

Mangrove and Seagrass Identification

Chlorophyta – Green Algae

Most commonly observed algae on coral reefs
Some are calcareous – they add significant amounts of calcium carbonate to the reefs
The main pigment is Chlorophyll

Rhizocephalus Pinecone Algae
Tightly packed flattened blades growing upwards concentrating from a single stalk

Udotea Mermaid's fan
Broad fan shaped blades on single stalks
Calcareous
Lines radiating from the base to the edge

Caulerpa Feather, blade and grape algae
Grow on runners

Penicillis Shaving brush algae
Cone shaped. Similar to *Rhizocephalus* but with needles instead of blades.

Halimeda sp. Watercress and lettuce leaf algae
Disk shaped calcified segments – stiff

Ventricaria sp. Sea Pearl
Dark green spheres with a bright reflective sheen.
Attaches to substrate by fine hair like runners
One of the largest single cells found in the animal kingdom

Phaeophyta – Brown Algae

Get color from brown pigment called fucoxanthin

Dictyota sp. Y-Branched algae
Brown/green
Branches fork at ends into a y-shape
Leaves are flat, tips may be pointed or flat

Padina sp. White Scroll Algae
Large dense clumps of leafy blades with rounder outer margins.
White to light brown in color.
Looks like pencil shavings.

Sargassum sp. Sargassum Seaweed
Often floats on surface – providing home for many sea creatures on the open oceans
Air filled sacs like small grapes

Turbinaria sp. Turbina sp.
Triangular coneshaped blades with saucer like tips
trumpet shaped

Rhodophyta – Red Algae

Most diversified algae with more than 4000 tropical species
Many of the calcareous species are important in the building of reefs

Neogoniolithon sp. Chinese Noodle Algae
red, calcareous algal –crunchy when you step on it (Also painful – please wear shoes!)

Laurencia sp.
Brown and rubbery – with little nobs
Feels like plastic
Yellow pigment stains your fingers when you touch it

Angiosperm – Seagrasses, mangroves etc

Thalassia testudinum Turtle Grass
Flat blades
Green with rounded tips
Extensive root system with well anchored runners
Leaves are often covered with sediment and encrusting organisms

Syringodium filiforme Manatee Grass
Thin cylindrical blades
Often encrusted with other organisms

Halodule beaudetti
Thin flat blades
Look very similar to manatee grass

Rhizophora mangle Red Mangrove
First mangroves to colonise an area – primary succession
Prop roots – reddish and provide support. Start growing horizontally from the stem.
Salt excluder – prevents salt from entering plant at root level however the salt that does get in is disposed of by a sacrificing leaf – the yellow one
Propagule – 4 – 8in round sea pod that hangs from the mangrove. When it drops into the water it germinates growing roots and leaves. vivipary.
Leaves - Red Red Pointed head!
Large, very green and waxy on both sides
No visible pores
Rhododendron like

Avicennia germinans Black Mangrove
Salt excreter – Gets rid of excess salt through the leaves. Often find salt crystals on the underside of the leaves
pneumatophores – roots that stick up for gas exchange
Cable roots – The roots that run along the substrate to the pneumatophores
Leaves- Skinny, elliptical, waxy on one side. pores on the underside.

Laguncularia racemosa White Mangroves
Salt excreter
pneumatophores
Cable roots
Leaves – Butt shaped, pores on the edge of the leaf

Conocarpus erectus Buttonwood mangrove
No mechanism for salt excretion/exclusion.
Looks like a regular tree
One just next door to Ocean haven
Leaves – Has pores along the center (close to the nerve) Look like buttons on a shirt, looks similar to the red – look for the pores
Last in succession

Salicornia sp.
(Terrestrial – ground cover)
Segmented and skinny
Succulent
Edible, tastes salty
“Slim sally”

Sesuvium
(Terrestrial – ground cover)
Thick, fleshy leaves growing flat along the bottom of substrate
Taste like sour apples
“Fat Suzy”

Cnidaria- Jelly fishes, Anemones and corals

Most common as tiny individuals that live in colonies of thousands, but can be large solitary individuals.
Live as attached individuals, called polyps, or free swimming known as medusae.
All have a ring of tentacles
Have stinging capsules (nematocysts).

Cassiopea sp. Mangrove Jellyfish
Usually found on the bottom – if irritated may release nematocysts

Condylactis gigantea Giant Anemone
Largest Caribbean Anemone
Tentacles and body are white with tips of gray/green/yellow/purple/pink!

Porites porites Finger Coral
Finger like, widely spaced branches
Yellowish in color

Annelida – Segmented worms

Distinguishing characteristics is presence of repetitive segments which divide up the worms body

Bispira variegata Variegated Featherduster
Circular crown of a feather like structure (radioles)
The head and the worms body are hidden in parchment-like tubes that are often buried deep within the protection of the reef
Often segmented
Can be banded in shades of brown or violet or can be solid color
Many cluster together in small groups
Detect very slight movements in water and light and will retract if threatened.

Arenicola cristata Southern Lugworm

Extremely unlikely that you will see the worm – identify them by the mounds of sand that they build and live in. May see a cloud of sand coming out of the mound.

Mollusca - Snails and Bivalves

Mollusca is the latin name for softbody – lack of true skeleton
A calcium carbonate skeleton for protection is secreted by the mantle.

Shell

Strombus gigas Queen Conch
Large shell with blunt spikes
Often covered in debris such as *Dasycladus* and algae
Use opercular to move around

Strombus costatus Milk Conch
White inside
Thick lip
Smaller shell and spines more rounded

Cerithium litteratum Stocky Cerith
 $\frac{3}{4}$ in to $1\frac{1}{4}$ in
Shells are very pointed with small spines
Often found in Neogoniolithon

Pinna carnea Amber Penshell
Bivalve that embeds its self vertically in the sand.
Very sharp edges!

Echinodermata – Starfish, Sea Urchins etc

Oreaster reticulatus Cushion seastar
Thick with short arms and heavy body
Knobby spines form geometric patterns
Very large

Holothuria mexicana Donkey Dung Sea Cucumber
Long, black to purplish, cylindrical sea cucumber with white underparts

Tripneustes ventricosus West Indian Sea Egg
densely covered with short white spines
Body is usually black but can be dark purple or reddish brown
Harvested to eat roe/eggs

Meoma ventricosa Red Heart Sea Urchin
Often covered with shells and debris for camouflage

Chordata – Fishes

Sphyrna barracuda Great barracuda
Silver fish with a large mouth.
Curious, but not very dangerous

- Gerres cinereus* Yellowfin Mojarra
 Yellow ventral fins
 Several indistinct vertical bars on body
- Lutjanus apodus* Juvenile Schoolmaster snapper
 Yellow fins
 Yellow and white bars on the body
 Dark band running through the eye
- Stegastes diencaeus* Juvenile Longfin Damsel fish
 Yellow gold with brilliant blue lines running from snout across the nape and down the back.
 Oscillated spot (black with blue ring) under dorsal fin.
- Stegastes diencaeus* Adult Longfin Damsel fish
 Dusky fish.
 Anal and dorsal fins are long and pointed, and extend beyond caudal peduncle.
 Often hide in conch shells.
 3-4 inches
- Stegastes leucostictus* Juvenile Beaugregory
 Yellow gold with a brilliant blue wash running from snout across nape and down the back.
 Spot (not oscillated) under dorsal fin.
- Stegastes leucostictus* Adult Beaugregory
 Dusky fish
 Pale to yellowish tail.
 Rounded dorsal and anal fins.
 2.5-3.5 inches
- Stegastes partitus* Bicolour Damsel fish
 Forebody is black.
 Hindbody is white to yellow
 2-3.5 inches
- Abudefduf saxatilis* Juvenile Sergeant Major
 Five black body bars
 Upper body is usually yellow with shades of green/blue
 White to silver gray below
- Thalassoma bifasciatum* Juvenile Bluehead Wrasse
 Black spot on the front part of the dorsal fin
 white/brown stripe down body
- Thalassoma bifasciatum* Initial Bluehead Wrasse
 Spot on dorsal fin
 Broken midbody stripe into rectangular blotches
- Thalassoma bifasciatum* Terminal Bluehead Wrasse
 Blue head
 Two dark bars behind head separated by white back
- Halichoeres bivittatus* Juvenile Slippery Dick
 Cigar shaped
 White with dark linear marking through eye along body.

Halichoeres bivittatus Initial Slippery Dick
White with brown linear markings along body.

Halichoeres bivittatus Terminal Slippery Dick
Usually shades of green to brown
Lines radiating from the eye.
5.5-7 inches

Negaprion brevirostris Lemon Shark
Yellowish/brown
Second dorsal fin nearly equal size to the first
Snout blunt and short