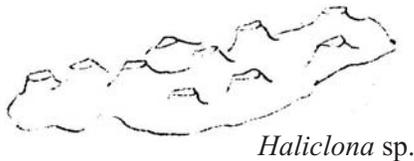


# COMMON INTERTIDAL INVERTEBRATES --- HOPKINS MARINE STATION

## [phylum PORIFERA]



*Haliclona* sp.

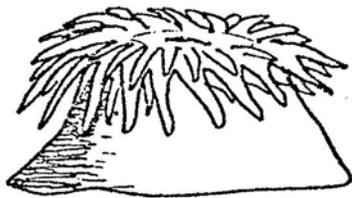
### Sponges

- Encrusting or solitary
- *Haliclona* has volcano-like openings (oscula); lavender purple to tan color
- Many species of red & orange encrusting sponges in intertidal; can be difficult to identify



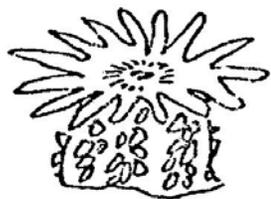
## [phylum CNIDARIA]

anemones:



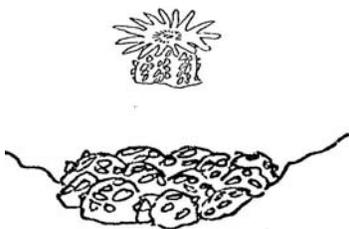
### *Anthopleura xanthogrammica*

- Large, solitary; oral disc up to 15cm diam
- Oral disc usually uniform green (may lack algae and dinoflagellates, thus appearing white in shaded habitats)
- Column is tough and leathery to touch
- Column not covered with sand/shell fragments
- Papillae on column arranged randomly
- More prevalent on exposed, outer coast



### *Anthopleura sola*

- Large, solitary; disc up to 15 cm diam.
- Formerly called solitary form of *A. elegantissima*
- Much like *A. xanthogrammica* except disc coloration and column texture like *A. elegantissima*
- More prevalent in wave-protected regions



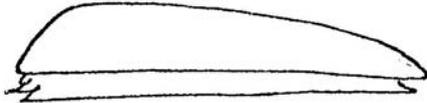
### *Anthopleura elegantissima* (aggregating anemone)

- Small (2-6cm diam. oral disc, living in clonal clusters)
- Oral disc with rays leading to mouth
- Tentacles often pinkish purple
- Column soft and fleshy
- Column covered with sand and/or shell fragments
- Papillae on column arranged in distinct vertical rows



[phylum MOLLUSCA]

--- GASTROPODS --- limpets and limpet-like forms



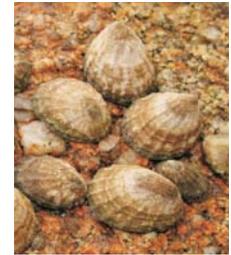
***Lottia gigantea*** (owl limpet)

- Fairly large, can be > 3cm
- Peak of shell (apex) very far forward
- Tentacles and side of foot gray
- Bottom of foot orange (white in most other spp.)
- Usually solitary in grazed territory



***Lottia digitalis***

- Apex of shell well forward of center
- Tentacles and side of foot cream color
- Dominates on vertical rock surfaces



***Lottia paradigitalis***

- Shell with more central apex
- Edge of shell with speckled pattern
- Shell smooth, no ribs
- Edge of foot creamy, like *L. digitalis*



***Lottia scabra*** (homing limpet)

- Apex of shell slightly forward; heavy radiating ribs
- Shell margin irregularly fluted, fits rock substrate perfectly when “home”
- Tentacles white
- Side of foot with black speckles (only species like this)
- Dominates on horizontal surfaces



***Lottia pelta***

- Peak more or less over center of shell
- Tentacles and side of foot whitish
- Weak ribs
- May be fairly large, up to 3cm long



***Lottia scutum***

- Shell with very low profile, somewhat rounded & smooth
- Tentacles golden brownish
- Side of foot whitish
- Shell may be tortoise-shell patterned around edge



***Lottia limatula*** (file limpet)

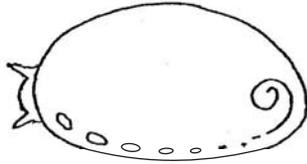
- Shell low, fine radiating spiny ridges (tell by feel)
- Side of foot dark grey or black
- Tentacles often dark, but may be white

--- GASTROPODS --- limpets and limpet-like forms (*continued*)



Keyhole limpets

- Have limpet-like shell with single hole at top
- *Fissurella volcano* is most common local species



*Haliotis cracherodii* (black abalone)

- Related to keyhole limpets, but with row of ~8 holes on shell

--- GASTROPODS --- snails



*Tegula funebris* (black turban snail)

- Very common locally, shells up to 2-3 cm diameter
- Shells often eroded on spire and apex, tip pearly or orange
- Shell pinkish-black when dry, black when wet
- Herbivorous
- Sometimes with other snail species living on shell (e.g. *Crepidula adunca* and *Lottia asmi*)
- *Tegula brunnea* is a related species, brownish, usually larger than *T. funebris* and found lower in the intertidal



*Littorina keenae* (periwinkle)

- Shell gray, brown, or checkered w/white (not all black)
- Can be fairly large, 1-2 cm tall
- Distinct white line curving into aperture (may need to push operculum in to see)
- Flattened columella
- Occurs higher in the intertidal than any other large marine invertebrate



*Littorina scutulata*

- Shell shaped much like that of *L. keenae*, but usually smaller (<1cm tall) and with a proportionately slightly higher, more pointed spire
- Color gray, purplish, or black, sometimes with white spots
- Columella not flattened; no white line into aperture
- Found lower in the intertidal than *L. keenae*; sometimes inside dead barnacles

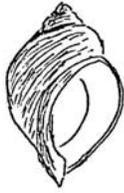


*Serpularbis squamigerus*

- Vermetid (worm-like) gastropod
- Young snail attaches and grows shell in loose coil on rock
- They settle gregariously and form masses with raised apertures
- No operculum
- Aperture of shell to 1 cm diameter

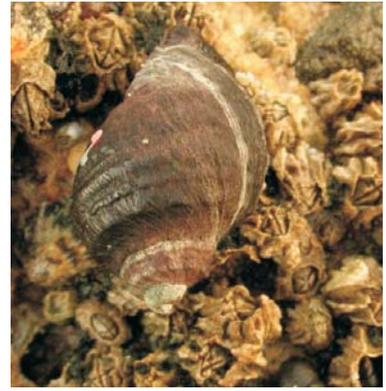
[phylum MOLLUSCA]

--- GASTROPODS --- snails (predatory)



*Nucella emarginata*

- Shell with spiral ridges, often alternately dark/light color
- Predatory boring snail



*Acanthina punctulata*

- Gray with flecks of darker color, typically black
- Prominent short spine on outer lip of aperture
- Predatory boring snail



*Ocenebra circumtexta*



[phylum MOLLUSCA]

--- chitons



*Nuttalina californica*



*Cyanoplax hartwegi*

[phylum MOLLUSCA]

--- bivalves



*Mytilus californianus*

[phylum ARTHROPODA]

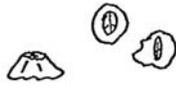
--- CRUSTACEA

“acorn barnacles”



***Balanus glandula***

- Most common local intertidal barnacle
- Color gray-white or tan
- Opercular plates same color as sides
- Larger specimens (up to 1 cm) have ridges, shell appears eroded and pitted
- Small specimens are smooth and white



***Chthamalus fissus* and *C. dalli***

- Also common, smaller (2-6 mm diam.) and flatter than *B. glandula*
- Shell darker than *Balanus*, may be inconspicuous on granite
- Opercular plates dark brown, usually darker than the sides



***Tetraclita***

- Largest local intertidal barnacle, up to 2 cm diameter
- Shell with 4 plates, pinkish to brick red
- Shell with many longitudinal ridges and grooves
- Small specimens +/- white



***Pollicipes* (goose-neck barnacle)**

- Tough, leathery flexible stalk, large CaCO<sub>3</sub> plates at tip
- Can be very large, 2 cm diam. and 10 cm long
- Large specimens common on surf-swept rocks
- Smaller specimens can be found elsewhere



***Pachygrapsus crassipes***  
(lined shore crab)



***Hemigrapsus nudus***  
- purple spots on claws



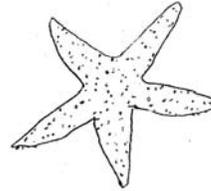
***Petrolisthes cinctipes***  
(porcelain crab)

[phylum ECHINODERMATA]

--- ASTEROIDEA --- sea stars

***Pisaster ochraceus***

- Color variable: purple, orange, brown
- Short white spines forming reticulate pattern
- Large (up to 25 cm diameter); usually with 5 arms



***Patiria miniata*** (bat star)

- Color extremely variable: mottled or solid purple, orange, brown, cream etc.
- Diameter up to ~ 15 cm
- Everts stomach to feed
- 4-9 arms; usually 5



***Leptasterias hexactis***

- Small (to ~ 8 cm diameter)
- 6 arms
- Females brood young



--- ECHINOIDEA --- sea urchins

***Strongylocentrotus purpuratus***



--- OPHIUROIDEA --- brittle stars

***Ophiothrix spiculata*, *Amphipholus*, *Amphiodia*, etc.**



*Ophiothrix spiculata*