

The Sunflower Star

The Sunflower Star is a common inhabitant of shallow waters from the Aleutian Islands, Alaska to San Diego, California. The scientific name is *Pycnopodia helianthoides*. *Pycnopodia*, meaning dense feet, refers to the thousands of tube-like suckers on the underside of each arm. *Helianthoides* means resembling a sunflower. This sea star can grow to 50 to 80 centimetres in diameter; it reaches its greatest size in the fjords of British Columbia and Alaska.

Scuba divers see this species quite commonly, but you can also find it occasionally at the water's edge or in quiet pools during a low tide. It may also turn up on the end of your fishing line or in a crab trap baited with dead fish.

Most sea stars are carnivorous and their diet is restricted to a few items. But the diet of the Sunflower Star includes numerous species such as sea urchins, clams, hermit crabs, sea cucumbers, sand dollars and sometimes abalone. This varied diet enables the Sunflower Star to forage and feed in various habitats from mud to solid rock, and from the intertidal zone to a maximum depth of 435 metres. However, it seldom frequents the intertidal zone because its soft flabby body would quickly dry out in the sun.

Even clams, which lie hidden in the bottom sediments, are not safe from the Sunflower Star. Once this efficient hunter detects the siphon hole of a clam, it excavates the clam, protrudes its stomach, envelops the entire clam and digests it.

A sea star may have five or six arms, or even seven to fourteen; but the Sunflower Star has fifteen to twenty-four arms. Most species of sea stars have a mesh-like skeleton that protects their internal organs, but restricts their mobility. The skeleton of the Sunflower Star's upper surface is comprised of a few unconnected pieces; this design allows its mouth to stretch and its body to distend to accommodate large prey.

Despite its formidable size, the Sunflower Star attains speeds of 1.6 metres per minute as it pursues its prey. Some animals can detect the oncoming sea star and evade it. For example, the Purple Sea Urchin can escape the Sunflower Star by lowering its spines, exposing many small jaw-like pincers that nip at the sea star's tube feet if they come in contact; at the same time, the urchin moves rapidly away from the sea star.

The usually-sluggish Northern Abalone transforms into a speedster when attacked by the Sunflower Star. The abalone's large fleshy foot goes into strong undulations as it moves away from the sea star, and its shell twists violently in an attempt to dislodge the sea star's suckers.

Sunflower Stars can breed from March to July, but the main peak is in May and June. They shed eggs and sperm into the water, where fertilization takes place by chance. The microscopic sea star larva floats and feeds near the surface for two to ten weeks — the larval period. After the larval period, the larva settles to the bottom and transforms into a miniature Sunflower Star.

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For Additional Reading:

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