

REPTILES

Status: Common, Native Resident

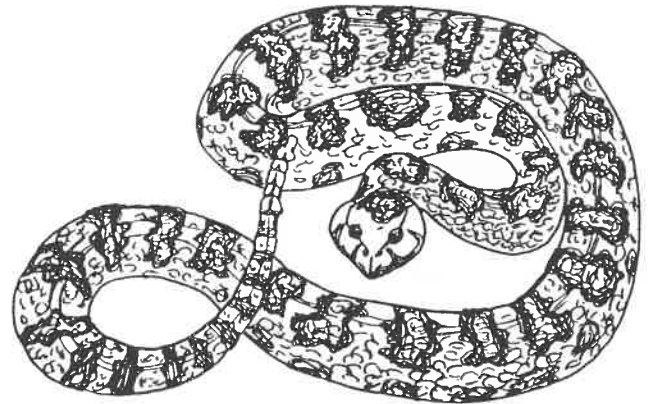
PRAIRIE RATTLESNAKE

(*Crotalus viridis*)

Description

Prairie rattlesnakes are the only poisonous snakes in South Dakota. For this reason, everyone living here should learn how to recognize this snake species. Rattlesnakes are most known for the rattles on their tails and their large front fangs that deliver a poisonous bite. Prairie rattlesnakes are 35 to 45 inches long (89-114 cm) with a record length of 57 inches (144.8 cm). Although they weigh only about one pound (0.5 kg), they have a heavy or bulky-appearing body. Their gray-green bodies with greenish blotches are camouflaged to blend in with the prairie landscape. Their most identifiable features are their wide, triangular-shaped head, skinny neck, and blunt tail.

Rattlesnakes have 2 long, curved fangs that can be folded back inside the mouth. The fangs are attached to the front of the upper jaws. When they intend to bite, rattlesnakes extend the fangs forward and their large jaw muscles squeeze the *venom* from glands on each side of the snake's head into the hollow fangs. The *venom* comes out of slits on the front side of the fangs. The bulkiness of these muscles and glands give the head of a rattlesnake its characteristic triangular shape.

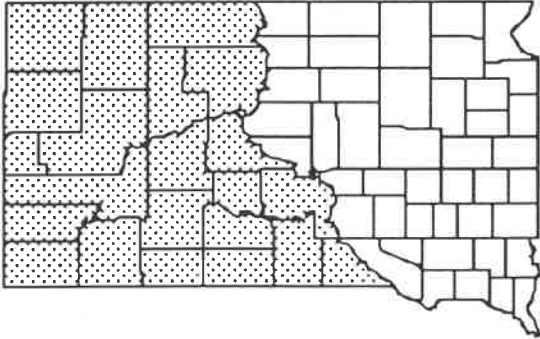


A series of brown rattles are loosely attached on the end of the blunt tail. Each time rattlesnakes shed their skin, another segment is added to the rattle. When threatened, rattlesnakes vibrate their tails and a loud rattling sound can be heard. The Lakota word for rattlesnake is "sinte hla" which translates as "rattle tail."

There are several additional identifying characteristics of rattlesnakes. A pit occurs on each side of the head behind and below each nostril. These pits are heat-sensitive and allow rattlesnakes to detect the heat from warm-blooded prey they cannot see. Rattlesnake skin is

covered with dry scales that protect them when crawling over rough ground and through rocks and cactus. Each of these scales has a ridge, called a keel, which makes the snake rough to the touch. Like most *nocturnal* animals, rattlesnakes have eyes in which the pupil is a vertical slit. Most non-poisonous snakes have a round pupil.

Distribution



Prairie rattlesnakes are found 10 to 20 miles east of the Missouri River and throughout western South Dakota.

Natural History

Snakes are reptiles; they cannot maintain their own body temperature. Prairie rattlesnakes search for shaded areas to keep cool and seek sunny areas when they need warmth. Reptiles in South Dakota must *hibernate* to avoid the freezing cold of winter. By the first frost in mid-September the rattlesnakes travel to underground dens and they will normally not reappear again until after the last frost date in March or April. They often return to the same den year after year with the young probably following the scent trails of the older snakes. The snake dens may contain great numbers of rattlesnakes, bullsnakes, blue racers and even garter snakes. In South Dakota these dens may have as many as 1,000 snakes, although the usual number is about 250.

Prairie rattlesnakes feed from April through October, during which time they will eat 2 to 3 times their body weight. Their staple prey are rodents such as

mice, rats and gophers, but birds, lizards, frogs, and toads are also eaten. They may live among prairie dogs and burrowing owls in the open prairie and will eat the young of both of these species.

Rattlesnakes do much of their hunting at night. They have poor eyesight, but they can sense their prey in the dark by using their heat sensitive pits. They can also gather information with their forked tongues. They flick their tongues in the air to pick up airborne scents. The tongue is returned to the mouth where each fork of the tongue is inserted into two openings in the top of the inside of their mouths. Rattlesnakes move slowly and carefully while hunting or else they just wait in one spot for prey to come along. They strike quickly and inject *venom* that is a *hemotoxin*. The bitten animal flees and the snake waits for it to die before seizing it. The poison works in two ways -- killing the prey and aiding the process of digestion. Once it has located the dead animal, the rattlesnake opens its mouth wide and begins to swallow the animal whole. The flexible jaw hinges allow the snake to swallow large prey. It uses the muscles in its neck and its backward-pointing teeth to pull the food down into the stomach.

As snakes grow, their skin does not grow with them. Periodically, they shed their skin all at once in one large piece, revealing a new, larger skin underneath. The more a snake eats, the faster it grows, and the more often it sheds its skin. Prairie rattlesnakes shed from 1 to 4 times each summer, adding a new rattle segment at each shedding. These rattles may break off though and are not an accurate way to age a rattlesnake. A rattlesnake begins the shedding process by rubbing its nose on the ground until the skin is pushed up over its head and then it crawls right out of its skin. Snakes have a transparent, hard shield covering each eye, which protects their eyes as they travel along the ground. Over time this shield becomes scratched and needs to be replaced. These eye shields are part of the skin and are shed along with

the skin. In preparation for shedding, a liquid forms between the old and new layers of skin to separate them. The snakes' eyes become milky and their sight is reduced almost to the point of blindness. During this time the snakes are defensive and irritable. They will hide themselves until the skin is shed and they can see again.

Prairie rattlesnakes mate in the late summer and the following fall, mid-August to mid-September, the young are born. A litter of 7 to 12 young is produced every other year. Although reptiles produce eggs, in the case of rattlesnakes the eggs are retained within the female's body and she gives birth to live young. The newborns are 6 to 12 inches (15-30 cm) long and are born with functional fangs and full *venom* glands. They are a miniature version of the adult prairie rattlesnake except their *venom* is more concentrated.

Rattlesnake predators include some hawks, short-eared owls, and eagles. Other animals will kill a rattlesnake if they have the opportunity, although they won't eat it. Rattlesnakes have evolved sounds, colors, and behaviors that warn possible predators of their dangerous

nature, and this in turn has led to *mimicry* of poisonous snakes by non-poisonous species. (See Western Hognose Snake fact sheet.)

Management Considerations

Rattlesnakes are poisonous and should be treated with respect. Most snakes will avoid people, but accidental encounters do happen. Especially if you are in a rocky area, look where you put your hands and feet before setting them down. If you are bitten by a rattlesnake, it is best to call the hospital immediately and then follow their instructions as you travel there as soon as possible. Cutting the wound, if done improperly can be more dangerous than the snakebite itself; it is no longer recommended.

People kill rattlesnakes mostly out of fear, although some folks kill snakes to eat. Rattlesnake skin is used to decorate many items including belts and hat bands. People are allowed to collect prairie rattlesnakes for personal uses, but they must have a fishing license to do so. To harvest large numbers of snakes for commercial purposes, a person must have a commercial collecting permit.

Glossary

Hemotoxin - a blood poison that causes the red blood cells to rupture.

Hibernate - to pass the winter in a dormant or inactive state with lowered metabolism and heart rate.

Mimicry - the resemblance of one organism to another or to an object in its surroundings for the purpose of concealment and protection from predators.

Nocturnal - active at night.

Venom - a poisonous secretion of an animal, such as a snake, spider, or scorpion, usually transmitted by a bite or sting.

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Selected Resources for Teachers

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- Kahn, Jonathan. Patulous, The Prairie Rattlesnake. Kansas City, MO: Landmark Editions, 1991. (The author was 9 years old when he wrote this beautiful book. Landmark Editions publishes children's works that are selected through a contest. A great example of children's writing and publishing for any classroom.)
- Klauber, Laurence M., 1972. Rattlesnakes: Their Habits, Life Histories, and Influence on Mankind, 2nd Edition. University of California Press, Los Angeles, CA.

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