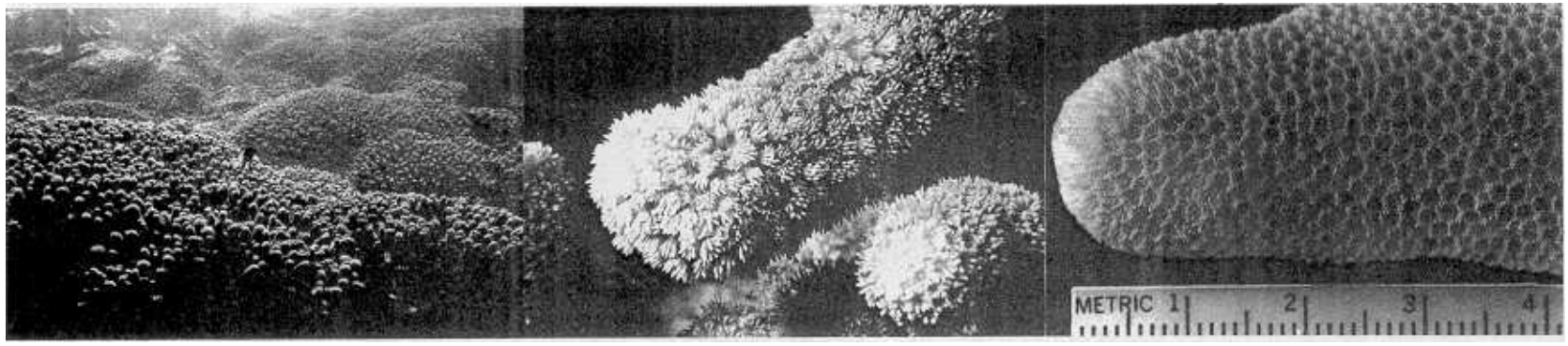


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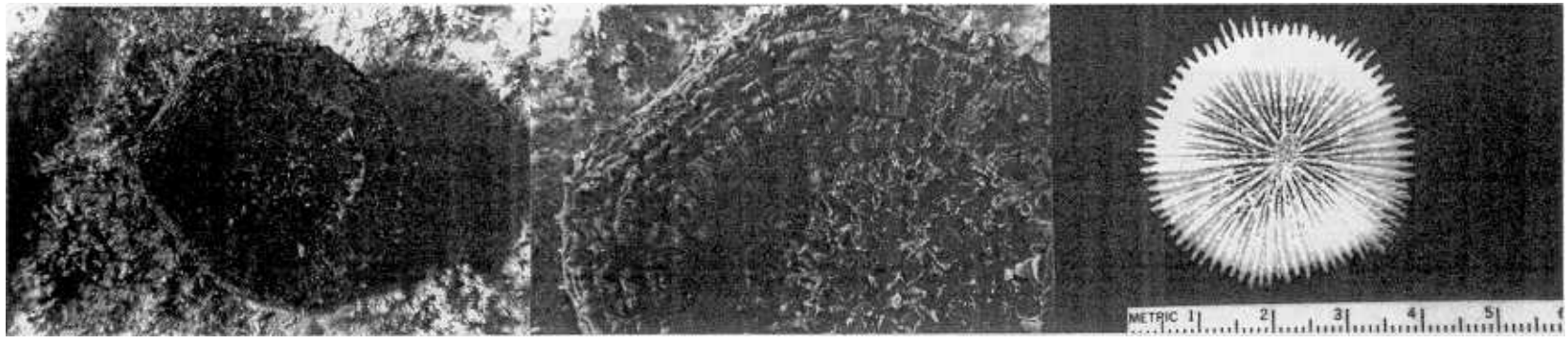


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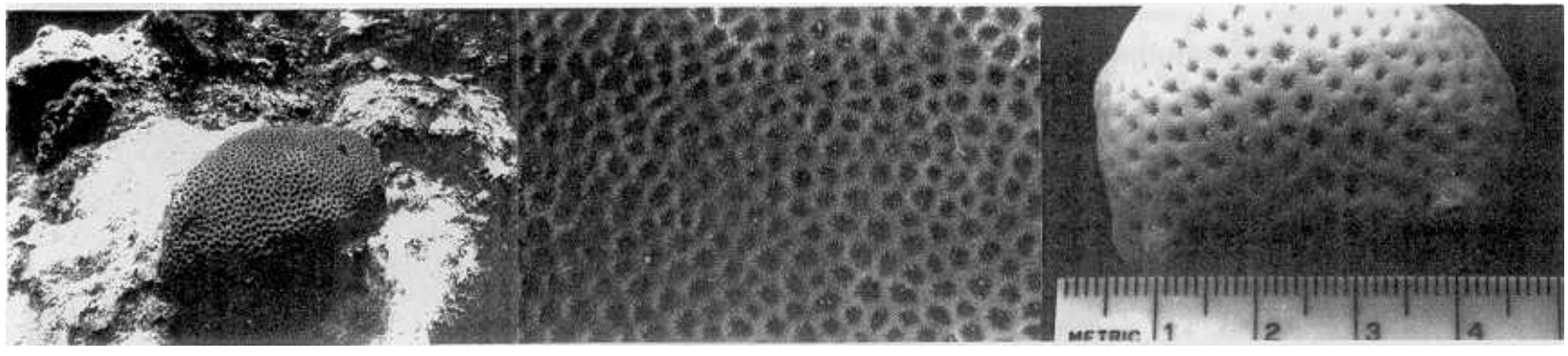
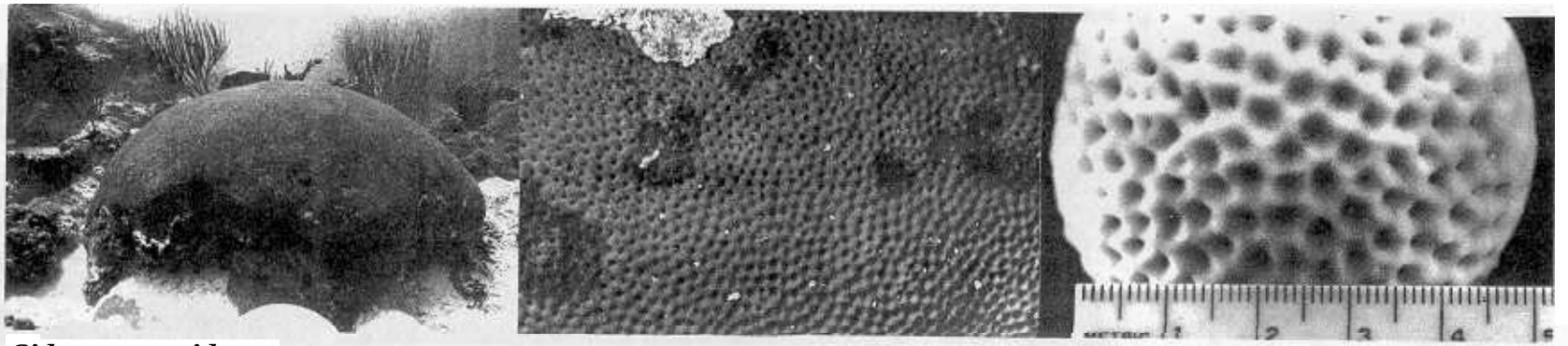
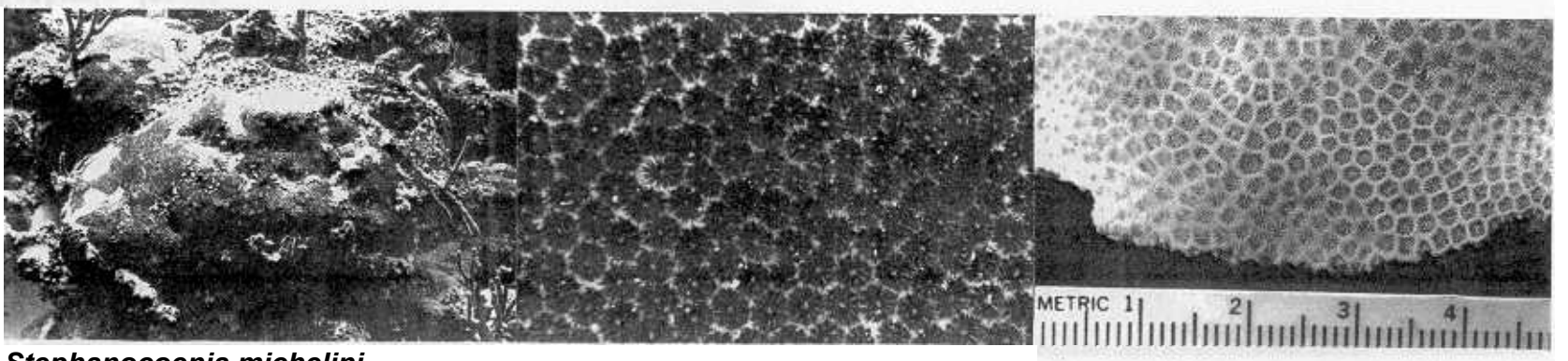


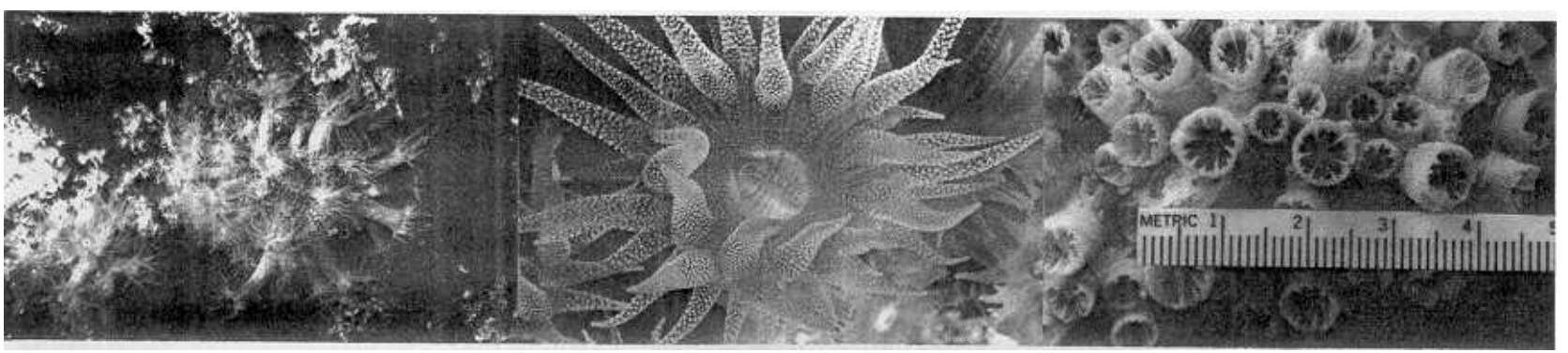

***Siderastrea radians***



*Siderastrea siderea*




*Stephanocoenia michelini*




*Tubastraea aurea*

*Millepora alcicornis*

*Millipora complanata*

*Millipora squarrosa*