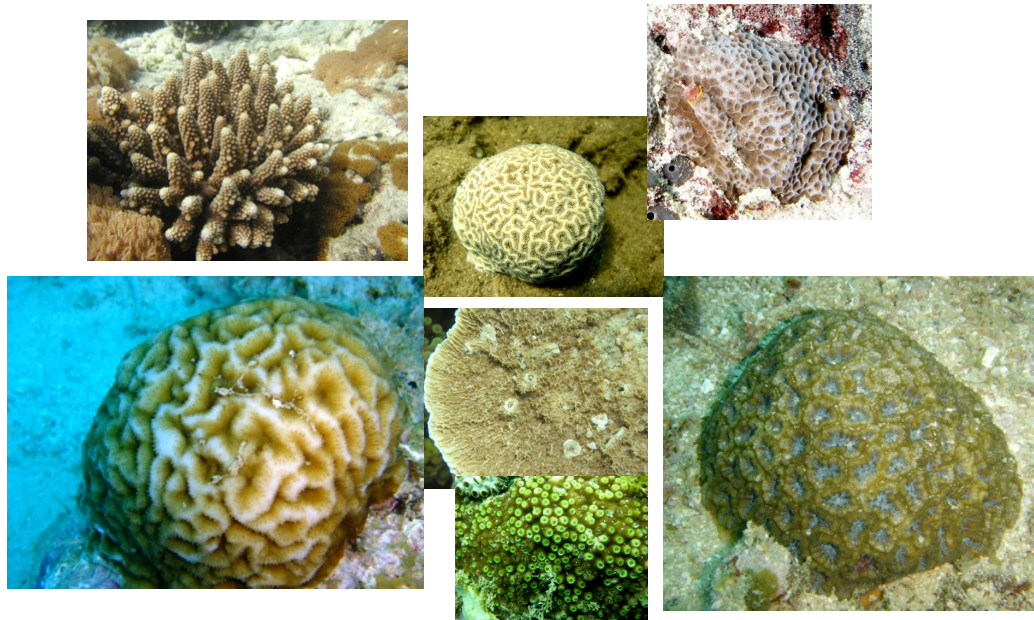


# Reef coral genera of the Western Indian Ocean



David Obura

Assisted by: Rose Machuku

This guide to the genera of the Western Indian Ocean gives ID photos for typical species and growth forms found in the region.

Corals are arranged by family then genus, alphabetically.

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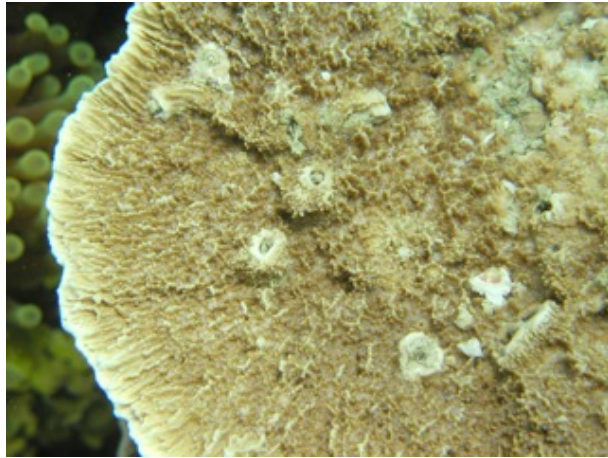
*With materials developed by:*

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East Africa

February 2011

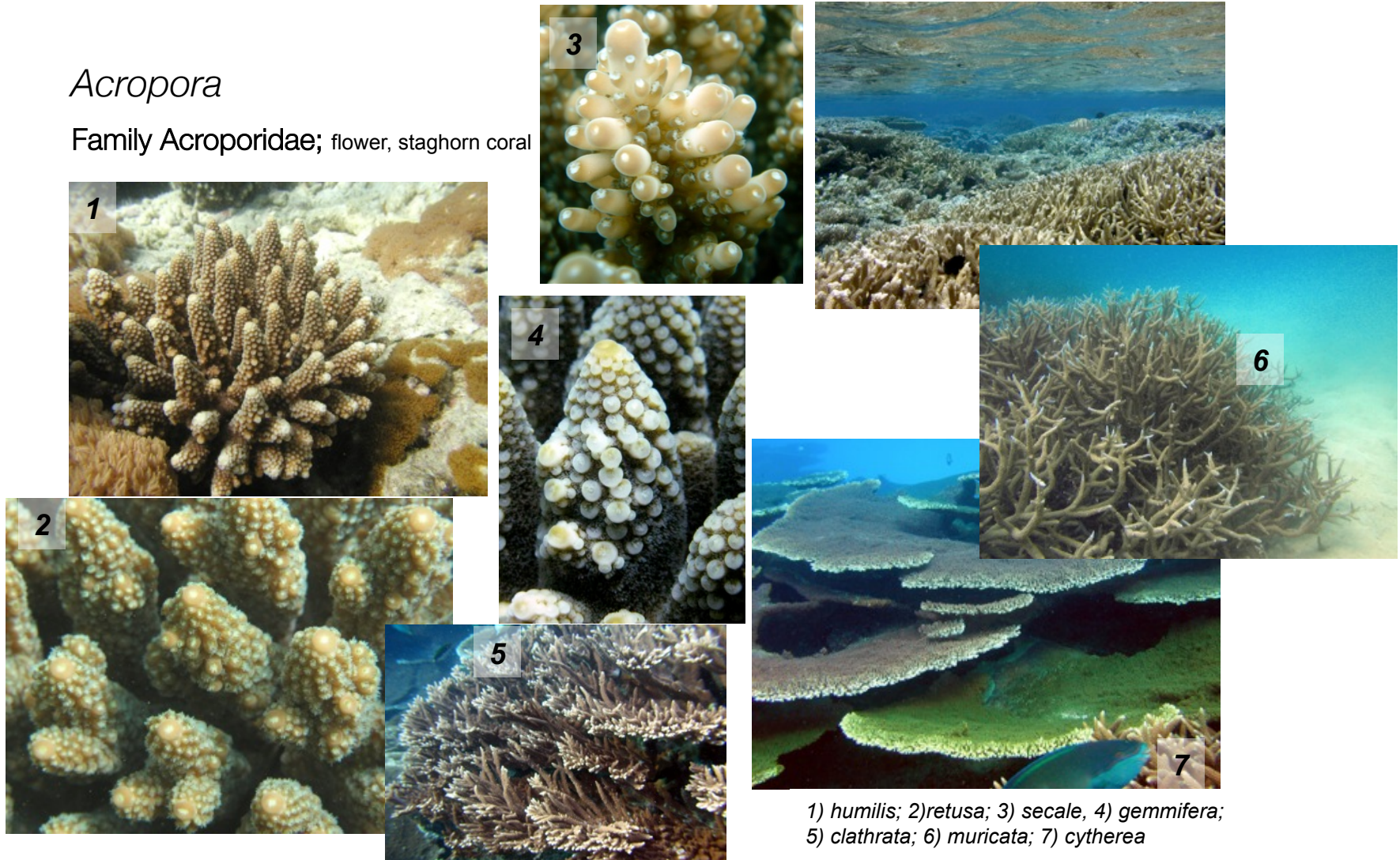


*Fam:* **Acroporidae**



# Acropora

Family Acroporidae; flower, staghorn coral

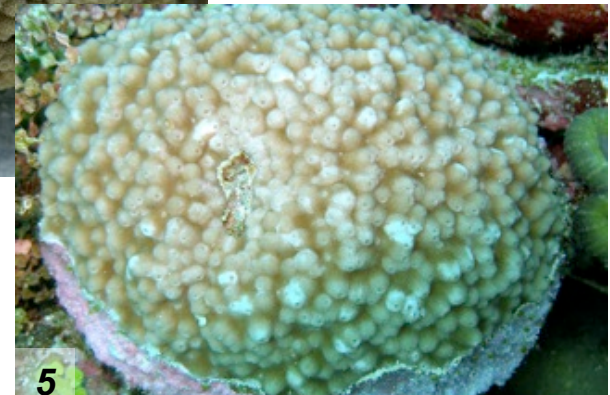


1) *humilis*; 2) *retusa*; 3) *secale*, 4) *gemmifera*;  
5) *clathrata*; 6) *muricata*; 7) *cytherea*

<b>Colony type</b>	Usually branching, bushy or plate like, encrusting, sub massive
<b>Corallite type</b>	rounded raised, protruding above the coenostium 1-3 mm in diameter. Two types: axial corallites at the tips of branches/growing edges & radial corallites around the branches/main body.
<b>Description</b>	Distinctive branching growth forms, mostly brown but many other colours but with white/pale growing tips.
<b>Septa-costae</b>	Septa in two cycles
<b>Other remarks</b>	Tentacles are extended usually at night, corallite wall and the coenostium are porous, axial corallites are larger

# *Astreopora*

Family Acroporidae; star flower coral



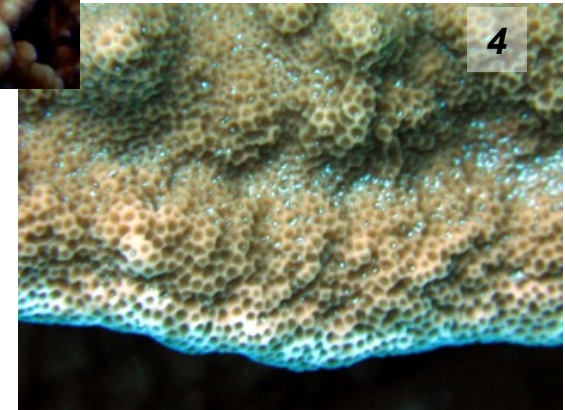
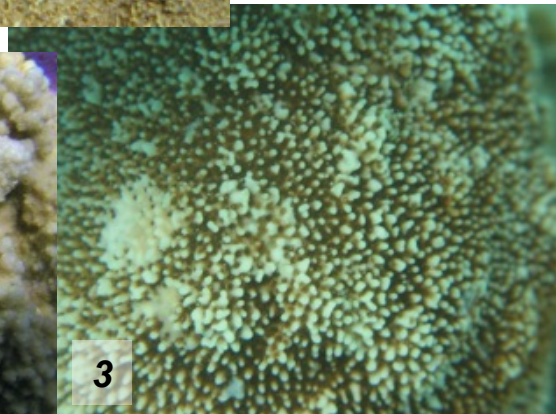
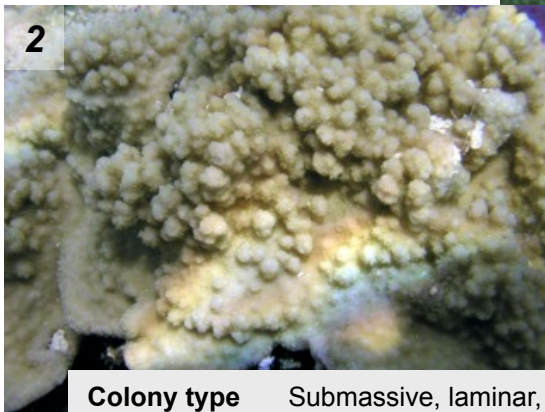
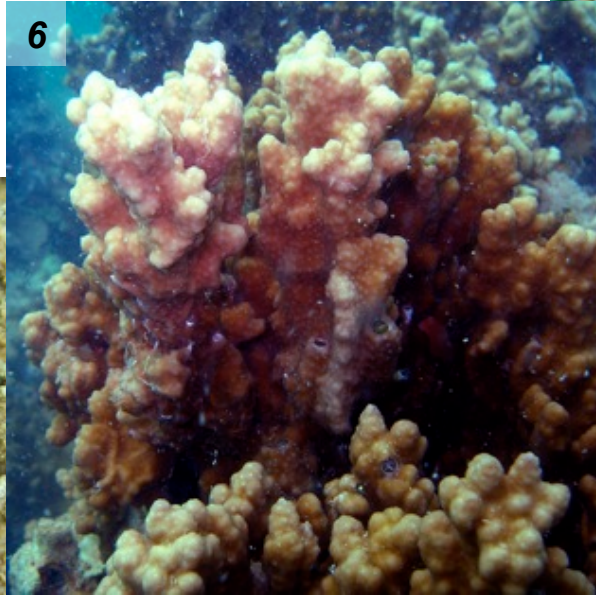
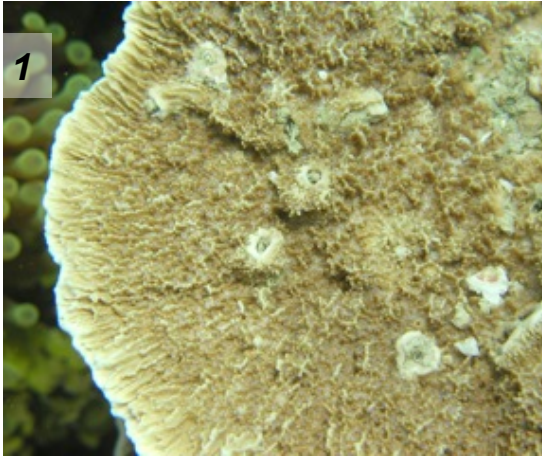
1) *myriophthalma*; 2) *listeri*; 3) *randalli*,  
4) *expansa*; 5) *ocellata*; 6) *suggesta*



<b>Colony type</b>	Massive, plating, encrusting
<b>Corallite type</b>	Mostly conical but can be immersed
<b>Description</b>	Coenostium has granular appearance, from teeth on septo-costae. Depending on their size it appears smooth, spinous or flaky
<b>Septa-costae</b>	Short numerous neatly spaced septa
<b>Other remarks</b>	Columella is conspicuous and compact
<b>Similar species</b>	<i>Turbinaria</i> - coenostium plain, no elaborations

# Montipora

Family Acroporidae; pore, velvet coral



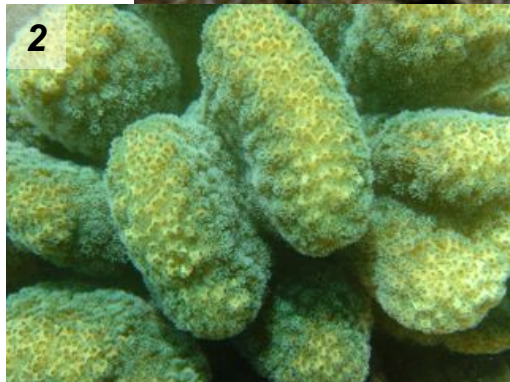
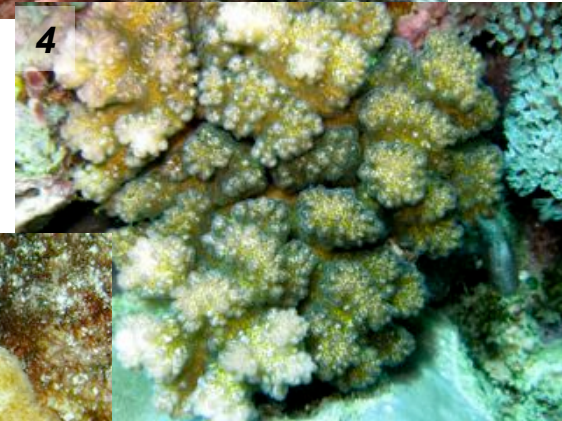
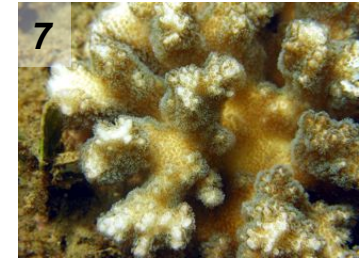
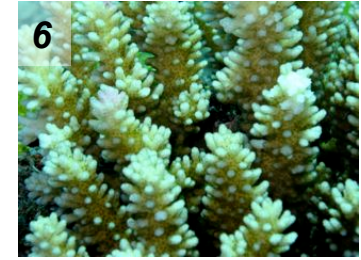
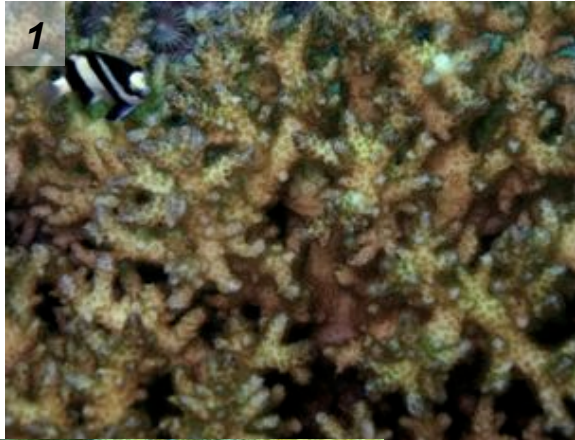
1) *aequituberculata*; 2) *floweri*?; 3) *tuberculosa*,  
4) *foveolata*; 5) *nodosa*; 6) *spongodes*

<b>Colony type</b>	Submassive, laminar, encrusting or branching
<b>Corallite type</b>	Corallites are small, less than 1mm, pore like, sometimes not visible underwater
<b>General</b>	Columella absent, corallite walls & coenostium are porous & may be highly elaborate with projections (papillae, tuberculae, ridges), or depressions in which the corallites sit. One species may have multiple growth forms.
<b>Septa-costae</b>	Septa in 2 cycles with inward projecting teeth
<b>Other remarks</b>	Calice is pore-like immersed; tentacles are usually extended at night
<b>Similar species</b>	<i>Porites</i> - corallite filled with internal structures, coenostium without elaborated structures

*Fam:* Pocilloporidae

# Pocillopora

Family Pocilloporidae; cauliflower coral



1) *damicornis*; 2) *elegans*; 3) *meandrina*, 4) *verrucosa*; 5) *eydouxi*; 6) *indiana*; 7) *ligulata*; 8) *verrucosa* in high energy environment; 9) *Pocillopora*-dominated habitat

<b>Colony type</b>	Branching, becoming submassive in high energy environments
<b>Corallite type</b>	small, flush, immersed, pore like
<b>Description</b>	Branches fine to robust and flattened, covered with distinctive verrucae, immersed corallites, coenostium covered with granules
<b>Septa-costae</b>	Two unequal cycles of septa
<b>Colour</b>	Cream, brown, pink & purple
<b>Other remarks</b>	Tentacles are extended during the day and night

# *Seriatopora*

Family Pocilloporidae; bush/bird's nest coral



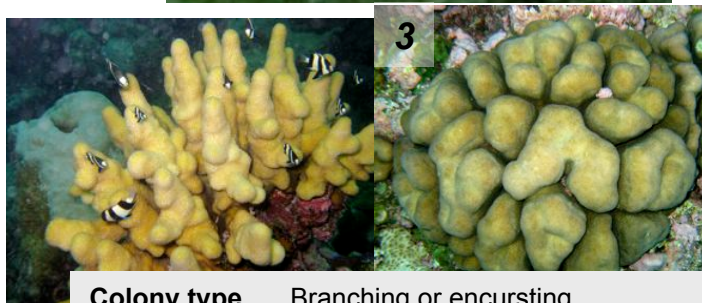
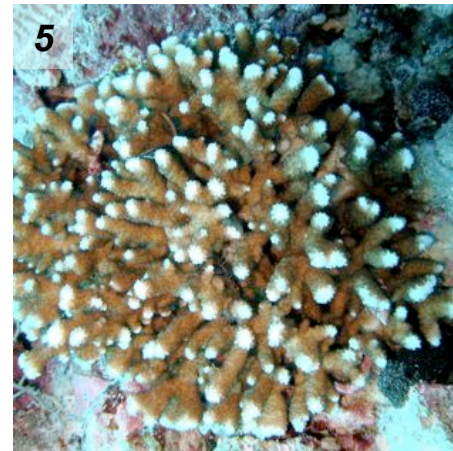
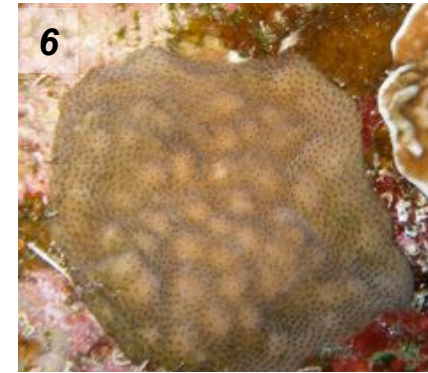
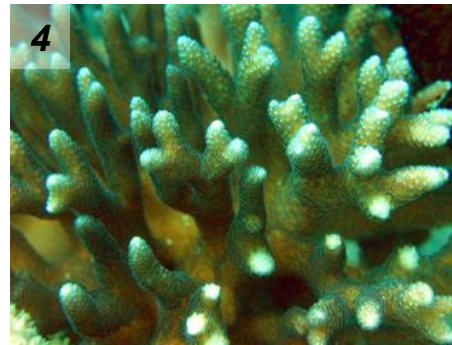
1) *hystrix*; 2) *guttatus*; 3) *dendritica*, 4) *caliendrum*; 5) galls, made by symbiotic crab

<b>Colony type</b>	Compact bushes
<b>Corallite type</b>	Arranged in neat rows along the branches
<b>Description</b>	Bushy, thin and tapering branches with pointed or rounded tips, corallites-neat rows along the branches, a rim of tall spines around the calice
<b>Septa-costae</b>	1-2 cycles of septa (six) fused to the columella
<b>Colour</b>	Light yellow, tan or green
<b>Other remarks</b>	Coenostium-covered with fine spines. Easily confused with fine <i>Stylophora</i>



# Stylophora

Family Pocilloporidae; hood/finger coral



1) *pistillata*; 2) corallite hoods;  
3) *pistillata*, alternate forms,  
4) *subseriata*; 5) *madagaskariensis*;  
6) *mamilata*; 7) *wellsii*; 8) *kuehlmani*

<b>Colony type</b>	Branching or encrusting
<b>Corallite type</b>	Vary in structure according to the position, with a prominent hood
<b>Description</b>	Branches thin except for <i>pistillata</i> , with rounded or blunt tips, corallites-hooded on distal part of branches
<b>Septa-costae</b>	1st cycle meet the collumela
<b>Colour</b>	pale colours - yellow, green or tan
<b>Other remarks</b>	Tentacles usually extended at night

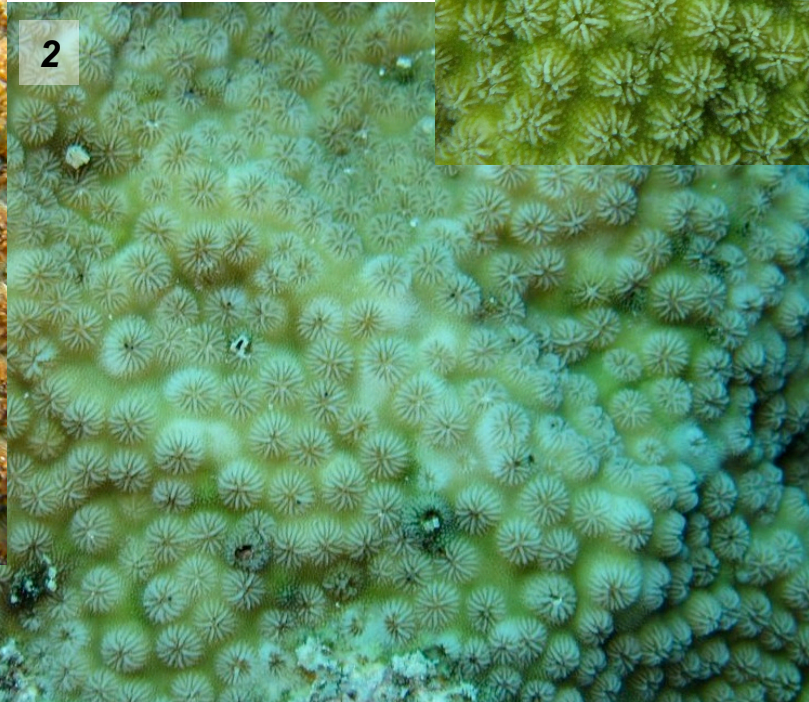
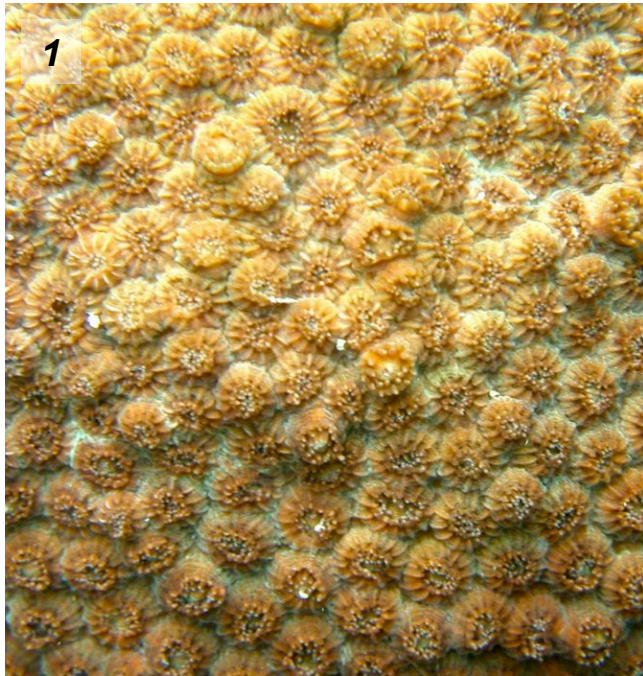


*Fam:* **Faviidae**



# *Cyphastrea*

Family Faviidae

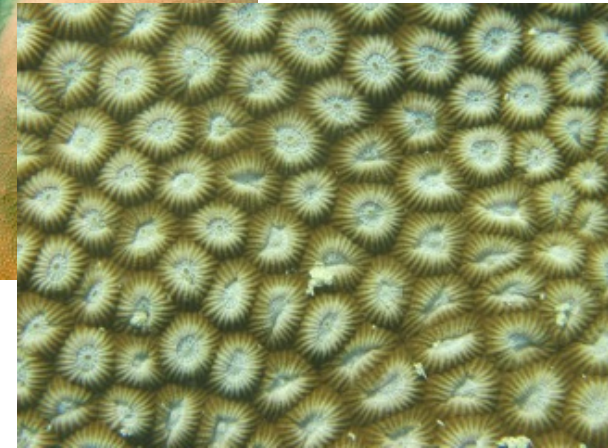
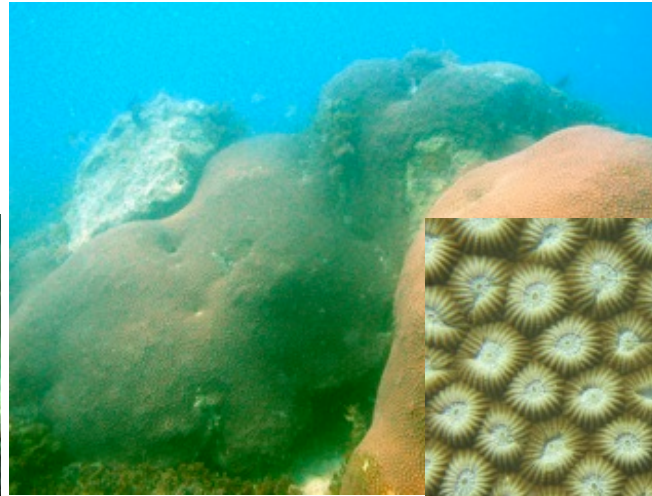
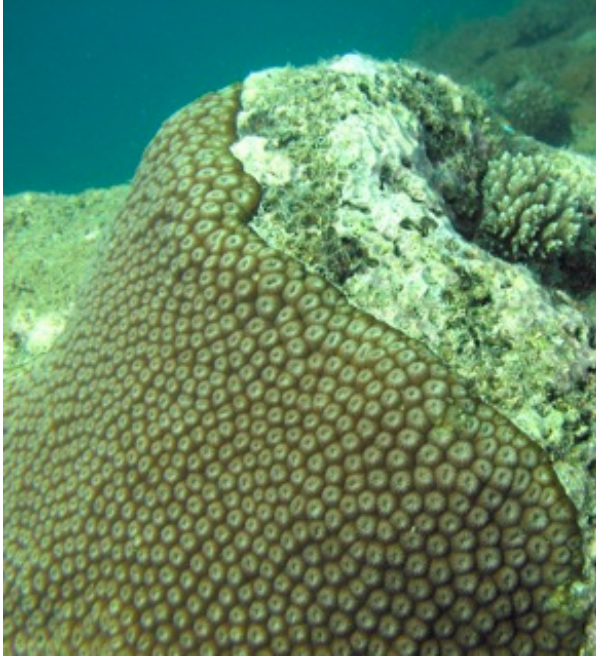


1) *serailia*, 2) *chalcidum*,  
3) *microphthalma*

<b>Colony type</b>	Massive or encrusting
<b>Corallite type</b>	Plocoid
<b>Description</b>	Rounded calices, less than 3mm diameter in diameter, small cone shaped corallites, coenostium granulated, small space between corallites
<b>Septa-costae</b>	Costae, restricted to corallite wall
<b>Colour</b>	Tan, brown with white highlights
<b>Other remarks</b>	Tentacles are extended at night

## *Diploastrea*

Family Faviidae; double star coral

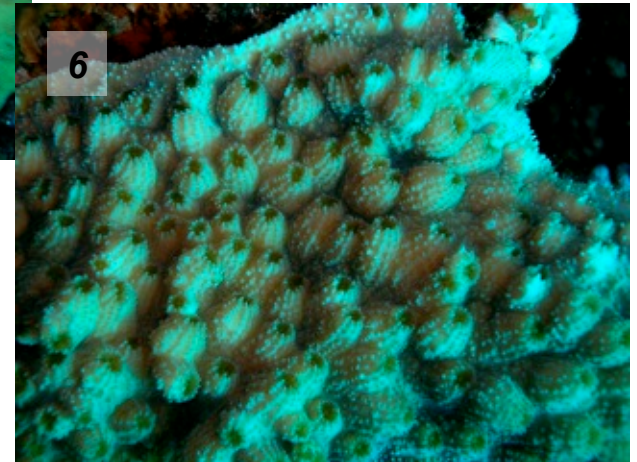
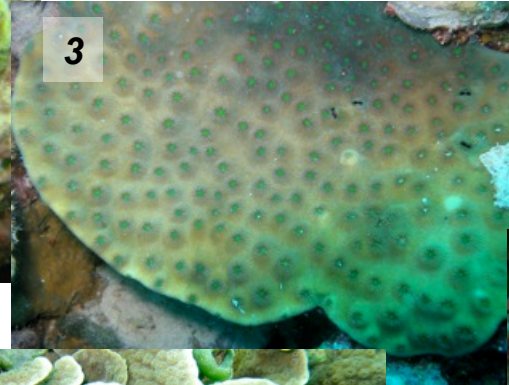
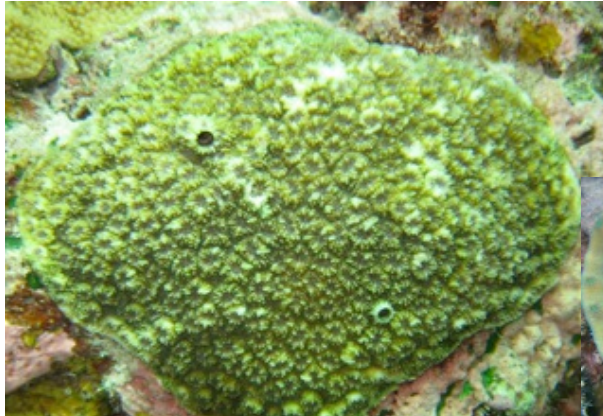


*Monospecific - D. heliopora*

<b>Colony type</b>	Dome shaped, can be very large
<b>Corallite type</b>	Plocoid/conical ,10-20mm diameter
<b>Description</b>	Dense colony & corallites, large cones with small opening, strongly lined costae, tentacles are extended at night
<b>Septa-costae</b>	Septa-equal, costae-very prominent, walls pores
<b>Colour</b>	Brown
<b>Similar species</b>	Monospecific

# *Echinopora*

Family Faviidae

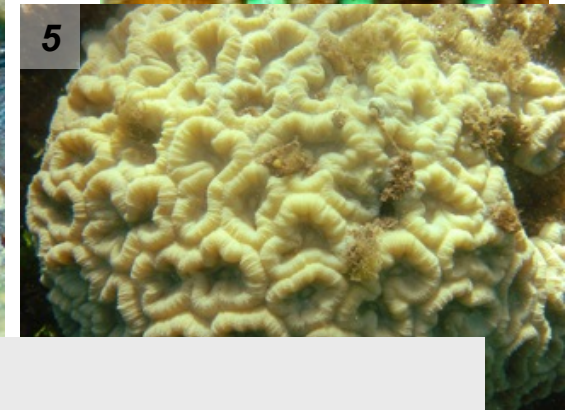
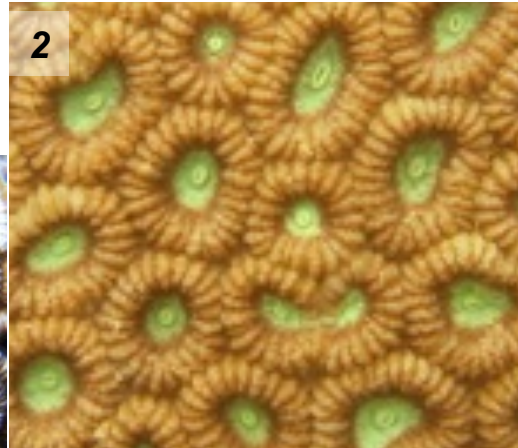


1) *hirsutissima*; 2) *lamellosa*; 3) *gemmifera*, 4) *robusta*; 5) *forskaliana*; 6) *tiranensis*

<b>Colony type</b>	Encrusting, sub massive or plating
<b>Corallite type</b>	Plocoid, up to 10mm and elevated, though differs among species
<b>Description</b>	Coenosteum with short spines, corallites uniform shape, height and scattering
<b>Septa-costae</b>	Irregular, costae restricted to the corallite wall, with spines
<b>Colour</b>	Brown, with white growing edges
<b>Other remarks</b>	Usually prominent columella, tentacles extend at night,
<b>Similar species</b>	<i>Echinophyllia</i> - corallites larger with spines in rows on coenosteum.

# *Favia*

Family Faviidae; knob/moonstone coral

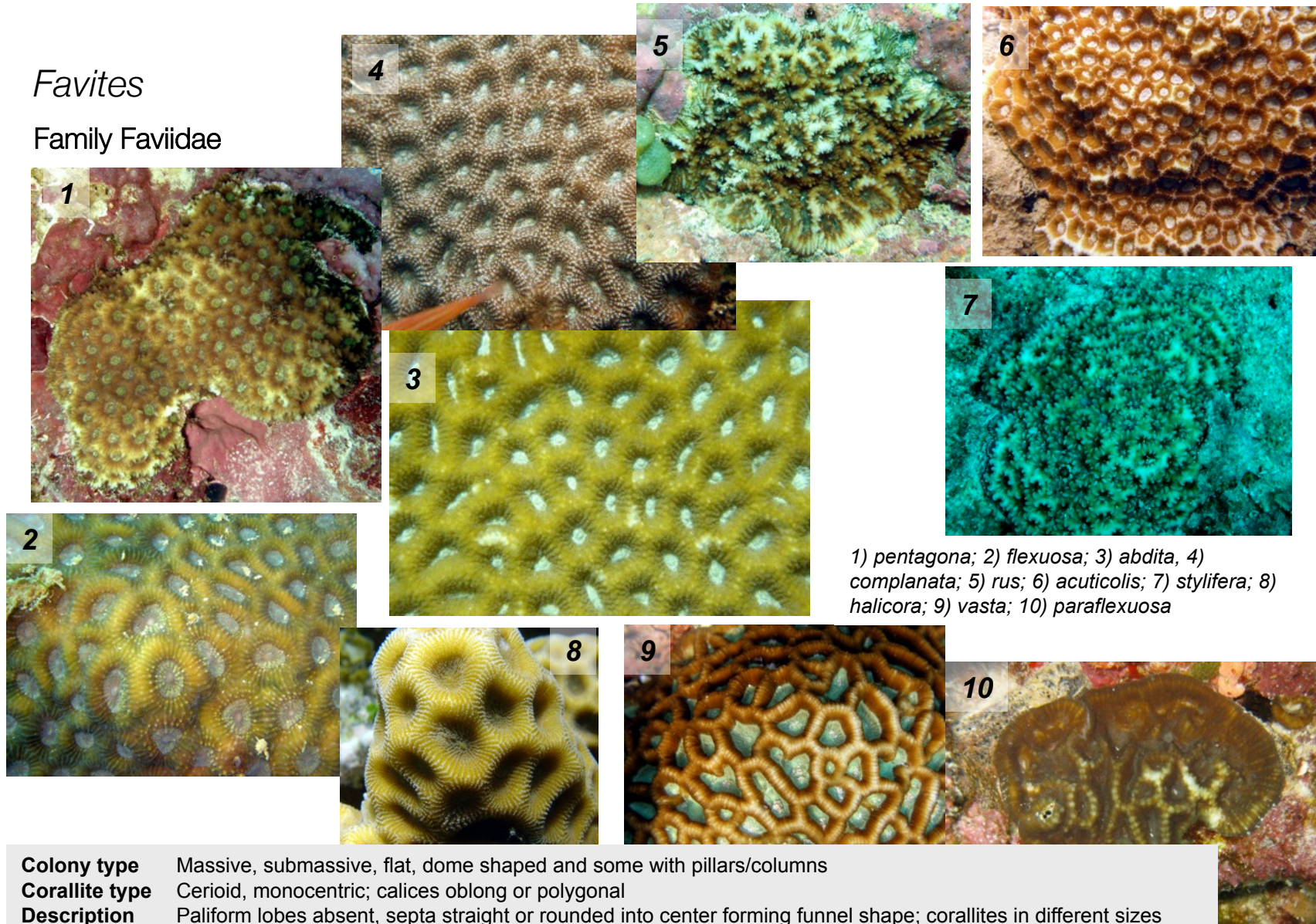


1) *favus/danai*; 2) *speciosa*, 3) *lizardensis*; 4) *helianthoides*; 5) *vietnamensis*; 6) *mathai*; 7) *stelligera*

<b>Colony type</b>	Massive, flat or dome shaped
<b>Corallite type</b>	Plocoid corallites, mostly monocentric, intratentacular budding
<b>Description</b>	Corallites approximately equal in size, and vary from highly plocoid to almost-ceriod and from circular to irregular
<b>Septa-costae</b>	Extend to the coenosteum
<b>Colour</b>	Variable, multicoloured openings with different stomodium
<b>Other remarks</b>	Tentacles are extended at night and have pigmented tips,
<b>Similar species</b>	<i>Montastrea</i> – extratentacular budding, corallites are squeezed into irregular shapes

# Favites

Family Faviidae

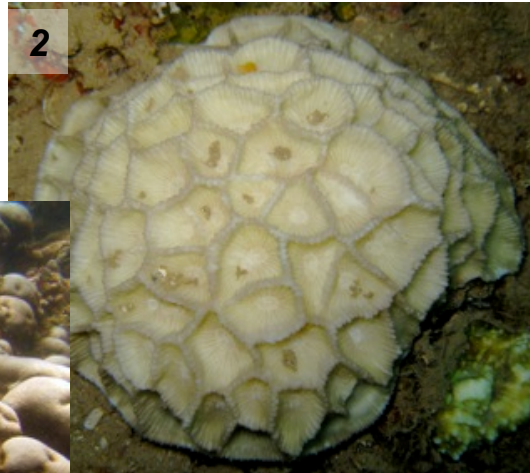


1) *pentagona*; 2) *flexuosa*; 3) *abdita*, 4) *complanata*; 5) *rus*; 6) *acuticolis*; 7) *stylifera*; 8) *halicora*; 9) *vasta*; 10) *paraflexuosa*

<b>Colony type</b>	Massive, submassive, flat, dome shaped and some with pillars/columns
<b>Corallite type</b>	Ceriod, monocentric; calices oblong or polygonal
<b>Description</b>	Paliform lobes absent, septa straight or rounded into center forming funnel shape; corallites in different sizes
<b>Colour</b>	Variable
<b>Other remarks</b>	Tentacles are extended at night, paliform lobes absent or seldom developed
<b>Similar species</b>	<i>Goniastrea</i> - with exsert paliform lobes and regular pattern of calices and septa with fine teeth, neat appearance <i>Platygyra</i> - more ragged septa, meandroid

# *Goniastrea*

Family Faviidae; lesser star coral



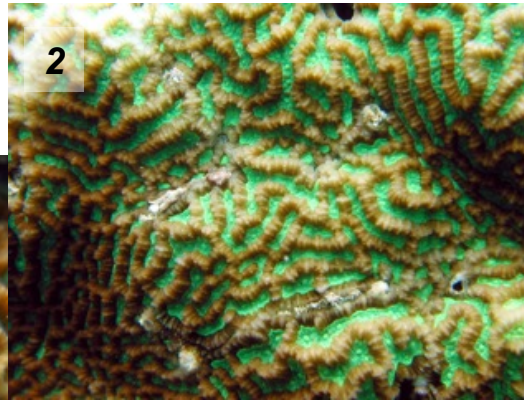
1) *retiformis*; 2) *peresi*;  
3) *pectinata*; 4) *favulus*;  
5) *edwardsi*; 6) *deformis*

<b>Colony type</b>	Massive, sub-massive, plates, encrusting
<b>Corallite type</b>	Ceriod, monocentric to short meandroid (one species is fully meandroid), mouths very distinct
<b>Description</b>	Paliform lobes prominent, angular and regular tightly packed corallites, calices are 4-8 mm diameter
<b>Septa-costae</b>	Septa smooth and very regularly/neatly arranged, drop abruptly into the calice
<b>Colour</b>	Variable
<b>Other remarks</b>	Tentacles extended at night, columella is spongy, well developed and form clear centres in meandroid colonies
<b>Similar species</b>	<i>Platygyra</i> - weakly developed paliform lobes, columella centres are seldom distinguishable, septa less regular <i>Favites</i> - almost never meandroid, septa less regular

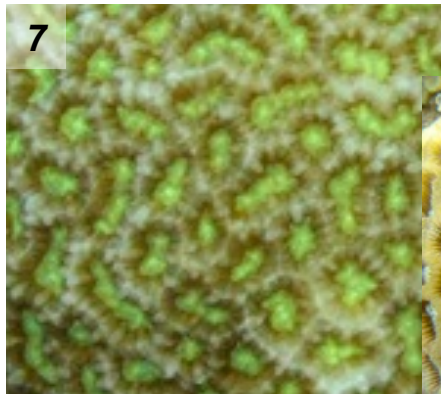


# Platygyra

Family Faviidae; brain coral



1) *daedelea*; 2) *ryukyusensis*;  
3) *lamellina*; 4) *sinensis*;  
5) *acuta*; 6) *pini*; 7) *verweyi*



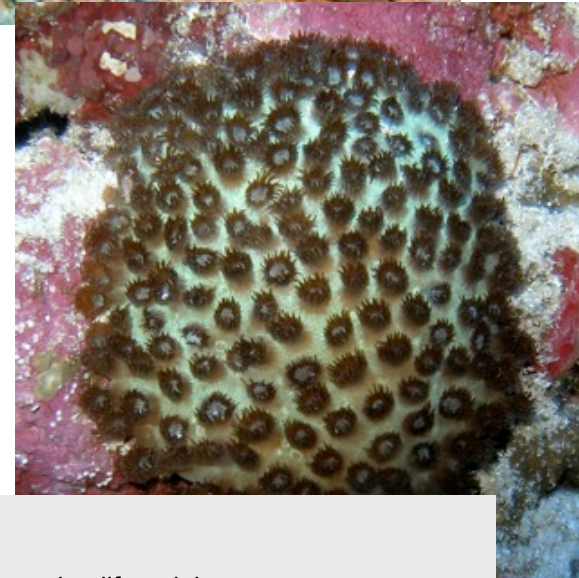
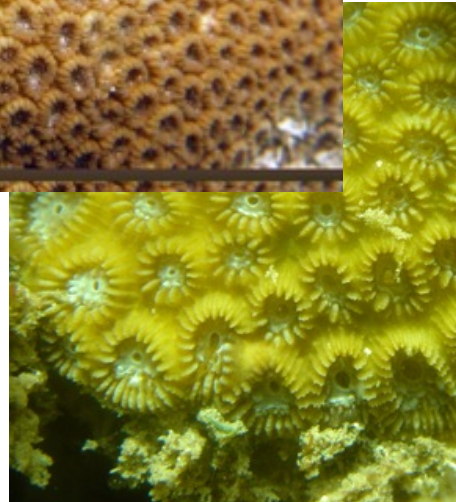
<b>Colony type</b>	Massive, dome shaped or flat
<b>Corallite type</b>	Meandroid or cerioid, calices 3-6mm in diameter
<b>Description</b>	Spongy, poorly defined & meandroid columella, paliform lobes are not developed, valleys can be straight, angular or contorted,,
<b>Colour</b>	Brown or variable, often green mouths
<b>Other remarks</b>	Tentacles are extended at night,
<b>Similar species</b>	<i>Goniastrea</i> - well-developed paliform lobes and columella centers <i>Favites</i> - always monocentric, corallites angular <i>Leptoria</i> - much finer, neater, more meandroid, wall/valleys more uniform/y spaced septa

# *Plesiastrea*

Family Faviidae; small knob coral



1) *devantieri*;  
2) *versipora*



**Colony type** Massive rounded or flattened  
**Corallite type** Plocoid (small rounded), crowded but evenly rounded  
**Description** Neat, small regular packed rounded corallites, well developed even septa and paliform lobes  
**Septa-costae** Costae prominent, non continuous  
**Colour** Tan or green in colour  
**Other remarks** Calices less than 3mm, tentacles extended day and night in different species  
**Similar species** most like *Montastrea* which are larger.  
*Cyphastrea* - plocoid, spreaded corallites, granulated coenostium,



*Fam:* **Agariciidae**



## *Gardineroseris*

Family Agariciidae; elephant skin coral

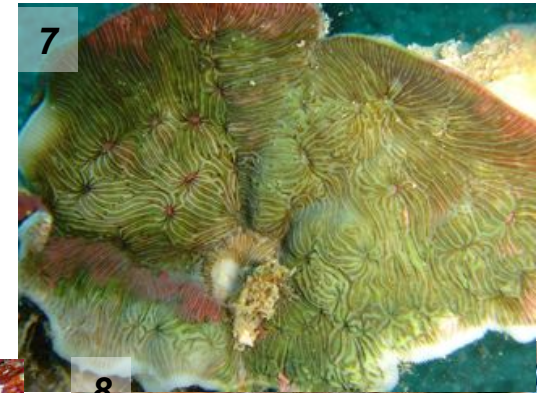
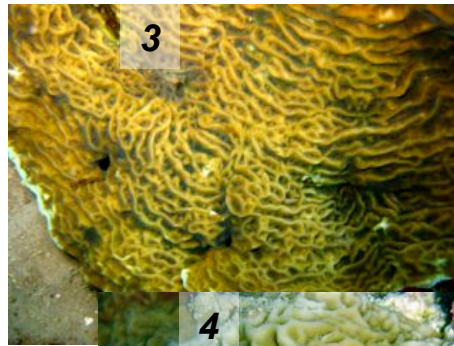


*G. planulata*; monospecific genus

<b>Colony type</b>	Massive, sometimes encrusting with laminar margins
<b>Corallite type</b>	Corallites immersed with indistinct walls in deep excavations with very acute ridges
<b>Description</b>	Corallites or group of corallites immersed with indistinct walls in deep excavations with very acute ridges
<b>Septa-costae</b>	Very fine and even
<b>Other remarks</b>	Extratentacular budding in calice corners, columella present, tentacles are extended at night.

# *Leptoseris*

Family Agariciidae; porcelain, lettuce coral

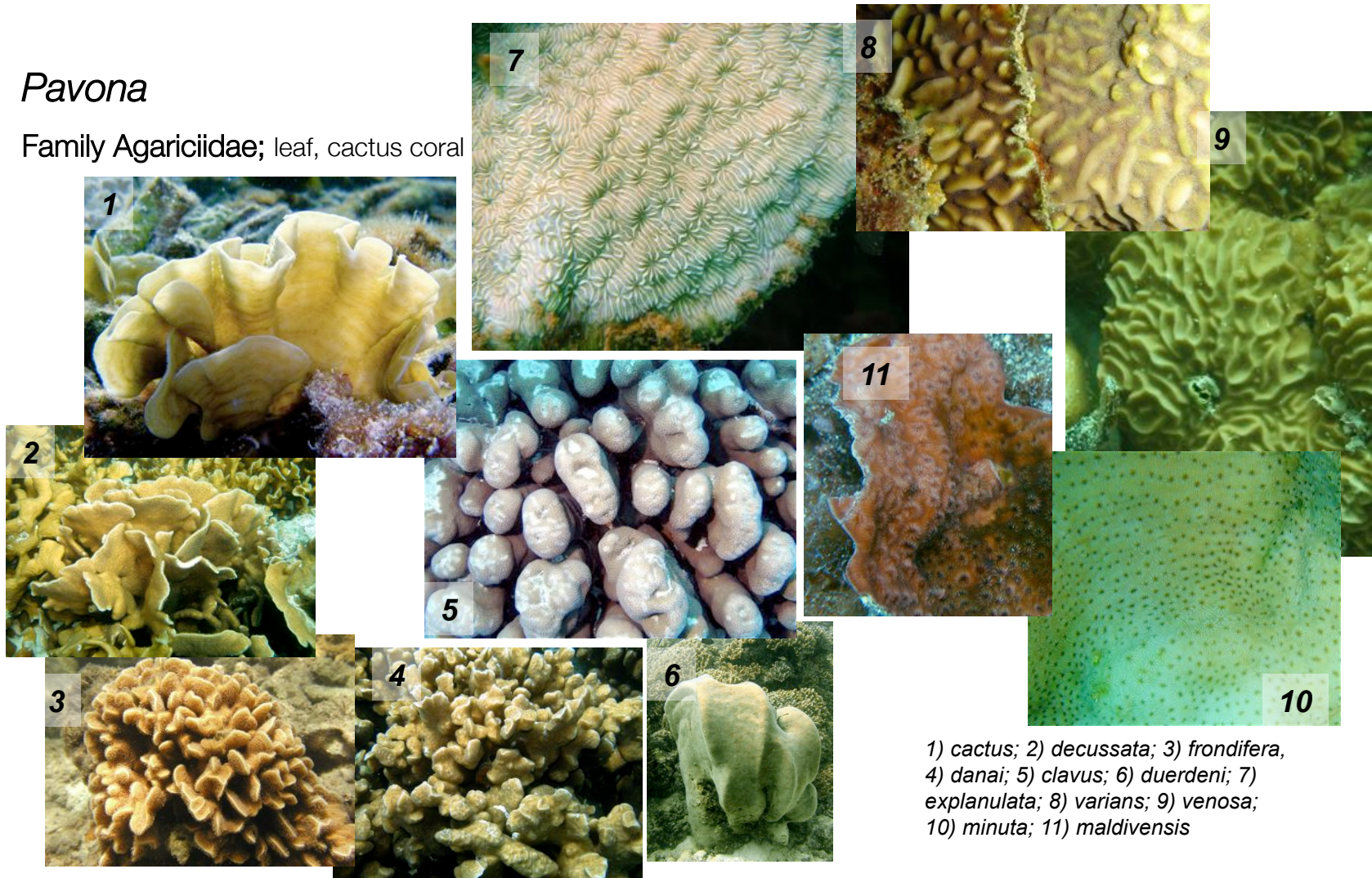


- 1) *hawaiiensis*; 2) *exaplanata*;  
 3) *mycetoseroides*, 4) *incrustans*;  
 5) *foliosa*; 6) *solida*; 7) *scabra*; 8) *yabei*

<b>Colony type</b>	Laminar or encrusting sheets and unifacial, delicate, contorted and subdivided fronds,
<b>Corallite type</b>	Small (6mm) shallow depressions, poorly defined walls
<b>Description</b>	Often with whitish edges, frequently have central corallite, septo-costae thin, curved and longer than 1cm
<b>Septa-costae</b>	Thin, in clear alternating series, granulated/rougher than <i>Pavona</i>
<b>Columella</b>	Central, usually separated by ridges, interconnected by septo-costae
<b>Other remarks</b>	Circum-oral budding followed by marginal budding, tentacles extended at night. Most common on deeper slopes

# *Pavona*

Family Agariciidae; leaf, cactus coral

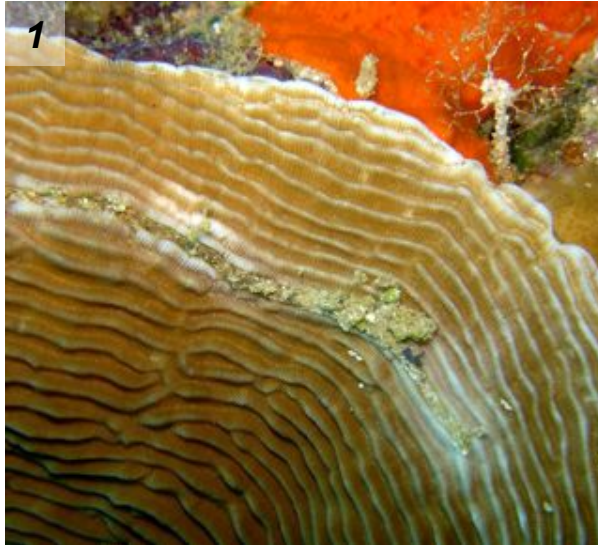


1) *cactus*; 2) *decussata*; 3) *frondifera*,  
4) *danai*; 5) *clavus*; 6) *duerdeni*; 7)  
*explanulata*; 8) *varians*; 9) *venosa*;  
10) *minuta*; 11) *maldivensis*

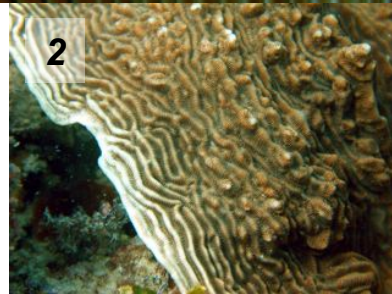
<b>Colony type</b>	Massive, columnar, fronds, laminar or encrusting. May be contorted.
<b>Corallite type</b>	Walls poorly developed or absent, centers in small shallow depression, small (<3mm)
<b>Septa-costae</b>	Corallites connectd by uninterrupted septo-costae giving distinct star-patternin absence of walls.
<b>Other remarks</b>	Weak central columella, tentacles extended only at night except for <i>P. explanulata</i>
<b>Similar species</b>	<i>Leptoseris</i> has finer septo-costae in two distinct cycles, more laminar, colonies are unifacial

# *Pachyseris*

Family Agariciidae; elephant skin coral



1



2



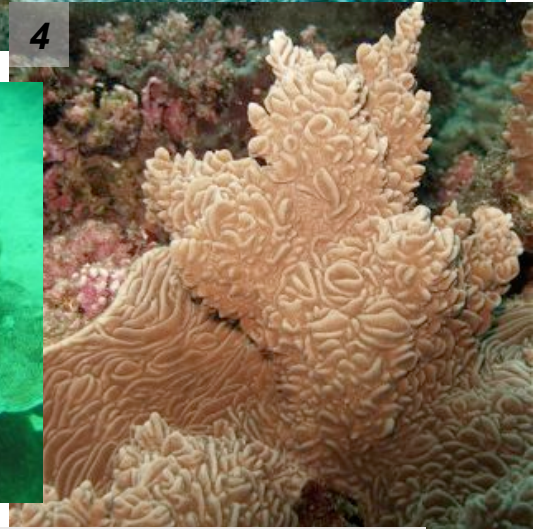
5



3

4

1/2) *speciosa*;  
3/4) *rugosa*;  
5) *turbid habitat*



**Colony type** Laminar & unifacial to branched & bifacial, and encrusting  
**Corallite type** Centres are not discernible, <1mm, aligned in valleys,  
**Description** Surface is a concentric ridges parallel to the margins, from highly ordered/parallel to contorted.  
**Septa-costae** Fine, even and tightly compacted  
**Other remarks** Very distinctive, most abundant in deeper, turbid sheltered locations.  
**Similar species** *Pavona* - septo-costae are thicker, shorter and straighter



*Fam:* **Merulinidae**





# *Hydnophora*

Family Merulinidae; Exclamation coral



1) *exesa*; 2) *microconos*; 3) *pilosa*, 4) *rigida*

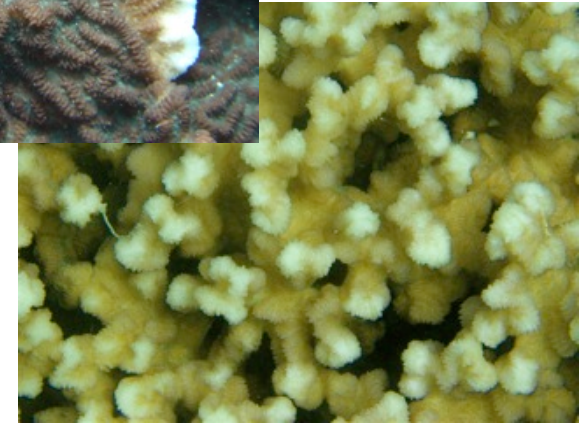
<b>Colony type</b>	Massive, encrusting or branching
<b>Corallite type</b>	Wall absent
<b>Description</b>	Monticules or hydnoophores present, between the corallites, with short tentacles around the base of each monticule
<b>Other remarks</b>	Tentacles extended during the day and night

## *Merulina*

Family Merulinidae; cabbage, crust coral



*M. ampliata*



**Colony type** Laminar, with short vertical projections

**Corallite type** Corallites are in a row, down valleys

**Description** Valleys are short and straight spreading in a fan and then dividing, valleys are pink/pale; walls are pale yellow or vice-versa, bifacial fronds

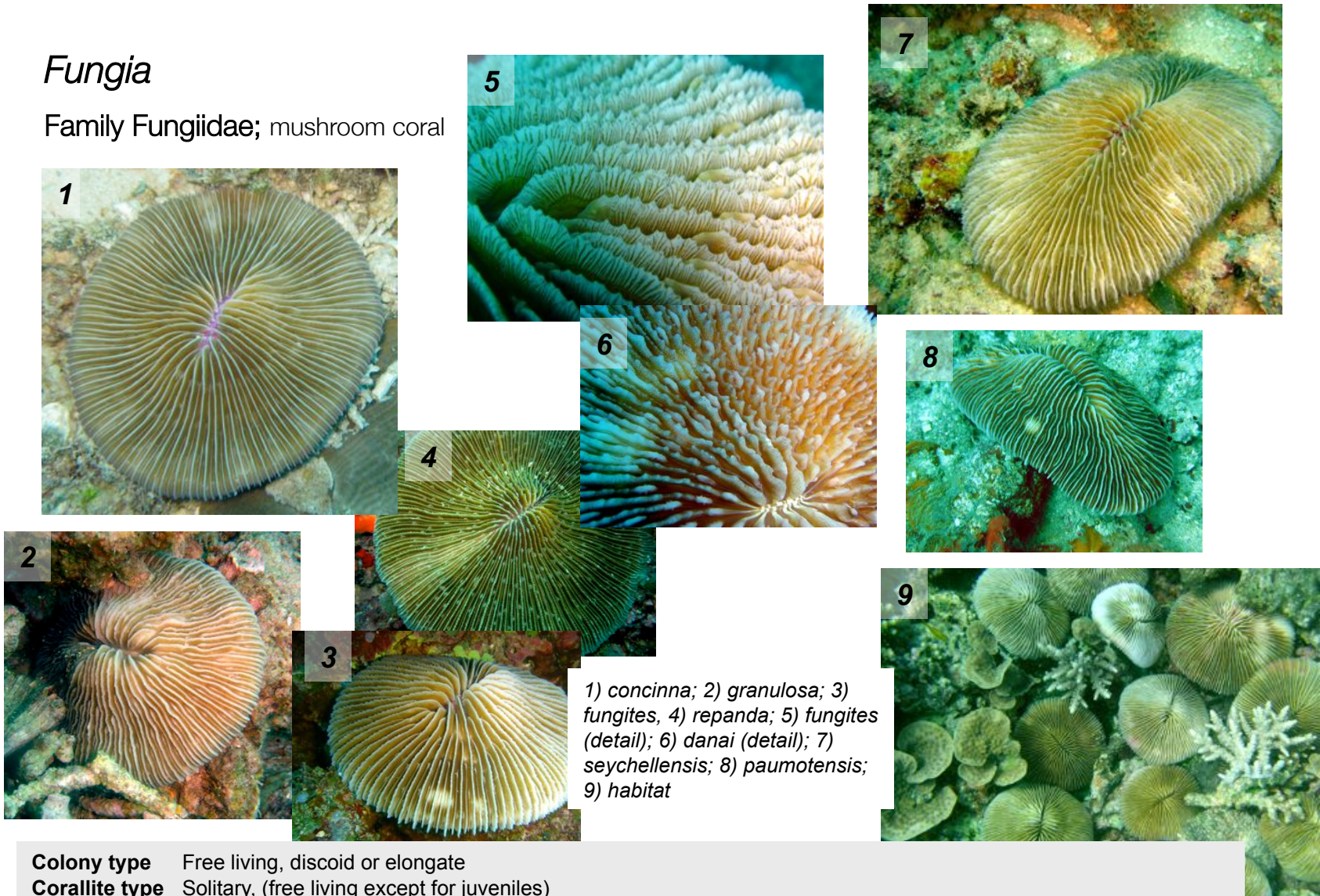
**Other remarks** Columella is trabecular, fused into a continuous mass.

**Similar species** *Scapophyllia* - parallel valleys, not extending

Fungiidae

# Fungia

Family Fungiidae; mushroom coral



1) *concinna*; 2) *granulosa*; 3) *fungites*, 4) *repanda*; 5) *fungites* (detail); 6) *danai* (detail); 7) *seychellensis*; 8) *paumotensis*; 9) *habitat*

<b>Colony type</b>	Free living, discoid or elongate
<b>Corallite type</b>	Solitary, (free living except for juveniles)
<b>Description</b>	Large-sized adults
<b>Septa-costae</b>	Septa-teeth, not lobed, costae-rows of spines
<b>Colour</b>	Tan, brown, with purple or green highlights
<b>Other remarks</b>	Tentacles are extended during the day, short, tapering & spaced tentacles
<b>Similar species</b>	<i>Cycloseris</i> - aboral side smooth, smaller <i>Heliofungia</i> - septa with lobed teeth, longer tentacles

# *Herpolitha*

Family Fungiidae; mushroom coral

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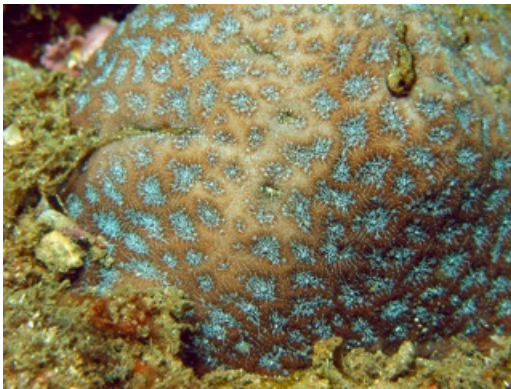
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1) *concinna*; 2) *granulosa*; 3) *fungites*, 4) *repanda*; 5) *fungites (detail)*; 6) *danai (detail)*; 7) *seychellensis*; 8) *paumotensis*; 9) *habitat*

<b>Colony type</b>	Colonial, elongate, free living
<b>Description</b>	Elongate, often bent, prominent axial furrow. Mouths occur inside the furrow. In <i>limax</i> , secondary mouthspiral to the axis,
<b>Septa-costae</b>	Septa-lack prominent teeth, radiate from axial furrow, large
<b>Colour</b>	Tan
<b>Other remarks</b>	Tentacles are extended during the night
<b>Similar species</b>	<i>Ctenactis</i> - single individual sometimes with several mouths, prominent teeth



*Fam:* **Siderastreidae**



# *Anomastrea*

Family Siderastreidae; false pillow coral



**Distribution:** Western Indian Ocean endemic. Known only from East African mainland and Madagascar

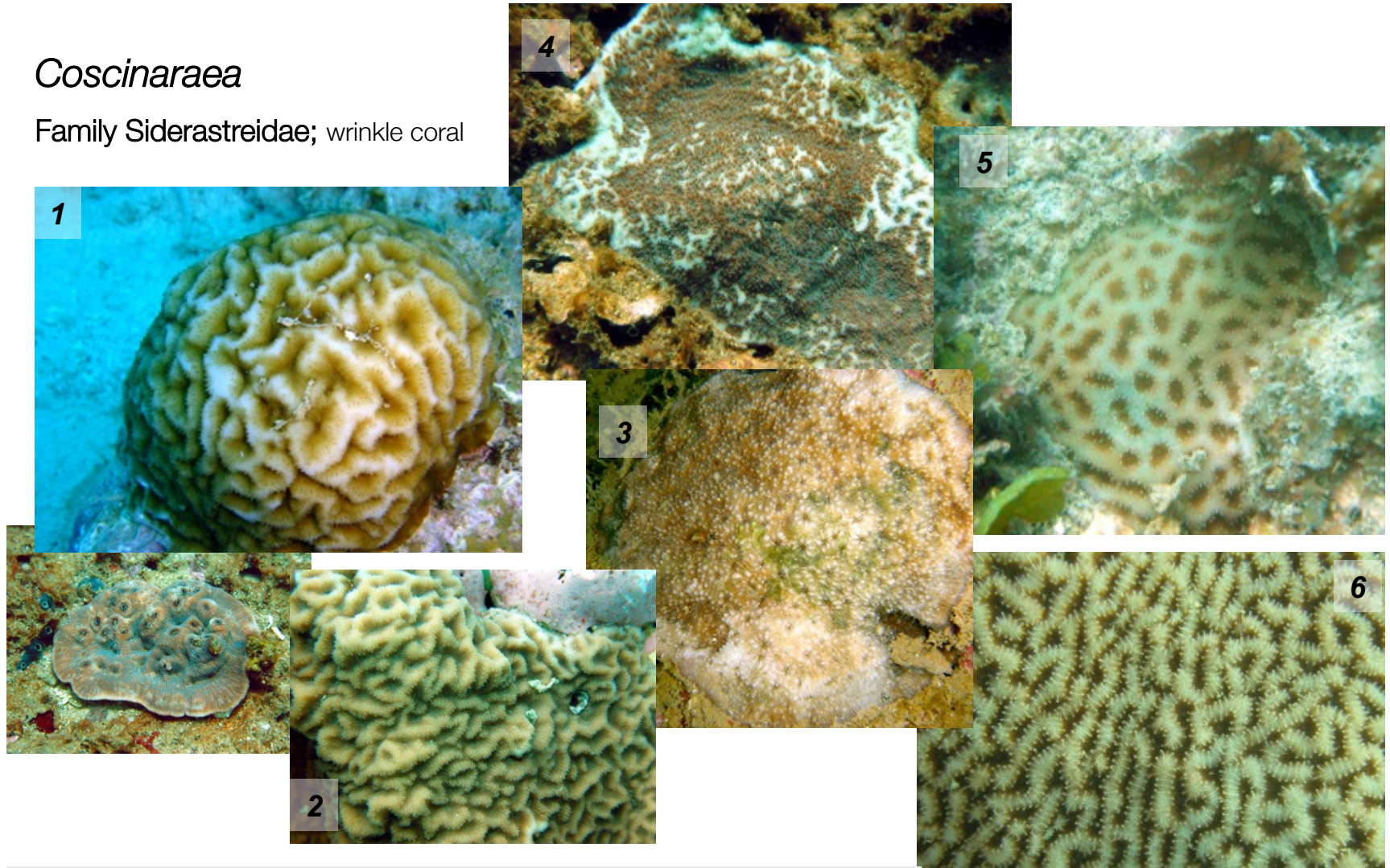


*Monospecific - Anomastrea irregularis*

<b>Colony type</b>	submassive in small golf-balls, to encrusting
<b>Corallite type</b>	Submeandroid to cerioid
<b>Description</b>	Walls are thin and septa have irregularly fused margins. Septa are widely spaced and uniform, giving the colony surface a neat appearance. Tentacles are usually at least partly extended during the day
<b>Septa-costae</b>	Widely spaced and uniform,
<b>Colour</b>	cream to brown, may be bluish-grey.
<b>Habitat</b>	shallow reef flats
<b>Similar species</b>	<i>Coeloseris mayeri</i>

# *Coscinaraea*

Family Siderastreidae; wrinkle coral



<b>Colony type</b>	Massive, columnar, encrusting or laminar,
<b>Corallite type</b>	Ceriod to meandroid, corallites in short valleys or irregularly scattered,
<b>Septa-costae</b>	Septo-costae fused in a distinctive manner, finely serrated to heavily granulated margins
<b>Other remarks</b>	Group of pinnules, intratentacular, septa perforated and granulated, mostly fusing towards the papillose columella

1) *monile*; 2) *exesa*; 3) *wellsi*, 4) *sp. nov.*; 5) *columna*; 6) *crassa*



# *Horastrea*

Family Siderastreidae



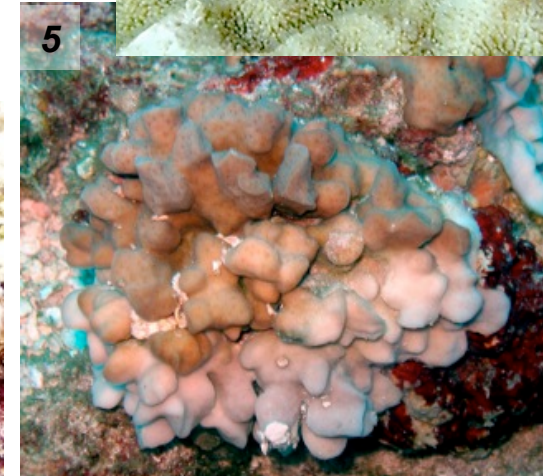
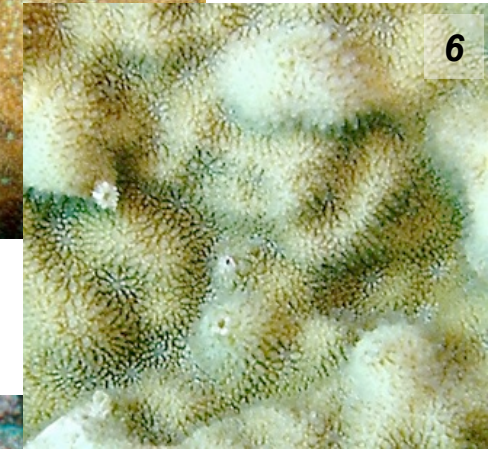
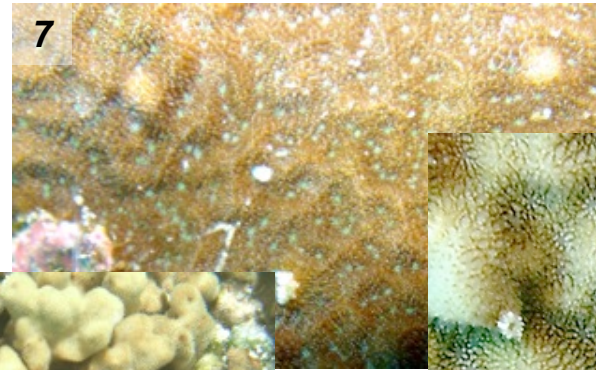
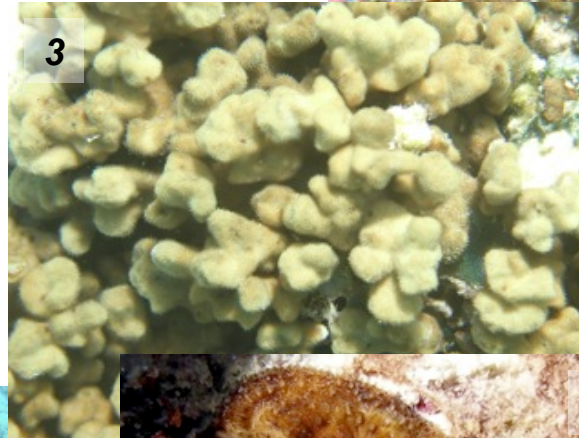
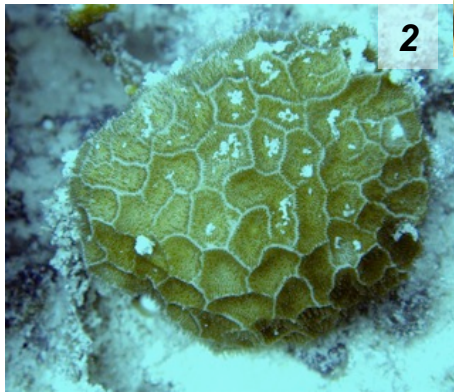
*Monospecific - Horastrea indica*

<b>Colony type</b>	Massive/hemispherical
<b>Corallite type</b>	Large and plocoid to meandroid with several centres
<b>Septa-costae</b>	Septa in three orders, costae well developed
<b>Colour</b>	Pale brown with blue-grey oral discs
<b>Habitat</b>	high-sediment environments, often in sand/rubble at base of reefs
<b>Similar species</b>	General appearance is <i>Favia</i> like but too messy, skeletal structures are closest to <i>Siderastrea</i>

**Distribution:** Western Indian Ocean endemic. Known only from East African mainland and Madagascar

# *Psammocora*

Family Siderastreidae; Exclamation coral

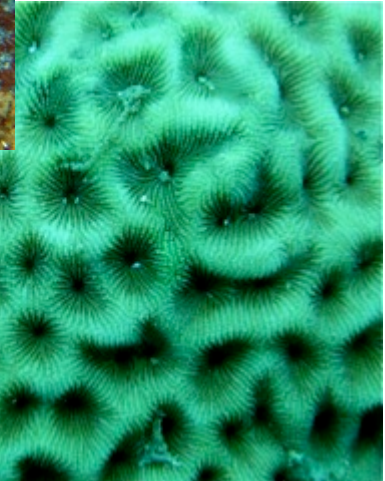


1) *haimeana*; 2) *profundacella*;  
3) *obtusangula*, 4) *explanulata*;

<b>Colony type</b>	Mostly encrusting; also submassive, columnar, laminar
<b>Corallite type</b>	Corallites small, shallow, sometimes forming short valleys
<b>Septa-costae</b>	Complex granulated septo-costae - primary septo-costae embedded in secondary ones, forming intricate patterns.
<b>Colour</b>	Light brown
<b>Other remarks</b>	Columella consists of a group of pinnules, intra-tentacular marginal budding, tentacles are extended during the day and night
<b>Similar genera</b>	<i>Coscinaraea</i> - large corallites with large calices

# *Pseudosiderastrea*

Family Siderastreidae; false pillow coral



*Monospecific - Pseudosiderastrea tayami*

<b>Colony type</b>	Encrusting to dome shaped, up to 160mm
<b>Corallite type</b>	Ceriod, polygonal, 3-6mm, walls variable from thick to fine
<b>Septa-costae</b>	Septa evenly spaced & fused towards the center, in fanlike groups, fine saw like teeth
<b>Columella</b>	1-4 pinnules
<b>Calice</b>	3-6mm across



*Genus*

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Family ; common name

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1) *haimeana*; 2) *profundacella*;  
3) *obtusangula*, 4) *explanulata*;  
5) *stellulata*; 6) *nierstrazi*  
(*detail*); 7) *nierstrazi*

<b>Colony type</b>	Mostly encrusting; also submassive, columnar, laminar
<b>Corallite type</b>	Corallites small, shallow, sometimes forming short valleys
<b>Septa-costae</b>	Complex granulated septo-costae - primary septo-costae embedded in secondary ones, forming intricate patterns.
<b>Colour</b>	Light brown
<b>Other remarks</b>	Columella consists of a group of pinnules, intra-tentacular marginal budding, tentacles are extended during the day and night
<b>Similar genera</b>	<i>Coscinaraea</i> –large corallites with large calices