

# Water Moccasin

*Agkistrodon piscivorus*

Water Moccasins are large, heavy-bodied snakes typically two to four feet in length but occasionally larger if there is a lot of food available. They have large, triangular heads with a wide, dark band through the eye, elliptical pupils, and large jowls due to the venom glands. Nonvenomous water snakes have a very thin line through the eye, round pupils, and narrow heads.

Moccasins clearly swim differently than other water snakes. Because they are so buoyant, the majority of their body tends to stay on the surface of the water. Nonvenomous water snakes swim much more submerged with only the head above the water's surface.

Other water snakes typically flee immediately if on land or in a tree, usually going underwater. Moccasins frequently stand their ground and flash the white mouth to deter a predator.

Moccasin coloration is highly variable. Older adults are often dark and solid-colored while juveniles are brightly patterned with a yellow tail tip. Males are larger than females.

Another common name, "Cottonmouth," comes from the whiteness of the interior of the mouth that it exposes as a defensive display.

This open mouth threat display has led to the widespread belief that moccasins are aggressive snakes, but generally they are one of the more sedate, even placid, venomous snakes.

Despite the aggressive reputation, research indicates that they seldom bite unless stepped on or picked up. They are not easily provoked and leave people alone unless they feel cornered.

Snakes do not like to strike unless they absolutely have to and know that they will make contact; it takes several weeks for their venom sacks to replenish. During that time, they are left without protection.

The venom is hemotoxic, which means that the venom breaks down and destroys blood cells and other tissues and reduces the ability of blood to coagulate or clot. This results in a hemorrhage throughout any portion of the circulatory system that is penetrated by poison, so the victim will bleed out or die from internal bleeding. This is in contrast to Coral Snakes which have a neurotoxic venom that attacks the central nervous system of the prey.

Like all pit vipers, the moccasin has two heat sensing pits located between the eyes and the nostrils. The pit consists of two cavities, an outer and an inner, which are separated by a membrane. These allow it to detect temperature differences of as little as 1.8° F higher or lower than that of the background and allow it to strike very accurately at the source of heat without the need of a visual. This hunting adaptation is particularly useful after dark when most animals' bodies are warmer than the air around them.

Hunting, and most of the snake's activity takes place during the night. Because the moccasin spends much of its night in the water, it spends a considerable amount of time during the day basking in the sun. The cool water saps the snake's body temperature much faster than air does to land bound serpents, and basking is an efficient way to regulate body temperature.

Moccasins employ ambush and active foraging strategies and are occasional scavengers. Opportunistic feeders, they consume a variety of aquatic and terrestrial prey including amphibians, lizards, small turtles, baby alligators, mammals, birds, snakes including smaller moccasins, and especially fish.

Prey such as frogs, fish, and other snakes are held in the jaws for a few moments after capture to allow them to succumb to the venom. Mammals which are likely to bite back are struck and then instantly released.

If the victim flees before the venom takes effect, the moccasin tracks it by scent. It then examines the carcass by touching it with its tongue to make sure it is dead. It swallows the it head first. Unlike nonvenomous reptiles, the moccasin takes its time feeding, perhaps because its prey is dead.

Breeding takes place during the spring. Courting begins with the male nudging the female's back and sides. This continues for as long as several hours until she exposes her tail and opens her cloaca for copulation.

The moccasin is oviparous: eggs develop within the maternal body without any additional nourishment from the parent and hatch within the parent or immediately after being laid.

Ovulation takes place only in alternate years. The gestation period usually lasts from three to four months.

Females have litters every two to three years. After the babies come to term, the female gives live birth up to 12 young which are completely independent as soon as they are born.

Baby Water Moccasins do not need the protection or the hunting skills of their mothers because they have evolved the unique ability to flick their pink tongues and bright tail tips, which act as bait, to trick frogs, minnows, and other creatures into thinking it is a worm and coming close enough for the young moccasin to strike.

**FAST FACT:** *Agkistrodon piscivorus* means "hooked-tooth fish-eater"

