

## Viperidae

Viperidae, the venomous viper family, contains the copperhead, cottonmouth, and three rattlesnake species in Louisiana: the pygmy, canebrake and eastern diamondback. All pit vipers have thick, chunky bodies, a triangle shaped head (the head is wider than the neck), vertical or elliptical shaped pupils and a loreal pit located between the eye and nostril. This heat sensitive pit is designed to help pit vipers locate their warm-blooded prey, usually rodents, and allows them to hunt accurately for them at night. Pit vipers secure their prey with venom, a form of modified saliva. The venom is delivered through hollow fangs during a bite. These fangs are folded against the roof of the snake's mouth when not in use and are covered by a sheath of tissue. They come forward for biting. Fangs are functional for 2 to 3 weeks and then are usually replaced. With a bite, typically only 1 or 2 punctures are evident on the skin, although smaller scratches and punctures may be caused by tiny teeth within the snakes mouth. Muscular pressure to the venom sacs, located within either side of the head, releases the venom. The amount of venom delivered in a bite depends on many factors: size of the snake, recent venom releases, physical location of the bite and depth of fang penetration. Most snakes do not empty the venom glands in a single bite and are equipped with a small amount of venom at all times. However, venom release is voluntary and "dry" bites do occur when the snake produces a superficial bite or is panicked. About 1 in 5 human bites fit this category.

Though preferring to strike from a coiled position, pit vipers can deliver a fatal strike from a non-coiled position as well. Effective striking distance is from 1/3 to more than 1/2 of the length of the snake's body. Cottonmouth snakes can even strike underwater. Involuntary nervous activity may allow snakes to bite for up to an hour after they have been "killed". Handling dead venomous snakes can be as dangerous as handling live ones.

Pit viper venom contains hemotoxins, that is, enzymes which break down blood and blood vessels. This allows for easier digestion because the snake has a partially predigested meal prior to swallowing. The venom works so well that it may be only a few seconds or minutes before their prey collapses and dies. In the case of humans, first symptoms of a bite are severe pain and swelling in the bite area, which may be followed by dizziness, nausea, headache and shock. Usually a sharp, throbbing pain results immediately in the area bitten by a pit viper and indicates envenomation. In non-fatal human bites, tissue loss and discoloration often occur at the area bitten. Death resulting from fatal bites is caused by loss of blood pressure and volume. The majority of pit viper bites occur mainly to people catching and handling them. Snakebite deaths are rare. If you don't handle venomous snakes, you have a greater chance of being struck by lightning than by bitten by a venomous snake.

Most vipers have live birth, delivering their young in July, August and September. These dangerous baby snakes are born complete with venom. Juvenile water moccasins and hatchling copperheads closely resemble each other at birth and are sometimes difficult to tell apart.

Not all members of the Viperidae family have rattles at the tip of their tail. All members of the viper family, as well as many non-venomous snakes, will shake their tails

when agitated. Copperheads and cottonmouths do not have rattles, but their tails will often shake against leaves and twigs, making a rattling sound. Rattles, dried scales at the tail tip, are found only on rattlesnakes. When these segments are shaken, the classic rattlesnake buzzing noise is heard. It is often believed that the number of segments on a rattlesnake's tail equals the rattlesnake's age. This is not always true. Usually rattlesnakes shed several times a year, depending on age, health and availability of food. With each shed a new segment of rattle is added. However, these rattles are often broken off when moving through rough terrain. Therefore, the number of segments in the rattle cannot accurately predict a snake's age.