

Guide to Intertidal Invertebrates and Algae in Monterey Bay, CA

Mason Donny, August 2022

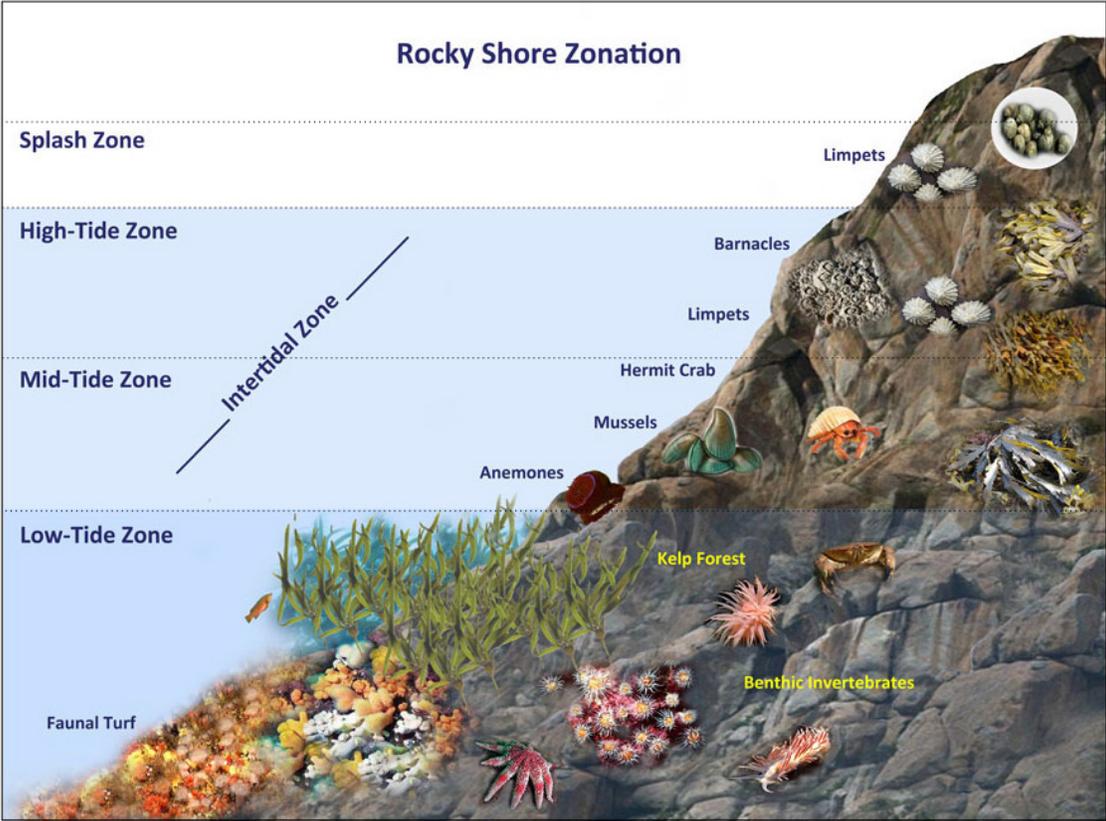


Table of Contents

Table of Contents	2
Intertidal Basics	4
Safety	5
NOAA's Graphical Forecasts - San Francisco/Monterey, CA	6
Magical Seaweed (Tide times)	6
Sneaker Waves	6
Invertebrate Identification	7
Anemone Species	7
Aggregating Anemone (<i>Anthopleura elegantissima</i>)	7
Giant Green Anemone (<i>Anthopleura xanthogrammica</i>)	7
Sunburst Anemone (<i>Anthopleura sola</i>)	7
Barnacle Species	8
Common Acorn Barnacles (<i>Balanus glandula</i> / <i>Chthamalus dalli/fissus</i>)	8
Pink Acorn Barnacle (<i>Tetraclita rubescens</i>)	8
Leaf Barnacle (<i>Pollicipes polymerus</i>)	8
Limpets and Chitons	9
Limpets (<i>Lottia</i> spp.)	9
Owl Limpet (<i>Lottia gigantea</i>)	9
Chitons (<i>Mopalia</i> spp./ <i>Nuttallina</i> spp./ <i>Tonicella</i> spp./others)	9
Slow and Sessile Animals	10
Black Abalone (<i>Haliotis cracherodii</i>)	10
Sea Mussel (<i>Mytilus californianus</i>)	10
Honeycomb Tube Worm (<i>Phragmatopoma californica</i>)	10
Predator, Prey, and Benefiter	11
Whelks (<i>Acanthinucella</i> spp./ <i>Nucella</i> spp./others)	11
Turban Snails (<i>Chlorostoma brunnea/funebralis</i>)	11
Hermit Crabs (<i>Pagurus</i> spp.)	11
Intertidal Visitors	12
Ochre Sea Star (<i>Pisaster ochraceus</i>)	12
Purple Sea Urchin (<i>Strongylocentrotus purpuratus</i>)	12
Purple Shore Crab (<i>Hemigrapsus nudus</i>)	12
Very Rare Sights	13
By-The-Wind Sailor (<i>Velella velella</i>)	13
Nudibranchs (85 different species in intertidal)	13
Monkeyface Eel (<i>Cebidichthys violaceus</i>)	13
Algae Identification	14
Coralline Algae (<i>Bossiella</i> spp./ <i>Calliarthron</i> spp./ <i>Corallina</i> spp. / many species)	14

Encrusting	14
Branching	14
Mastocarpus	14
Tar Spot Algae (Mastocarpus spp./Ralfsia spp. and others)	15
Stunted Turkish Towel (Mastocarpus spp./Mazzaella affinis)	15
Cushions	15
Green Pin Cushion Algae (Cladophora columbiana)	16
Scouring Pad Algae (Endocladia muricata)	16
Leaved Algae	16
Iridescent Algae (Mazzaella flaccida/splendens)	17
Sea Lettuce (Ulva spp.)	17
Red Algae (Nori) (Pyropia spp.)	17
Long Algae	17
Rockweeds (Fucus gardneri / Hesperophycus californicus / Pelvetiopsis limitata / Silvetia compressa)	18
Dead Man's Fingers (Codium fragile)	18
Surfgrasses (Phyllospadix scouleri/torreyi)	18

Intertidal Basics



Zone	Characteristic
Splash Zone	Only submerged at high tide, going to be dry most of the time
High Tide	Floods at peak tide heights, has hardy animals such as barnacles
Mid Tide	Waves come and go from this area, tends to have pools
Low Tide	Almost always underwater, less hardy organisms living in this region

Safety

NOAA's Graphical Forecasts - San Francisco/Monterey, CA

<https://graphical.weather.gov/sectors/mtrMarineWeek.php#tabs>

Wave Height: Ideally 4 feet or less

Wind Speed: Ideally 10 Knots or less

Weather: No precipitation, limited to no fog

Magical Seaweed (Tide times)

<https://magicseaweed.com/Monterey-Wall-Surf-Report/9262/>

Drive to location an hour before low tide to maximize time



Sneaker Waves

Fast moving waves that can easily sneak up on you in the intertidal. They can knock you off your feet. **When in the intertidal always have one person facing the ocean to watch for waves. Alert everyone of incoming waves**

Invertebrate Identification

Anemone Species



Aggregating Anemone
(*Anthopleura elegantissima*)

Giant Green Anemone
(*Anthopleura xanthogrammica*)

Sunburst Anemone
(*Anthopleura sola*)

Rarity:
Common

Rarity:
Common

Rarity:
Uncommon

Size:
Small, 0.8 - 2 inches (2 - 5cm)

Size:
Up to 10 inches (25cm)

Size:
Up to 10 inches (25cm)

Characteristics:
greenish-colored body, often
with pink-tipped tentacles.
Group together often

Characteristics:
olive-green to bluish green disc
without radiating lines
Pickle like texture

Characteristics:
sunburst pattern of radiating
lines on oral disk. **Radiating
lines.** distinguished by lines on
disc and tubercles in rows on
column. **Look like both others**

Habitat:
Rocks and crevices, pools,
tidepools in mid intertidal zone

Habitat:
Pools in low intertidal

Habitat:
Pools in low-mid intertidal

Barnacle Species



Common Acorn Barnacles

(Balanus glandula/ Chthamalus dalli/fissus)

Rarity:
Very Common

Size:
2 cm

Characteristics:
White with diamond shaped mouth. **Groups together**

Habitat:
Mid to low intertidal

Pink Acorn Barnacle *(Tetraclita rubescens)*

Rarity:
Semi common

Size:
3 - 5 cm

Characteristics:
Pink but can be bleached. **Volcano-like shape**. Usually solitary

Habitat:
Low to mid intertidal. Near mussels

Leaf Barnacle *(Pollicipes polymerus)*

Rarity:
Uncommon

Size:
Up to 8 cm

Characteristics:
Dark with a fleshy stalk, **white plates**

Habitat:
Mid intertidal indicator

Limpets and Chitons



<p>Limpets (<i>Lottia spp.</i>)</p>	<p>Owl Limpet (<i>Lottia gigantea</i>)</p>	<p>Chitons (<i>Mopalia spp./ Nuttallina spp./ Tonicella spp./others</i>)</p>
<p>Rarity: Common</p>	<p>Rarity: Rare</p>	<p>Rarity: Uncommon</p>
<p>Size: 12mm to 10cm</p>	<p>Size: Up to 3.5 inches (8 cm)</p>	<p>Size: Variety of sizes</p>
<p>Characteristics: Group of mollusks. Variety of colors and shapes. Mostly brown and camouflaged</p>	<p>Characteristics: Oval shape with an apex. Variety of colors</p>	<p>Characteristics: 8 separate overlapping plates</p>
<p>Habitat: Splash zone to low intertidal. Can also be on other organisms like kelp or seagrass</p>	<p>Habitat: Mid to high intertidal in high areas. Also in crevices</p>	<p>Habitat: Splash zone, tend to hide in crevices</p>

Slow and Sessile Animals



Black Abalone
(*Haliotis cracherodii*)

Sea Mussel
(*Mytilus californianus*)

Honeycomb Tube Worm
(*Phragmatopoma californica*)

Rarity:
Uncommon

Rarity:
Very Common

Rarity:
Very hard to find in Monterey,
common in large groups

Size:
20cm or more in length

Size:
Up to 20cm

Size:
Up to 2cm

Characteristics:
Dark colored shells, **lots of holes on shell**

Characteristics:
Black or white if bleached

Characteristics:
Use grains of sand to build honeycomb like colonies

Habitat:
High intertidal to low intertidal.
Like to hide in crevices and rocks

Habitat:
Dominant in mid intertidal

Habitat:
Mid to low intertidal

Predator, Prey, and Benefiter



<p>Whelks (<i>Acanthinucella spp./Nucella spp./others</i>)</p>	<p>Turban Snails (<i>Chlorostoma brunnea/funebralis</i>)</p>	<p>Hermit Crabs (<i>Pagurus spp.</i>)</p>
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Rarity:
Uncommon

Size:
Up to 4cm

Characteristics:
Variety of colors. **Shells are all pointed**

Habitat:
High to medium intertidal. In tidepools. Can be seen feeding on turban snails. They leave a hole in any prey they feed on, look for this hole for evidence of a whelk predation

Rarity:
Very Common

Size:
Up to 3cm

Characteristics:
Black shell. **Hermit crabs take their shells. They should not move easily when pushed with finger**

Habitat:
Mid to low intertidal in tidepools

Rarity:
Very Common

Size:
2cm

Characteristics:
Dark body. **They often go into turban snail shells. You can tell the difference by pushing the shell, if it easily moves its a hermit crab**

Habitat:
Mid to low intertidal in tidepools

Intertidal Visitors



Ochre Sea Star
(Pisaster ochraceus)

Purple Sea Urchin
(Strongylocentrotus purpuratus)

Purple Shore Crab
(Hemigrapsus nudus)

Rarity:
Previously common, sea star wasting has decreased numbers

Size:
Average length of 14cm

Characteristics:
Variety of colors, generally have 5 arms

Habitat:
Mid to low intertidal. Juveniles can be found in crevices

Rarity:
Common

Size:
Average length of 5cm

Characteristics:
Generally purple in color with spike appendages

Habitat:
Lower intertidal

Rarity:
Common

Size:
4 - 5.6cm

Characteristics:
Dark red or purple body

Habitat:
Any crevice or tidepool might have these species

Very Rare Sights



By-The-Wind Sailor
(*Velella velella*)

Nudibranchs
85 different species in intertidal

Prickleback
(*Cebidichthys violaceus*)

Rarity:
Very Rare

Size:
10cm

Characteristics:
Jellyfish - Main sail, flat body with blue Characteristics on the edge that may fade to white

Habitat:
They are a wind sailor, check the surface of tidepools or low intertidal.

Rarity:
Very Rare

Size:
0.4cm to 60cm

Characteristics:
Variety of sizes and colors. This is a group of species. One key distinguishing feature is slug like body plan

Habitat:
Low intertidal or possibly in pools

Rarity:
Very Rare

Size:
Up to 30 inches

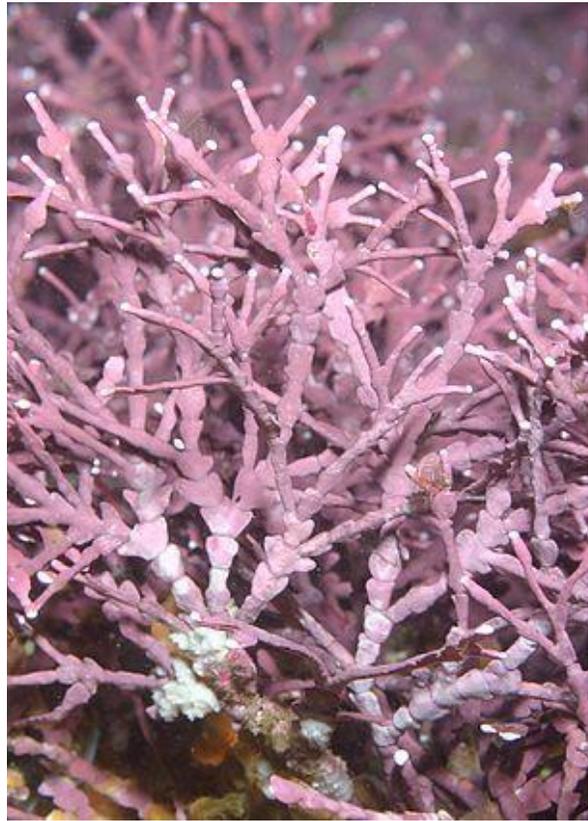
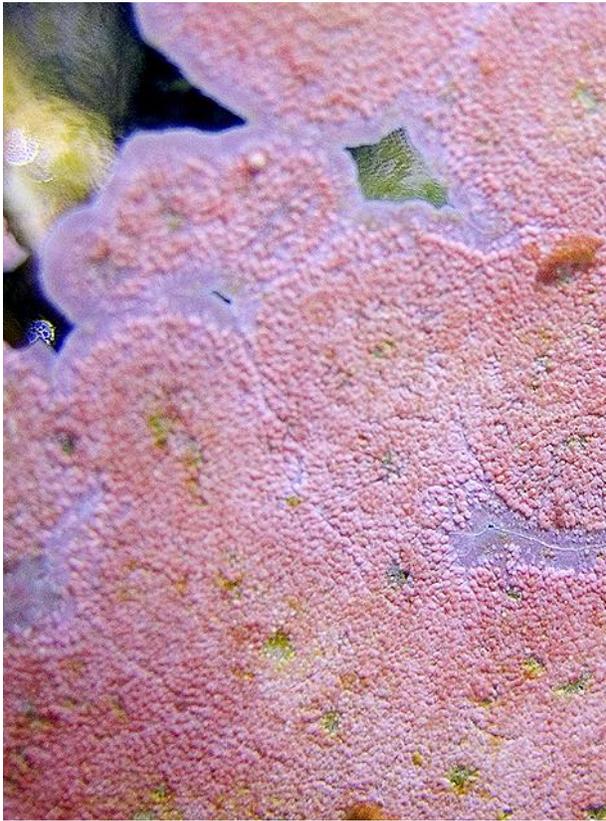
Characteristics:
Dark coloration, distinguished lip like mouth with a apex pointed facial structure

Habitat:
Hiding in crevices or rocks in the mid to low intertidal

Algae Identification

Coralline Algae

(Bossiella spp./ Calliarthron spp./ Corallina spp. / many species)



Encrusting

Characteristics:

Dull colors to bright pink. Described as crunchy. Create a crust over surfaces

Habitat:

On rocks in mid to low intertidal. Can also be in tidepools

Branching

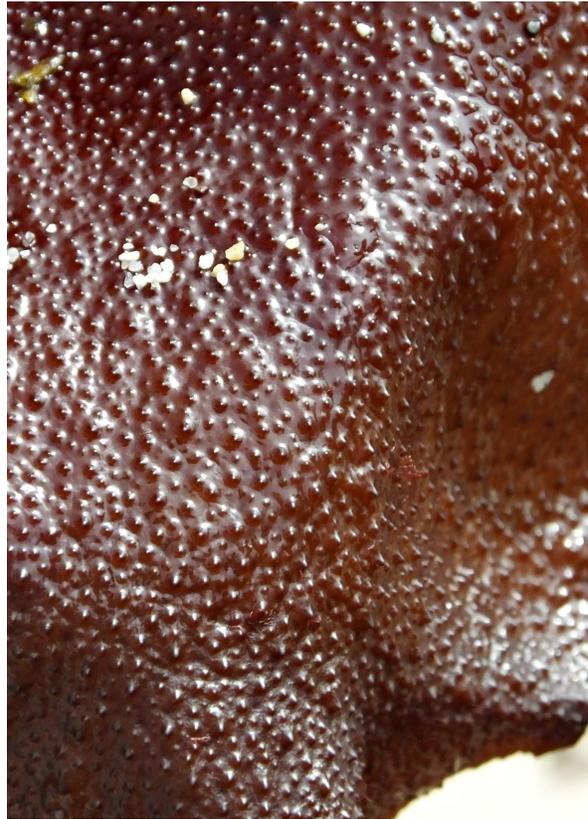
Characteristics:

Dull colors to bright pink. Has jointed branches. Crunchy

Habitat:

On rocks in mid to low intertidal. Can also be in tidepools

Mastocarpus



Tar Spot Algae

(Mastocarpus spp./Ralfsia spp. and others)

Characteristics:

Black, looks like tar. Looks wet but dry to the touch

Habitat:

On rocks

Stunted Turkish Towel

(Mastocarpus spp./Mazzaella affinis)

Characteristics:

Small dark red or purple blades. Split at the end. Blades can be 1-2cm or 5-7cm wide. Complex life cycle where they produce tar spot algae. Dry to the touch

Habitat:

Mid to high intertidal. Often next to tar spot algae

Cushions



Green Pin Cushion Alga
(*Cladophora columbiana*)

Characteristics:
Bright green and spongy, similar to moss

Habitat:
High to mid intertidal on rocks



Scouring Pad Alga
(*Endocladia muricata*)

Characteristics:
Brown in color, dense, and bushy

Habitat:
High intertidal on rocks or mussels

Leaved Algae



Iridescent Algae
(*Mazzaella flaccida/splendens*)

Characteristics:
Various colors, green, brown, red. **Appear iridescent when wet.**

Habitat:
High to low intertidal on rocks

Sea Lettuce
(*Ulva spp.*)

Characteristics:
One cell thick. Very easy to break. Bright green.

Habitat:
Intertidal pools

Red Algae (Nori)
(*Pyropia spp.*)

Characteristics:
Various colors, green, brown, red. **Look very similar to Sea Lettuce but do not break easily.**

Habitat:
Mid to low intertidal, can be found near intertidal pools

Long Algae



Rockweeds

(*Fucus gardneri* / *Hesperophycus californicus* / *Pelvetiopsis limitata* / *Silvetia compressa*)

Characteristics:

Long, thin and green. Look very similar to Dead Man's Fingers.

Rockweeds always have 2 split ends. Think a peace sign when identifying rockweed

Habitat:

High to Mid intertidal

Dead Man's Fingers

(*Codium fragile*)

Characteristics:

Long stocky and green. Looks very similar to Rockweeds.

Habitat:

High to Mid intertidal

Surfgrasses

(*Phyllospadix scouleri/torreyi*)

Characteristics:

Long green and looks like grass but it is an algae. Up to 2m in length

Habitat:

Low intertidal in water