

SPLASH AND HIGH TIDE ZONE

1. Rock Louse or Western Sea Roach: Phylum Arthropoda. This isopod is a terrestrial species but must live near a water source such as a tide pool. There it dips its rear end where the gills are located, into water, in order to keep its breathing apparatus moist.



2. Periwinkles or Littorina: Phylum Mollusca. This common snail secretes a glue-like mucus around the aperture of its shell to help it cling to rocks when it is out of water for extended periods. The periwinkle resides higher in the intertidal zone than any other mollusk. It can survive out of water for up to three months, and can drown if in water too long. It feeds on diatoms and small algae. Enemies include carnivorous gastropods.



3. Acorn Barnacle: Phylum Arthropoda. The acorn barnacle lives on rocks, piers, boat bottoms and hard-shelled animals. The acorn barnacle can grow into elongated columns under crowded conditions. Barnacles have modified legs (cirri) that sweep through the water like a net to collect tiny planktonic food.



4. Turban Snail: Phylum Mollusca. The turban eats only soft seaweed using its radula (specialized tongue). It is believed to live as long as 100 years. There are three kinds found in our tide pools-Black, Brown and Eisen.



5. Volcano Limpet: Phylum Mollusca. The Volcano limpet is preyed upon by the purple sea star. This species gets its name from the splashes of purple or red that resembles lava flowing down the slopes of a volcano.



6. Rough Limpet: Phylum Mollusca. The shell of the rough limpet has strong radiating ribs and scalloped edges. It feeds on algal film and secures itself to the substrate with its firm foot. The rough limpet is believed to live to 11 years.



7. Owl Limpet: Phylum Mollusca. The owl limpet feeds on a variety of algae by grazing on rock. It is a loner, known to bulldoze limpets, mussels and sea anemones off the rock of its own territory. This is one of the largest limpets in North America.



MID TIDE ZONE

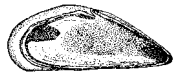
8. Mossy Chiton: Phylum Mollusca. As with all chitons, the mossy chiton has a series of 8 plates held together by an outer girdle. The girdle is covered in stiff hairs giving the animal a fuzzy look. It is often seen in daylight, but stays in one place until nightfall; then it moves when feeding on algae.



9. Opaleye: Phylum Chordata. This is a common perch species found in shallow waters. Young are often found in tide pools. They feed on small mollusks, crustaceans, and vegetable matter. Its name comes from the cream-colored eyespot near the dorsal fin.



10. California Mussel: Phylum Mollusca (bivalve-2 shells). This mussel has a thin blue-black periostracum (covering) on the shells. Mussels feed on plankton by pumping seawater over their gills. When the tide goes out mussels close their shells tight to keep from drying out. The California mussel is food for sea stars, predaceous snails, crabs, gulls, sea otters, and humans. Native people of the west coast used this species for food and its shells for implements.



11. Aggregate Sea Anemone: Phylum Cnidaria. This species lives in colonies attached to rocks in tide pools with active currents. By necessity this species must be very tolerant of the harsh conditions including exposure to sun, wind and waves. The anemone has nematocysts (stinging cells) on its tentacles to sting its prey, primarily small fish and marine invertebrates.



12. Striped Shore Crab: Phylum Arthropoda. This crab is often found under water in tide pools, but is well adapted outside of water. Its primary source of food is algae, which it picks up and brings to its mouth with alternating claws. Its predators are gulls and raccoons.



13. Gooseneck Barnacle: Phylum Arthropoda. These barnacles often live in close association to the California mussel. Their resilient stalks (attachment) are tough enough to withstand pounding waves. The gooseneck barnacle is edible and exported to Europe as a delicacy. Gulls too, find this species a tasty treat.



14. Giant Green Sea Anemone: Phylum Cnidaria. This beautiful animal has the appearance of a flower and can grow to 12". It is found in both solitary existence and in groups. Microscopic green algae live in the tentacles giving the animal its green color. Sea anemones, like their relatives the jellies, possess nematocysts (stinging cells) at the ends of their tentacles used to sting prey.



15. Ochre Sea Star: Phylum Echinodermata. This spiky skinned creature comes in three colors: purple, brown and yellow. It has five stout arms with a primitive 'eye' at the end, which detects light. It moves by means of tube feet and also uses them for attachment to the hard substrate. It feeds on mussels, abalone, chitons, barnacles and snails. Sea stars are themselves prey to gulls. Sea stars have a remarkable power of regeneration. Entire limbs can be regenerated, and in some species, one limb and a portion of the central disk or body can regenerate a whole sea star.



16. Black Abalone: Phylum Mollusca. This gastropod normally has 5-8 open holes that are flush with the upper surface of the shell. The holes accommodate breathing and excretion. The black abalone feeds on a variety of seaweeds, including feather boa kelp. Enemies include the octopus, purple star, fishes and the sea otter. The Native coastal people used the abalone as a food source and the shells for eating and drinking vessels.



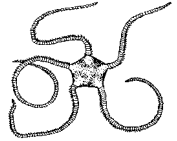
17. Festive Murex: Phylum Mollusca. The festive murex is a carnivore that feeds on the scaly tube snail. Empty shells provide homes for hermit crabs.



18. Bat Star: Phylum Echinodermata. This leathery feeling sea star comes in many bright colors. It is thought to live up to 30 years. It is an omnivore, feeding on plants and animals, both dead and alive. The bat star worm, a segmented worm, is often found living commensally on the under side of this sea star.



19. Brittle Star: Phylum Echinodermata. Brittle stars are very fragile and readily break off the arms if handled. They move rapidly with their podia (tube feet). Several of these creatures are often found together under flat rocks in the tide pools. Food consists of detritus and some species are active carnivores. Unlike sea stars, brittle sea stars cannot extrude their stomach to feed.



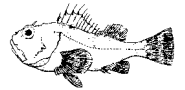
20. Hermit Crab: Phylum Arthropoda. The blue band hermit crab is common in our tide pools. The animal is dull green with bright blue bands circling each walking leg. Antennae are bright red. The blue band hermit crab eats both plant and animal material. It occupies empty shells of various mollusks and has to change shells as it grows. This animal actually ‘carries its home on its back’.



21. Coralline Algae: Phylum Rhodophyta: The color of these algae ranges from white to pink to purple with many flattened feather-like branches. An encrusting base anchors tightly to the rock, from which the branches grow. This and several similar algae contain a very high percentage of calcium carbonate, the same material that makes up clam and snail shells.



22. Sculpin: Phylum Chordata. This species of fish is very tolerant of extreme changes in temperature, from the heat of tiny tide pools in direct sun, to the cool waters of high tide. The sculpin is able to use its sense of smell to ‘home’ back to its original tide pool if displaced. It can also camouflage to its surroundings.



23. Feather Boa: Phylum Phaeophyta. Color varies from olive green to brown. The plant is held securely to rock by a holdfast. Coastal farmers have used this plant species for many years as a fertilizer.



LOW TIDE ZONE

24. Sea Hare: Phylum Mollusca. This mottled brownish nudibranch gets its name from the pair of antennae, which resemble a hare’s ears. The California sea hare is an herbivore that grazes on red algae. It can discharge purple ink if irritated. Each adult is a hermaphrodite, having both male and female reproductive organs, but each must find another individual to mate. They produce millions of spaghetti-like eggs.



25. Octopus: Phylum Mollusca. The two-spot octopus is a cephalopod and a shy creature living in holes and crevices. It is so named because of two bluish-black eyespots just below the real eyes. The mantle of this animal is the hood that contains the internal organs, and it possesses eight arms. The two-spot octopus eats a variety of mollusks and fish.



26. Giant keyhole Limpet: Phylum Mollusca. The color of the shell varies from buff to pink, and is hidden largely by its body. Its diet includes algae, tunicates and a variety of encrusting animals. The Native coastal people once used the shells of the giant keyhole limpet as money.



27. Sea Urchin: Phylum Echinodermata. The purple sea urchin is spherical and covered with short, stout spines. Its chief food is seaweed. It can excavate holes in rock over time by using its spines and teeth. While residing in its hole, it is protected from the pounding surf. The red sea urchin is larger with elongated spines that are deep red in color. The roe (eggs) of the red sea urchin is considered a delicacy in Japan –it’s called ‘uni’ in sushi restaurants.



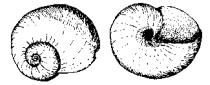
28. Chestnut Cowry: Phylum Mollusca. Most cowries are found in tropical waters, but the chestnut cowry is the only one found in California. It has a beautiful shiny shell with a slit-like opening. The animal dines on a wide range of foods, including sea anemones, sponges, and carrion.



29. Wavy Top: Phylum Mollusca. The shell of this animal is heavy with wavy, slanted ridges on the whorls. Red algae sometimes grow on the shell. The wavy top eats soft seaweed using its radula (specialized tongue).



30. Norris Top: Phylum Mollusca. This snail is also called smooth brown turban, and the animal has a distinctive red foot. It is usually found on brown algae, especially the giant perennial kelp and feather boa kelp. It feeds on the algae during the day then returns to higher water levels at night.



This information is from *The Beachcombers Guide to Seashore Life of California* by J. Duane Sept (a Yvetta Williams recommendation).

C. Blindbury January 2005

Note: The term ‘gastropod’ means stomach on foot. The term ‘cephalopod’ means head on foot, and ‘nudibranch’ is another name for sea slug.