## Sea Weeds: Seaweeds represent groups of marine plants, green, brown and red algae. Use identification groupings then look at families to key seaweed

# Cnidaria: Anemones | Annelida:

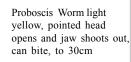
### segmented worms



Bamboo Worm long slim fragile like bamboo to 18cm



Sand Worm green blue or pink iridescence to 30cm



Spaghetti Worm long feeding tentacles, 20 segments, to 16cm



Lug Worm coiled casting on surface, drab yellow brown, U shaped burrow, to 20cm

Thread worm thin segmented black casting on surface, dark red, to 30cm

## Nemertea: ribbon

## worms



Primative ribbon worm bright6 orange, tublar shape to 30 cm, rocky exposed areas

Blood worm bright red, thing tublar, to 5 cm, upper intertidal,

#### Marine plants. intertidal grasses that flower

### Seagrasses

### Eel Grass (Zostera)

lower intertidal to upper subtidal dull green leaves, flat in cross section leaves > 4mm width, to 3m long mud or sand substrate wave protected



Surf Grass (Phyllospadix)

lower intertidal to upper subtidal bright green leaves leaves often < 4mm width, to 1m long rooted to solid rock in wave areas

#### Green Seaweeds and Sea Grasses (light to dark green) identification grounings

- Seagrasses with leaves arising from a root system
- Filaments with threadlike filaments < 1 mm in width
- Blades leaflike 2 mm to 30 cm wide
- Cylinders leaves or hollow tubes 2 mm to 50 cm wide
- Spongy texture, crusts and branched forms to 50 cm
- **Spheres** diameters to 1.5 cm
- Unicellular very small green dots to soup like appearance



#### Filaments

## **Green Tuft** (Cladophora)

upper tidal to lower crevases on rocky shores bright green mossy clumps branched filliments 1 to 3cm high clumps



## Green Rope (Acrosiphonia)

mid to low intertidal crevases on rocky shores bright green rope like complexes branched filliments to 30cm long



#### **Blades**

#### Sea Lettuce (Ulva)

throughout intertidal and subtidal on rocky shores, forms mats when washed ashore

pale to emerald green blades 2 cells thick may be long and narrow to fan shaped

# Short Sea Lettuce (Prasiola)

upper and mid zones bright green blades usually <1cm on rock where high nitrates accoumlate



#### Dark Sea Lettuce (Ulvaria)

throughout intertidal and subtidal on rocky shores turn dark green when dry blades one cells thick



#### Cylinders

fan like blades

**Green String Lettuce** (Entromorpha) throughout intertidal and subtidal usually <20 cm long, bright green branched and unbranched



## Sea Staghorn (Codium)

low intertidal, Y branched to 40 cm, 5 cm branch also cushin form, spongy texture dark green on rocks on open coasts



Green Sea Grape (Derbesia) on rock low to subtidal, emerald to dark green one cell spheres to 1 cm dia

**Brown Seaweeds** (Yellowish to brown to dark brown) identification groupings

- Crusts, lack upright portions to 40cm in dia
- Filaments, filimentous thread like <1mm wide
- Cushiony, Globular, sac like to 30 cm in widest
- Small Flat Blades unbranched blades<10 cm long
- Dichotomously branched, forming Y's usually <40cm
- Cylinders, throughout branched or unbranched to 1m lengt
- Radially branched with flattened parts to 3 m long
- Feather like branching, flattened usually 1 m long
- **Kelps:** .5 to 55 m long tough flattened blades Simple blades lacking ribs

Winged Kelp many small blades from stem Ribbed Kelp unbranched blades with ribs Repeatedly branched Kelp

**Crusts** (some are a life cycle phase of other orders) Tar Spot (Ralfsia)

mid to low intertidal to 20 cm dia dark brown to greenish concentric rings adheres tightly to rock substrate



#### **Filaments**

Brown Rock Fuzz (Sphacelaria) lower intertidal to subtidal

small brown tufts on rock to 4 cm



## Cushiony or Globular

Studded Sea Balloon (Soranthera)

dimpled hollow globe to 6 cm growing on red seaweed hard sori on globe surfaces mid to low intertidal



#### **Small Flat Blades**

False Kelp (Petalonia)

light brown blade from a crust like holdfast mid to low intertidal, usually < 10cm light and temp determine crust or blade development

Sea Cauliflower (Leathesia)



#### Dichotomously branched Rockweed (Fucus)

midridge length of flat branches, tips often inflated mid to low intertidal, to 50 cm, blades to 1 cm olive green to yellow brown, branching into Y's



#### Little Rockweed (Pelvetiopsis)

mid to low intertidal, to 10 cm, wave exposed shores oval blades with no midridge, light tan olive many branches



Soda Straws or Whip Tube (Scytosiphon) unbranched hollow tube >1 cm in dia to 50 cm long mid to c pale brown

like links of sausages, rocky coasts



#### Radially branched with flattened parts Japanese Weed (Sargassum)

to 10 m in length, attaches to rocks or shells, lateral branches from the base of blades yellowish brown stalk that branches repeatedly posses smooth rounded floats



#### Kelps, Simple blades

Winged Kelp

Winged Kelp (Alaria)

long slender wavev blades

Feather Boa (Egregla)

Ribbed kelp

Tangle or Sugar Whack (Laminaria)

branched holdfast with stalk usually 30 cm

blades usually < 2 m, dark brown to olive,

low intertidal to upper subtidal, rocky coasts

intertidal to 20 m subtidal, rocky open coast

blade to 1.5 m, single midrib length of blade,

low intertidal to upper subtidal, rocky coasts

olive to dark brown, grow in kelp forests

stalk to 20 m long, bulb float to 12 cm, blades to 3 m

subtidal to 20 m, rock open coast to protected areas

stubby rubbery stalk topped with up to 100 blades

blades to 25 cm, green to olive brown, to 60 cm tall

mid to low intertidal, open wave washed rock coast

to 30 m long, many blades from along stalk,

Red Seaweeds (Yellowish to red to pink to purple)

- Branched and hardened, branched hardened segment

olive to dark brown, branching holdfast

long flexible stalk numerous blades to 5 cm

some blades with round or oval floats

Broad Ribbed Kelp (Pleurophycus)

branched holdfast, stalk to 20 cm,

Repeatedly branched Kelp

Bull Kelp (Nereocystis)

Sea Palm (Postelsia)

Giant Kelp (Macrocystis)

to 30 m subtidal, rocky open coast

blades to 30 cm long, 8 cm wide

olive to dark brown, to 20 m long

two rows of sporophyll blades along lower stalk

brown blades to 3 m length and to 20 cm wide low intertidal to subtidal, sand, or rocky coasts range from tough to deleciate blades



Hard crusts

Rock Crust (Pseudolithophyllum) high to lower intertidal, 3mm thick to 10 cm dia pink to purple to chalky crusts, calcite hardens

### Branched and hardened

Coral Seaweed (Corallina)

purplish pink with rounded calcified segments, white rimmed miniature vases on tips shafts to 2 mm dia, to 10 cm long, pools and lower intertidal, on rock substrate

#### Soft crusts

Turkish Washcloth (Mastocarpus)

Tarspot alternate phase

simple blade with regular bumps, crust spongy to 1 m long, 30 cm wide, subtidal to 20 m brick red to purple, iridescent when wet

## Filamentous

Black sea hair (Bangia)

one branch to 10 cm, rusty black hairs compact growth on surfaces, high intertidal

# Solid or Hollow

## Deadman's finger (Halosaccion)

mid to low intertidal, sacks yellow to deep red to 20 cm tall, sacks like squirt bottles

#### Blades with regular bumps Turkish Towel, (Chondrocanthus)

tough blades red to yellow, usually <30 cm lower intertidal to subtidal

#### Blades with ribs

Red Sea Leaf (Erythrophyllum) rich red narrow blades to 40 cm length low intertidal on wave exposed shores ribs run length of blades

## Simple Blades

Iridescent Seaweed (Mazzaella) lobed blades usually <50 cm, in dense stands blades re iridescent, slick rubbery blades

## deep reddish purple to yellow Purple laver (Phorphyroia)

brownish purple blades turn black when dry to 30cm, on rocks protected shores, upper and mid intertidal, food source

## Branched and flat

Sea Lace (Microcladia)

terminal branch like crab claws, to 40 cm mid to lower intertidal, brown to purple

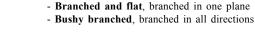
#### Black Pine (Neorhodomela)

high to low intertidal, 20 cm tall sand swept rocky shores, dark black brown wiry branches with clusters of 1 cm branches,

#### **Bushy** branched SeaBush (Odonthalia)

branched with bushy appearance, to 50 cm long branch tips sharp and tightly packed mid to lower intertidal, tide pools





- Simple Blades, bladed and simple

identification groupings

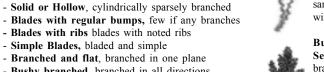
- Hard crusts, lack upright portions

- Soft crusts lack upright portions

- Parasitic plants, on other red algae

- Filamentous, thread like filaments

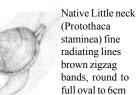
- Blades with ribs blades with noted ribs



## Mollusca: Bivalvia, Clams, Oysters,

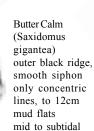


Basket Cockel (Clinocardium nuttalli) thick radiating ribs brown patterns to 10cm sand, gravel intertidal to 100 m subtidal

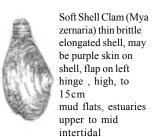


brown zigzag bands, round to full oval to 6cm mud flats mid intertidal





Horse Clam Tresus capax) Black skin on shell, wrinkled siphon, flaps, fine radiating lines on outer edge to 20cm mud flats mid to subtidal



Bentnose Clam (Macoma nasuta) valves bent, ovoid, chalky, thin shells to 5cm mud flats mid to subtidal



Polluted Clam (Macoma inquinata) pointed at end, wedged shaped with dent on edge, chalky, to 5cm mud flats mid to subtidal



to mid intertidal White Sand Clam (Macoma secta) outer black nob, ovoid chalky, to

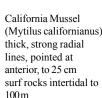
10cm mud flats

mid to subtidal



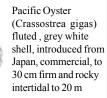
Elongate to 1.5cm mud flats upper to mid intertidal Razor Clam







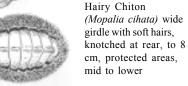




## Mollusca: Polyplacophora, Mollusca: Gastropoda,



Black Katy Chiton (Katharina tunicata) oval to elongate, black to brownish girdle, to 8 cm exposed rocky areas, mid intertidal



GumBoot Chiton (Cryptochiton stelleri) oval, brown to reddish, granular girdle covers entire plates to 33 cm intertidal to 20 m



Mossy Chitonand (Mopalia muscosa) oval, girdle stout stiff hairs, dr brown to black, to 7 cm rocks,tidepools



Lined Chiton (Tonicella lineata) girdle, banded yellow orange blotches, dark zigzag lines smooth dark, to 5 cm rocks,tidepools

# Mollusca: Gastropoda, Limpets



Dunce(or White) Cap Limpet(Acmaea mitra) white exterior, round shell, to 3,5 cm, rocky shores, intertidal to subtidal



Finger Limpet (Lottia digitalis) strongly ribbed, apex points forward, to 2.5 cm high intertidal rocky



Plate Limpet (Tectura scutum) low flattened shell, green grey, with light and dark streaks, checkerboard pattern to 5 cm mid to low intertidal



Shield Limpet (Lottia pelta) oval shell, grey with white radial net pattern, to 5.5 cm, rock, open coast with Keyhole Limpet (Diodora

aspera) volcano shaped

to 5 cm, rocky shores

with small opening at apex



Masked Limpet (Tectura persona) elliptical, narrowing, rounded from side light ribbed on edge to 3 cm. upper intertidal rocky and exposed

# **Nudibranchs** (naked gills)



Sea Mouse (Aeolidea papillosa) grey brown body, usually white patch near head, crowed frills along sides, to 6 cm, intertidal to 750 m, rocks and mudflats

Yellow seaslug or Sea Lemon)

Ringed nudibranch

## Mollusca: Gastropoda, Whelks, Periwinkles, Snails



Sitka Perriwinkle (Littotina sitkana) squat shell dia equal to height, It brown to red brown, to 2.2 cm, sheltered rocks, high intertidal



Checkedred Perriwinkle (Littotina scutulata) slender shell ht greater than dia, dr brown to black purplr, often checkered with white, to 1.5 cm, rocks sheltered, high intertidal



Purple Whelk (Nucella lamellosa) heavy bodied with wavey ridges, spiny cords, pointed spire, to 5 cm, rocky shores



(Nucella canaliculata) more slender, ridges separated by deep groves, white grey, to 4cm, rocky shores



8.5 cm intertidal to 60 m rocks strong current



Rock Whelk (Nucella emarginata) ridges alternate bands, to 2.5 cm, rocky exposed and protected



Screw Shell Whelk pointed shell, greyish

# Arthropoda: crabs

Black Clawed Crab

(Lophopanopeus bellus

bellus) hairy legs, body dk

green white or mottled, to

Decorator Crab (Oregonia

gracilis) glues material on

intertidal, protected rocky

carpace 4 to 6 cm, long

thin legs, mid to high

Hairy Hermit Crab

(Pagurus granosimanus)

legs and claws spotted

white, narrow blue and

Green Shore Crab

oregonensis) greyish

black, adult dk red, rock

and burrow in mud flats.

green flecked with

to 5cm, intertidal

Purple Shore Crab

(Hemigrapsus nudus)

square carapace, purple

with dark spots, walking

legs not hairy to 5.5 cm,

under rocks intertidal

Ghost Shrimp (Callianassa

or mud in u shaped tunnel,

Mud Shrimp Upogebia

pugettensis) speckled body

blue grey to tan grey, claws

unequal, hairy legs to 15 cm,

mud flat mid to low intertidal

californiensis) burrows in sand

orange pink to translucent, to

10 cm, mid to low intertidal

Arthropoda: shrimp

(Hemigrapsus

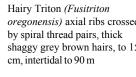
white bands, to 2 cm, sand

botton, intertidal to 350 m

5 cm, underrocks intertidal



Spindle Whelk (Searlesia dira) growth lines on body whorls, many spiral chords, gray to brown, to 4 cm, low intertidal





Horn Shell Whelk (Bittium eschrichtii) long slender tapers to sharp point, to 2.5 cm under rocks low intertidal



Purple Olive (Olivella biplicata) elongated highly polished shell, blue grey to violet around appature, to 3cm, sand and open coast

Moon snai

Turban Snail



Acorn Barnacle (Balanus glandula) white volacno shaped, inner plates close tightly, to 2 cm, on pilings, rocks, intertidal range,



Small Acorn Barnacle (Chthamalus dalli) crossed shaped patterns made by closing plates, to 1 cm, high intertidal on rocks, pilings



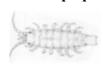
Thacthed Barnacle (Semibalanus cariosus) ribbed wall with downward fingerlike projections, to 5 cm high, rocks, intertidal to shallow subtidal



(Pollicipes polymerus) stalk to 8 cm tall, stalk topped with five plates, intertidal to 30 m, open coast, rocky

Goose Necked Barnacle

# Arthropoda: isopods and amphipods



Eel Grass Isopod (Idotea resecata) olive green, last segment behind final legs, resembles peice of eel grass, to 4 cm, on eel grass



Orgeon Pill Bug (Gnorimosphaeroma oregonense) drab greyish, rolls in ball when disturbed, usually <1.5 cm, found amoung barnacles



Beach Hoppers (Traskorchestra traskiana) dark green, transparent antennae, to 2 cm, gravel, rocky and sand beaches



California Beach Hopper (Orchestoidea californiana) gerys to ivory body, large bent bright orange antennae, to 2.5 cm, high intertidal, gravel, rocky and sand beaches



Small Beach Hopper (Orchestia traskiana) dark grevish, dull antennae. to 1.5 cm, gravel, high intertidal, rocky and sand beaches



Cumcean (Cumacea Malacostraca) like small transparent amphipods, to 1 cm, found on seaweeds



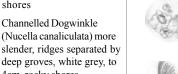
Rockweed Isopod (Idotea wosnesenskii) final segment flat behind legs. smooth olive green, to 4 cm, found under rocks



Rock Louse (Ligia pallasii) olive to dark green, to 3 cm, high intertidal









Leafy Hornmouth (Ceratastoma foliatum) three winded frills, large tooth, to



between thick and thin, white



(Batillaria zonalis) graceful chords with brown beads, to 4 cm, mudflats