

# The Caribbean Coral Skeleton Identification Guide (CCSIG)

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Bee Ling Melisa Chan, Nicté-Ha Muñoz, Mauro Lepore

*Tip: Print on both sides of the paper, starting with this page on the front side of the paper to keep the images and tables of corals side by side.*

# Read Me

1. The Caribbean Coral Skeleton Identification Guide (CCSIG) is an identification guide that is based on the physical characteristics of coral skeletons.
2. The CCSIG currently (as of August 31, 2016) contains most of the species that can be found in Bocas del Toro, Panama.
  - a. Contributions to further expand the taxonomic and geographic range of this guide are highly encouraged (please see No. 5 for contact information).
3. Information in the tables was obtained from [Corals of the World](#), [Coralpedia](#) and various [other sources](#).
  - a. Grouping of species is based on their growth forms
4. Images of coral skeleton (colony, corallite and/or valley) were taken from coral specimens from the reference collection of coral skeleton (Caribbean Coral Skeleton Reference Collection, CCSRC) at the Naos Marine Laboratory, Smithsonian Tropical Research Institute, Panama.
  - a. Images of species that are not available (as of August 31, 2016) in the CCSRC or do not have well-preserved specimens were obtained from [Corals of the World](#) instead.
  - b. Each image has a scale of either:
    - i. a strip of horizontal lines (or a ruler) with 1mm intervals (Images taken from the CCSRC)
    - ii. a digitized scale located in one of the corners of the image (Images from Corals of the World)
  - c. Labels of the images correspond with the row number and name of the species in the subsequent tables.
  - d. An online version of the images is available at [\*\*insert link here\*\*](#) for better resolution
5. To make suggestions/comments, please contact:
  - a. Melisa Chan - melisacbl@gmail.com
  - b. Nicthe-Ha Muñoz - nictaha.limno@gmail.com
  - c. Mauro Lepore - maurolepore@gmail.com

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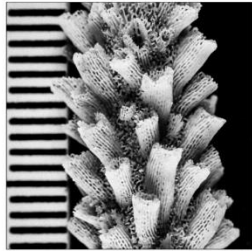
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    Coral Species ID .....17

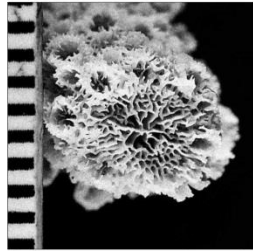
    Glossary of Coral Morphology.....17

# Characteristics of Coral Species Skeleton

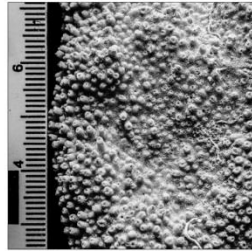
## Branching Corals



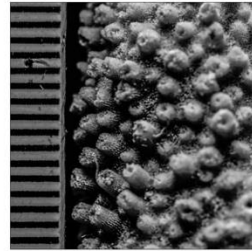
1. *Acropora cervicornis*



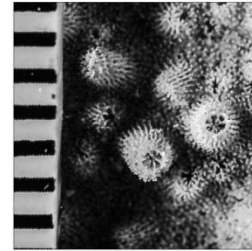
1. *Acropora cervicornis*



2. *Acropora palmata*



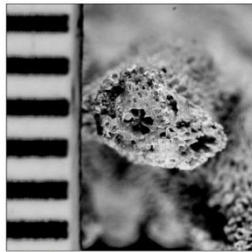
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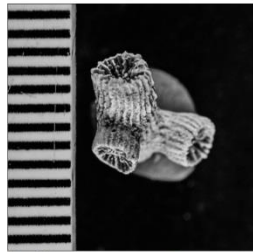
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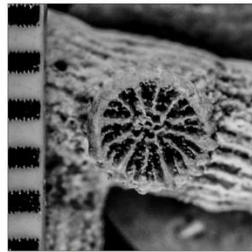
3. *Acropora prolifera*



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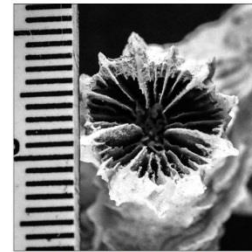
4. *Cladocora arbuscula*



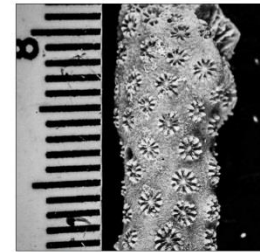
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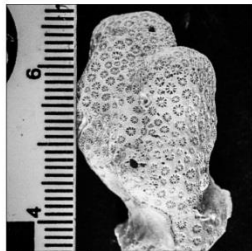
5. *Eusmilia fastigiata*



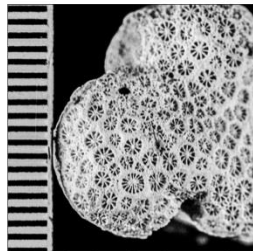
5. *Eusmilia fastigiata*



6. *Madracis asperula*



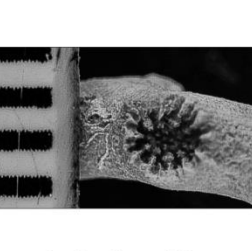
7. *Madracis decactis*



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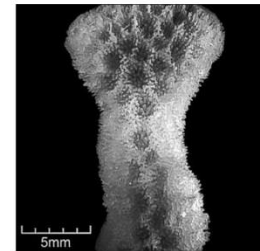
8. *Oculina diffusa*



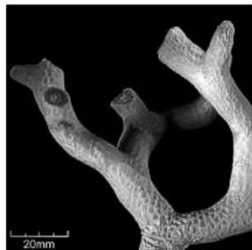
8. *Oculina diffusa*



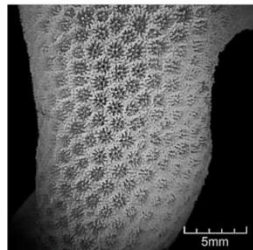
9. *Porites divaricata*



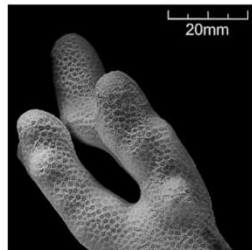
9. *Porites divaricata*



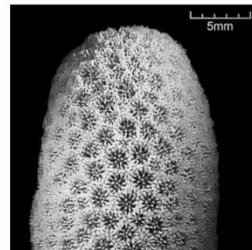
10. *Porites furcata*



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11. *Porites porites*

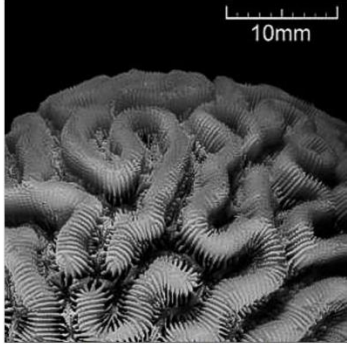


11. *Porites porites*

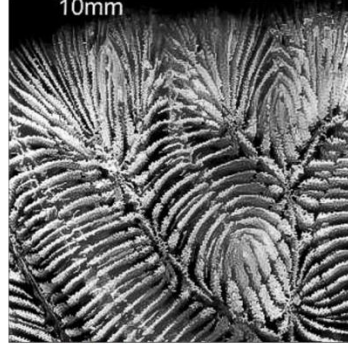
	Species	Corallite Size (mm)	Corallite wall thickness	Columellae size (mm)	Septal Number	Septal Cycle	Septal Teeth	Columella	Costae	Coenosteum	Branch diameter (cm)	Colony Form	Similar species	Comments/Notes
1	<i>Acropora cervicornis</i>	0.8-1	-	-	6	1	-	Absent	-	0.2-0.3mm	1-3	Plocoid	<i>Acropora formosa</i> (not in the Caribbean/E. Pacific), <i>Acropora prolifera</i>	Corallite: Distinctive singular central axial corallites with tubular radial corallites; <5mm long
2	<i>Acropora palmata</i>	0.5-0.8	-	-	6	1	-	Absent	-	0.1-0.2mm	5-25	Plocoid	<i>Acropora prolifera</i>	Corallite: No distinctive axial corallite; irregular length; tubular; <5mm long Branches: Singular branches Colony: Largest among <i>Acropora</i>
3	<i>Acropora prolifera</i>	0.8-1.0	-	-	6	1	-	Absent	-	0.2-0.3mm	0.5-2	Plocoid	<i>Acropora cervicornis</i> , <i>Acropora palmata</i>	Corallites: Radial corallites orient upwards in rows; <5mm long Branches: Fuse at crossings Biology: Hybrid between <i>A. cervicornis</i> and <i>A. palmata</i>
4	<i>Cladocora arbuscula</i>	<6	-	1	36	-	-	Trabecular; discontinuous	-	-	-	Phaceloid	-	Branches: Fine ridges running along the length; each ending with a single corallite
5	<i>Eusmilia fastigiata</i>	80-130	-	-	15-18/cm	2	None	Trabecular; continuous	Well-developed	N/A	-	Phaceloid	-	Colony: Hemispherical mounds Septa: Widely spaced; primary septa exert
6	<i>Madracis asperula</i>	1	-	-	10	2	-	Styliform (well-developed)	Absent	-	-	Plocoid	-	Biology: Primarily an azooxanthellae species Septa: Fuse with columella
7	<i>Madracis decactis</i>	1.3-1.9	-	-	10	-	-	Styliform (well-developed)	Absent	-	2-3	Plocoid	-	Colonies: Nodular (flattened and club-shaped), laminar or encrusting Coenosteum: Fine spicules (sometimes form ridge between corallites) Septa: Fuse with columella
8	<i>Oculina diffusa</i>	1.5-5	-	-	-	-	-	Trabecular (well-developed)	Absent/Reduced	-	<1.5	Plocoid	<i>Oculina varicosa</i>	Corallites: Have neat round exsert walls Septa: Slight alternation of long and short
9	<i>Porites divaricata</i>	<1.6	-	-	12	1	-	Trabecular (weak); discontinuous	-	-	<1	Subplocoid	<i>Porites furcata</i> , <i>Porites porites</i>	Pali: 5-6 Branch: Often divide near tips
10	<i>Porites furcata</i>	1.6-1.8	-	-	12	1	-	Trabecular; discontinuous	-	-	1-2	Subplocoid	<i>Porites divaricata</i> , <i>Porites porites</i>	Branches: Thinner than <i>P. porites</i> but not as slender/branched as <i>P. divaricata</i> ; tightly compacted Pali: 5-6
11	<i>Porites porites</i>	1.8-2.0	-	-	12	1	-	Trabecular; discontinuous	-	-	>2	Subplocoid	<i>Porites divaricata</i> , <i>Porites furcata</i>	Branches: Stout, irregular, and stubby with blunt and often enlarged tips Pali: 5-6



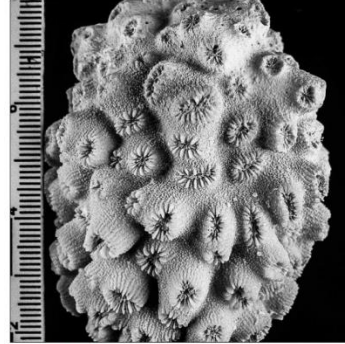
## Massive Brains Corals



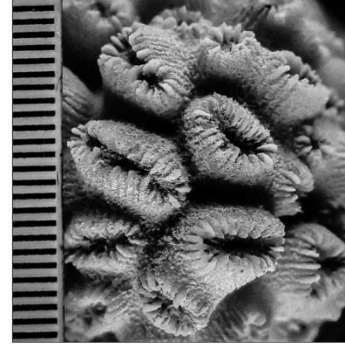
13. *Colpophyllia natans*



13. *Colpophyllia natans*



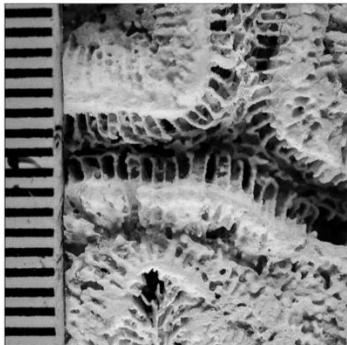
14. *Dichocoenia stokesi*



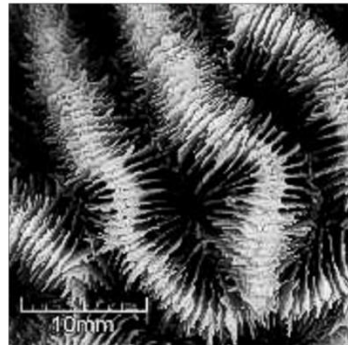
14. *Dichocoenia stokesi*



15. *Diploria labyrinthiformis*



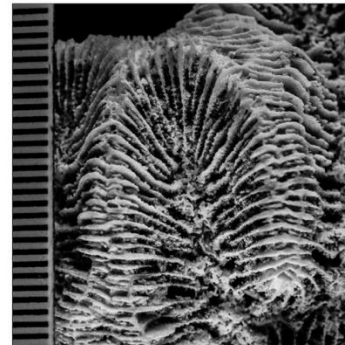
15. *Diploria labyrinthiformis*



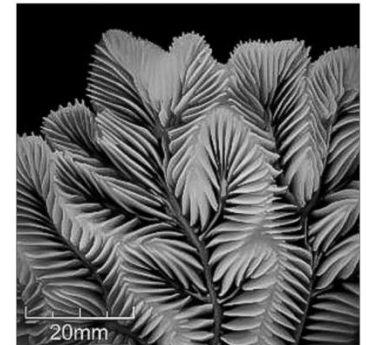
16. *Isophyllia sinuosa*



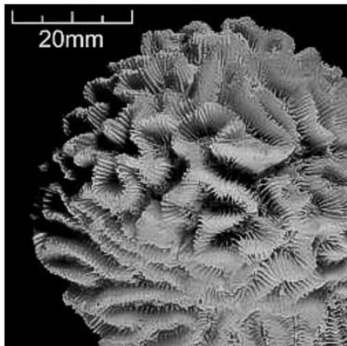
17. *Manicina areolata*



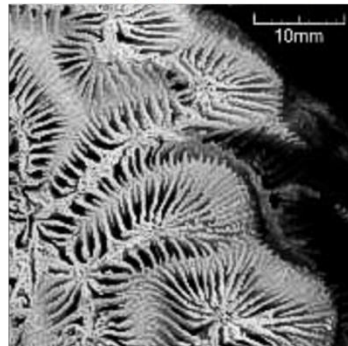
17. *Manicina areolata*



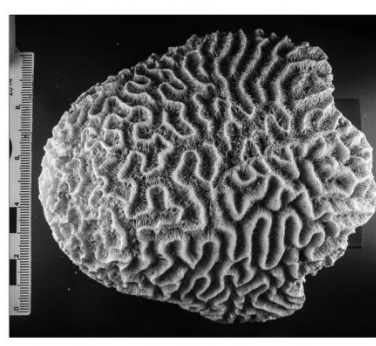
18. *Meandrina meandrites*



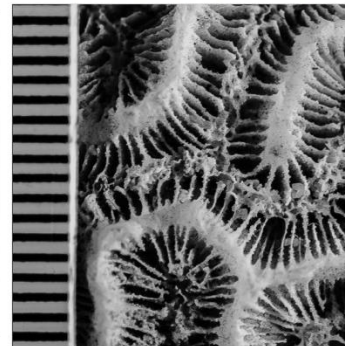
19. *Pseudodiploria clivosa*



19. *Pseudodiploria clivosa*



20. *Pseudodiploria strigosa*

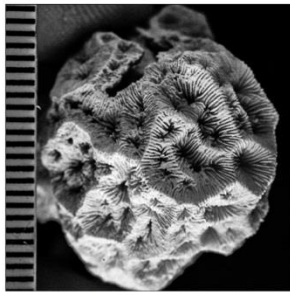


20. *Pseudodiploria strigosa*

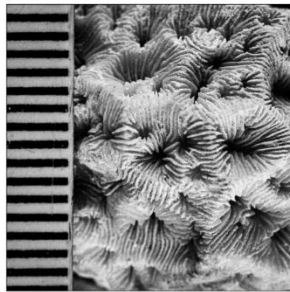
	Species	Coralite wall thickness	Columellae size (mm)	Valley width (mm)	No. of Centers per Series	Septal Number	Septal Cycle	Septal Teeth	Columella	Costae	Coenosteum	Colony Form	Similar species	Comments/Notes
13	<i>Colpophyllia natans</i>	-	<1/4 of valley width	10-15	1-3	<12/cm	>3	Small	Trabecular; discontinuous	Well-developed; discontinuous	Narrow (less than valley width)	Meandroid (sinuous)	Colpophyllia breviserialis	Colony shape: Hemispherical or encrusting Septa: Exsert, equal Ambulacral groove: Fine; throughout top of wall
14	<i>Dichocoenia stokesii</i>	-	-	3.5-4.5	-	-	2	-	Trabecular (weak)	-	-	Plocoid/Ploco-meandroid	Dichocoenia stellaris	Colony shape: spherical/thick or submassive plates Corallites: Protrude, irregular, elliptal, circular or Y-shaped Taxonomy: Formerly known as Dichocoenia stellaris
15	<i>Diploria labyrinthiformis</i>	-	1/2 of valley width	5-10	Not distinct	12-24/cm	>3	-	Trabecular (weak); continuous	Well-developed; discontinuous	Wide	Meandroid (sinuous or parallel)	Colpophyllia natans	Colony shape: May also be hemispherical Ambulacral groove: Vary greatly within colony; may be wider than valleys (give superficial appearance of alternating valleys)
16	<i>Isophyllia sinuosa</i>	-	-	10-15	5-10	>12/cm	>3	-	Trabecular; discontinuous	-	-	Meandroid (sinuous)	-	Colony: Also oval to hemispherical domes Septa: Thin, large prominent teeth; continuous
17	<i>Manicina areolata</i>	-	1/3 of valley width	10-15	-	12-24/cm	>3	-	Continuous	Discontinuous	Narrow	Meandroid	-	Colony: (Most common) Small elliptical colonies with one long, continuous central valley and several short side valleys (with cone-shaped underside); also as hemispherical heads with a flat underside. Taxonomy: One of its former synonyms is Manicina mayori
18	<i>Meandrina meandrites</i>	-	10-20	-	-	-	-	-	Lamellar	-	-	Meandroid	-	Colony: Hemispherical heads and flattened plates Ridges: Formed by smooth, widely separated septa; thin line along top where septa come together
19	<i>Pseudodiploria clivosa</i>	-	1/2 of valley width	4-10	>5	>24/cm	-4	-	Trabecular; continuous	Well-developed; discontinuous	Fused walls	Meandroid (sinuous)	-	Colony shape: May be encrusting Ridges: Rise sharply Ambulacral groove: Fine (if any) Taxonomy: Formerly known as Diploria clivosa
20	<i>Pseudodiploria strigosa</i>	-	1/2 of valley width	5-10	-	12-24/cm	>3	-	Well-developed; continuous	Continuous	Fused walls	Meandroid (sinuous)	Platygyra daedalea	Colony shape: May also be encrusting Ridges: Evenly rounded, occasionally with extremely fine groove (usually without any) Taxonomy: Formerly known as Diploria strigosa



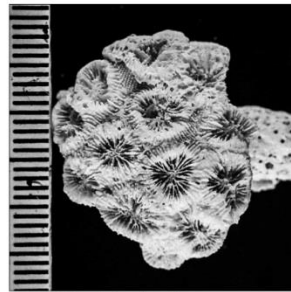
## Massive Star Corals



21. *Agaricia humilis*



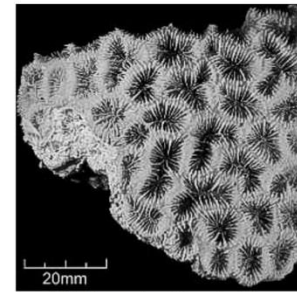
21. *Agaricia humilis*



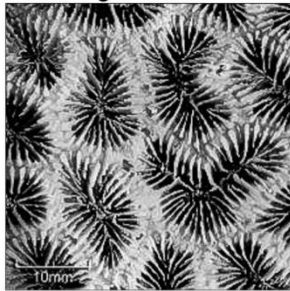
22. *Favia fragum*



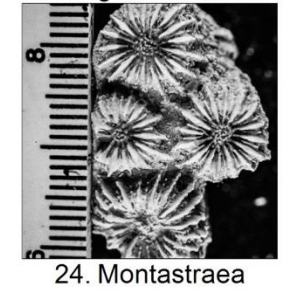
22. *Favia fragum*



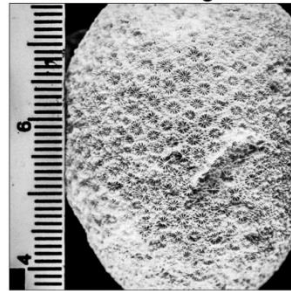
23. *Isophyllia rigida*



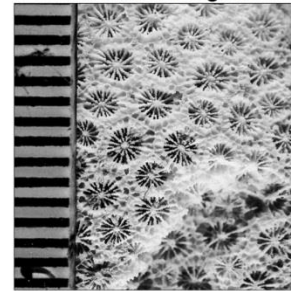
23. *Isophyllia rigida*



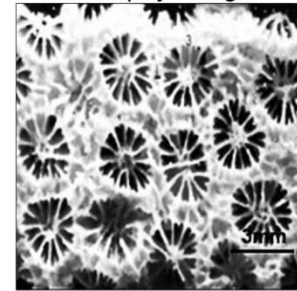
24. *Montastraea cavernosa*



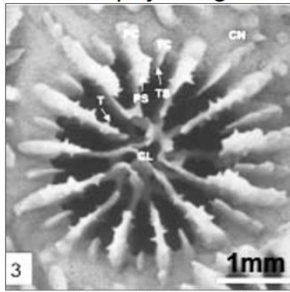
25. *Orbicella annularis*



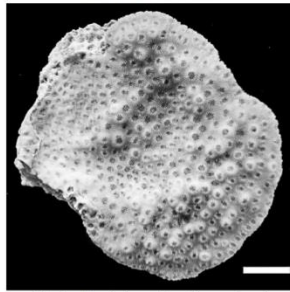
25. *Orbicella annularis*



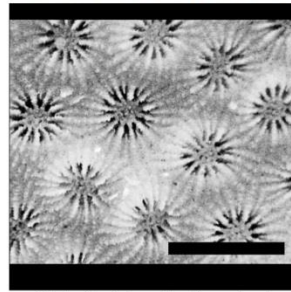
26. *Orbicella faveolata*



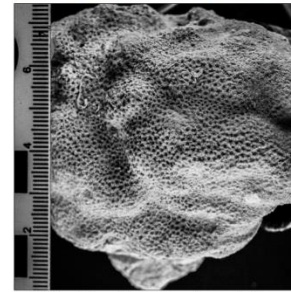
26. *Orbicella faveolata*



27. *Orbicella franksi*



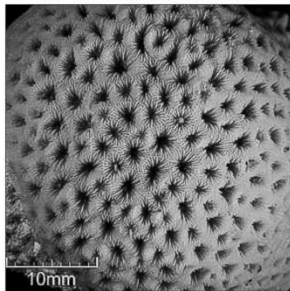
27. *Orbicella franksi*



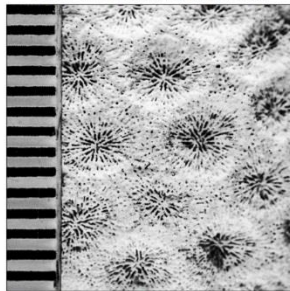
28. *Porites astreoides*



28. *Porites astreoides*



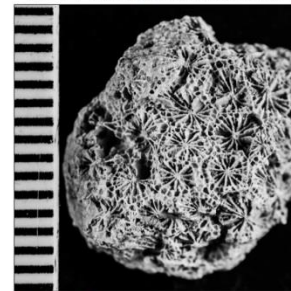
29. *Siderastrea radians*



30. *Siderastrea siderea*



30. *Siderastrea siderea*

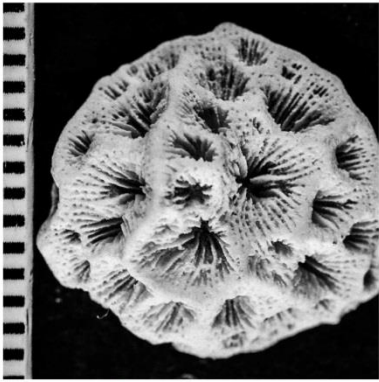


31. *Solenastrea bournoni*

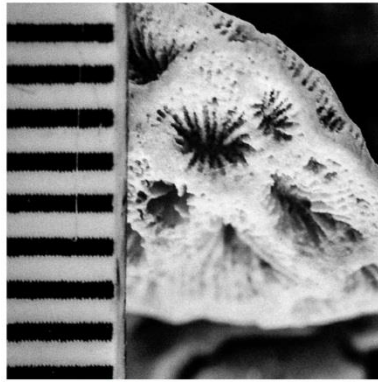


	Species	Corallite Size (mm)	Corallite wall thickness	Columellae size (mm)	Valley width (mm)	No. of Centers per Series	Septal Number	Septal Cycle	Septal Teeth	Columella	Costae	Coenosteum	Colony Form	Similar species	Comments/Notes
21	<i>Agaricia humilis</i>	-	-	-	-	-	-	-	-	-	-	-	-	<i>Agaricia agaricites</i>	-
22	<i>Favia fragum</i>	<5	-	1/2 of calice/valley width	N/A	1-3	12-24/cm	~4	-	Trabecular (well-developed); continuous	Well-developed; discontinuous	Narrow	Plocoid	<i>Dichocoenia</i>	Corallite: <2mm high; oval with protruding rims (<2mm high) Colony size: Usually <5cm
23	<i>Isophyllia rigida</i>	10-20	-	-	10-15	1-2	-	-	-	Trabecular (weak); discontinuous	-	-	Ceroid	-	Septa: Thin, fine pointed teeth Taxonomy: Formerly known as <i>Isophyllastrea rigida</i> (Veron 2000)
24	<i>Montastraea cavernosa</i>	5.5-7.5	-	-	N/A	N/A	36-48	-	Channel shape, elliptical perpendicular bases	Trabecular	-	5-9mm	Plocoid	-	Colony shape: May also be conical (sometimes taller than wide), plates or sheets
25	<i>Orbicella annularis</i>	2.1-2.6	Intermediate	1.02	N/A	N/A	24	3	Irregular, multidirectional with circular bases	Trabecular	-	0.6-1.2mm	Plocoid	<i>Favia stelligera</i> (corallite: 2.5mm), <i>Montastraea curta</i> (corallite: 5mm), <i>Montastraea salebrosa</i> (all of which do not occur in Panama)	Colony shape: May also be columbar or flat Corallites: Flush to colony surface of conical; Septothecal walls Septa: Alternating long and short Taxonomy: Formerly known as <i>Montastraea annularis</i>
26	<i>Orbicella faveolata</i>	2.2-2.7	thin	0.96	N/A	N/A	24	3	Irregular, multidirectional with circular bases	-	-	-	Plocoid	-	Corallites: Very thin, partially parathecal walls formed by dissepiments Taxonomy: Formerly known as <i>Montastraea faveolata</i>
27	<i>Orbicella franksii</i>	2.4-3.4	thick	1.13	N/A	N/A	24	3	Irregular, multidirectional with circular bases	-	-	-	Plocoid	-	Corallites: Septothecal walls Taxonomy: Formerly known as <i>Montastraea franksii</i>
28	<i>Porites astreoides</i>	1.2-1.4	-	-	N/A	N/A	12	1	-	Trabecular (well-developed)	-	-	Subplocoid	-	Colony shape: Encrusting>massive; lumpy>smooth/nodular Pali: >2
29	<i>Siderastrea radians</i>	2.5-3	-	-	N/A	N/A	30-40	3	-	Trabecular	-	-	Ceroid	-	Colony shape: Sometimes as free-living mobile balls (<2.5cm) or small flat discs Corallite: Deep, usually irregular; angular
30	<i>Siderastrea siderea</i>	<5	-	-	N/A	N/A	50-60	-	-	Trabecular	-	-	Ceroid	<i>Siderastrea radians</i>	Colony shape: May also be encrusting Septa: Tightly compacted Corallites: Shallower and larger than <i>Siderastrea radians</i>
31	<i>Solenastrea bournoni</i>	2-2.5	-	-	N/A	N/A	-	-	-	Trabecular	-	-	Plocoid	<i>Solenastrea hyades</i>	Colony shape: May also be hemispherical fomes Corallites: Protruding rims like blisters forming conspicuous dark circles

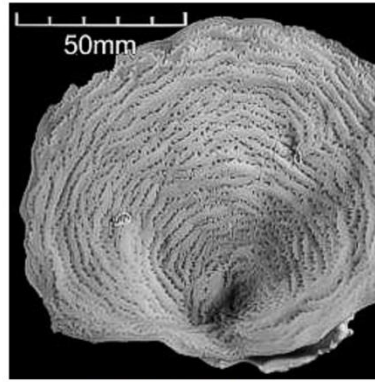
## Thin Leafy Corals



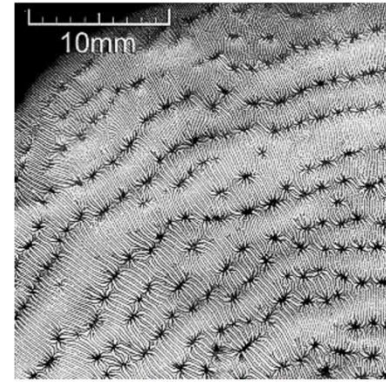
38. *Agaricia agaricites*



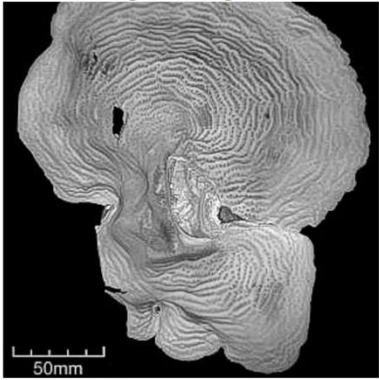
38. *Agaricia agaricites*



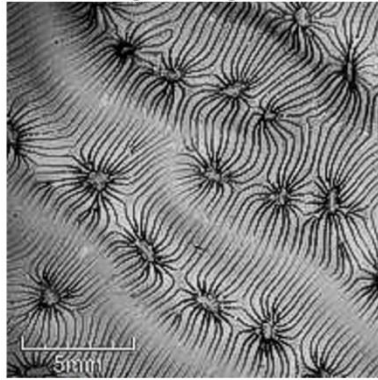
39. *Agaricia fragilis*



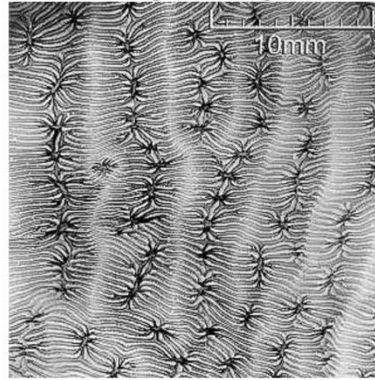
39. *Agaricia fragilis*



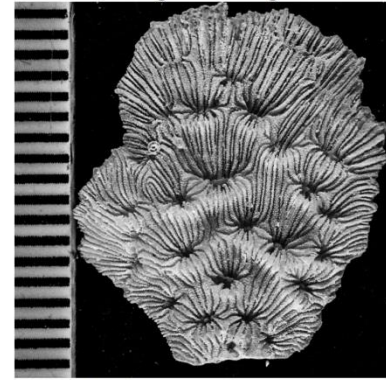
40. *Agaricia grahamae*



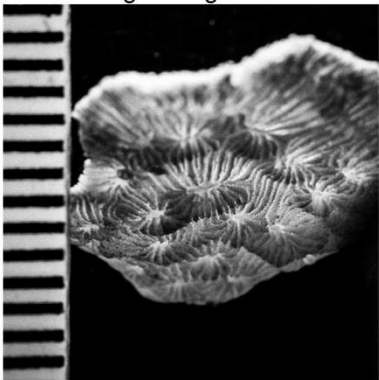
40. *Agaricia grahamae*



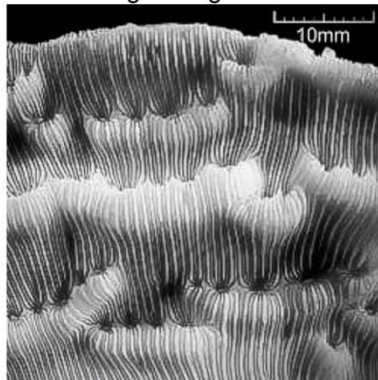
41. *Agaricia lamarcki*



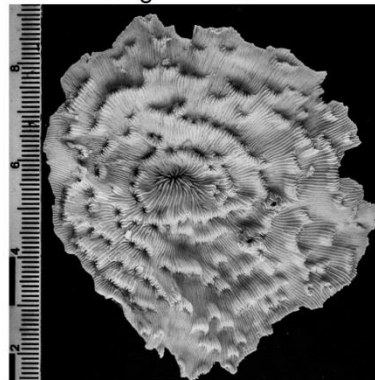
42. *Agaricia tenuifolia*



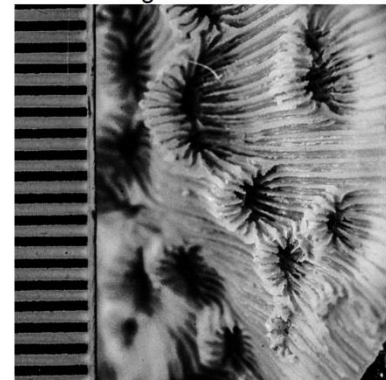
42. *Agaricia tenuifolia*



43. *Agaricia undata*



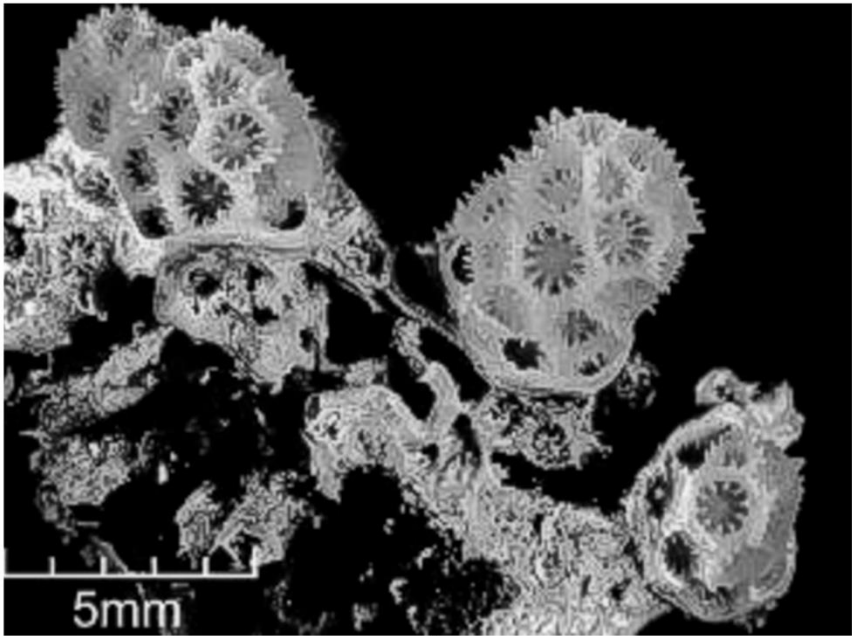
44. *Helioseris cucullata*



44. *Helioseris cucullata*

	Species	Corallite Size (mm)	Corallite wall thickness	Columellae size (mm)	Valley width (mm)	No. of Centers per Series	Septal Number	Septal Cycle	Septal Teeth	Columella	Costae	Coenosteum	Surface	Colony Form	Similar species	Comments/Notes
38	<i>Agaricia agaricites</i>	2-4	-	-	-	-	<36	-	-	Trabecular; discontinuous	-	-	-	Meandroid	<i>Agaricia undata</i>	Colony shape: May also be encrusting/thick leaves/irregular projections/flat plates Corallites: May be unifacial or bifacial Walls: Angular; pointed ridge tops
39	<i>Agaricia fragilis</i>	1.9-2.5	-	-	2-4	-	17-36	-	-	Trabecular (weak); discontinuous	-	-	Uneven concentric circles radiating from center	Meandroid	<i>Agaricia grahamae</i> , <i>Agaricia undata</i>	Corallites: Unifacial; small and close together; face upwards; Colony: Nearly smooth underside
40	<i>Agaricia grahamae</i>	2-2.9	-	-	-	-	18-28	-	-	Trabecular (well-developed); discontinuous	-	-	-	Meandroid	<i>Agaricia lamarcki</i> , <i>Agaricia fragilis</i>	Colony shape: Flat; whorls; smooth underside Corallites: Unifacial; concentric rows of ridges with narrow, long and wavy valleys Septa: thick; do not alternate
41	<i>Agaricia lamarcki</i>	3.1-4.1	-	-	-	-	20-32	-	-	Trabecular; discontinuous	-	-	-	Meandroid	<i>Agaricia grahamae</i>	Colony shape: Flat; may be encrusting; whorls; smooth underside Corallites: Unifacial; concentric rows of ridges with wide, straight or reticulate valleys Septa: Alternate long (usually extend close to columella before dropping off sharply) and short (slope gradually into corallite pit)
42	<i>Agaricia tenuifolia</i>	-	-	-	-	-	-	-	-	-	-	-	-	Meandroid	-	Colony shape: Thin margins; contorted; elongate Corallites: Unifacial Taxonomy: Commonly assigned to genus <i>Undaria</i> .
43	<i>Agaricia undata</i>	2-2.9	-	-	6-7	-	13-24	-	-	Trabecular (well-developed); discontinuous	-	-	High rounded concentric ridges	Meandroid	<i>Agaricia fragilis</i>	Colony shape: Flat or upright; curve upward near edges; smooth underside Corallites: Unifacial; close together; occur on outward facing edge of walls (collines) Valleys: Straight, wide, wavy
44	<i>Helioseris cucullata</i>	<2.5	-	-	-	-	15-22	-	-	Trabecular (weak/none); discontinuous	-	-	-	Meandroid	<i>Leptoseris mycetoseroides</i> (not in Panama)	Colony shape: May also be encrusting/tiered; 10-25cm Corallites: Closely compacted, outwardly inclined; concentric rows; short and discontinuous ridges and valleys Septa: Alternate long and short (strong) Taxonomy: Formerly known as <i>Leptoseris cucullata</i>

Lumpy Corals

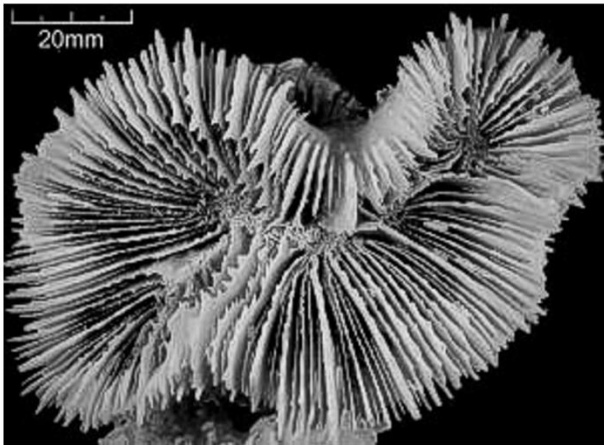


12. Madracis pharensis

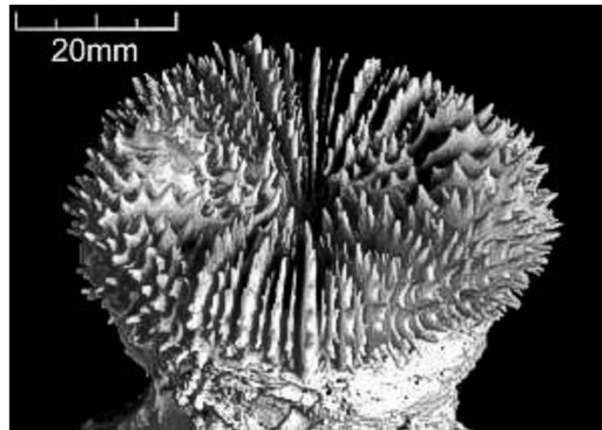
	Species	Corallite Size (mm)	Coralite wall thickness	Columellae size (mm)	Septal Number	Septal Cycle	Septal Teeth	Columella	Costae	Coenosteum	Colony Form	Similar species	Comments/Notes
12	Madracis pharensis	-1.5	-	-	10	2	-	Styliform (well-developed)	-	-	Plocoid	-	Distribution: Mostly in the Dominican Republic (Corals of the World: None in Panama); Deep water Septa: Fuse with columella



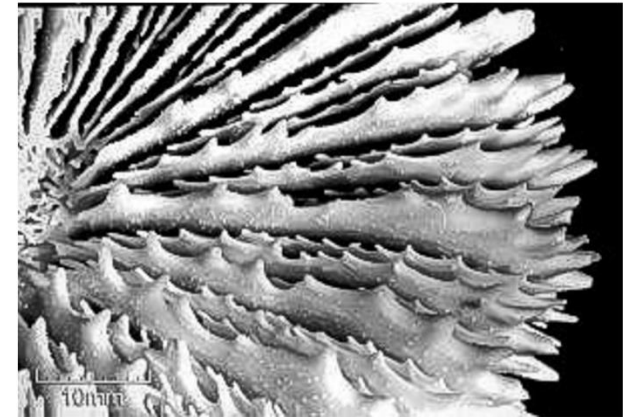
## Solitary Corals



32. *Mussa angulosa*



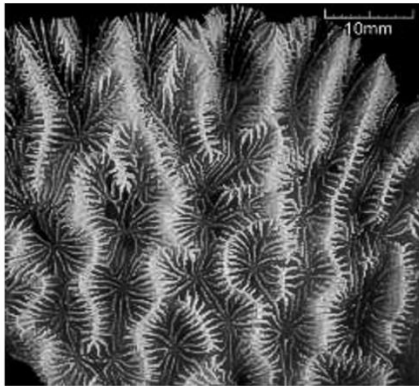
33. *Scolymia cubensis*



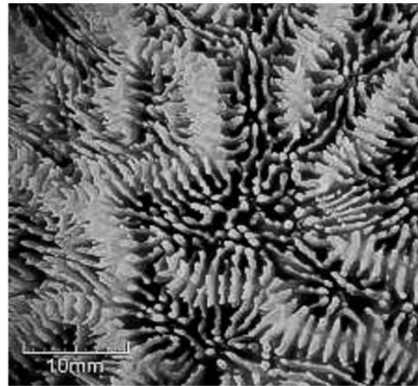
33. *Scolymia cubensis*

	Species	Corallite Size (mm)	Corallite wall thickness	Columellae size (mm)	Valley width (mm)	No. of Centers per Series	Septal Number	Septal Cycle	Septal Teeth	Columella	Costae	Colony Form	Similar species	Comments/Notes
32	<i>Mussa angulosa</i>	45-70	-	-	-	<5 (in flabellomeandroid)	6-9/cm	>4	-	Trabecular (well-developed); discontinuous	-	Phaceloid-Flabellomeandroid	<i>Scolymia cubensis</i>	Colony shape: May also be flat or hemispherical; branching-solitary Septa: Prominent tall sharp teeth; septal granules grow in more than one plane
33	<i>Scolymia cubensis</i>	<100	-	-	N/A	-	80	>5	-	Trabecular; discontinuous	Well-developed	Solitary	<i>Mussa angulosa</i> ; <i>Scolymia lacera</i> (positive ID requires magnified examination of septa)	Colony shape: Usually attached but may be free-living; tapered base; circular to oval Septa: Septal granules grow in a single plane Corallite: Center usually flat to convex, rarely concave

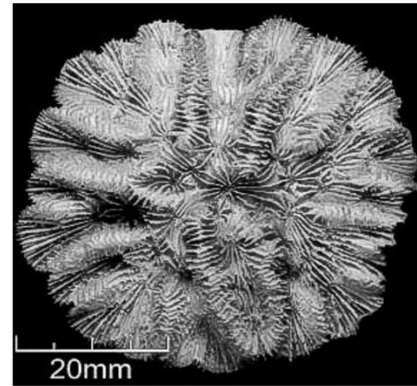
## Thick Leafy Corals



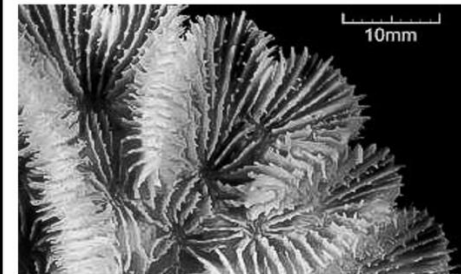
34. *Mycetophyllia ferox*



34. *Mycetophyllia ferox*



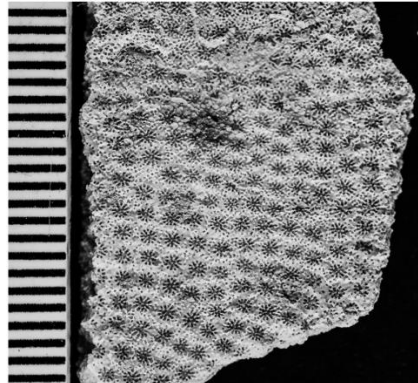
35. *Mycetophyllia lamarckiana*



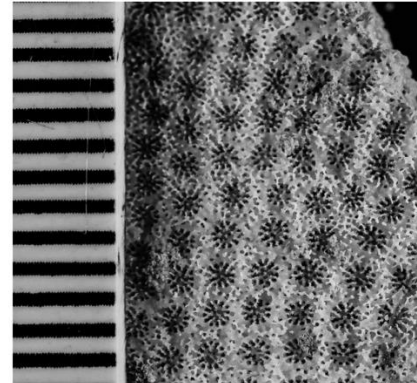
35. *Mycetophyllia lamarckiana*



36. *Mycetophyllia reesi*



37. *Porites colonensis*

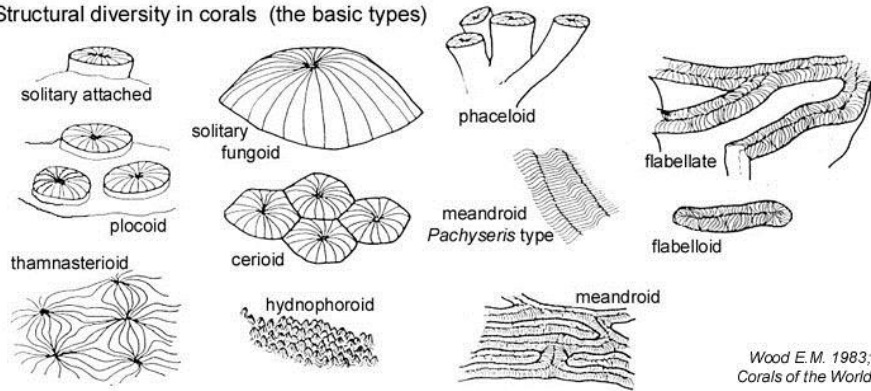


37. *Porites colonensis*

	Species	Corallite Size (mm)	Corallite wall thickness	Columellae size (mm)	Valley width (mm)	No. of Centers per Series	Septal Number	Septal Cycle	Septal Teeth	Columella	Costae	Coenosteum	Colony Form	Similar species	Comments/Notes
34	<i>Mycetophyllia ferox</i>	-	-	-	10-15	-	-	-	-	Trabecular (weak/absent); continuous	-	-	Meandroid	-	Colony shape: Thin; weakly attached Corallites: Centres in single rows Valleys: Slightly sinuous
35	<i>Mycetophyllia lamarckiana</i>	-	-	-	10-15	-	-	-	-	Trabecular (weak/absent); continuous	-	-	Meandroid	-	Colony shape: Solid, rounded, often circular plates Valleys: Radiate from original point of growth; one row of mouths Corallite: Vaguely concentric to plate margins
36	<i>Mycetophyllia reesi</i>	-	-	-	10-15	-	-	-	-	Trabecular (weak/absent); continuous	-	-	Meandroid	<i>Mycetophyllia lamarckiana</i>	Colony shape: Thin laminae (sometimes conforming to substrate shape); attached centrally/at the side Valley: Do not radiate Corallite: Centers parallel to plate margins
37	<i>Porites colonensis</i>	1.8-2	-	N/A	N/A	N/A	12	1	-	Absent	-	-	Subplocoid	-	Colony shape: Thin; sometimes in tiers; smooth or undulating surface Pali: 5-6

# Glossary of Coral Morphology

Structural diversity in corals (the basic types)



Wood E.M. 1983;  
Corals of the World

Figure 1: A sample of the various coral shapes

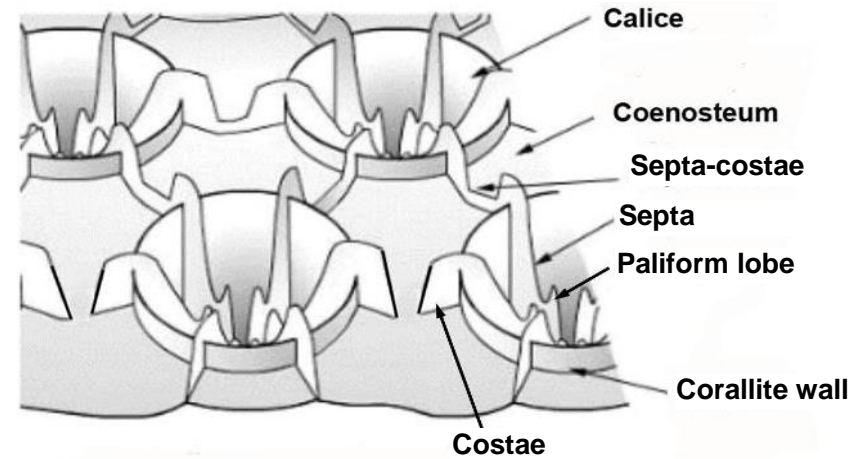


Figure 2: Different structures of a corallite

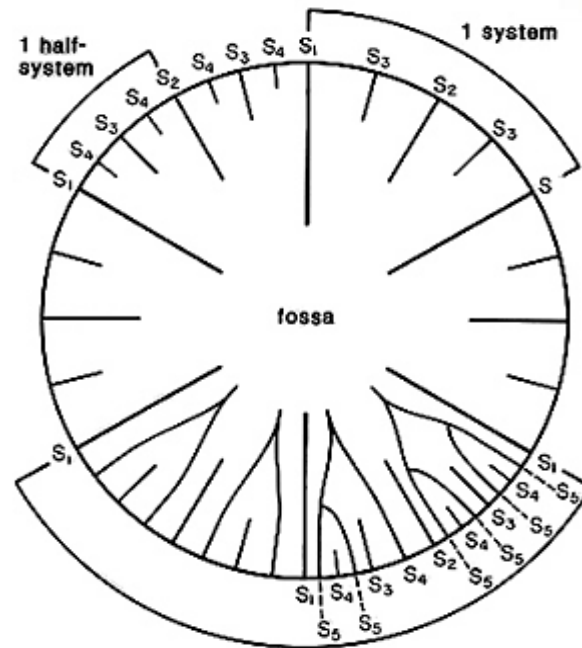


Figure 3: Septal cycle - upper right system with three cycles of septa; upper left system with four cycles, and lower two systems with various stages of development of the Poutalès plan Numbers refer to cycle to which septa belong. (Cairns 1994)



Coral Morphology	Definitions
Calice	Cup-shaped depression on corallite surface
Centers per Series	Number of corallites in a series/valley
Coenosteum	Skeleton between corallites within a colony
Columella	Central axial structure within a corallite
Columella (Lamellar)	Plate-like, parallel to valley
Columella (Papillose)	Many small rods
Columella (Solid)	Central
Columella (Trabecular)	Formed by inner ends of septa
Coral Form	Overall shape of colony
Coral Form (Branching)	Flattened with calices on only one side
Coral Form (Massive)	Elongated projections
Coral Form (Platy)	Mound-shaped/Encrusting
Coral Shape	Corallite arrangement
Coral Shape (Ceriod)	Ceriod: Juxtaposed and even, with own walls (those of massive corals share common walls)
Coral Shape (Dendroid)	Dendroid: Branch from each other in dendritic pattern
Coral Shape (Fasciculate)	Fasciculate: Cylindrical but not in contact; may be dendroid (irregular branches) or phaceloid
Coral Shape (Flabelloid)	Flabelloid: Arranged in single series; adjacent valleys do not share ridges
Coral Shape (Flabello-meandroid a. k. a flabellate)	Flabello-meandroid a.k.a flabellate: Long meandering rows with common base; walls may be partially fused



Coral Shape (Hydnophoroid)	Hydnophoroid: Cone-shaped protuberances between corallites
Coral Shape (Meandroid)	Meandroid: Arranged in multiple series; adjacent valleys share ridges
Coral Shape (Phaceloid)	Phaceloid: Separated by voided space; those with distinct walls separated by coenosteum
Coral Shape (Plocoid)	Plocoid: Short-stalked and isolated, separated by coenosteum
Coral Shape (Solitary)	Solitary: Entire coral = one corallite
Coral Shape (Subplocoid)	Subplocoid: Sometimes separated by coenosteum, each with its own wall
Coral Shape (Thamnasterioid)	Thamnasterioid: Confluent septa of adjacent corallites, often twisted or sinuous
Corallite	Skeleton of solitary individual or an individual within a colony
Costae	Extension of septum beyond wall
Paliform lobes	Exsert protuberance of septum at center of corallite
Septa	Radially-arranged vertically partitions within a corallite (exsert, insert or even in regard to corallite wall)
Septa-costae	Structure that flows between corallites when corallite walls are indistinct
Septal cycle	No. of types of septa with difference lengths and thickness
Septal granules	Small elevation on septa or septa teeth
Septal spacing	Spacing between septa/No. of septa per unit distance
Septal teeth	Sharp projections lining the upper margins of septa
Synapticulum	Conical or cylindrical supporting process extending between septa
Valley	A series of corallites
Wall	Vertical structure enclosing corallite

# References and Additional Resources

## Coral Taxonomy

- <http://www.marinespecies.org/index.php>

## Coral Species ID

- <http://coral.aims.gov.au/info/factsheets.jsp>
- <http://eusmilia.geology.uiowa.edu/nmita/generalList.page?classification=NMITA&taxonName=Zooxanthellate+Coral&getGenButton=Get+Genera>
- <http://coralpedia.bio.warwick.ac.uk/>
- [https://www.stri.si.edu/english/PDFs/201215\\_Hard\\_Coral\\_Identification\\_guide.pdf](https://www.stri.si.edu/english/PDFs/201215_Hard_Coral_Identification_guide.pdf)
- <http://eusmilia.geology.uiowa.edu/idstep1.htm>
- <http://species-identification.org/index.php>
- Budd, Ann F., and Jarosław Stolarski. "Searching for New Morphological Characters in the Systematics of Scleractinian Reef Corals: Comparison of Septal Teeth and Granules between Atlantic and Pacific Mussidae." *Acta Zoologica* 90.2 (2009): 142-65. Web. 23 June 2016.
- <http://digital.lib.uiowa.edu/cdm/search/collection/coral>

## Glossary of Coral Morphology

- <http://biophysics.sbg.ac.at/png/png3.htm>
- <http://eusmilia.geology.uiowa.edu/database/corals/glossary/glossmnu.htm>
- <http://www.coralhub.info/terms/corallite/>
- <http://tolweb.org/Dendrophylliidae/19165>
- [http://www.cap-recifal.com/page/articles.html/\\_/vivant/identification-des-scl%C3%A9ractiniaires-r44](http://www.cap-recifal.com/page/articles.html/_/vivant/identification-des-scl%C3%A9ractiniaires-r44)