

Some Common Snakes
of West Virginia

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It is a rare person who does not have strong feelings about snakes. A few find them fascinating, but most seem to think they are repulsive. As might be expected, the former study them at every opportunity, while the latter shudder with fear any time the subject is raised.

Snakes usually move out of the way when people intrude upon their home ground, but will fight when they are cornered and feel threatened. For this reason, anyone who spends much time outdoors should know the difference between the poisonous and nonpoisonous species.

In general, snakes can be described as elongate, legless reptiles with bright lidless eyes and a sensitive, forked tongue, with which they use to smell their surroundings. Their skeleton consists of a skull and long flexible backbone to which movable ribs are attached. Their belly is covered with overlapping plates which they use in locomotion by pushing against rough surfaces.

Snakes are ectothermic, meaning they derive their body temperature from that of the surrounding air. Since their body temperature fluctuates with the surrounding air, they hibernate during most of the winter and often move only at night during the hot weeks of summer; seeking shelter and shade on extremely hot and sunny days to keep from overheating.

The front teeth in the upper jaw of poisonous snakes are long, curved, hollow fangs. The fangs inject the poison into the snake's prey, and fold back into the snake's mouth when not in use. The tiny holding teeth which snakes use to hold prey are not adapted for chewing, so the food is swallowed whole. The lower jaw bones are connected at the front of the mouth by an elastic ligament, allowing each jaw to move independently of the other. This enables the snake to swallow animals larger in width than the snake

itself.

It is commonly believed that snakes can strike about two-thirds of their body length, but anything more than one-half is exceptional unless the strike is downhill. Snakes utilize a variety of habitats, many snakes are good swimmers (northern water snake), and a few are good tree climbers (black rat snake). Their somewhat fishy-tasting meat is safe and nutritious. Snake steaks are not uncommon throughout a large part of the world and rattlesnake meat is sold in many gourmet shops and supermarkets.

The Importance of Snakes

Snakes are an integral part of our natural world. One should think about the beneficial qualities of snakes before deciding to kill one that has wandered into a yard or garden. Snakes are very efficient predators of rodents, and keep populations under control when and where they are permitted to hunt them. Also, some of West Virginia's nonpoisonous snakes (northern black racers, corn snakes, milk snakes and especially king snakes) eat other snakes, even the poisonous species.

Snakes rarely conflict with people. They are seldom found in large numbers except in hibernation dens and their presence in an area is a reflection of the amount of food and shelter that is available. Small snakes, such as the ring-necked and earth snakes, feed primarily on insects and earthworms. Medium-sized snakes, such as the eastern garter and eastern ribbon snake, feed heavily on frogs, toads and salamanders. Larger snakes, such as the black rat snake and timber rattlesnake, feed mainly on rodents. All snakes like to live in or around areas which offer good protective covering.

For this reason, the best method of getting rid of snakes is to remove their habitat and food supply. Therefore, if the cover and hiding places are removed and weeds and grass are mowed from around buildings, they will often leave. However, it is possible to occasionally find snakes in even the best manicured lawn as they move from place to place in their search for food and water.

The shed snakeskins occasionally found in buildings provide good evidence that the building is not snakeproof and cracks and crevices will need to be plugged and/or windows and doors screened to exclude them.

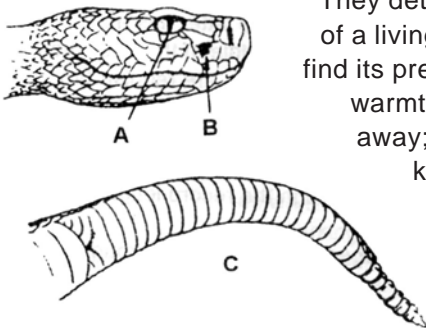
West Virginia's Poisonous Snakes

The timber rattlesnake and copperhead are the only two poisonous snakes in West Virginia. They belong to the group of snakes known as pit vipers, which also includes cottonmouths. A pit viper has pits or openings on its head — one on each side, between and slightly below the eye and nostril. These pits, like the snake's tongue, are tools for hunting.

They detect heat, such as the warmth of a living creature, helping the snake find its prey. These pits can "feel" body warmth from as much as 20 inches away; even in darkness, the snake knows exactly where to strike.

West Virginia's poisonous snakes have the following characteristics which can be used to separate them from our nonpoisonous snakes:

- A pit between the eye and nostril (B);
- A vertically elliptical pupil (cat-eyed)

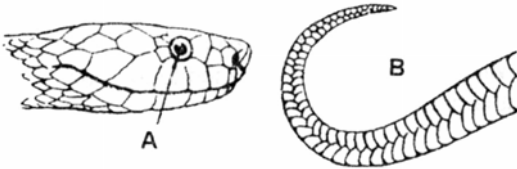


Poisonous Snake

(A); and,

- Only one row of scales on the under-side of the tail (C).

In contrast, nonpoisonous species have no pit, round pupils (A), and two rows of scales under the tail (B). Another characteristic of West Virginia's poisonous snakes is a wide, wedge-shaped head. NOTE: Many nonpoisonous species will flatten their heads when frightened or excited, especially the eastern hog-nosed snake, giving the appearance of a wide, wedge-shaped head. This characteristic should not be used to determine if a snake is poisonous or nonpoisonous.



Nonpoisonous Snake

The Copperhead

The copperhead is best described as a buff-colored snake with hourglass red-brown markings over the back and down the sides, with the hourglass being narrow on the back and widest on the sides. This pattern is useful in separating copperheads from water snakes, because the latter has markings that are wider on the middle of the back than on the sides. Milk snakes are reddish-brown and somewhat similar to copperheads, but the pattern is one of rounded blotches. Average length for a copperhead is between 30-40 inches, although the record length is 53 inches.

Copperheads are found throughout West Virginia. They prefer rocky hillsides and woods, finding shelter under rocks and bark, but they have been found in city gardens, sawdust piles, haystacks, under lumber piles and around barns and buildings. They give birth to from 1 to 14 young at a time. The

young are from 7 to 10 inches long with a yellow tip on the tail. They will strike from birth and are dangerous. Copperhead bites, although painful, rarely pose a serious threat to life (see page 6 sidebar).

The Timber Rattlesnake

Timber rattlesnakes are so called because of the rattles attached to the tail. When a young rattlesnake sheds its first skin, it leaves a remnant at the end of the tail which forms a rounded triangular "button." Each subsequent shedding leaves a rattle segment at the tail base. As a healthy snake sheds two and sometimes three times each warm season, the number of rattles does not give a reliable measure of the age of the snake and also, the rattles are attached rather loosely and easily pulled or worn off. A disturbed rattlesnake will often rattle, a sound caused by nervous vibrations of the tail, but it may strike without warning. One should also remember that many nonpoisonous snakes vibrate their tails when disturbed and so in dry leaves a completely harmless snake may produce a sound suggestive of a rattlesnake rattling.

The timber rattlesnake is normally found in remote brushy and mountainous terrain. However, individual snakes may be found in nearly any habitat in the State. Timber rattlers have a dirty yellow to olive background color on which irregular dark brown to black chevron-markings extend across the back and down the sides. The dark phase of this rattlesnake has a dark brown color, and the back crossbands have lighter-colored margins. Maximum length is about 6 feet. The 8 to 10 young, each from 10 to 13 inches long are poisonous, and born alive in early fall. The bite of a timber rattlesnake is more

serious than that of a copperhead, although, they too, are rarely fatal (see page 6 sidebar).

What to do if Bitten

Intense pain, swelling and discoloration follow the bite of a poisonous snake. The overall danger depends upon the place that the person was bitten, depth of penetration of the fangs, size of the snake, amount of venom injected, health of the victim, effectiveness of first aid measures and promptness with which the patient receives medical attention.

It has been said the only thing you need to treat snakebite is car keys, so you can drive yourself to a hospital for proper treatment. Many of the traditional measures, such as tourniquets and incision and suctioning, are fraught with danger and of questionable value. The application of ice to a snakebite was a treatment popularized in the past, but is no longer accepted. Ice does not seem to influence the spread of venom and may do additional harm to the surrounding tissues. Ice should only be applied to a snakebite under the direction of a physician. Pressure wraps may delay spread of venom for a while, but will not prevent the effects of the poison.

These are things that you *should* do after being bitten by a snake:

1. Back out of the snake's striking range. The snake is as anxious to leave the scene as you are, but if you do not back off, it may bite again.
2. Do not get excited. You cannot act rationally if you are excited.
3. Splint the bitten extremity, and keep it at heart level. A sling will do for the arm, and you can tie a long splint to the leg. Immobilizing the bitten part minimizes necrosis and delays spread of venom into the bloodstream. The same logic dictates that (unless you are alone and it is a necessity) you try not to move around much.
4. Have someone take you to the hospital. You can walk to a car if it is less than a 20-minute walk; otherwise, you should be carried out by

litter, horse or helicopter. If there is going to be a long wait for transportation, let the extremity hang down in a dependent position. If you are alone, start walking. You will probably be able to walk for several hours before the severe effects of the poison start.

5. Take the snake with you if it is dead, so that it can be identified at the hospital.

Tips on Preventing Snakebites

Here are some tips on snakebite prevention:

1. Be careful when in snake habitat. Watch where you step, sit and reach. Be careful walking over rocks and fallen logs, and do not reach into holes or bushes. Stay on clear paths when possible.
2. Wear long pants with knee-high leather boots or snake leggings in snake habitat.
3. Take a friend with you into snake country.
4. Do not handle a snake unless you are sure it is a nonpoisonous species. Remember, even some of the nonpoisonous snakes will bite when handled or cornered.

Common Nonpoisonous Snakes

The black rat snake is often as much as 8 feet long. It is shiny black, although it may have light crossbands, with a light-colored belly that is blotched with black. Rodents make up the bulk of the black rat snake's diet. Early colloquial names include pilot and mountain black-snakes.

Northern black racers are 3 to 6 feet long, satin black, with a dark gray belly. Racers are alert and active snakes that when approached,

will flee quickly, but strike when cornered.

The northern ring-necked snake is slate gray with a yellow belly and band around the neck. Maximum size is 12 inches. They are most commonly found in cutover areas with an abundance of hiding places, such as stones, logs, bark slabs or rotting wood, and rocky, wooded hillsides.

Eastern garter snakes vary in length from 2 to 4 feet. Their appearance is quite variable, but they are generally brownish with a white stripe down the back and dark spots bordering it. Sometimes they are spotted or patterned and totally lack the stripe down the back. This snake occupies a wide variety of habitats, from meadows, marshes and drainage ditches to city lots, parks and cemeteries.

West Virginia has two species of green snakes. The eastern smooth green snake adult is from 12 to 24 inches long. They are green and have smooth scales all over. In comparison, the rough green snake is from 2 to nearly 4 feet long. It gets its name from ridges on the back scales. The eastern smooth green snake is found in the more mountainous counties of the State in meadows and weedy thickets, under loose boards and stones. The rough green snake is found in the lower elevations in sunny meadows and small bushes.

In total, there are 22 species of snakes in West Virginia, including the copperhead and timber rattlesnake. This pamphlet only has room to mention a few of the species that one may encounter in West Virginia. If you are interested in learning more about the snakes of West Virginia, the book *Amphibians and Reptiles in West Virginia*, by N. Bayard Green and Thomas K. Pauley, is an excellent reference book.

Specific questions may be addressed to the West Virginia Department of Agriculture, Plant Industries Division, 1900 Kanawha Blvd., E., Charleston, WV 25305-0191; 558-2212.