

# OCTOPUS

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## SCIENTIFIC CLASSIFICATION

<b>COMMON NAME:</b>	octopus
<b>KINGDOM:</b>	Animalia
<b>PHYLUM:</b>	Mollusca
<b>CLASS:</b>	Cephalopoda
<b>SUBCLASS:</b>	Coleoidea
<b>ORDER(S):</b>	Octopoda
<b>FAMILY:</b>	
<b>GENUS SPECIES:</b>	About 200 species

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## FAST FACTS

<b>DESCRIPTION:</b>	Octopuses have a short, round body. They have eight tentacles (arms) jointed by a web of skin. The arms are lined with rows of suckers from the base to the tip. The mantle (body) surface is either smooth, or covered with wart-like projections or cirri.
<b>SIZE:</b>	The smallest octopuses are the “pygmy” octopuses, which are only about 2 cm (0.79 in.) long and weigh less than 1 gram (0.04 oz.). Octopuses can grow to be much larger; Arm lengths of 10 to 15 m (32.8–49.2 ft.) long have been observed.
<b>LOCOMOTION:</b>	Unlike other molluscs, octopuses are capable of high-speed swimming. They use water-powered jet propulsion—in which water is expelled from the mantle cavity—to swim and use their sucker-lined arms for crawling. Since octopuses have a more benthic lifestyle, crawling is more commonly seen than swimming.
<b>DIET:</b>	Primarily crabs and clams
<b>FEEDING:</b>	Octopuses are active, predatory carnivores. Some octopuses hunt “blindly” by “tasting” underneath rocks with their suckers. Some

species have a radula modified as a drill to bore through mollusc shells. Octopuses also have a pair of beak-like jaws used for biting and tearing. They also possess a pair of poison glands to paralyze prey for easier consumption.

Octopuses either leave their dens to hunt or wait near the entrance of their lair. Prey is taken back into the den and the shells and skeletons are discarded at the entrance, creating an "octopus' garden."

<b>REPRODUCTION:</b>	Octopuses are either male or female. Fertilization is internal. Males have a modified arm, called a hectocotylus, which is spoon-shaped and used to deposit sperm in the mantle cavity of the female. Eggs are deposited and protected by the female.
<b>RESPIRATION:</b>	Octopuses have two gills that are used for gas exchange. Water circulation through the mantle provides oxygen for the gills.
<b>LIFE SPAN:</b>	About 1 to 5 years; Most octopuses die shortly after a single spawning.
<b>RANGE:</b>	Oceans worldwide
<b>HABITAT:</b>	Benthic; often in dens located in crevices or holes.

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## FUN FACTS

1. The blue-ringed octopuses of Asia, Australia, and the western Pacific Ocean are the deadliest cephalopods. All octopuses have large poison glands that paralyze prey. However, in the blue-ringed octopuses, the chemicals in the saliva are more potent. These octopuses have been responsible for a few human fatalities and numerous near fatalities. The danger of these octopuses was not discovered until the 1950s. Blue-ringed octopuses are generally timid and will avoid people. However, they will bite when they are being harassed or threatened.
2. The veined octopus, *Octopus marginatus*, lives on sand and in mud, emerging at dusk and dawn to feed. These can be dangerous habitats due to the exposure and little protection from predators. One way this species gains more protection is to hide within mollusc shells. However, near human settlements this octopus is likely to be found in discarded coconut shells. When the halves of coconuts are fitted together, they make a great shelter that is difficult for fishes or humans to open.
3. Octopuses have chromatophores (color cells) covering their body which are responsible for their coloration. Chromatophores are controlled by the nervous system and hormones. The contraction and expansion of these cells creates changes in color. When disturbed, an octopus may display a defensive color pattern. Color changes are also associated with courtship behaviors. Color changes may be accompanied by changes in skin texture.
4. Octopuses possess a large ink sac, with glands that secrete a brown or black fluid. When alarmed, the octopus releases ink from the mantle cavity into the surrounding water, hopefully confusing predators.
5. The eyes of octopuses are highly developed compared to other molluscs and very

similar to those of fishes. They have a lens which can control the amount of light entering the eye. They are capable of forming an image and experiments have shown that octopuses can discriminate objects as small as 0.5 cm from 1 m away.

6. The common name of the mimic octopus, *Thaumoctopus mimicus*, comes from its ability to impersonate the shape and behavior of other animals, usually venomous ones. Impersonations include flatfishes, lionfish, and sea snakes. When impersonating a sea snake, the octopus raises its arms and moves them to simulate snake-like motion.
7. For more information, please visit the Tide Pool Infobook.

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## ECOLOGY AND CONSERVATION

Octopuses are extremely popular as food all around the world. They are harvested recreationally, on a small scale, and through large commercial fisheries. Octopuses account for approximately 10% of the world cephalopod catch. Fisheries must be regulated in order to conserve octopus populations.

Beachcombers, tidepoolers, and divers must remember not to disturb or collect any specimens that they may encounter. The removal of animals from an ecosystem may disturb ecological processes and decreased the diversity in areas that are frequently visited. Because of their specific nutritional and physiological needs, certain animals, such as octopuses have a much better chance for survival in their natural environment than in an unregulated home aquarium.

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