

“Lessons from the Deep”

Adapted from a text by Anna Gratz Cockerille

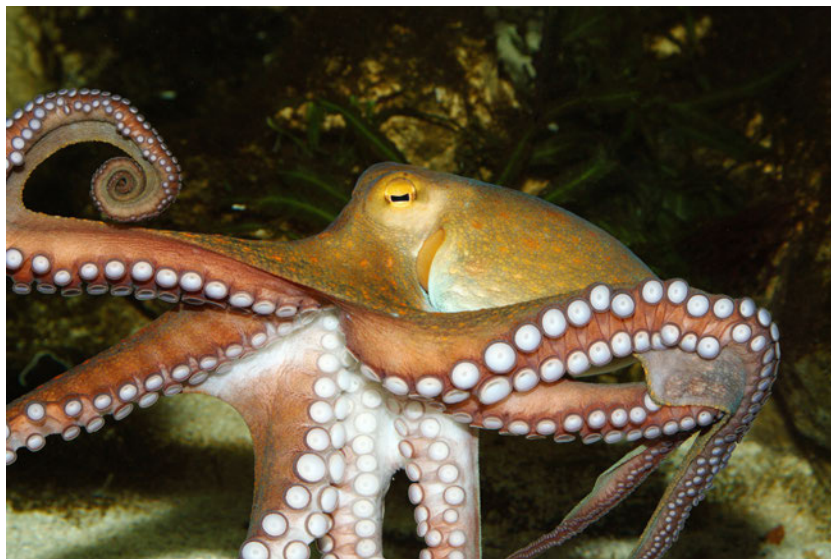
Of all the strange and wonderful creatures that live in the ocean, one unique creature stands out above the rest. It is the amazing octopus. There are over 300 different types of octopus, and they can be found in every ocean in the world!

The octopus has a body unlike any other animal. Its body, called a mantle, is soft and shaped like a bag. The octopus can squeeze into impossibly small cracks and crevices because it has no bones in its body. Its eight rubbery arms are attached to its head near its mouth. The octopus’s arms are covered with suckers, which help grab and taste things. The octopus can see very far distances, but it cannot hear anything at all.

The octopus’s body is amazing on the inside, too. Along with its stomach and other organs,

the octopus has three hearts. Two of its hearts send blood, which is light blue, to its gills, on two of its arms. The third heart sends blood to the rest of its body. When the octopus breathes in, water comes in through its gills and fills its body. When the octopus breathes out, the water comes out the siphon.

One of the most striking characteristics of the octopus is the wide array of techniques it uses to avoid or thwart its attackers. When an octopus wants to move quickly to escape a predator, it can expel water from its siphon and push itself backwards. This is called jet propulsion. Using this technique, octopuses can travel many miles. An octopus can also protect itself by squirting ink at a predator, obscuring its view and causing it to lose its sense of smell temporarily. This makes



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the fleeing octopus difficult to track for the predator. Using a network of pigment cells and specialized muscles in its skin, the octopus can also instantaneously match the colors, patterns, and even textures of its surroundings. And if a predator manages to grab an octopus by the arm, the octopus has one more trick up its sleeve. This escape artist can break off its arm, swim away, and then grow a new one later with no permanent damage.

This unique creature is also a nocturnal hunter. It has a varied diet, including snails, fish, turtles, small crustaceans, and even other octopuses. An octopus catches its prey by grabbing it with its arms, sometimes using ink to disorient its victims first. To kill its prey, an octopus bites it with its tough beak-like jaws and injects it with venomous saliva, paralyzing it. Only one type of octopus, the Australian blue-ringed octopus, can kill a human with its poison.

Considered the most intelligent of all invertebrates, octopus brains are still a mystery that offers scientists the opportunity to study a unique kind of complex intelligence. Scientists have taught octopuses to learn to distinguish shapes and patterns. Some octopuses in tanks have been observed “playing” games. They throw objects into circular currents in the water and then catch them again. Another study found octopuses collecting coconut halves to use as tools, snapping the halves together when they were scared or wanted to hide. Research shows that octopuses may have emotions, too. Scientists believe that an octopus can change color depending on how it is feeling. An octopus is usually pale in color when it is relaxed, but becomes brightly colored when it is angry or scared.

Of all the animals in the sea, on land, or in the air, none is quite like the octopus. They are mysterious creatures, and there is still much to learn about these incredible animals.



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