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Coping with snakes

William F. Andelt and Monica Cerato¹

Quick Facts

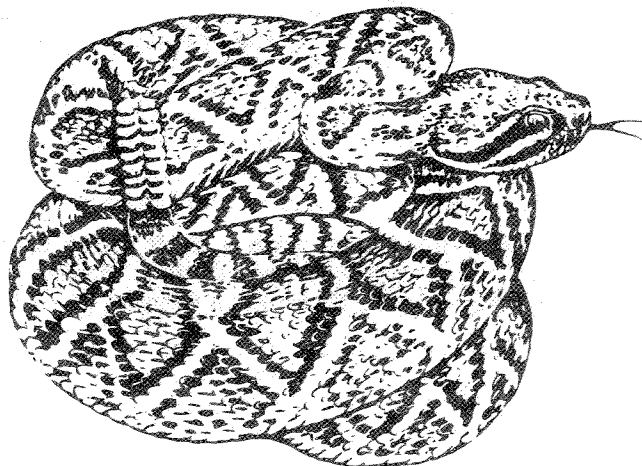
Most Colorado snakes are non-poisonous, harmless and beneficial to people. Non-poisonous and poisonous species can easily be distinguished from each other. Snakes can be discouraged from entering buildings by sealing all holes in foundations and from backyards by reducing cover and food supplies. Poisonous snakebite victims should quickly seek medical attention.

According to art and mythology humans have been interacting with snakes for thousands of years. In some cultures snakes were a symbol of fertility and in others they were servants of the dark world. Today, people's reactions to snakes are still as varied.

Although people have been coping with snakes for centuries, ancestors of snakes appeared long before our human predecessors. Their reptilian roots date back to the Triassic period, approximately 190 million years ago (Hammerson 1982).

Snakes possess reptilian characteristics: they have scales; are ectothermic (they rely on external sources to control their body temperature); and like most reptiles, lay eggs. Rattlesnakes, however, give birth in autumn to five to 12 live young, each 1 to 2 feet long. Contrary to their reputation of being slimy, snake scales actually are smooth and dry. Snakes often shed their skin more than once each year to accommodate their growing bodies.

Since snakes are ectothermic, they must avoid extremes in temperatures and hunt preferably during mild conditions. Their forked tongues and heat sensitive facial pits are used to determine what exists in their environment and to acquire prey. It is important to remember that a dead rattlesnake, even if it has been decapitated, is still



capable of biting (not striking) and injecting poison. The snake's heat sensory pits are active until rigor mortis sets in and will trigger a biting response if a warm object, such as a hand, is placed near the snake's mouth. Most snakes prey predominantly on rodents, although some will also eat bird eggs, nestlings and insects.

Of the 25 species of snakes inhabiting Colorado, the western rattlesnake (*Crotalus viridis*) and the massasauga (*Sistrurus catenatus*) are the only poisonous species. The western rattlesnake appears in most habitats throughout the state and the massasauga is limited to the southeastern grasslands.

There are six basic ways to distinguish these two poisonous snakes from their non-poisonous neighbors in Colorado.

1. Rattles at the end of the tail.
2. Fangs in addition to their rows of teeth.
3. Facial pits between the nostrils and eyes.
4. Vertical and elliptical pupils that may look like thin lines in bright light (non-poisonous snakes have round pupils).

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5. A single row of scales between the vent and the tip of the tail (non-poisonous snakes have two rows of scales).

6. Broad triangular head and narrow neck.

Additional information on identification, distribution and biology of snakes is contained in a 131-page, full-color book by Geoffrey A. Hammonson titled *Amphibians and Reptiles of Colorado*. The book can be obtained from the Colorado Division of Wildlife, 6060 Broadway, Denver, CO 80216 for \$8, postage paid. Make checks payable to the Colorado Division of Wildlife.

Problems

Snakes need cool, damp shelters and may take up residence under and possibly inside buildings. This behavior may become more noticeable in the fall, when snakes begin to seek areas to hibernate for the winter. Non-poisonous snakes do not pose any major problems for humans besides fear and sometimes being pests. Poisonous snakes, however, may cause a health hazard by biting people, pets and livestock.

Prevention

There are four general methods to discourage snakes from moving into a yard or home.

1. Eliminate cool, damp areas where snakes hide; clean up brush piles, keep shrubbery away from foundations and cut high grass.

2. Control insect and rodent populations (the snakes' primary food source) to force them to seek areas with a larger food supply. Put grains in tightly sealed containers, clean up residual pet food, cut grass short and clean up debris.

3. In areas infested with rattlesnakes, consider constructing a snakeproof fence around the backyard or play area. Galvanized hardware cloth with a 1/4-inch mesh and a height of 36 inches should be buried 6 inches deep and slanted outward at a 30-degree angle. Make certain the gate fits tightly and swings into the play area. All vegetation should be kept away from the fence to prevent snakes from climbing over it.

4. To prevent snakes from entering basements and crawl spaces seal all openings 1/4-inch or larger with mortar, caulking compound, or 1/8-inch hardware cloth. Check for holes or cracks around doors, windows, water pipes, electrical lines, etc.

Repellents

No repellents are federally registered for snake control. Several potential home remedies were evaluated to determine if they would repel black rat snakes (*Lampropeltis getulus*). Treatments included gourd vines, moth balls, sulfur, cedar oil, a tacky bird repellent, lime, cayenne pepper spray, sisal rope, coal tar and creosote, liquid smoke, artificial skunk scent, and musk from a king snake (they eat other snakes) (San Julian and

Woodward 1985). None of these remedies repelled black rat snakes.

Removal

Snakes may seek shelter in basements, sheds or crawl spaces in cold weather. If it becomes necessary to remove a snake, several humane methods are available.

1. A good way to remove a non-poisonous snake is to **sweep it into a large bucket** with a broom and then release it outdoors.

2. **Damp burlap sacks** covered with dry sacks to retain moisture are attractive denning sites when placed along a wall in a basement or crawl space. The bags should be checked daily and can be removed with a shovel.

3. **Glue boards or glue trays** also are effective to remove snakes from buildings (Knight 1986). They are made of heavy cardboard or plastic rectangles coated with a tacky substance similar to fly paper that will trap snakes that move across them. Fasten about 144-square inches of glue boards to a 1/4- x 24- x 18-inch piece of plywood and place it along the wall where snakes are likely to cross. For humane reasons, snakes should not be left on glue boards any longer than necessary. The captured snake can be released harmlessly by pouring vegetable oil over it, which breaks down the glue. Be sure to place glue boards where pets or other non-target species will not get caught.

4. **Drift fence and funnel traps** may be used to capture snakes at dens or open areas (Figure 1). A 3- by 4-foot piece of 1/4-inch hardware cloth can be rolled into a tube about 1 foot in diameter and 4 feet long with one end closed and the end facing the den having a funnel leading into it. The slope of the funnel makes it difficult for snakes to crawl out. If a box is placed inside the trap, snakes usually will hide in it instead of expending energy to find a way out. If you need to trap in an area away from a den, a drift fence on both sides of the funnel will channel snakes into the trap. The fences should also be of 1/4-inch mesh and extend vertically for about 2 feet. Because non-target animals are vulnerable to this trap, it is desirable to use it primarily at den sites.

Be Prepared

The best safety measure against poisonous snakes is to be prepared for a possible encounter with them, especially if hiking in their habitat. Be able to recognize the poisonous snakes in the area by studying a field guide of reptiles, visiting a zoo, or by remembering the six distinguishing characteristics for the western rattlesnake and the massasauga.

In areas inhabited by rattlesnakes, wear long loose pants and calf high leather boots or preferably snake guards. Rattlesnakes generally are nonaggressive toward humans unless they are startled, cornered or stepped on. Alert them of your approach by sweeping grassy areas with a

long stick before entering. Never jump over logs, turn over rocks, or sit down carelessly. Always look carefully where you place your hands, feet or body. Remember, rattlesnakes do not always shake their rattles before striking, so do not rely only on your sense of hearing. If you are confronted with a rattlesnake, remain calm and try to back away slowly and carefully.

Bites

If you are bitten by a rattlesnake remain as calm as possible because panic may actually trigger adverse physical reactions. Do not try to kill the snake because it may lead to additional bites and delay your arrival at the hospital for professional treatment. Since there is a single antivenin available for use against all pit vipers in the United States, there is no need to determine the species of snake (Arnold 1982).

Immediately after getting bit, check the injured area. If it is a poisonous snake bite, there may be one or two visible fang marks in addition to teeth marks. Snakebites do not necessarily mean venom has been injected. The common and fairly quick reactions to envenomation are swelling and pain in the bite area followed by a black and blue discoloration of the tissue and possibly nausea (Arnold 1982).

The best thing to do if bitten is to remain calm and get to a hospital as soon as possible. Remove anything from the body that may cause restriction (rings, shoes, watches, etc.) before the swelling begins. Although some disagreement exists among physicians, tourniquets, incision and suction, or treatment with ice usually are not recommended (Arnold 1982) for native poisonous snakebites in Colorado. All of these methods tend to increase tissue damage. Because antivenin may cause severe allergic reactions, it is recommended by Arnold (1982) that antivenin be administered in a hospital and its effects closely monitored. If the physician or hospital has not had experience with snake bites, or if they need additional information, suggest that they call the Rocky Mountain Poison Center, 6045 Bannock Street, Denver, CO 80204-4507 at 303-629-1123 (Denver Metro Area) or 800-332-3073 (for the rest of Colorado).

Check with a local medical professional for current treatment methods and if desirable get more than one opinion. Be familiar with the suggested emergency procedures before the incident occurs. By being prepared, you may react to the situation more calmly and act more effectively and safely.

Legal Status

According to the Colorado Division of Wildlife statutes, any person may kill rattlesnakes when necessary to protect life or property provided that the method used is in accordance with city or county ordinances. The most common methods used to kill rattlesnakes are clubbing or shooting. Other snakes are classified as non-game wildlife and are protected by state law. There are currently no frightening devices or legal toxicants or fumigants available to control snakes.

Effective snake control begins with prevention. Make your property an undesirable home for snakes and be prepared for possible encounters. Learn the distinguishing characteristics between poisonous and non-poisonous snakes and what poisonous species reside in your location. Snakes should not be killed indiscriminately or solely out of fear. For thousands of years they have been part of the ecological food chain and should be left alone to fill their niche unless they create a health hazard for humans.

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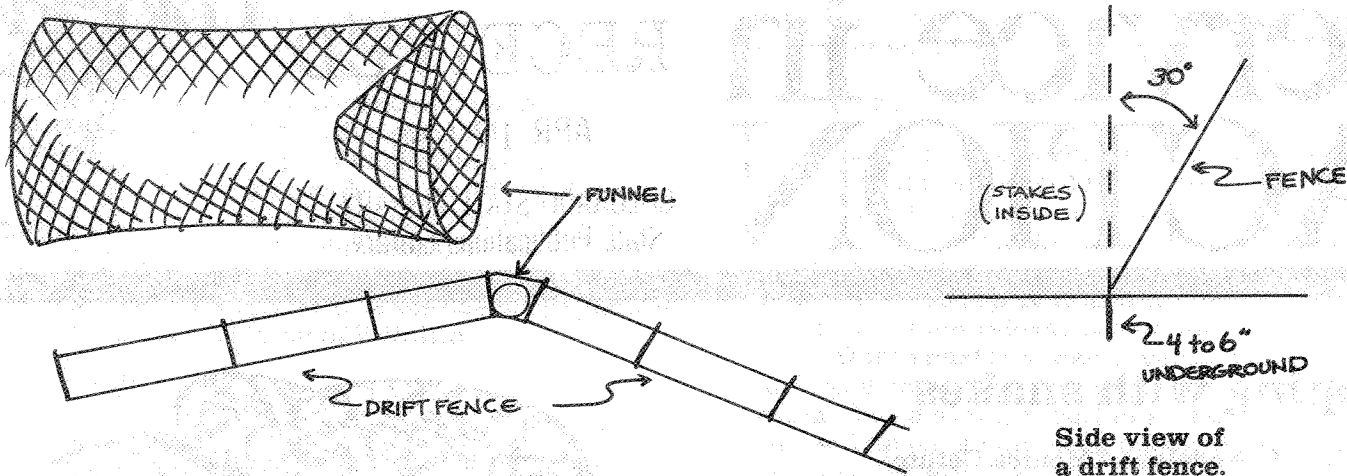


Figure 1: A funnel trap with a drift fence can be used to capture rattlesnakes. Adapted from, *Non-Poisonous Snakes* (1983), by James L. Byford in R. M. Timm (ed.) *Prevention and Control of Wildlife Damage*. Cooperative Extension Service, University of Nebraska, Lincoln.