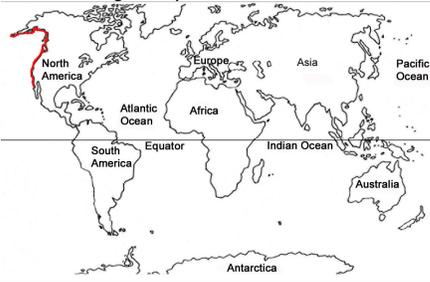


Blood Star

Native Range Map



Kingdom: Animalia
Phylum: Echinodermata
Subphylum: Stellerioidea
Class: Asteroidea
Order: Spinulosida
Family: Echinasteridae
Genus: *Henricia*
Species: *leviuscula*

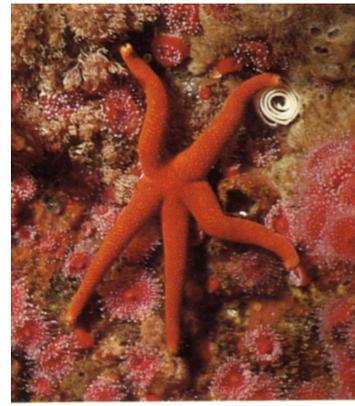


Photo courtesy of Kate Woodle

Habitat

- **In the Wild:** Blood stars are a marine species found in the coastal waters of the Pacific Ocean. Their habitat ranges from the Aleutian Islands (west of the Alaskan peninsula) to the waters of central California. They occur from the low tide line and intertidal zones down to approximately 1300 feet deep. Blood stars are usually found on and under rocks that have sponges, bryozoans (tiny moss animals) or algae growing on them, and in other protected places.
- **Exhibit Location:** USS Antiquities

Characteristics

- Blood stars are sea stars and have five long, slender arms around a small central disk.
- They range in color from tan and yellow to orange, red or purplish, and are usually spotted or mottled.
- The distance from the center to the tip of each arm (radius) is $3 \frac{5}{8}$ inches.
- The surface of the animal is smooth and is covered with closely set, equally-sized blunt spines.
- There are two rows of sucker-tipped tube feet in the undersides of each arm. Each blood star has hundreds of these tube feet.
- Sensory cells in the skin can sense light, contact and chemicals in the water. Most sensory neurons are located at the tube feet.
- Blood stars have no sense organs except a red eyespot at the tip of each arm. The eyespot is able to “see” only differences of light and dark.
- **Lifespan: In the Wild:** Unknown; **In Captivity:** Unknown

Behaviors

- Blood stars are carnivores and eat by trapping small particles with slimy mucus on the bottoms of their arms. The trapped food is transported to the mouth with tiny moving hair-like structures called cilia. The mouth is located at the center of the underside. They can push their stomach out through their mouth to feed.
- Blood stars have a water-vascular system, a set of water-filled canals that lead to the sucker-like tube feet. The tube feet are used for many important functions, including moving around, attaching to rocks and other surfaces, and collecting food.
- **Enrichments at the Zoo:** None

Reproduction

- The breeding habits vary according to the size of the blood star.
- Smaller females brood their eggs in a depression or pouch around the mouth, which is formed by arching the arm. When the eggs hatch the young escape through pores in the skin.
- Larger females discharge their eggs directly into the water and do not brood them.

Diet

- **In the Wild:** sponges, plankton, bacteria
- **At the Zoo:** smelt, fish gel, squid

Conservation Status

- **IUCN status:** not listed; **CITES Appendix:** not listed
- Many asteroid species are keystone species in ecosystems. This means that they are very important for the balanced functioning of their ecosystem, and their removal could cause dramatic changes.
- Human collection is the main threat to the blood star.
- Predators: birds, humans

Did You Know?/Fun Facts

- Sea stars can regenerate lost arms if enough of the arm remains.
- There are over 1500 species of sea stars in the world. Blood stars are one of them.
- Blood stars and other sea stars do not have a heart, centralized brain or eyes.

Sources:

- Alaska Fisheries Science Center, (2007). Redbanded sea star, *orthasterias koehleri* and the blood star, *henricia leviuscula*. Retrieved January 14, 2007, from Alaska Fisheries Science Center, National Marine Fisheries Service NOAA Fisheries Web site: <http://www.afsc.noaa.gov/kodiak/photo/starhenri.htm>
- Hebert, P.D.N. ed. (2002). Introduction. Retrieved January 13, 2007, from Canada's Aquatic Environments Web site: <http://www.aquatic.uoguelph.ca/inverts/diver/marine/echinodermata/asteroidea/intro.htm>
- Mulcrone, R. (2005). "Echinodermata" (On-line), Animal Diversity Web. Accessed January 16, 2007 at <http://animaldiversity.ummz.umich.edu/site/accounts/information/Echinodermata.html>
- National Wildlife Federation, (2005). Pacific blood star *henricia leviuscula*. Retrieved January 13, 2007, from National Wildlife Federation eNature America's Wildlife Resource Web site: <http://www.enature.com/fieldguides/detail.asp?fotogID=548&curPageNum=18&recnum=SC0073>
- Olympic Coast National Marine Sanctuary, (2004, July 16). Invertebrates list pacific blood star *henricia leviuscula*. Retrieved January 14, 2007, from Olympic Coast National Marine Sanctuary Web site: http://olympiccoast.noaa.gov/living/marine_wildlife/invertebrates/invertlist.html
- Stevenson, J. (2006, June). Starfish - sea stars home page. Retrieved January 14, 2007, from Starfish Web site: <http://users.bigpond.net.au/je.st/starfish/index.html>
- Wray, G. A. (1999). Echinodermata. Retrieved January 14, 2007, from Tree of Life Web Project Web site: <http://www.tolweb.org/Echinodermata>