

**A Field Guide To**

# **Common Subtidal Plants and Animals**

**Third edition**



**Santa Barbara Coastal Ecosystem  
Long-Term Ecological Research Program**



**A Field Guide To  
Common Subtidal Plants and Animals**

**Santa Barbara Coastal Ecosystem  
Long-Term Ecological Research Program**

*Edited by*

Dan Reed, Shannon Harrer, and Clint Nelson

Marine Science Institute  
University of California  
Santa Barbara, CA USA 93106

2007

## **Acknowledgements**

**We thank M. Anghera, Bryn Evans and Brent Mardian for their efforts in co-authoring previous editions of this field guide. Carey Galst, Margaret Jolley, Monica Pessino, Cherlyn Seruto, and Allan Willis contributed substantially to the preparation of this and previous editions. The following individuals provided photographs: Shane Anderson, Mike Behrens, Jake Bunch, Carey Galst, David Huang, Kevin Lafferty, Ron McPeak, and Danielle Toole, Greg Welch. Funding was provided by the National Science Foundation under grant Nos. OCE99-82105 OCE0620276. This book is intended for educational use only. No portion of it may be reproduced for other purposes without the consent of the authors.**

## Introduction

This guide contains information on the common marine plants and animals that inhabit the shallow rocky reefs of the Santa Barbara Channel. Its purpose is to aid student, staff and faculty researchers of the Santa Barbara Coastal Ecosystem Long-Term Ecological Research program (SBC-LTER) in field identification. It also provides those less familiar with the Santa Barbara Channel with a glimpse of the diverse marine life that can be found at SBC-LTER study sites. SBC-LTER is one of 26 sites established and funded by the National Science Foundation to investigate long-term ecological phenomena. More information on SBC-LTER's mission and research can be found at: <http://sbc.lternet.edu>.

## How To Use This Book

Taxa in this book are arranged in phylogenetic order. Each organism is identified by its scientific name and common name, if available. The accompanying one to four letter code in **BOLD** is the species code that is used to identify the taxa in all SBC databases. Brief information on key characteristics used in identification, including the size and habitat of most common occurrence, is provided for each taxon.

# Phylum Chlorophyta



## Ulvoid

### UV

- Identification: Bright green algae with thin leafy blades in the genera *Ulva* and *Enteromorpha*.
- Size: Variable in size.
- Habitat: Usually found growing on rocks or epiphytic.



## Filamentous Green Algae

### FG

- Identification: Usually small. Finely branched filamentous green algae. Common genera include *Enteromorpha* and *Spongomorpha*.
- Size: 4-10 cm in height.
- Habitat: Small caves or shaded overhangs.



## *Cladophora graminea*

### CG

- Identification: Thalli in hemispherical grayish-green to dark green tufts. Sometimes appear striped. Branches stiff, mostly long and uninterrupted by branching for some distance. Primarily dichotomous or trichotomous in lower portions.
- Size: 4-10 cm in height.
- Habitat: Small caves or shaded overhangs.



## Phylum Chlorophyta



### *Codium fragile*

Dead Man's Fingers

#### COF

- Identification: One to several erect branches from a broad base, then abundantly branched. Color dark green to blackish-green.
- Size: 10-30 cm in height.
- Habitat: Frequent on sides and tops of rocks in areas of high water motion.

## Phaeophyceae

## Phylum Phaeophyta



### Filamentous Brown Algae

#### FB

- Identification: Small finely branched filamentous brown algae. Frequently forming dense mats. Common genera include *Ectocarpus*, *Giffordia* and *Hinksia*.
- Size: Variable up to 30 cm in height.
- Habitat: Growing on rocks and other hard substrates.

### *Scytosiphon lomentaria*

Whip Tube

#### SELO



- Identification: Small brown alga with slender tubular thalli. Gregarious in clusters from a crustose holdfast. Larger plants inflated and irregularly constricted.
- Size: 20-30 cm in height, thallus 4-6 mm in diameter.
- Habitat : On sheltered rocks.

## Phylum Phaeophyta



### *Colpomenia* spp.

#### CP

- Identification: Sac-like alga with broad basal attachment. Color from olive to medium brown.
- Size: Diameter up to 10 cm.
- Habitat: On rocks, occasionally epiphytic.



### *Dictyota* spp.

#### DP

- Identification: Smooth thin blades with rounded apices. Light to dark brown in color. Dichotomous to pinnate branching. No midrib.
- Size: Up to 45 cm in height. Blades 1-2 cm wide.
- Habitat: On rocky substrate.



### *Dictyopteris undulata*

#### DU

- Identification: Distinct midrib running through branches. Thalli irregularly dichotomous with short terminal branches. Color yellowish-brown to olive.
- Size: 8-12 cm in height, sometimes reaching 24 cm.
- Habitat: Frequent on rocks.



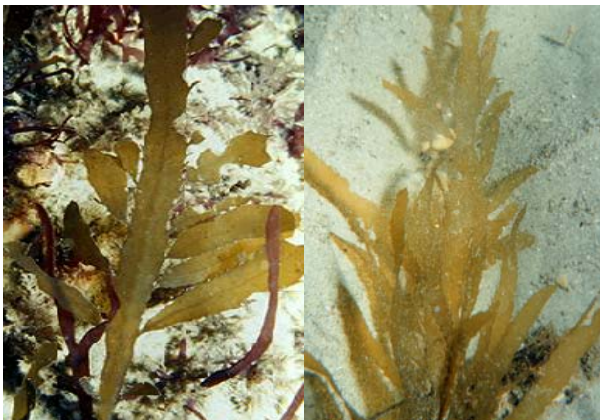
# Phylum Phaeophyta



## *Taonia lennebackeriae*

### TALE

- Identification: Thallus bladelike with no midrib. Light to medium brown in color. Split or lacerated apices at maturity.
- Size: 10-30 cm in height, blades 10-60 mm wide.
- Habitat: Frequent on rocks, often partially embedded in sand.



## *Desmarestia ligulata*

### Acid Weed

### DL

- Identification: Broad midrib usually prominent in mature plants with veins leading to delicate branches. Veins become spines at third or higher order branching.
- Size: 8 m long.
- Habitat: Growing on rocks and attached to worm tubes in sandy habitats.



## *Laminaria farlowii*

### Oar Weed

### Lafa / LFJ

- Identification: Single long, wide blade with deep depressions in longitudinal rows. Dark brown color with short stipe and strong compact branching haptera.
- Size: Blade length to 5 m. Stipe 4-7 cm in height.
- Habitat: On rocky substrate.



# Phylum Phaeophyta



## *Pterygophora californica*

Palm Kelp

### **PTCA / PTJ**

- Identification: Long woody non-branched stipe flattened in upper portion. Terminal blade with a midrib. Numerous lateral sporophylls. Small branched holdfast.
- Size: Can reach over 2 m in height.
- Habitat: May form extensive stands on rocky substrate.



## *Eisenia arborea*

Southern Sea Palm

### **EA/EAJ**

- Identification: Erect tree-like stipe that terminates into two branches bearing leafy brown blades with toothed margins. Color usually medium to dark brown .
- Size: Stipe 1-2 m in height. Blades can be as long as stipe.
- Habitat: On rocky substrate.



## *Egregia menziesii*

Feather Boa Kelp

### **EGME / EGJ**

- Identification: A large kelp having a long flat stipe with numerous small flat blades and floats along its entire length.
- Size: Plant 5 to 15 m in height with blades to 8 cm in length.
- Habitat: On rocky substrate

## Phylum Phaeophyta



### *Macrocystis pyrifera*

Giant Kelp

**MPS / MPJ**

- Identification: The largest of kelps possessing many round stipes each bearing numerous blades attached by gas filled floats. Large conical holdfast of root like haptera.
- Size: Up to 45.7 m in height.
- Habitat: On rocky substrate and occasionally in sand.



### *Cytoseira osmundacea*

Bladder Chain

**CYOS / CYJ**

- Identification: Blackish brown to light tan bipinnate radial branches flattened in lower portion. Tall bushy reproductive parts not shown here.
- Size: Reproductive parts to 8 m in height, blades 1-1.5 cm wide.
- Habitat: On rocks, frequently mingled with *Macrocystis*.



### *Sargassum muticum*

Wire Weed

**SAMU**

- Identification: Large alga with small leaf like blades and toothed margins that occur singly along the thallus. Medium to dark brown in color. Small cylindrical pneumatocysts borne in clusters.
- Size: Up to 2 m in height, blades to 10 cm long.
- Habitat: On hard substrate.



## Phylum Rhodophyta

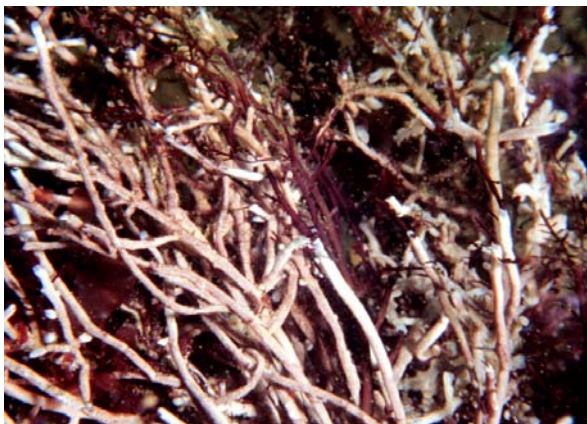


### *Scinaia confusa*

Fleshy Bush Seaweed

#### SCCA

- Identification: Rose pink tubular thallus, with regularly branched axes.
- Size: 3-15 cm in height.
- Habitat: grows on rocks.



### *Gelidium robustum*

Agarweed

#### GR

- Identification: Mostly compressed dark red branches with cylindrical unbranched basal axes. Lateral branchlets occasionally produce unbranched branchlets from flattened surfaces. Often covered by white encrusting bryozoans.
- Size: To 40 cm in height.
- Habitat: On tops of reefs in areas of high water motion.

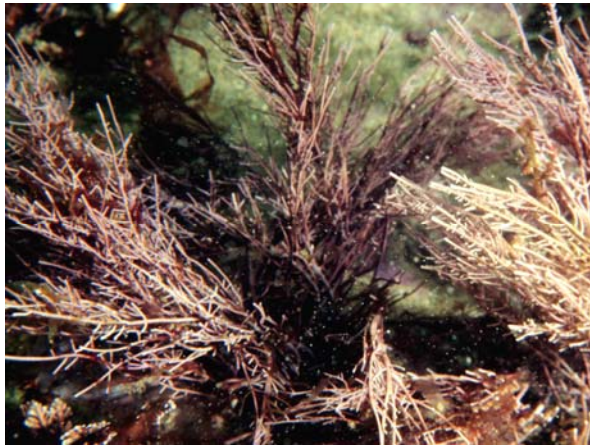


### *Weeksia* spp.

#### WK

- Identification: Blades often large, membranous, entire, dissected, or lobed, with smooth or puckered surface. Rows contributing to vein-like thickenings frequent at base of blades.
- Size: 10-60cm in height.
- Habitat: Rocky substrate.

# Phylum Rhodophyta



## *Lithothrix* spp.

Stone Hair

### LI

- Identification: Alga dull purple to pink in color. Primary branching dichotomous but irregular lateral branches, gives a stringy look.
- Size: To 13 cm in height.
- Habitat: Found growing on rocks or animals in sandy areas.



## *Corallina officinalis*

Pink Feather Coralline

### CO

- Identification: Fronds whitish, pinkish, or purplish. Bipinnate to tripinnate branches become shorter near apex and tend to lie in one plane.
- Size: Height to 15 cm.
- Habitat: On hard substrate.



## *Bossiella orbigniana*

### BO

- Identification: Branches nearly always dichotomous with incised margins. Wings curve convexly down midrib.
- Size: Height 15-30 cm.
- Habitat: On rocks.



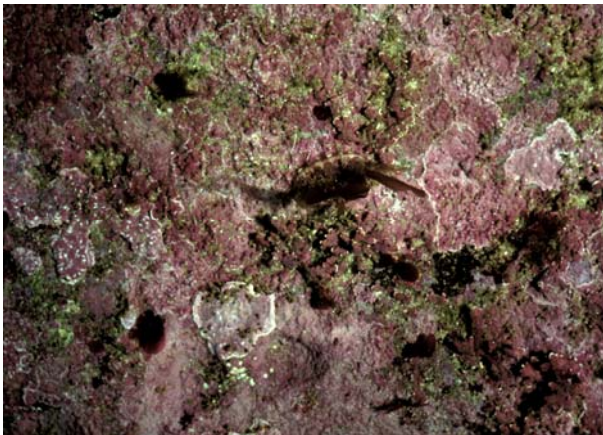
## Phylum Rhodophyta



### *Calliarthron cheilosporioides*

#### CAL

- Identification: Articulate coralline with coarse pinnate branching. Branching sometimes dichotomous near base. Wings angle upward toward long axis of branch.
- Size: Fronds to 30 cm. Segments to 7 mm.
- Habitat: Frequent growing on rocks.



### Encrusting coralline

#### EC

- Identification: Calcified crusts of pinkish algae that cover the surface of hard substrates. Often intermixed with other erect species of coralline algae.
- Size: Variable sized patches that can cover a large portion of the bottom.
- Habitat: Hard, rocky substrate.



### *Prionitis lanceolata*

#### PL

- Identification: 1-2 stipes originating from a discoid holdfast. Tall branches dichotomously divided 3-7 times. Equidistant proliferations pinnately placed are frequently longer toward base of plant.
- Size: 20-30 cm in height, axes and branches 2.5-5 cm wide.
- Habitat: Grow on hard substrate.

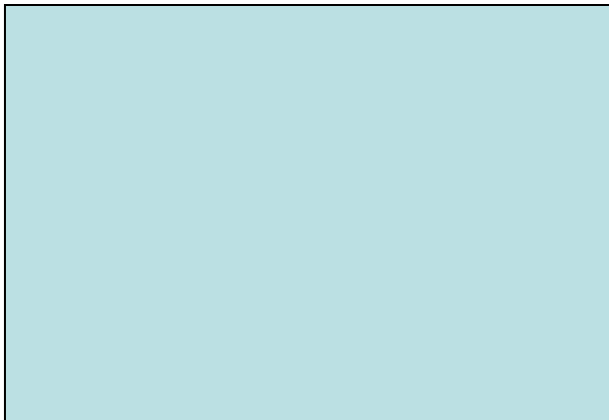
## Phylum Rhodophyta



### *Callophyllis flabellulata*

#### CF

- Identification: Branched, firm cartilaginous thallus with apices of branches uneven and finely dissected. Blades without midrib or veins.
- Size: 4-10 cm in height.
- Habitat: Growing on rocks or epiphytic.



### *Neoagardhiella baileyi*

#### NEO

- Identification: Thalli erect and branched arising from discoid holdfasts with 1 to many irregular branches of varying length. Cystocarps prominent at maturity.
- Size: Thalli 10-40cm in height.
- Habitat: Rocky substrate.



### *Gracilaria* spp.

#### GS

- Identification: Several to numerous erect wiry branches arising from a discoid base. Radial branching in irregular directions.
- Size: 6-20 cm in height.
- Habitat: Frequently on rocks often embedded in shallow sand.



# Phylum Rhodophyta

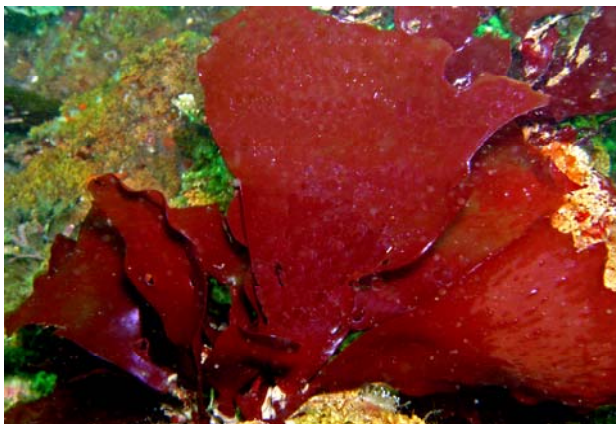


## *Stenogramme interrupta*

False Midrib Seaweed

### STIN

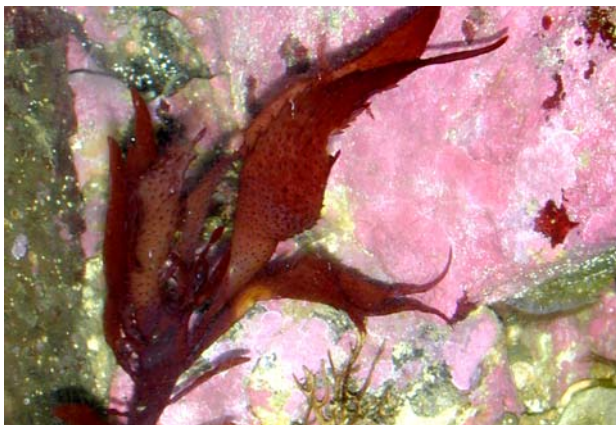
- Identification: Several erect, cylindrical dichotomous branches. Apices have broad rounded tips with narrowed basal ends. Terminal blades often with small outgrowths.
- Size: Thalli 6- 20cm in height.
- Habitat: Rocky substrate.



## *Chondracanthus corymbiferus*

### CC

- Identification: Broad, deep red blades with rounded apices. Branches rarely divided with strap-shaped apophyses flaring upward at base of blades. Often with short, coarse outgrowths (papillae) along surface of blade. Formerly *Gigartina corymbiferus*.
- Size: Blades can grow more than 1m wide. Holdfasts 1-5 cm wide.
- Habitat: On hard substrate.



## *Chondracanthus spinosa*

### CZ

- Identification: Broad, deep red blades with main branches commonly narrow and repeatedly branched. Blades noticeably narrower than *C. corymbiferus* with larger papillae and numerous spinelike to bladelike branchlets.
- Size: 20-30 cm tall, 4-6 cm wide.
- Habitat: On hard substrate.

# Phylum Rhodophyta



## *Iridea* spp.

### IR

- Identification: Discoid holdfast with short, cylindrical or compressed stipes. Short, smooth, flaring apophyses with irregular blades usually longer than wide. Thalli in certain species iridescent.
- Size: 10- 40cm in height.
- Habitat: Rocky substrate.



## *Rhodymenia californica*

California Rose Seaweed

### R

- Identification: Thalli bushy and clumped, one to many erect or spreading blades dichotomously or flabellately branched on short stipes. Color dark red to a bleached pink.
- Size: To 15 cm in height.
- Habitat: Found growing on rocks.



## *Rhodymenia pacifica*

Pacific Rose Seaweed

### RP

- Identification: Pink or red, small dichotomously branched, blades that are often lobate and rounded. Produce spreading stolons from the base of the stipe.
- Size: Thalli length 4-15cm.
- Habitat: Under overhanging rocks, or in clefts and crevices where there is subdued light.



# Phylum Rhodophyta



## *Phycodryis setchellii*

### PHSE

- Identification: Dark pink to brownish-red. Leaf-like dichotomous divisions from base with rounded apices, conspicuous percurrent midribs and lateral veins.
- Size: Height to 20 cm.
- Habitat: Shaded rocky areas.



## *Polyneura latissima*

Network Red Seaweed

### POLA

- Identification: Thin, pink to red crinkly blades with a net-like system of macroscopic veins. Entire blades when young, later lobed unevenly.
- Size: Thalli 12-15cm in length.
- Habitat: Rocks

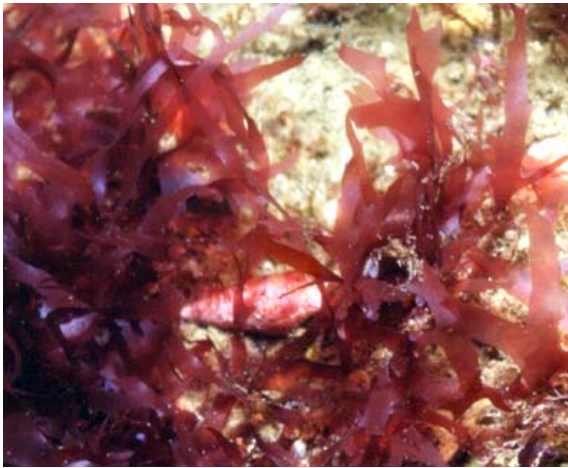


## *Nienburgia andersoniana*

### NA

- Identification: Alternating irregular spinelike branches usually in one plane. Upper portions have inconspicuous midrib with lateral veins.
- Size: Main axes 1-16mm broad.
- Habitat: Found growing on rocks.

## Phylum Rhodophyta



### *Acrosorium uncinatum*

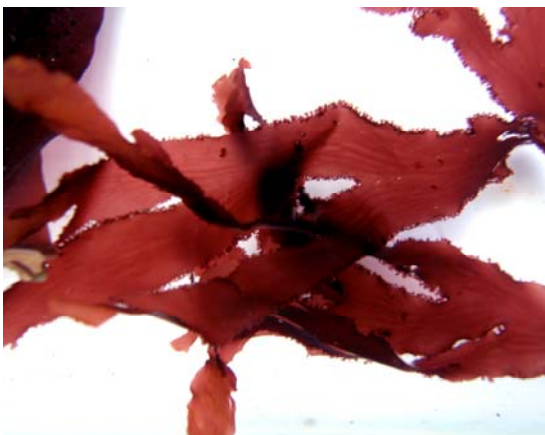
#### AU

- Identification: Thin, ribbon-like, irregularly branched blades. Blades irregularly hooked at ends and lacking macroscopic veins. Frequently parasitic. Color deep rose red.
- Size: Height to 8 cm.
- Habitat: Often found epiphytic on other algae.

### *Cryptopleura* spp.

#### CRYP

- Identification: Thalli differentiated into erect, ribbon-like bases. Blades characterized by a collection of macroscopic veins dividing and gradually spreading upward, becoming narrow and eventually microscopic.
- Size: 10-50cm in height.
- Habitat: Common on rocky substrate.



### *Botryoglossum farlowianum*

Grape Tongue

#### BF

- Identification: Large deep red slightly iridescent blades with visible veins and densely ruffled margins with numerous proliferations.
- Size: Erect axes 10-50 cm in height, blades 0.15-2 cm wide.
- Habitat: Common growing on rocks.

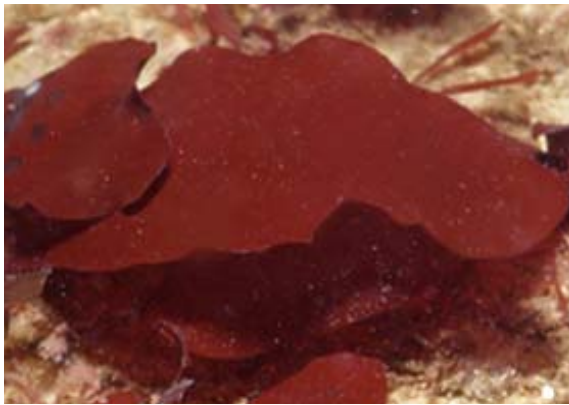
## Phylum Rhodophyta



### *Laurencia* spp.

#### LS

- Identification: Erect bushy thalli with short stubby pinnate or radial branches ending in a blunt tip with terminal cystocarps. Color ranging from brown to rich red.
- Size: 3-10 cm in height.
- Habitat: Found growing on rocks or epiphytic.



### Bladey Red

#### BR

- Identification: General category used for small species with lobed cartilaginous blades or species overgrown with epiphytes beyond recognition. Common genera include *Halymenia* and *Chondracanthus* settlers.
- Size: Variable, but can reach 10 cm tall.
- Habitat: Rocky substrate.



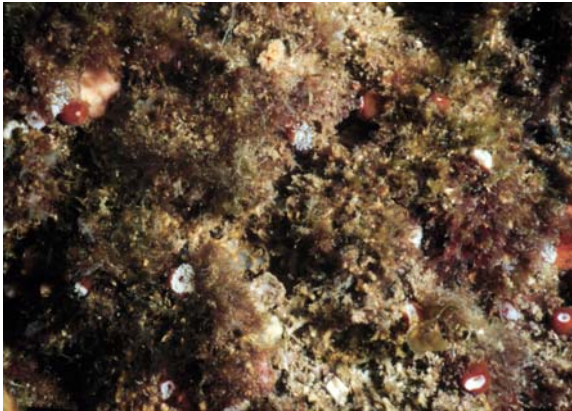
### Filamentous red

#### FR

- Identification: Thin, finely branched red algae. Frequently forms tufts or clumps. Common genera include: *Polysiphonia* and *Ceramium*.
- Size: Variable, up to 20 cm in height.
- Habitat: On rocky substrate.



## Phylum Rhodophyta



### Red Algal Turf

#### RAT

- Identification: Low growing turf consisting of polysiphonous filamentous red algae (e.g. *Polysiphonia* spp., *Pterosiphonia* spp., *Tiffaniella* spp.), turf dwelling invertebrates (e.g. tubicolous crustacea and polychaetes) and sediments.
- Size: 1-3 cm in height.
- Habitat: On rocky substrate.

Liliopsida

## Phylum Magnoliophyta



### *Phyllospadix torreyi*

Surfgrass

#### PHTO

- Identification: Bright green narrow wiry leaves with flowering stems arising from a densely mingled rhizomous mat. Separate sexes. Flowers arranged in spadices.
- Size: Leaves 2-4 mm wide, 1-2 m long.
- Habitat: open coast on rocky reefs, low intertidal to 6 m depth.



### *Zostera marina*

Eelgrass

#### ZOMA

- Identification: Dull, light green, strap-like leaves with long flowering stems. Monocious. Flowers inconspicuous in spadices.
- Size: Leaves 6-12 mm wide, 30-150 cm long, flowering stems 1-3 m long.
- Habitat: protected sandy flats. Intertidal to shallow subtidal in bays and estuaries. Occurring offshore on open coast at depths of 5-20 m.



## Phylum Porifera

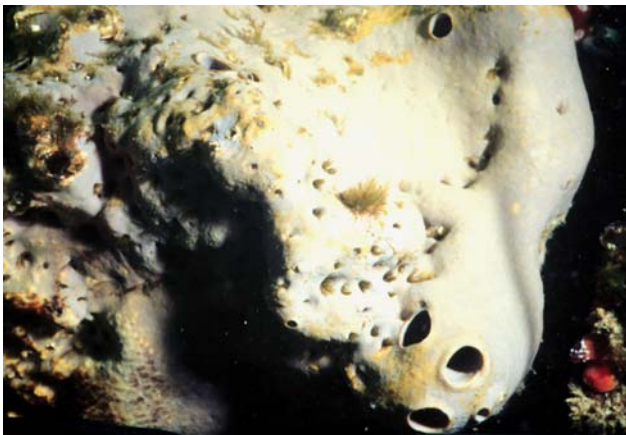


### *Leucilla nuttingi*

Urn Sponge

#### **LNUT**

- Identification: Urn-shaped, cream white with a single osculum at the free end. Usually found in groups of 5-10 individuals.
- Size: Up to 5 cm in height.
- Habitat: Found attached to rocks.



### *Spheciospongia confoederata*

Moon Sponge

#### **SC**

- Identification: Massive, smooth gray sponge (leathery in texture) with numerous crater-like oscula on outer ridge.
- Size: Up to 70 cm long and 14 cm thick.
- Habitat: On rocky reefs.



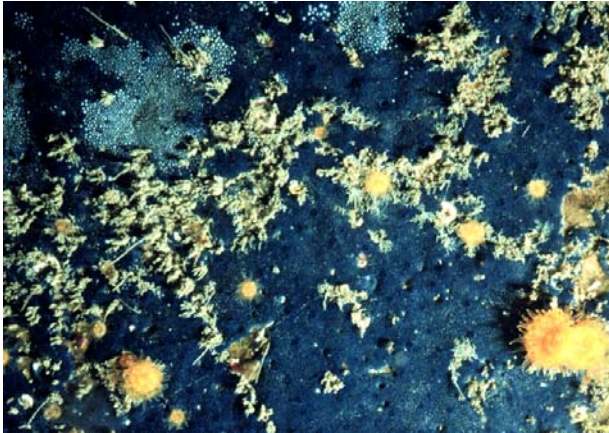
### *Tethya aurantia*

Orange Puffball Sponge

#### **TEAU**

- Identification: Porous, globose sponge with very rough outer surface. Color ranges from orange to yellow.
- Size: Diameter at least 8 cm.
- Habitat: On sides of reefs and under ledges.

## Phylum Porifera



### *Hymenamphiasira cyanocrypta*

Cobalt Sponge

#### HC

- Identification: Thin encrusting sponge. Cobalt blue in color.
- Size: Diameter up to 1 m.
- Habitat: Common growing on rocky reef areas, underneath ledges, or on sides of rocks.

Hydrozoa

## Phylum Cnidaria



### *Aglaophenia* spp.

Ostrich-Plume Hydroid

#### AS

- Identification: Large feather-like brown plumes consisting of a central stalk with numerous pinnate branches.
- Size: Plumes to about 12 cm in height.
- Habitat: Attached to rocky substrates.



### *Plumularia* spp.

Hydroid

#### PLUM

- Identification: Colony of upright feather-shaped plumes.
- Size: 5 cm to 13 cm in height.
- Habitat: Found on rocky, hard substrates.



## Phylum Cnidaria

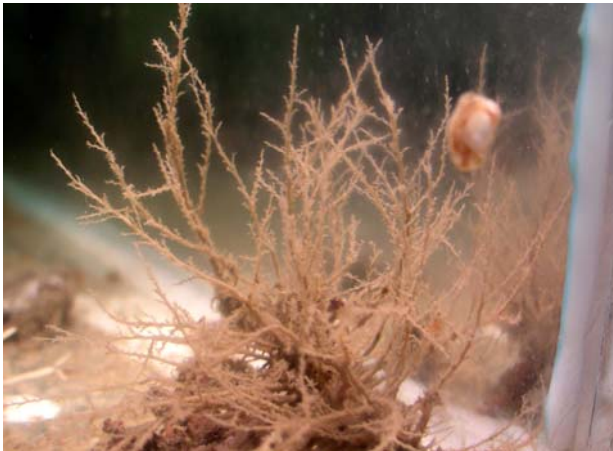


### *Abietinaria* spp.

Coarse Sea Fir Hydroid

#### **AB**

- Identification: Large, flask-shaped polyps of coarse sea fir hydroids. Alternate from the two sides of colony branches.
- Size: Up to 15 cm in height.
- Habitat: Found on rocky, hard substrates.



### *Obelia* spp.

Wine-Glass Hydroid

#### **OBSP**

- Identification: Large, long colonies that have polyps with clear sheaths. Various species distinguished by branching pattern.
- Size: Up to 30 cm in height.
- Habitat: Found on rocky, hard substrates.



### *Urticina lofotensis*

White-Spotted Rose Anemone

#### **URLO**

- Identification: Column is very distinctive red, with white spots. Tentacles are scarlet to crimson.
- Size: Maximum column diameter up to 10 cm.
- Habitat: Attached to rocky substrates.

# Phylum Cnidaria



## *Urticina piscivora*

Fish Eating Anemone

### URPI

- Identification: Deep, red column with tentacles that are usually white, but occasionally red.
- Size: Crown up to 8 inches in diameter.
- Habitat: Attached to rocky substrates.



## *Anthopleura* spp.

### ANSP

- Identification: Found in aggregations or as solitary individuals. Covered with abundant adhesive tentacles that are short, conical, and either pointed or blunt. *Anthopleura xanthogrammica* featured here.
- Size: Varies with species.
- Habitat: Found on rocky reefs.



## *Anthopleura sola*

Aggregating Anemone

### ANSO

- Identification: Longitudinal rows of adhesive tubercles on column, and the tentacles are short and abundant. Occur in aggregations or as solitary individuals.
- Size: Tentacular crown diameter up to 9cm.
- Habitat: Found covering rocky areas.



# Phylum Cnidaria



## *Anthopleura artemisia*

Moonglow Anemone

### ANAR

- Identification: Many different color variations, white bands on arms, central disk often buried in sand.
- Size: Tentacular crown diameter up to 8 cm.
- Habitat: Attached to rocks buried in the sand.



## *Phyllactis* spp.

Sand Anemone

### PHSP

- Identification: Short, slender, clear tapering tentacles that have black stripes. Oral disk level with sand surface and covered with sand particles.
- Size: Tentacular diameter up to 8 cm.
- Habitat: Found on sand and bedrock bottoms.



## *Corynactis californica*

Club-Tipped Anemone

### CY

- Identification: Small colonial anemone with bulbous-tipped tentacles. Color varies from orange, red, purple, pink, to almost white.
- Size: Diameter up to 2.5 cm.
- Habitat: Attached to rocky substrates.

## Phylum Cnidaria



### *Astrangia lajollaensis*

Cup Coral

#### **AL**

- Identification: Small cup corals forming large colonies. The stony cups are brownish-orange and tentacles are yellowish-orange.
- Size: Cups about 1 cm in diameter.
- Habitat: On rocky reefs and under ledges.



### *Balanophyllia elegans*

Orange Cup Coral

#### **BAEL**

- Identification: Solitary, orange, cup-shaped coral with orange tentacles. Each tentacle has wart-like nodules.
- Size: Diameter up to 2.5 cm.
- Habitat: Attached to rocky substrates.



### *Paracyathus stearnsi*

Brown Cup Coral

#### **PAST**

- Identification: Large, brown, solitary cup corals with long, semi-transparent tentacles.
- Size: Maximum cup diameter of 1.5 inches.
- Habitat: Attached to rocky substrates.



# Phylum Cnidaria

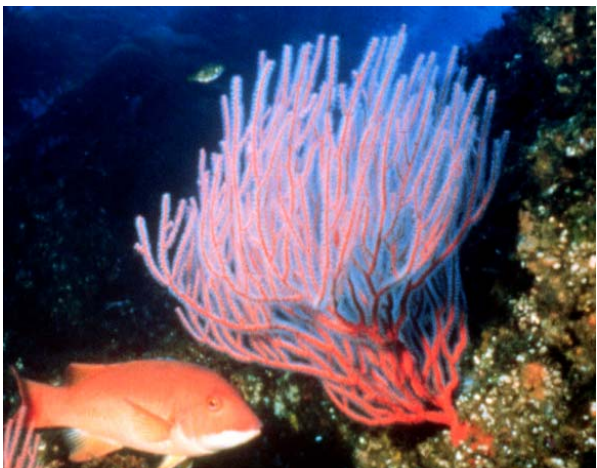


## *Pachycerianthus fimbriatus*

Tube Dwelling Anemone

### PAFI

- Identification: Long, slender outer tentacles and shorter inner tentacles. Soft body protected by parchment-like tube. Tentacles may vary in color.
- Size: Height up to about 30cm, diameter up to about 38 mm.
- Habitat: Sand and soft mud bottoms.



## *Lophogorgia chilensis*

Red Gorgonian

### LOCH

- Identification: Sea fan with red branches and white polyps. Branches are not in a single plane.
- Size: Height up to about 1 meter.
- Habitat: Attached to rocky substrates.

## *Alcyonium rudyi*

Ocotcoral

### ARUD

- Identification: Colonial soft corals with eight long, branched tentacles. Often cream to pink colored
- Size: Polyp height about 2.5cm. Colony width around 10cm.
- Habitat: Low intertidal to shallow subtidal, often on undersurface of rocks.



## Phylum Cnidaria



### *Muricea fruticosa*

Brown Gorgonian

#### MUFR

- Identification: Thick brown branches with white polyps, usually in one plane. Brown in color.
- Size: Height up to about 1 meter.
- Habitat: Attached to rocky substrates.



### *Muricea californica*

California Golden Gorgonian

#### MUCA

- Identification: Thick brown branches. Yellow polyps distinguish it from brown gorgonian.
- Size: Height up to about 1 meter.
- Habitat: Attached to rocky substrates.

Polychaeta

## Phylum Annelida



### *Diopatra ornata*

Ornate Tube Worm

#### DIOR

- Identification: Tubes usually completely covered with attached pieces of shell, algae, or other debris.
- Size: Tube diameter up to about 2 cm.
- Habitat: On sand or rubble, usually near rocks.

## Phylum Annelida



### *Pista elongata*

#### PIEL

- Identification: Solitary tubes terminate in a globular shaped, reticulated network of fibers
- Size: Height to 8 cm.
- Habitat: Attached to rocks, from mid intertidal to around 40ft depths.



### *Cirriformia luxuriosa*

#### CILU

- Identification: Long slender tentacles of reddish branchiae and orange-red tentacular filaments (dense cluster on dorsum). Few black spines from sides of body from middle to posterior end.
- Size: Length up to 15 cm.
- Habitat: Found in holes and crevices in rocky tide pools, in mussel beds, and among roots of the surfgrass.



### *Dodecaceria fewkesi*

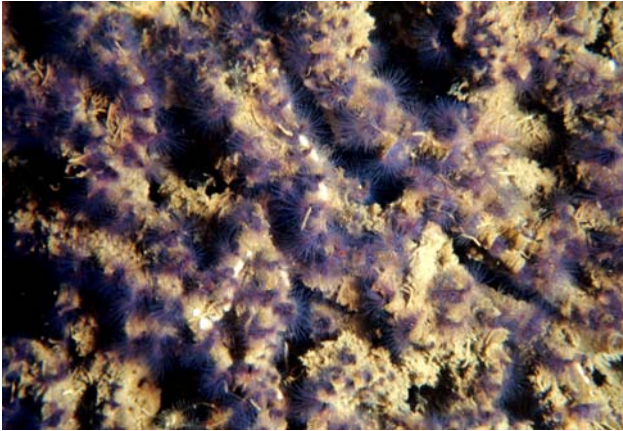
Colonial Tube Worm

#### DOFE

- Identification: Calcareous tubes clustered into colonies. Exposed dark brown to black tentacles made of a pair of polyps and 11 pairs of branchial filaments.
- Size: Length up to 4 cm, tube diameter up to 5 mm, colony about 1m in diameter.
- Habitat: Found covering rocky outcroppings and dock pilings.



## Phylum Annelida



### *Phragmatopoma californica*

Colonial Sand Tube Worm

#### PA

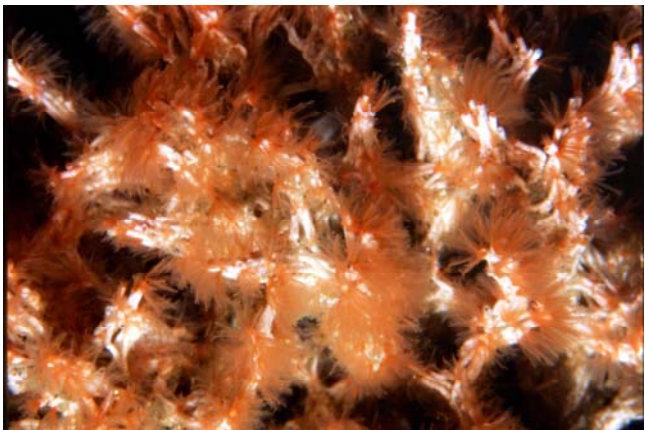
- Identification: Extensive colonies. Tubes constructed of cemented sand. Short lavender tentacles.
- Size: Diameter up to 1 cm.
- Habitat: Honeycomb colonies on or against rocks in areas of high sand transport.



### Sabellid Worm

#### SABW

- Identification: Worms in the family Sabellidae that retract into tubes when disturbed. The most commonly observed species is the feather duster worm *Eudistylia polymorpha*, which is identified by its plume of branched gills varying in color from tan to orange.
- Size: Crown diameter up to 7.5 cm.
- Habitat: Attached to rocky substrates.



### *Salmacina tribranchiata*

Fragile Tube Worm

#### ST

- Identification: Small whitish tubes that form tangled complex masses to about 20 cm in diameter.
- Size: Tube diameter < 2 mm.
- Habitat: Attached to sides or under rocks.



## Phylum Mollusca



### *Haliotis corrugata*

Pink Abalone

#### **HACO**

- Identification: Shell is almost round, with corrugated, scalloped edge. Two to four raised shell holes remain open.
- Size: Length up to 25 cm.
- Habitat: In rocky crevices and on sides of rocks.



### *Haliotis cracherodii*

Black Abalone

#### **HACR**

- Identification: Shell color ranges from dark blue to black, and shell is smooth. Five to seven holes are usually open.
- Size: Length up to 20 cm.
- Habitat: On rocks and in crevices.

Photo by Kevin Lafferty



### *Haliotis kamtschatkana*

Threaded Abalone

#### **HAKA**

- Identification: Flat oblong shell with four to eight open holes that are slightly raised.
- Size: Length up to about 175 mm.
- Habitat: On rocks or in crevices.

## Phylum Mollusca



### *Haliotis rufescens*

Red Abalone

#### **HARU**

- Identification: Shell usually brick-red, occasionally with bands of green or white. Three to four of the holes are open.
- Size: Length up to 30 cm.
- Habitat: On rocks, occasionally on sand or gravel bottoms.



### *Megathura crenulata*

Giant Keyhole Limpet

#### **MECR**

- Identification: Mantle color varies from black to mottled gray and usually covers the entire shell. Shell has a large opening in the center.
- Size: Length of shell up to 13 cm.
- Habitat: On rocky substrates.



### *Lithopoma* spp.

Red and Wavy Turban Snails

#### **LIGL/S**

- Identification: Heavily sculptured or low, spiral shell that is frequently covered with encrusting coralline algae. *Lithopoma gibberosum*, featured here, can be distinguished from *Lithopoma undosum* by examining the opercula. Both species are lumped for SBC LTER surveys.
- Size: Shell diameter up to 110 mm.
- Habitat: On rocky substrates.



## Phylum Mollusca



### *Norrisia norrisi*

Norris' Top Snail

#### **NONO**

- Identification: Red-brown flattened spiral shell with a bright red foot.
- Size: Shell diameter up to 5.5 cm.
- Habitat: On kelp and rocky substrates.



### *Tegula* spp.

Turban Snail

#### **TESP**

- Identification: Shell commonly smooth, rounded-conical. Color varies from orange, black, brown or a combination of these. Foot with dark brown or black sides, white or cream color below.
- Size: Variable, 1-3 cm.
- Habitat: On kelp and rocky substrates.



### *Serpulorbis squamigerus*

Scaled Worm Snail

#### **SE**

- Identification: Shell is a partially coiled tube attached to substrates. No operculum. Usually occurs in aggregations.
- Size: Length of tube up to 12 cm.
- Habitat: On rocky or other hard substrates.



# Phylum Mollusca



## *Cypraea spadicea*

Chestnut Cowry

### CYSP

- Identification: Smooth shell with a brown dorsal surface and white margins on the ventral side. Foot and mantle are orange-brown with dark spots.
- Size: Length up to 8 cm.
- Habitat: On rocky reefs and underneath ledges.

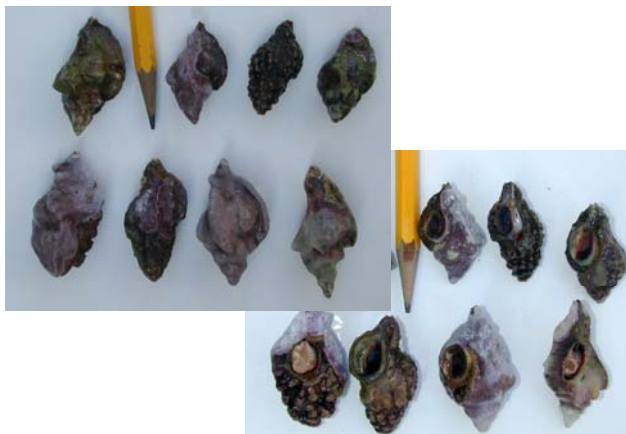


## *Kelletia kelletia*

Kellet's Whelk

### KEKE

- Identification: White or gray, robust shell with heavy sculpturing crossed by thin spiral lines. Skin is yellow, mottled with black and white markings.
- Size: Length of shell up to 18 cm.
- Habitat: In kelp beds on rocky and soft bottoms.



## Small *Kelletia*-like spp.

Whelk-like Snail

### SKE

- Identification: Catch-all category for small *Kelletia*-like snails. May include juveniles *Kelletii* or other genera such as *Pteropurpura*.
- Size: Variable, 1-3 cm.
- Habitat: On rocky substrates.

## Phylum Mollusca



### *Mitra idae*

Ida's Miter

#### **MIID**

- Identification: Dark brown, smooth shell covered with a black periostracum. The foot is white.
- Size: Up to 8 cm in length.
- Habitat: On rocky substrates.



### *Pteropurpura trialata*

Three-Winged Murex

#### **PTTR**

- Identification: Three distinctive wing-like processes protrude from the central shell, one on top and one to each side. Distinguished from *Ceratostoma foliatum* by lack of tooth on the outside edge of the opening.
- Size: Length up to 9 cm.
- Habitat: Common on rocky substrates.



### *Conus californicus*

California Cone Snail

#### **COCA**

- Identification: Smooth, light brown shell with a transparent to white foot and a black proboscis.
- Size: Up to 4 cm in length.
- Habitat: On sandy and rocky bottoms.



## Phylum Mollusca



### *Aplysia californica*

California Brown Sea Hare

#### **APCA**

- Identification: Color varies from reddish, brownish, and/or greenish, overlaid with dark lines and spots.
- Size: Length can exceed 40 cm.
- Habitat: Among seaweed, in kelp canopy, sometimes in sandy areas.



### *Aplysia vaccaria*

California Black Sea Hare

#### **APVA**

- Identification: Body dark reddish brown to black, with white speckled patches. Distinguished from *A. californica* by larger size.
- Size: Length up to 75 cm.
- Habitat: Around kelp beds, rocky and sandy areas.



### *Crassidoma giganteum*

Rock Scallop

#### **CRGI**

- Identification: Orange mantle. Adults cemented to substrate and have thick valves with spines protruding from ribs.
- Size: Shell diameter up to 20 cm.
- Habitat: On rocky substrates.



# Phylum Mollusca



## *Mytilus californianus*

California Mussel

### MC

- Identification: Shell thick, pointed at anterior end, broad at posterior, sculptured with strong radial ridges and irregular growth lines. Surface often eroded or worn. Blue-black in color.
- Size: Length up to 13 cm.
- Habitat: Form large beds on rocks and pilings.



## *Chaceia ovoidea*

Wart-Neck Piddock

### CHOV

- Identification: Boring clam, with siphon sticking out of rock. Siphon distinct dark brown.
- Size: Shell up to 12 cm in length. Siphon fully extended can reach 1 m in length.
- Habitat: Burrows into clay or shale reefs.



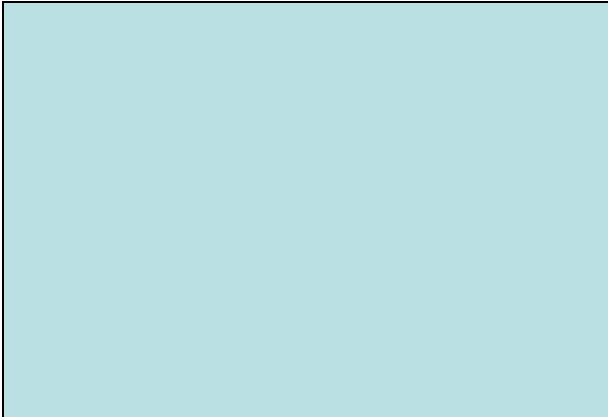
## *Parapholas californica*

Scaleside Piddock

### PACA

- Identification: Boring clam, with white siphon that usually has reddish-brown spots and blotches.
- Size: Shell length up to 15 cm. Siphon can extend up to 15 cm.
- Habitat: Burrows into clay, soft shale and sandstone reefs.

## Phylum Mollusca



### *Hiatella arctica*

Nestling Clam

#### **HART**

- Identification: Attached by strong byssal threads, only its orange siphons may be visible.
- Size: Up to 7.8 cm across.
- Habitat: Found in algal holdfasts or in mussel mats.



### *Octopus* spp.

Octopus

#### **OCTO**

- Identification: Arms usually reach 3-5 times the length of the body. Color varies with background and mood.
- Size: Arm span up to 300 cm but usually closer to 30 cm.
- Habitat: Usually found in crevices or hiding under rocks.

Crustacea

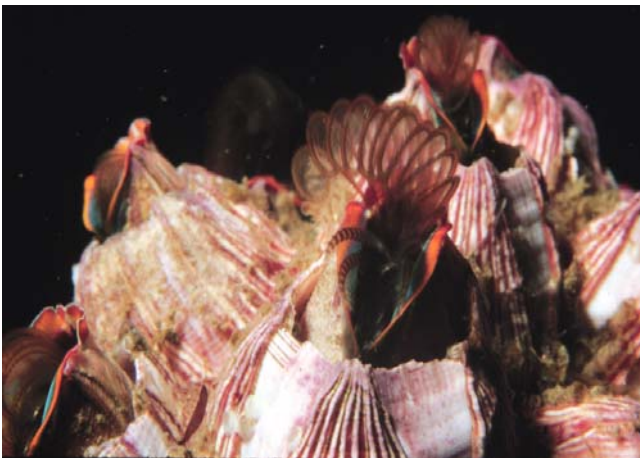
## Phylum Arthropoda

### Barnacle spp.

Barnacle

#### **BA**

- Identification: Assorted barnacle species, plates or paired beaks cover the opening of the feeding tentacles in live individuals. *Megabalanus californica* shown here.
- Size: Basal diameter from 0.5 to 10 cm depending on species. Height 0.5 to 7.5 cm.
- Habitat: Requires hard substrate to attach to, such as rock or the shell of another animal.





# Phylum Arthropoda



## *Panulirus interruptus*

California Spiny Lobster

### PAIN

- Identification: Large reddish brown crustacean with long antennae covered with small sharp spines. Anterior portion of the thorax with sharp spines. Large spines on tail. Claws absent.
- Size: Length up to 60 cm.
- Habitat: In crevices and underneath rocks during daytime, forages at night.



## *Loxorhynchus grandis*

Sheep Crab

### LOGR

- Identification: Large spider crab with robust, oval carapace covered with spines and tubercles. Males have larger chelipeds (claws) than females.
- Size: Carapace up to 16 cm in width.
- Habitat: Common on rocky and soft bottoms.



## *Pugettia producta*

Kelp Crab

### PUPR

- Identification: Smooth carapace with yellowish brown to reddish coloring. Feeds on algae.
- Size: Carapace width up to 12 cm.
- Habitat: Common on kelp and on rocky substrate.



## Phylum Arthropoda



### *Cancer* spp.

Cancer Crab

#### **CASP**

- Identification: Oval shaped carapace. Body and legs may be hairy or smooth.
- Size: Carapace width 2-18 cm.
- Habitat: On rocky and sand substrates.

Gymnolaemata

## Phylum Ectoprocta



### *Hippodplosia insculpta*

Fluted Bryozoan

#### **HIP**

- Identification: Colonies consist of fan-like folds that are curled. Color varies from light yellow to orange and tan.
- Size: Height up to 10 cm, Width up to 13 cm.
- Habitat: Encrusted on rocky substrates or adhered to algae.



### *Phidolopora labiata*

Lattice-Work Bryozoan

#### **PLAB**

- Identification: Upright colonies form a mass of lace-like structures, usually orange.
- Size: Diameter to 22 cm, height to 10cm
- Habitat: Found on rocky, hard substrate and common in protected inshore waters.

## Phylum Ectoprocta



### *Bugula californica*

Spiral Bryozoan

#### **BCAL**

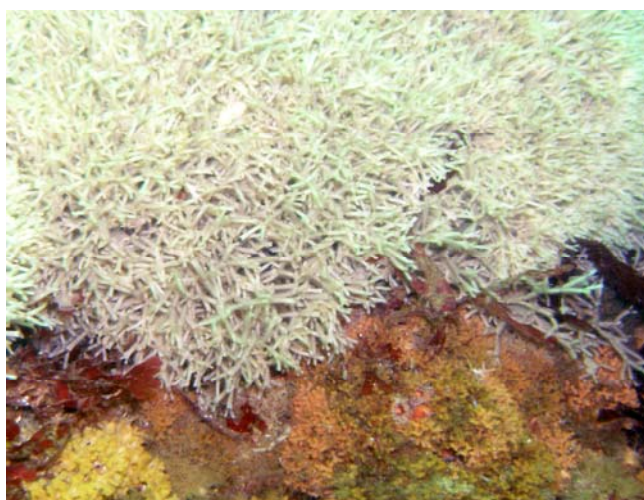
- Identification: Colony composed of fronds that have spiral whorls of branches. White to orange in color.
- Size: Up to 7.5 cm in height.
- Habitat: Found growing on rocks.



### *Bugula neritina*

#### **BN**

- Identification: Colony bushy, reddish brown or purple in color.
- Size: Colony 3-10 cm in height.
- Habitat: Found growing on rocks and in sandy substrate.



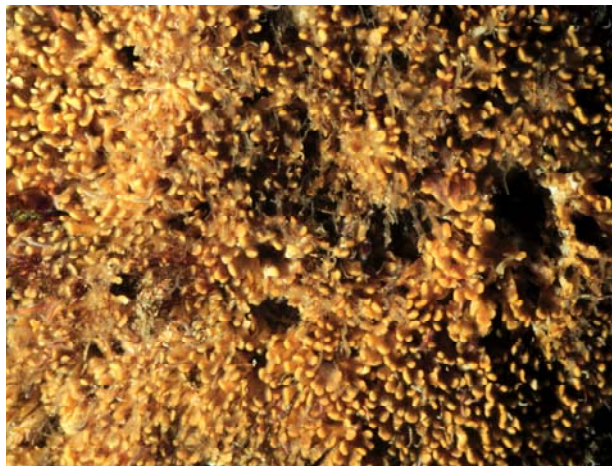
### *Thalamoporella californica*

#### **TC**

- Identification: Flesh colored colony dichotomously branched with a basal crust and many projections.
- Size: Colony varying in size but can form large mats.
- Habitat: Found growing on rocks and on some red algae, *Gelidium*, *Lithothrix*, and *Gigartina*, and *Macrocystis*.



## Phylum Ectoprocta

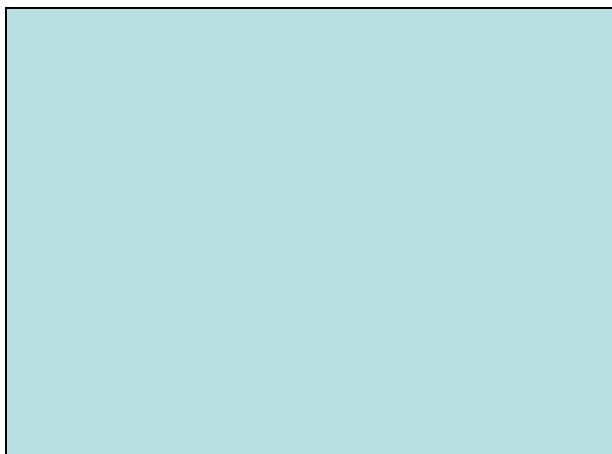


### *Diaperoecia californica*

Southern Staghorn Bryozoan

#### DC

- Identification: Colonies in coral-like masses, with flattened branches. Color varies from light to dark yellow.
- Size: Colony height to 10 cm.
- Habitat: On rocks and other hard intertidal substrate. Range from British Columbia to Costa Rica. Depth up to 615 feet.



### *Heteropora pacifica*

Northern Staghorn Bryozoan

#### HPAC

- Identification: Calcified colonies often mistaken for coral because of their superficial resemblance. Typically yellow in color.
- Size: up to 45 cm across
- Habitat: Found along the subtidal zone from Northern Alaska to Southern California. Habitat depth up to 90 feet.



### *Crisia occidentalis*

White Tuft Bryozoans

#### CROC

- Identification: Fragile, erect, branching, bushy, with jointed rootlets. Tubular zooids, round terminal apertures, absence of opercula.
- Size: Up to 3 cm in height.
- Habitat: On rocks along open shore, dock pilings, in clusters of the mollusk, *Mytilus*.



## Phylum Ectoprocta



### Encrusting Bryozoan

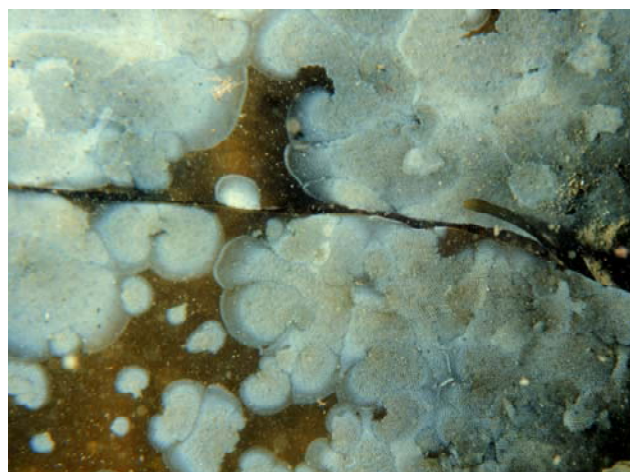
#### ECB

- Identification: Colonies usually thin and consist of countless minute boxes abutting each other. Vary in color and require a dissecting scope for identification.
- Size: Varies with species.
- Habitat: Found growing on rocky substrate or as an epiphyte.



### *Cellaria* spp.

- Identification: Dichotomous 'Y'-shaped branching pattern emphasized at tips. Long circular nodes.
- Size: 10cm to 4 inches tall.
- Habitat: Usually living in low-current areas attached to rocky substrate.



### *Membranipora tuberculata*

Encrusting Bryozoan

#### MT

- Identification: Small white zooids forming crustose colonies having a honeycomb appearance. Usually epiphytic. Seen here on *Macrocystis*.
- Size: Variable, can cover most of an alga, several cm in diameter.
- Habitat: Often found growing on *Macrocystis*, *Cystoseira*, and especially *Gelidium*.

## Phylum Echinodermata



### *Cucumaria piperata*

Salt and Pepper Cucumber

#### **CUPI**

- Identification: Small cucumber. 10 branched tentacles. Usually white, with brown or black speckles.
- Size: Length to about 60 mm.
- Habitat: In rocky areas and crevices.

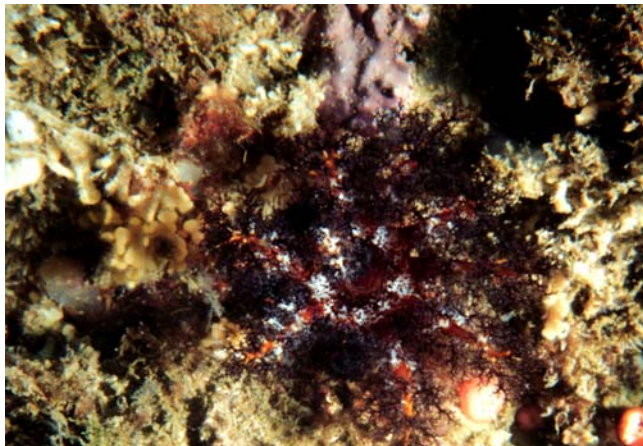


### *Cucumaria miniata*

Red Sea Cucumber

#### **CUMI**

- Identification: Bright orange with 10 branched tentacles and 5 rows of tube feet.
- Size: Length up to 25 cm.
- Habitat: Rocky areas with crevices, usually lodged under rocks or other shelter.



### *Cucumaria salma*

#### **CUSA**

- Identification: Body salmon to orange color with 5 rows of tube feet. Tentacles black and goldish yellow, with white banding.
- Size: Length to 15 cm.
- Habitat: In holes and crevices in rocks.



# Phylum Echinodermata



## *Lissothuria nutriens*

### LINU

- Identification: Thick body wall without scales. Flattened ventral side with three rows of tube feet. Mouth and anus directed upward. 10 clear branched tentacles.
- Size: 1.5cm to 2cm in length.
- Habitat: Vertical rock faces and in sandy deposits among algal holdfasts, surfgrass roots, sponges or colonial ascidians.



## *Eupentacta quinquesemita*

White Sea Cucumber

### EUQU

- Identification: Small white to yellowish sea cucumber, cannot completely retract its long tube feet.
- Size: Length to 10 cm.
- Habitat: On rocky substrate.



## *Pachythyone rubra*

### PRUB

- Identification: Small brownish white holothurian, with white to opaque feeding appendages and protruding tube feet.
- Size: 1cm to 7 cm.
- Habitat: On rocky reefs



## Phylum Echinodermata



### *Parastichopus californicus*

California Sea Cucumber

#### **CUKE**

- Identification: Dark red, brown or yellow sea cucumber has stiff, conical papillae. Tube feet only on ventral surface.
- Size: Length to 40 cm.
- Habitat: On rocks and soft substrates.



### *Parastichopus parvimensis*

Warty Sea Cucumber

#### **PAPA**

- Identification: Brownish sea cucumber is covered with small black-tipped papillae or pseudospines.
- Size: Length to 25 cm.
- Habitat: On soft substrate.

Echinoidea

## Phylum Echinodermata



### *Lytechinus anamesus*

White Sea Urchin

#### **LA**

- Identification: small sea urchin with sharp, short white spines. Test is usually white with dark blotches.
- Size: Diameter to about 8 cm.
- Habitat: On soft as well as rocky bottoms, often aggregate around food sources.

## Phylum Echinodermata



### *Strongylocentrotus purpuratus*

Purple Sea Urchin

#### **SPL/S**

- Identification: Medium sized sea urchin with short purple spines. Frequently bores depressions in rocks.
- Size: Test diameter to about 5 cm.
- Habitat: On rocky substrate.



### *Strongylocentrotus franciscanus*

Red Sea Urchin

#### **SFL/S**

- Identification: Large urchin with sharp, long spines. Color ranges from red to dark purple to black (*S. purpuratus* shown in bottom left).
- Size: Test diameter to 10 cm.
- Habitat: On rocky substrate.



### *Astropecten armatus*

Spiny Sea Star

#### **ASAR**

- Identification: Gray to tan colored star with plates and spines on edges of each arm. No suckers on the tube feet.
- Size: Width about 15 cm.
- Habitat: Found on soft bottoms, usually sand.



## Phylum Echinodermata



### *Asterina miniata*

Bat Star

**AML/S**

- Identification: This webbed sea star varies greatly in color. Lacks pedicellariae or spines. Number of arms usually 5, but can be 4 to 9.
- Size: Diameter to 20 cm.
- Habitat: On rocky and sandy substrates.



### *Dermasterias imbricata*

Leather Star

**DIL/S**

- Identification: This sea star feels smooth and almost leather-like.
- Size: Diameter to 25 cm.
- Habitat: On rocky substrate, occasionally on sand.



### *Orthasterias koehlerii*

Rainbow Sea Star

**OKL/S**

- Identification: Vivid color, ranging from pink with gray to bright red with yellow banding. Small disk with 5 slender arms.
- Size: Arm radius to 21 cm.
- Habitat: On mud, sand, rock and kelp. Depths extending to 250 m.

## Phylum Echinodermata



### *Pisaster brevispinus*

Short Spined Sea Star

#### **PBL/S**

- Identification: This sea star is always pink. It has short aboral spines.
- Size: Diameter to 60 cm.
- Habitat: On rocky and soft substrates.



### *Pisaster giganteus*

Giant Spined Sea Star

#### **PGL/S**

- Identification: This sea star has long uniformly spaced spines with swollen tips. Each spine is surrounded by a blue circle.
- Size: Diameter to 60 cm.
- Habitat: On rocky and sand substrates.



### *Pisaster ochraceus*

Ochre Sea Star

#### **POL/S**

- Identification: Thick armed star with numerous small white spines on the aboral surface arranged in a reticular pattern. Color varies from dark gray to orange.
- Size: Diameter to 35 cm.
- Habitat: Low intertidal to shallow subtidal on rocky habitats.



## Phylum Echinodermata



### *Pycnopodia helianthoides*

Sunflower Sea Star

#### PHL/S

- Identification: Large sea star has 20 to 24 flexible arms. Juveniles have 5 arms. Color varies from purple to brown, orange, or yellow.
- Size: Diameter to 90 cm.
- Habitat: On rocky and soft substrates.



### *Ophiothrix spiculata*

Spiny Brittle Star

#### OPSP

- Identification: Small brittle star with long, erect spines on the arms and disc. Often aggregates.
- Size: Diameter usually < 15 cm.
- Habitat: On rocky and soft substrates.



### *Ophioplocus esmarki*

Smooth Brittle Star

#### OPES

- Identification: Relatively smooth, with a large disc and short spines that can be folded against the arms. Color brown to gray-brown.
- Size: Diameter to 15 cm.
- Habitat: On rocky and soft substrates.

## Phylum Chordata



### *Pycnoclavella stanleyi*

Yellow Social Tunicate

#### **PYST**

- Identification: Branchial baskets of expanded zooids in upright orange or gold striped projections.
- Size: Up to 2 cm in height
- Habitat: Found on rocky, hard substrate.



### *Archidistoma psammion*

Sand Tunicate

#### **AR**

- Identification: Colonies form flat slabs or oval lobes. Zooids arranged in circular systems Test is firm and leathery Color varies from dark brown, purple, maroon, gray, or whitish..
- Size: 1-2 cm thick, up to 20 cm long.
- Habitat: On rock surfaces in sand scoured areas.



### *Polyclinum planum*

Elephant Ear Tunicate

#### **POPL**

- Identification: Ear-like, lobed colony of zooids attached to substrate by slender stalk. Brown to yellow color.
- Size: Diameter of lobe to about 20 cm.
- Habitat: Attached to rocky substrate.



## Phylum Chordata

### *Botrylloides* spp.

Colonial Tunicate

#### **BOPS**

- Identification: Colonial tunicate has at least one large aperture on top side. Tends to be found in globular masses
- Size: Colony diameter up to 75 mm
- Habitat: Found on rocks along the shallow subtidal zone

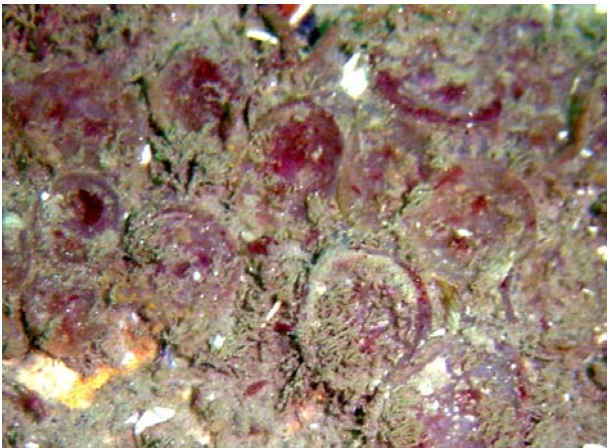


### *Euherdmania claviformis*

Tunic-Band Compound Tunicate

#### **EUCL**

- Identification: Difficult to identify without a microscope. Distinguishing features include elongate, almost transparent lobes.
- Size: To 4cm tall.
- Habitat: On rocky reefs.



### *Chelyosoma productum*

Disc-Top Tunicate

#### **CHPR**

- Identification: A small flat tunicate that occurs in colonies. Often covered with silt and difficult to see. It is usually a translucent brown and unlike most tunicates feels hard to the touch.
- Size: Zooid diameter ~ 2 cm
- Habitat: On horizontal rock surfaces.

## Phylum Chordata



### *Styela montereyensis*

Stalked Tunicate

#### **STMO**

- Identification: Long stalked, solitary tunicate with longitudinal ridges. Color yellow to dark red-brown.
- Size: Height to about 25 cm.
- Habitat: Attached to rocky substrate.



### *Clavelina* spp.

Light Bulb Tunicate

#### **CL**

- Identification: Grows in clusters. Pharynx contains two luminescent pink lines that resemble the glowing filaments of a light bulb.
- Size: To 5cm tall.
- Habitat: Grows along coastlines that are directly exposed to the open ocean.



## Order Myliobatiformes

### Family Myliobatidae



#### *Myliobatis californica*

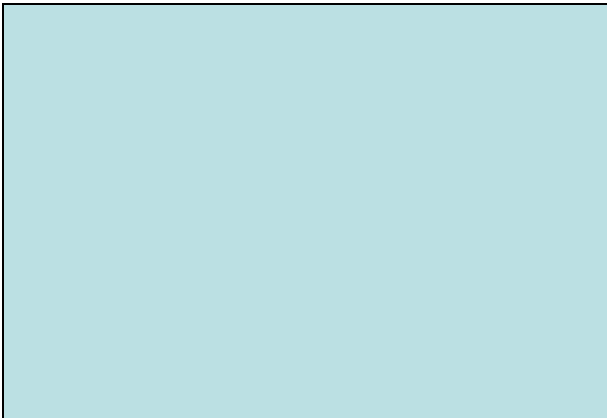
Bat Ray

#### **BRAY**

- Identification: Large bulbous head, long pectoral fins, whip-like tail, and long venom injecting barb at base of tail.
- Size: 60cm to 1.8m wingspan.
- Habitat: Anywhere from sand and mud flats to kelp beds. Typically rest on bottom and are more active at night.

## Order Squatiniformes

### Family Squatinidae



#### *Squatina californica*

Pacific Angel Shark

#### **SCAL**

- Identification: Blunt head with large pectoral fins. Rear body and base are tubular. Two dorsal fins near base of tail.
- Size: 0.6m to 1.5m.
- Habitat: Sandy bottoms near rocky reefs and kelp beds. Typically found on bottom, may be partially buried.

## Order Carchariniformes

### Family Scyliorhinidae



#### *Cephaloscyllium ventriosum*

Swell Shark

#### **CVEN**

- Identification: Flattened head, two dorsal fins located towards back of body, with dark spots all over body.
- Size: 30cm to 1.5m.
- Habitat: Sand flats, rocky reefs and kelp beds. Typically found on bottom in caves or crevices.

## Family Triakididae



### *Triakis semifasciata*

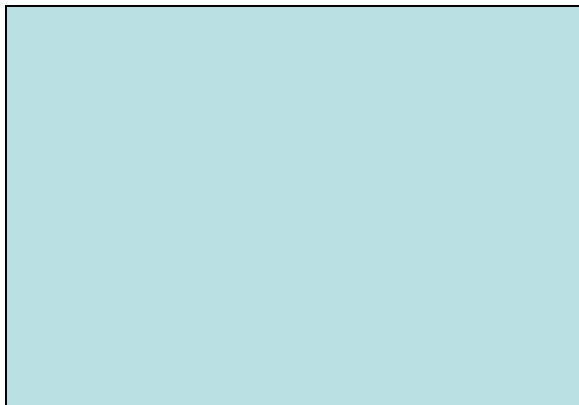
Leopard Shark

#### **TSEM**

- Identification: Short, rounded snout and dark saddle blotches that run the length of the body.
- Size: 60cm to 2.1m.
- Habitat: Shallow inshore areas of sand, rocky rubble and mud flats. Often found in bays and protected areas.

## Order Batrachoidiformes

### Family Bartrachoididae



### *Porichthys notatus*

Plainfin Midshipman

#### **PNOT**

- Identification: Wide, flattened head, protruding eyes, and upturned mouth with rows of white spots on head and several rows running the length of the body. Spiny dorsal fin.
- Size: 5cm to 38cm.
- Habitat: Sand and mud bottoms. Buried during the day and hover right above bottom at night.

## Order Gasterosteiformes

### Family Aulorhynchidae



### *Aulorhynchus flavidus*

Tube-Snout

#### **AUFL**

- Identification: Elongate with long snout and 23 to 26 isolated spines in front of dorsal fin
- Size: 7cm to 18 cm
- Habitat: Inhabit eelgrass or kelp beds. Shallow waters to 30 m.



## Order Pleuronectiformes

### Family Paralichthyidae



#### *Paralichthys californicus*

California Halibut

#### PCAL

- Identification: Large mouth, upper jaw extends to or behind eye, and tail arched in middle with outer edges square cut.
- Size: 38cm to 1.5m.
- Habitat: Flat sandy or mud bottoms. Rest on bottom usually covered by bottom material.



#### *Citharichthys stigmaeus*

Speckled Sand Dab

#### CSTI

- Identification: Speckles, often small blotches, and ventrally compressed.
- Size: 8cm to 18cm.
- Habitat: Gravel, sand and shell rubble flats. Rest on bottom.

## Order Scorpaeniformes

### Family Scorpaenidae



#### *Sebastes atrovirens*

Kelp Rockfish

#### SATR

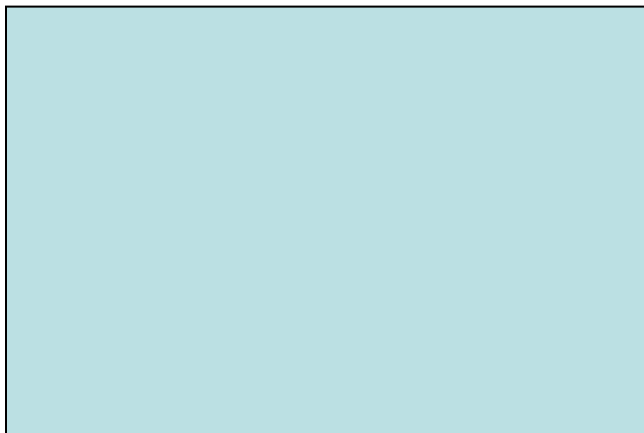
- Identification: No distinctive markings. Mottled shades of tan to brown to greenish brown. Can change color and markings with background.
- Size: 15cm to 42cm.
- Habitat: Kelp beds and other algae areas. Typically drift in shaded areas.

## *Sebastes auriculatus*

Brown Rockfish

### **SAUR**

- Identification: Blotched shades of brown to coral to tan. Pectoral and fore-dorsal fins pale coral to tan, distinguished by blotched shades of dark green to greenish gray or black.
- Size: 20 cm to 45cm.
- Habitat: Hard bottoms and sandy areas near rocks, dock pilings, debris, and low profile reefs. Most commonly found below 20 feet.



## *Sebastes carnatus*

Gopher Rockfish

### **SCAR**

- Identification: Three pale colored splotches on back that extend into dorsal spines. Two diagonal bands extend from lower eye, and pale blotches on dorsal spines.
- Size: 15cm to 39cm.
- Habitat: Rocky areas in caves and crevices. Often rest on bottom.



## *Sebastes caurinus*

Copper Rockfish

### **SCAU**

- Identification: White belly, pale fins, and dark band that slopes downward from eye toward pectoral fin. White lateral line extending from dorsal fin toward tail.
- Size: 25cm to 57cm.
- Habitat: Rocky areas from offshore reefs to shallow protected bays and areas of kelp. Found in protected areas, rest on bottom.





## *Sebastes chrysomelas*

Black and Yellow Rockfish

### **SCHR**

- Identification: Two dark diagonal bands extend from lower eye. Bright yellow spots and blotches over dark under-color.
- Size: 15cm to 39cm.
- Habitat: Rocky areas in caves and crevices. Often rest on bottom.



## *Scorpaena guttata*

California Scorpionfish

### **SGUT**

- Identification: Many spines, short barbels and skin flaps on head. Brown spots on head, body and fins.
- Size: 18cm to 43cm.
- Habitat: Recesses on rocky reefs. Typically lie on bottom nestled in with debris.

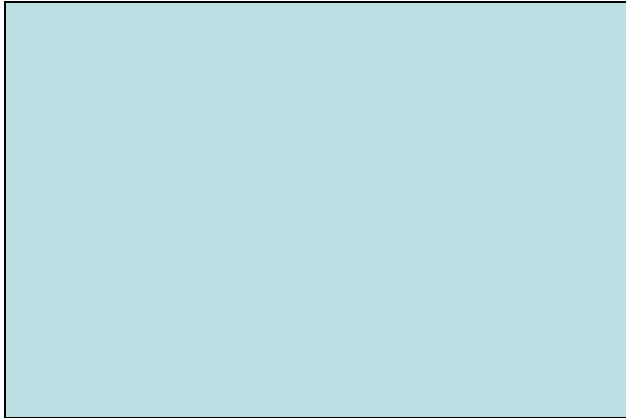


## *Sebastes mystinus*

Blue Rockfish

### **SMYS**

- Identification: Slightly projected jaw that extends to midpoint of eye, 2-4 curved bands around front of head. Sloping band from eye toward pectoral fin with a smaller band below.
- Size: 20cm to 53cm.
- Habitat: Kelp forests, shallow reefs and open water over deep reefs, rarely in sheltered waters. Found in large schools with other rockfish.



## *Sebastes paucispinis*

Bocaccio

### **SPAU**

- Identification: Gray to olive, often with spots. Concave head, large mouth, maxilla extends beyond eye.
- Size: 20cm to 90cm.
- Habitat: Over rock and soft bottoms.



## *Sebastes serranoides*

Olive Rockfish

### **SSER**

- Identification: Lighter coloring below lateral line and several pale spots below dorsal fin.
- Size: 25cm to 60.6cm.
- Habitat: Open waters over banks, reefs and descending coastlines. Congregate in schools.



## *Sebastes serriceps*

Treefish

### **STRE**

- Identification: Five to six wide blackish bars across back and base of tail. Two dark bands from eye to pectoral fin, with pink lips. Juveniles (shown here) often have brighter coloring than adults.
- Size: 15cm to 40cm.
- Habitat: Caves, crevices, and other protective recesses. Often hidden from view.



## Family Hexagrammidae

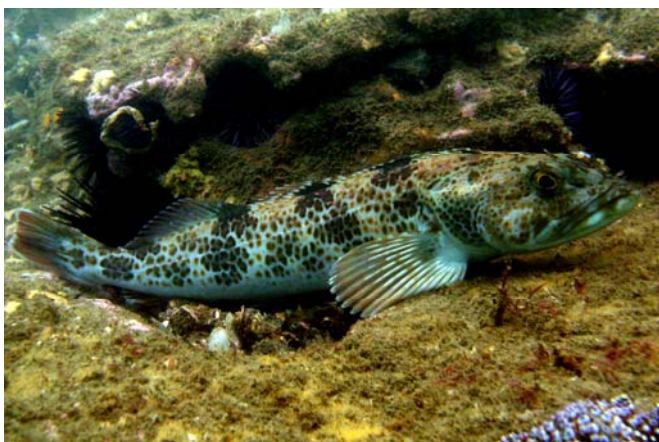


### *Hexagrammos decagrammus*

Kelp Greenling

#### **HDEC**

- Identification: Male: Blue irregular spots outlined by small dark spots on head and forebody and a pair of cirri above eyes. Female: Speckled with red-brown to gold over a pale under-color.
- Size: 25cm to 60.6cm.
- Habitat: Generally kelp beds but also rocky areas and sand bottoms.



### *Ophiodon elongatus*

Lingcod

#### **OELO**

- Identification: Single, whitish lateral line, large mouth and prominent canine teeth. Long, even spinous dorsal fin separated by a notch before soft rear dorsal fin.
- Size: 45cm to 1.5m.
- Habitat: Rocky areas. Either rest on bottom or patrol territory.



### *Oxylebius pictus*

Painted Greenling

#### **OPIC**

- Identification: Pointed snout with 5-6 dark bands encircling fins and body. Two pairs of cirri between eyes and dorsal fin.
- Size: 10cm to 25cm.
- Habitat: Shallow rocky areas and around docks. Typically hover above bottom or move from perch to perch.

## Family Cottidae



### *Leiocottus hirundo*

Lavender Sculpin

#### **LHIR**

- Identification: Slender, tapered elongated body. First two extremely long dorsal fin spines form a spike-like projection, and red to blue spots on spines of dorsal fins aligned diagonally.
- Size: 10cm to 25cm.
- Habitat: Shallow sand flats and rocky reefs around kelp beds.



### *Orthonopias triacis*

Snubnosed Sculpin

#### **OTRI**

- Identification: Blunt Snout. Broad band of scales between dorsal fin and lateral line. Obvious scales from top of head to foredorsal fin.
- Size: 2in-3in.
- Habitat: Rocky reefs, outcroppings, and coastlines.



### *Scorpaenichthys marmoratus*

Cabezon

#### **SMAR**

- Identification: Bulbous head and stout body with prominent cirrus above each eye.
- Size: 40cm to 1m.
- Habitat: Rocky bottoms near kelp beds. Usually rest on bottom.



## Order Perciformes

### Family Percichthyidae



#### *Stereolepis gigas*

Giant Sea Bass

#### **SGIG**

- Identification: Large mouth, bulky body, low profile foredorsal fin, tall soft dorsal, and sizable black spots.
- Size: 60cm to 2.3m.
- Habitat: Rocky bottoms, rocky outcroppings and kelp forests. Drift in shaded areas.

### Family Serranidae



#### *Paralabrax clathratus*

Kelp Bass

#### **PCLA**

- Identification: Square cut tail, first two spines of foredorsal fin short, and large, pale blotches on back.
- Size: 30cm to 72cm.
- Habitat: Kelp beds, rocky inshore areas and seaweed flats. Also found in deeper patch reefs and areas of sand.



#### *Paralabrax nebulifer*

Barred Sand Bass

#### **PNEB**

- Identification: Square cut tail, dusky bars on side, and third foredorsal spine distinctly longer.
- Size: 25cm to 66cm.
- Habitat: Sandy areas near reefs, rocky outcroppings and kelp beds. Typically rest on bottom.

## Family Malacanthidae



### *Caulolatilus princeps*

Ocean Whitefish

#### **CAPR**

- Identification: Elongate heavy body with small terminal mouth. Fins often yellowish and may have bluish stripes.
- Size: To 50cm.
- Habitat: Rocky areas and occasionally kelp beds.

## Family Kyphosidae



### *Girella nigricans*

Opaleye

#### **GNIG**

- Identification: Football-shaped profile, one to three white spots on back, and bright blue to blue-green eyes.
- Size: 15cm to 66cm.
- Habitat: Shallow rocky reefs and kelp beds.



### *Medialuna californiensis*

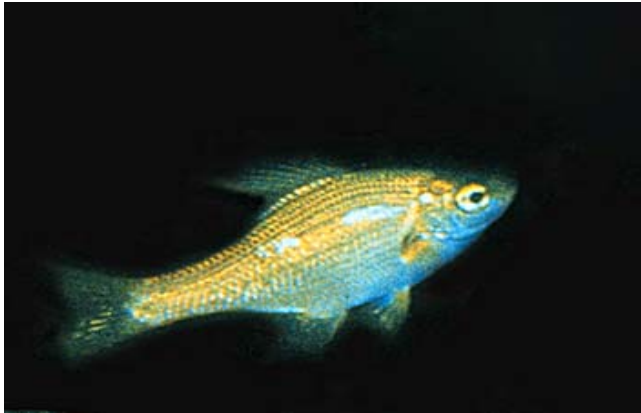
Halfmoon

#### **MCAL**

- Identification: Football-shaped profile, darker coloring on back graduating to pale shades on sides and a whitish belly, and a dusky spot on upper-rear gill cover.
- Size: 15cm to 45cm.
- Habitat: School near kelp beds, oil rigs and high profile reefs.



## Family Embiotocidae

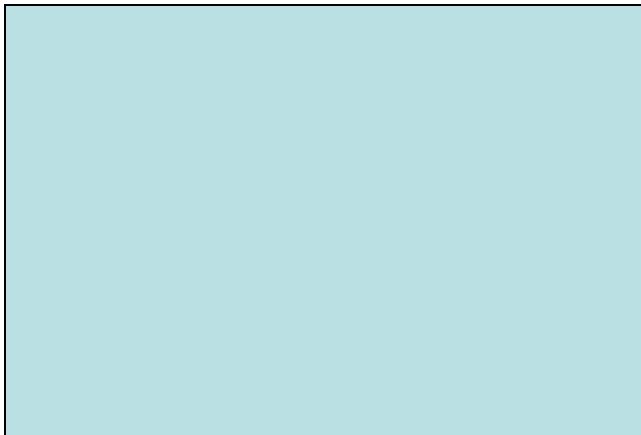


### *Brachyistius frenatus*

Kelp Surfperch

#### **BFRE**

- Identification: Thin body, dark areas on scales that form stripes above mid-lateral line, concave head above eyes, and snout pointed upward due to prominent lower jaw.
- Size: 9cm to 21.5cm.
- Habitat: Kelp beds.



### *Cymatogaster aggregata*

Shiner Surfperch

#### **CAGG**

- Identification: Black spots on scales form thin stripes on sides. Usually two or three yellow to yellowish bars on sides.
- Size: 7cm to 15cm
- Habitat: Found around shallow, backwater areas, kelp beds, docks and jetties, and oil rigs.



### *Damalichthys vacca*

Pile Surfperch

#### **DVAC**

- Identification: Thin, football-shaped body, deeply forked tail, spinous dorsal fin lower than soft, dark bar below front portion of soft dorsal fin, and a black spot behind corner of mouth.
- Size: 15cm to 44cm.
- Habitat: Rocky reefs, kelp forests, under docks and around jetties and oil rigs.



## *Embiotoca jacksoni*

Black Surfperch

### **EJAC**

- Identification: Large lips, thin, football-shaped body, blue strip along base of anal fin, and about nine dusky bars on body.
- Size: 12.6cm to 39cm.
- Habitat: Kelp beds.

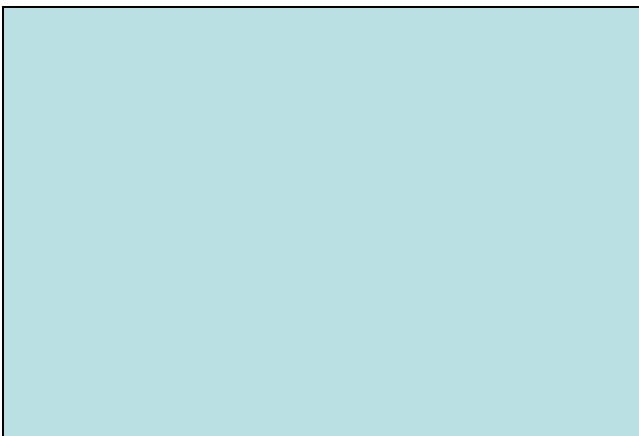


## *Embiotoca lateralis*

Striped Surfperch

### **ELAT**

- Identification: Thin, football-shaped body and several narrow, iridescent blue stripes separated by wider orange to copper colored stripes that run laterally.
- Size: 12.6cm to 38cm.
- Habitat: Rocky reefs, kelp forests, eelgrass, leafy algae areas and sandy/rocky surf zones.



## *Hyperprosopon argenteum*

Walleye Surfperch

### **HARG**

- Identification: Wide, black edge on ventral fin. Usually in large, dense, swimming schools.
- Size: 12cm to 23cm.
- Habitat: Shallow, sandy bottoms. Often found in surf or just behind surfline. Also found near jetties, docks, and shallow kelp beds.





## *Hypsurus caryi*

Rainbow Surfperch

### **HCAR**

- Identification: Thin, football-shaped body with a flat belly, bars on back shaded orange, and a black spot on upper corner of mouth.
- Size: 12.6cm to 30cm.
- Habitat: Sandy areas, rocky reefs and around kelp beds.



## *Phanerodon furcatus*

White Surfperch

### **PFUR**

- Identification: Thin, football-shaped body, deeply forked tail, and black line at base of dorsal fin.
- Size: 10cm to 32cm.
- Habitat: Shallow bays, near docks and jetties, sandy areas, rocky reefs and around kelp beds.



## *Rhacochilus toxotes*

Rubberlip Surfperch

### **RTOX**

- Identification: Large, fat lips with white to pink tint, thin, football-shaped body, dark bar below front portion of soft dorsal fin, and spinous dorsal fin shorter than soft dorsal.
- Size: 20cm to 47cm.
- Habitat: Kelp forests, rocky outcroppings, jetties and piers.

## Family Pomacentridae

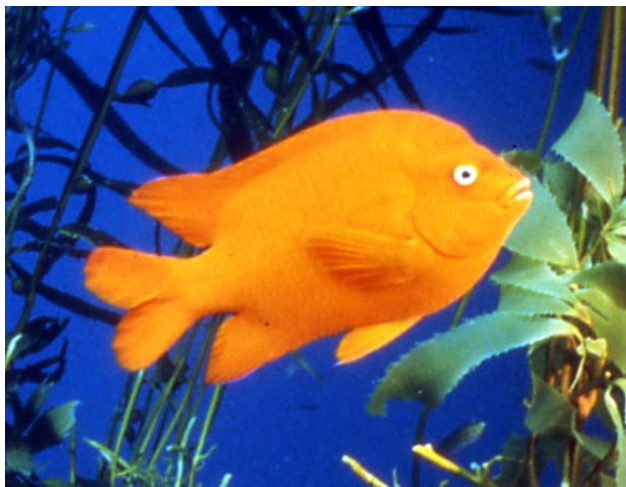


### *Chromis punctipinnis*

Blacksmith

#### **CPUN**

- Identification: Typically blue bordered tail, anal and dorsal fins and black spots on scales scattered from mid-body to tail.
- Size: 10cm to 30cm.
- Habitat: Shallow reefs and rocky areas.



### *Hypsypops rubicundus*

Garibaldi

#### **HRUB**

- Identification: Thin, oval-shaped body, bright orange with a possibility of blue spots, and deeply notched tail between two rounded lobes.
- Size: 12.6cm to 35cm.
- Habitat: Rocky reefs and kelp beds.

## Family Labridae



### *Halichoeres semicinctus*

Rock Wrasse

#### **HSEM**

- Identification: Terminal Phase: Dark bar behind pectoral fin and may have dusky bars on back. Initial Phase: Dark areas on scales from spotted stripe on upper side. Juvenile: Two black spots on dorsal fin and canine teeth protrude from mouth.
- Size: 30cm to 38cm.
- Habitat: Boulder-strewn areas mixed with sand and small rocky reefs.





## *Oxyjulis californica*

Senorita

### **OCAL**

- Identification: White belly, sharp canine teeth that typically protrude from mouth, yellow to orange in color, and large black spot on tail base.
- Size: 8cm to 25cm.
- Habitat: Rocky reefs, kelp beds and boulder-strewn areas surrounded by sand.



## *Semicossyphus pulcher*

California Sheephead

### **SPUL**

- Identification: Juvenile: White mid-body stripe, black spots on rear dorsal and anal fins and upper base of tail, and red. Adult: White chin, dark head and rear body, protruding canine teeth, and older species form bulbous lump on nape.
- Size: 30cm to 90cm.
- Habitat: Rocky bottoms, especially kelp beds.

## **Family Clinidae**



## *Gibbonsia montereyensis*

Crevice Kelpfish

### **GMON**

- Identification: Rounded tail fin, short pectoral fins, soft rays of rear dorsal fin are spaced more widely towards rear, and a single row of spots along upper side.
- Size: 6cm to 15cm.
- Habitat: Rocky areas with numerous recesses and abundant algae growth. Typically found in the intertidal zone.



## *Heterostichus rostratus*

Giant Kelpfish

### **HROS**

- Identification: Forked tail and an elongated head with a upturned, pointed snout.
- Size: 15cm to 61cm.
- Habitat: Kelp beds and areas of leafy algae growth. Typically found amongst the blades blending in with background.



## *Neoclinus blanchardi*

Sarcastic Fringehead

### **NBLA**

- Identification: Large mouth with jaws extending almost to gill openings, two blue with yellow spots on foredorsal fin, and cirri over eyes.
- Size: 8cm to 30cm.
- Habitat: Hard sand and mud bottoms. Found in crevices, burrows, holes and empty shells.



## *Alloclinus holderi*

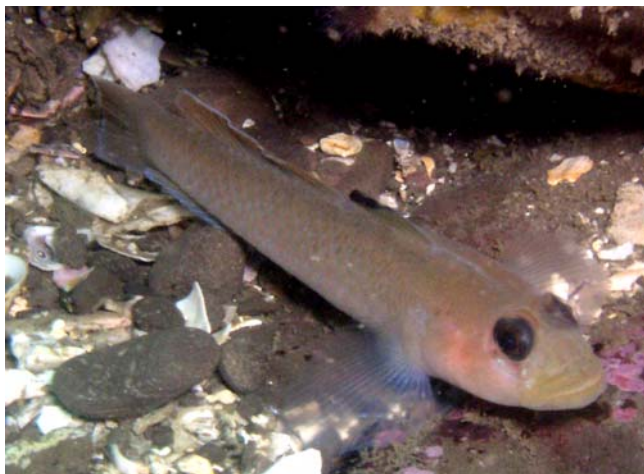
Island Kelpfish

### **AHOL**

- Identification: Pale spot extending from cheek lower rear quarter of eye, raised rear dorsal fin, pale cover spots cover body, a row of dark blotches on upper body, and long pectoral fins.
- Size: 5cm to 10cm.
- Habitat: Rocky coastlines, reefs with abundant algal growth and kelp beds.



## Family Gobiidae



### *Rhinogobiops nicholsii*

Blackeye Goby

#### CNIC

- Identification: Dark to pale tan, black eye, and black edge of foredorsal fin.
- Size: 4cm to 15cm.
- Habitat: Sandy areas near reefs, outcroppings and docks. Typically found in protective recesses.



### *Lythrypnus dalli*

Bluebanded Goby

#### LDAL

- Identification: Bright red with four to nine bright blue bars and a tall foredorsal fin.
- Size: 2cm to 6cm.
- Habitat: Open rocky areas.

## Family Haemulidae



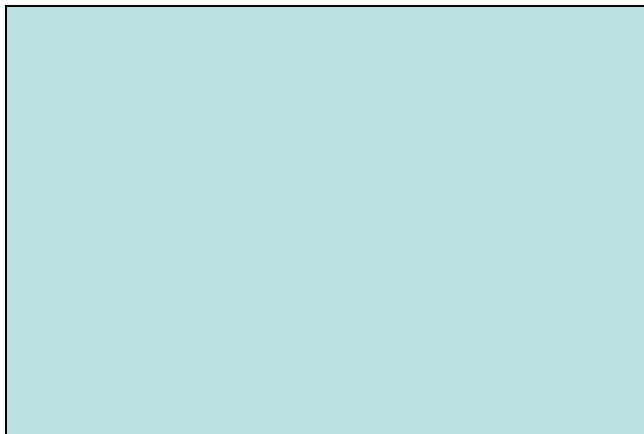
### *Anisotremus davidsonii*

Sargo

#### ANDA

- Identification: Silver with single mid-body black bar running from base of dorsal fin to level of pectoral fin
- Size: 20cm to 50cm.
- Habitat: Rocky areas and kelp beds.

## Family Sphyraenidae



### *Sphyraena argentea*

Pacific Barracuda

#### **SPAR**

- Identification: Elongate, silver below and blue/brown above, lower jaw extends beyond upper
- Size: 45cm to 120cm.
- Habitat: Pelagic, near edges of reefs and kelp beds.



## Phylum Chordata



### *Enhydra lutris*

Sea Otter

- Identification: Thick fur, dark brown, head and back of neck yellowish or grayish, fairly short tail, webbed feet, flipper-like hind feet.
- Size: Length to 1.5m.
- Habitat: Shallow coastal areas, prefer places with kelp.



### *Zalophus californianus*

Sea Lion

- Identification: External ear flaps, large flippers, males develop sagittal crest on top of skull.
- Size: Length to 2.1m.
- Habitat: Found from British Columbia to southern tip of Baja California, breed mainly on offshore islands.

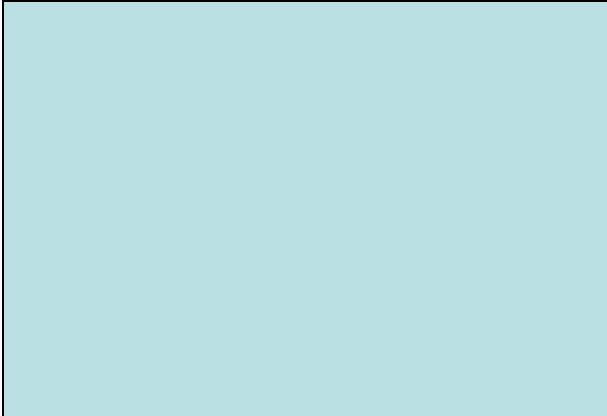


### *Phoca vitulina*

Harbor Seal

- Identification: Spotted coats from silver-gray to dark brown or black, no external ear flaps, small flippers
- Size: Length to 1.9m.
- Habitat: Favor near-shore coastal waters, often found at sandy beaches, mudflats, bays and estuaries.

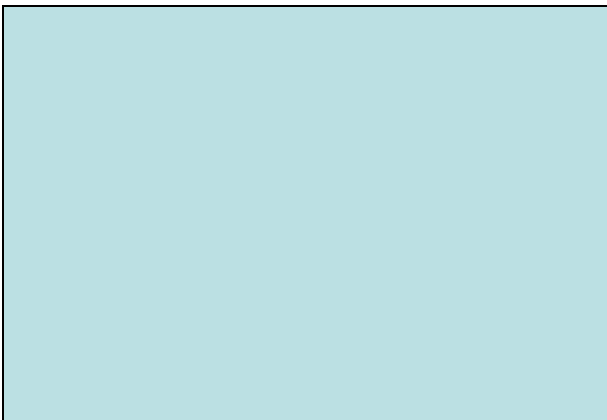
## Phylum Chordata



### *Tursiops truncatus*

Bottlenose Dolphin

- Identification: Dark cape often on head and back, well defined and short beak, transverse groove between forehead and snout, broad-based and falcate dorsal fin near center of back.
- Size: Length to 3.7m.
- Habitat: Inshore waters including estuaries, shallow bays, waterways, and freshwater rivers, sometimes to edge of continental shelf



### *Delphinus delphis*

Common Dolphin

- Identification: Fusiform and slender, sides marked with hourglass or crisscross pattern, well defined long beak with white tip, 1+ dark stripes from center of lower jaw to flipper, dorsal fin nearly triangular to falcate.
- Size: Length to 2.6m.
- Habitat: Offshore over outer continental shelf, often near ridges.



### *Eschrichtius robustus*

Gray Whale

- Identification: Mottled gray, short baleen plates, narrowly triangular head, paired blowholes, 2-5 deep lengthwise throat grooves, low hump 2/3 way down the back followed by serrated ridge, no ventral grooves.
- Size: Length to 14m.
- Habitat: Generally coastal waters. Migrate close to shore, calve in shallow southern lagoons.