

Oklahoma Venomous Snakes - Identification

As many of us learned in school, snakes are reptiles - assigned to the same group of animals such as lizards, turtles and crocodiles. Reptiles are commonly distinguished as having scales/bony plates, laying terrestrial eggs and being ectothermic ("cold-blooded" - their body temperature changes with their environment). They are carnivorous and will eat insects, fish and amphibians, and depending on the size of the snake, small mammals, birds - and even other snakes!

Whether religiously or mythically revered or despised, snakes have been the subject of human fascination for thousands of years. It is through perpetuating ignorance, fear and false information that humans brand snakes as aggressive and threatening. When provoked or disturbed will snakes bite to protect themselves from harm. And even then, statistically, bites are rarely fatal if immediate medical attention is sought. Knowledge is key - learning to identify venomous snakes, studying their behaviors and habitats, and appreciating the beneficial predatory role all snakes play controlling insect and rodent populations in our environments and gardens.

General Visual Characteristics: Venomous vs. Non-Venomous

Learning the general characteristics of venomous snakes can help you spot and avoid contact.

1. **Facial pit:** This is a heat sensory organ used to sense warm-bodied prey. It appears as a depression positioned between and below the nostril and eye.
2. **Head shape:** Most venomous snakes in Oklahoma have a flat, triangular or diamond-shaped head. Non-venomous snakes have a rounded head.
3. **Eyes:** Pupils are vertical (like a cat), Non-venomous snakes have round pupils. Although there are several non-venomous snakes with vertical pupils, this is usually a good indicator of a venomous snake.
4. **Scale pattern:** The scale pattern underneath the tail (which is the area beyond the anus) contains a single row of scales, while non-venomous snakes have a double row.



Cottonmouth
or water moccasin

Of the forty-six known Oklahoma species of snakes, seven are considered harmful to humans: the copperhead, cottonmouth (water moccasin) and five rattlesnakes: western diamondback, timber, prairie, western massasauga, and western pygmy.

Habitat and Identification

***Agkistrodon contortrix*—copperhead**

Habitat:

Semi-aquatic, they are found in the eastern half of the state in moist environments - lakes, ponds, streams, rivers - and also in woodland areas.

Copperheads avoid the heat of the day but can be found basking on rocky outcroppings or lake-side logs in the morning or evening.

Identification:

- Adults are tan darker brown or coppery crossbanding, camouflages well in woodland duff and fallen leaves
- Adult bodies are approximately 22" - 36" in length
- Characteristic triangular head, vertical pupil and pit between eye and nostril



Copperhead

***A. piscivorus*—cottonmouth or water moccasin**

Habitat:

Semi-aquatic, they are found in moist environments - lakes, ponds, streams, rivers - across the eastern third of the state, along the southern boundary, and west to Comanche county. Can climb into trees and bushes lake or stream-side to bask.

Identification:

- Adults have dark color variants of black, brown or olive with a pattern that fades with age - younger snakes are lighter brown and display a more distinct banding.

Underbelly can be cream or white with black mottling.

- Mouth opens to display white insides when snake assumes upright defensive posture. (Hence, "cottonmouth")
- Swim on the water's surface with head upright
- Adult bodies are approximately 20" - 42" in length
- Characteristic triangular head, vertical pupil and pit between eye and nostril



Cottonmouth
or water moccasin



Juvenile cottonmouth
or water moccasin

***Crotalus atrox*—western diamondback rattlesnake**

Habitat: Southern and western Oklahoma, north to Tulsa, Adair and Cherokee counties. Look for western diamondback in drier areas - prairies and rocky outcroppings where they can bask, seek shelter for hibernation, and find prey. They avoid the heat of the day and are active nightly during warm summer months.



Western diamondback
rattlesnake

Identification:

- Adults have a distinct dark diamond pattern, rimmed with white, and white and black banding just before the rattle on the tail.
- Adult bodies are approximately 32" - 82" in length
- Characteristic triangular head, vertical pupil and pit between eye and nostril.

***C. horridus*—timber rattlesnake**

Habitat: As their name represents, timber rattlesnakes inhabit forested areas, and swampy marshlands and rocky areas as well. Found in eastern and southeastern Oklahoma counties.

Identification:

- Adults are golden brown with a dark banded pattern. They also have a black velvety area before the rattle on the tail.
- Adult bodies are approximately 35" - 54" in length
- Characteristic triangular head, vertical pupil and pit between eye and nostril.



Timber rattlesnake

***C. viridis*—prairie rattlesnake**

Habitat: Prairie rattlesnakes inhabit western Oklahoma prairies, and can be found around rocky outcroppings. Seeking mammals as a food source, they can be found near prairie dog colonies.



Prairie rattlesnake

Identification:

- Base color is grayish-brown, with mottled oval, hexagonal or squarish darker pattern throughout
- Solid whitish or gray underbelly with white and black banding before the rattle on the tail.
- Adult bodies are approximately 32" - 46" in length
- Characteristic triangular head, vertical pupil and pit between eye and nostril.
- These snakes will provoke easily and will aggressively protect themselves.

***Sistrurus catenatus*—western massasauga rattlesnake**

Habitat: Meaning “great river mouth” in Chippewa, massasauga is an apt name for this rattlesnake, as it inhabits river bottom forests and swampy marsh and prairie lands in the western third of the state.

Identification:

- Base color is light tan, with high-contrasting dark mottling (larger along the back, smaller mottling on the sides).
- Adult bodies are approximately 18” - 30” in length
- Characteristic triangular head, vertical pupil and pit between eye and nostril.



Western massasauga
rattlesnake

***S. miliarius*—western pygmy rattlesnake**

Habitat: The western pygmy rattlesnake is the smallest of the Oklahoma rattlesnakes. It can be found in forested and marshy areas of southeast Oklahoma.



Western pygmy
rattlesnake

Identification:

- Gray to pinkish base color
- Rust-colored stripe runs down the center of back
- Adult bodies are approximately 15” - 24” in length
- Rattle may be barely audible due to the size of snake
- Characteristic triangular head, vertical pupil and pit between eye and nostril.

Bonus Exception: Coral Snake

Related to cobras and mambas, the venomous coral snake has a rounded head, round pupils, and lacks a facial pit. Coral snakes are most commonly confused with non-venomous scarlet king snakes.



Eastern coral snake
(venomous)



Scarlet king snake
(nonvenomous)

On coral snakes, the banding encircles the body entirely. On the scarlet king snake, the banding stops at the belly. But the most common identifier is the color pattern of the banding:

Coral snake: **Yellow - Red - Yellow - Black**

Scarlet king snake: **White - Black - White - Red**

Since coral snakes **do not natively occupy Oklahoma**, they have been known on occasion to find their way across the southern Red River border through flooding. It may help to learn to identify these, because although they are rare to Oklahoma, they are a characteristic exception.

Proper Precautions

Education is the first precautionary measure to take when traveling in places where snakes reside.

Here are some tips to consider:

- Consult field guides or state reference books on identifying snakes, their behaviors and their habitats in the area where you'll be traveling. Visiting the zoo to observe snakes prior to your trip is also a good idea!
- Wear proper clothing: leather high-topped boots, heavy canvas leggings or pants can help protect against bites.
- Avoid moving about outside at night without proper lighting and protective clothing.
- Be aware of your steps as snakes camouflage well.
- Do not reach into or around anything without complete visibility; snakes do not always issue a warning before they strike.
- Do not attempt to handle any snake that you cannot positively identify.

Bites and Treatment

There are two forms of snake venom: hemotoxic and neurotoxic. Hemotoxins are slow-acting and effect illness and possible death by hemorrhage, while neurotoxins act quickly where they impact the nervous system and result in paralysis.

Although antivenom kits are available from physicians or sporting goods stores, product expiration and improper administration can pose a severe health risk for the victim.

The best treatment for a venomous snakebite is to remain calm, avoid alcohol, caffeine and cigarettes, and seek immediate emergency medical help. If possible, identify the snake and communicate this to the medical professional to facilitate appropriate care.

Snakes, however respected or misunderstood, are beneficials that play a critical predatory role in nature's food web. Learning to identify and avoid Oklahoma venomous snakes will curb unnecessary human interaction and will allow these species to continue performing their valuable work in our environment.

More information is available from the Oklahoma Cooperative Extension Service and others through the [links at the end of this article](#).

Resources

[F-9010: Introduction to the Snakes of Oklahoma](#)

Images courtesy of: www.oksnakes.org