

# **New Mexico Snakes**

## **Information for New Mexico Homeowners**



**Cooperative Extension Service • Circular 541**  
**College of Agriculture and Home Economics**

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Snakes are perhaps the most feared and hated animals in New Mexico, but people's fear may come from misunderstanding. Of the 46 snake species found in New Mexico, only 8 are poisonous and potentially dangerous. These include 7 rattlesnake species and a coral snake.

Some snakes can benefit the yard and garden. Snakes are one of nature's most efficient mouse-traps, killing and eating a variety of rodent pests. While snakes will not eliminate pests, they do help keep their numbers in check. Some harmless snakes (such as king snakes and coachwhips) eat other snakes, including poisonous ones.

Although you wouldn't want a poisonous snake around your home, snake venom can be beneficial in developing a variety of human medicines. Researchers are conducting studies using snake venom to develop treatments for blood and heart problems. Snake venom also is being investigated for controlling some types of harmful bacteria.

Some snakes are quite rare and are protected species. These rare snakes are on state and federal endangered and threatened species lists. The ridgenose rattlesnake is on the federal list, while the mottled rock rattlesnake, Mexican and narrowhead garter snakes, plainbelly water snake, green rat snake, and western ribbon snake are on New Mexico's endangered and threatened list.

### SNAKE BIOLOGY

Snakes are ectotherms, meaning they control their body temperature by absorbing or giving off heat. Because their body temperature is affected by environmental temperatures and varies with surrounding conditions, snakes become inactive during very hot and very cold times of day and seasons. During periods of inactivity, snakes can go for several weeks without eating.

Because they are cold-blooded, snakes must rely on their behavior to regulate body temperature. During the hot part of the day, snakes move to shaded areas. On cool days, they sun themselves in warm, open areas. Snakes often seek out paved roads, where they are attracted by heat from the road surface.

Because snakes have a backbone, they are classified as vertebrates. Among other vertebrates like fish, mammals, birds and people, the snake's skeletal system is unique. Snake bones are very light and the skeleton is highly flexible. The lower jaw and skull are connected by a piece of stretchy material (ligament) that allows the snake to open its mouth very wide and move each jaw independently. Thus, snakes can swallow prey much larger than their head by "walking" their mouth around the food from side to side in a forward movement.

Snakes are very specialized animals with no legs, ears or eyelids. There are no “walking” snakes. Often the sex organs of a snake may protrude from the anal plate area and can be confused with legs.

Snakes use their forked tongue to smell, constantly flicking it to pick up any airborne particles and odors. Once a snake detects an aroma, it inserts its tongue into two holes on the top of its mouth (Jacobson’s organ), where the smells are interpreted by its brain. If the snake detects food and is hungry, it will pursue the animal.

Contrary to popular belief, snakes are not slimy. In fact, they feel dry to the touch. Snake scales and skin help retain body moisture. Snakes shed their skin and eye covering together.

Soon after temperatures rise in the spring, snakes come out of hibernation and mate. Some snakes lay eggs in a damp, protected area where they will hatch in about two months. Other snakes hatch eggs inside the body. Once the young have been hatched or born, the parents do not care for their offspring because they are able to take care of themselves.

All snakes are predators, and many are fussy eaters. Bull snakes eat rats, mice and chipmunks. King snakes feed on other snakes, mice, young birds and bird eggs. The smooth green snake eats small-bodied insects and spiders. Toads are the favorite food of hognose snakes.

When people encounter a snake, they often corner it. The snake responds by hissing loudly, opening its mouth in a threatening manner, coiling up and striking at the person—or bluffing by advancing toward the intruder. These behaviors, intended to scare off the intruder, lead to a common misconception that snakes charge or attack people. In most cases, a snake advances only if it feels threatened. Usually, it crawls away if it can reach cover safely.

## CONTROLLING SNAKES AROUND THE HOME

Various home remedies (including moth balls, sulfur, lime, cayenne pepper, sticky bird repellent, coal tar and creosote, gourd vines, and musk from king snakes) have not proven effective in deterring snakes. The only efficient method of discouraging snakes is to modify the environment so they find it unattractive. No fumigants or poisons are registered for snake control. Although there are chemicals that are said to repel snakes, most scientific investigations have found them ineffective. The only efficient methods of discouraging snakes are to modify the environment so they find it unattractive or exclude them from the area entirely.

### Snake Habitat

Snakes often live in dark, cool places where food is abundant. Likely places to find snakes around homes include:

- Firewood or hay stacks directly on the ground.
- Old lumber or junk piles.
- Gardens and flower beds with heavy mulch.
- Untrimmed shrubs and shrubs growing next to a foundation.
- Unmowed and unkempt lawns, abandoned lots and fields with tall vegetation.
- Pond and stream banks where there is abundant debris or trash.
- Cluttered basements and attics with rodent, bird or bat problems.
- Feed storage areas in barns where rodents may be abundant.

## Modifying the Environment Around Your Home

You can modify the environment around your home by removing potential snake shelters (usually cool, damp hiding places) and food sources (such as rodents).

Lawns and fields that are kept clean and closely mowed are less attractive to snakes than areas with tall grass, weeds, brush and junk. Remove other hiding places, such as old boards lying on the ground, rock and junk piles and trash piles. Trim shrubs and bushes so limbs hang no lower than 1 foot from the ground. Stack fireplace or stove wood away from your home on a rack (not on the ground) that sits at least 1 foot from the ground.

Keeping the yard clean also removes habitats for rodents, a favorite snake food. Other suggestions for reducing rodent problems include placing garbage in sealed trash cans (not bags) away from the house. If you feed pets outside, keep all dog and cat food cleaned up after each feeding and store feed in a steel trash can so it is unavailable to rodents.

## Keeping Snakes Out of Your Home

Snakes enter buildings in search of cool, damp, dark areas or places where rodents and insects abound. To prevent snakes from entering your

home, check the foundation for cracks and openings 1/4 inch or larger. Use mortar to plug holes in poured concrete, concrete block or brick foundations. Use 1/8-inch hardware cloth or sheet metal to seal holes and cracks in wooden buildings. Use caulk to seal cracks and openings around windows, doors, electrical pipes and wiring. If you have an open septic tank or sump pump drain outside, cover the opening with 1/4-inch hardware cloth. Be sure to check it periodically to ensure that the wire does not interfere with drainage.

If you have young children and live in an area where poisonous snakes are common, you may want to invest in a snake-proof fence (fig. 1). These fences are expensive to construct, so fencing an entire yard may not be practical. However, you can enclose a small area where children can play safely.

Construct snake-proof fences of 1/4-inch hardware cloth at least 3 feet tall. Bury the lower 6 inches underground and slant the fence outward at a 30 degree angle. To make the fence more sturdy, place supporting stakes inside the fence and attach wires from the fence to the stakes. Make sure all gates fit tightly; they should open to the inside because of the outward slope of the fence.

Be sure to keep grass and weeds around the fence mowed closely to the ground to prevent snakes from using them to crawl over the fence.

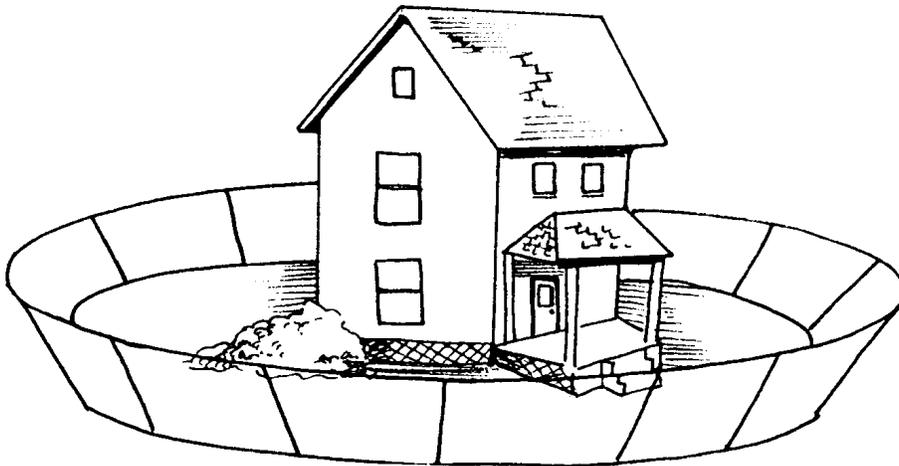


Figure. 1. A snake-proof fence can prevent snakes from entering an area.

## Removing Snakes from Inside a Building

Occasionally homeowners encounter a snake inside the home, usually in a basement or crawl space. Snakes are attracted to these areas by warmth on cold days and by cool shade on hot days.

You can increase your chances of capturing a snake in the basement by placing rumpled, damp cloths covered by a dry cloth in areas where snakes have been seen. You can then remove the whole works (cloth and snakes) or capture the snakes individually and remove them. If you are not afraid of snakes, the best way to remove a nonpoisonous snake is to sweep it into a bucket or large garbage can with a broom. The snakes can then be released in a safe place 2 miles or more from human dwellings.

**Note:** Exercise extreme caution when moving in a crawl space, especially if venomous snakes have been seen in the area—a face bite can be very serious. A face-to-face encounter with even a nonpoisonous coachwhip or bull snake can be an unpleasant experience.

Another effective method of capturing snakes inside a home, under porches, in crawl spaces or under mobile homes is to use a glueboard (fig. 2). They can be purchased from NMSU's Extension animal resources department [call (505) 646-3326 for more information]. Most small snakes can be captured using a single glueboard placed against a wall, away from pipes or other objects a snake could use for leverage to escape.

Only use glueboards indoors or under structures where children, pets and other wildlife cannot reach them—the glue is quite messy and hard to remove. When you need to remove the board, use a hook on the end of a long stick to grab the glueboard through one of its holes.

Use common cooking oil or vegetable oil to remove animals from the glue. Once the unwanted guests have been removed, be sure to close any holes or entrances to the home so the snakes do not return.

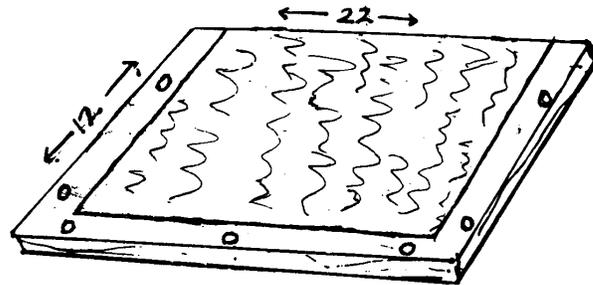


Figure 2. Using a glueboard trap to catch snakes.

Remember, snakes are an important part of our natural world. The best approach to managing snake problems is to exclude them from living areas and maintain an area that is unattractive to snakes.

## RECOGNIZING POISONOUS SNAKES IN NEW MEXICO

### Rattlesnakes

In New Mexico, rattlesnakes are the most common poisonous snakes. The primary way to distinguish a rattlesnake from other snakes is the presence of a rattle, a series of horny rings formed of keratin. The rings scrape against each other in pulses to cause a rattling sound. The rattle begins with a single, soundless button on small snakes and grows with age, a new segment being added every time the snake sheds. Snakes shed variably according to their rate of growth and may shed several times a year. Thus, the rattle is not a good indicator of age, as some people believe.

Some nonpoisonous snakes, such as bull snakes, coachwhips and rat snakes, behave like rattlesnakes when confronted. This behavior can include hissing loudly or vibrating the tail. If the tail is in contact with dry leaves or grass, they may be mistaken for rattlesnakes.

Although you must be dangerously close, another way to identify a rattlesnake is the presence of a very conspicuous sensory area known as a pit on each side of the face just below the nostrils. The pit helps the snake locate warm-bodied animals.

Most rattlesnakes have triangular or “spade-shaped” heads (wide at the back and attached to a narrow neck). Many harmless snakes flatten their heads when threatened and can look like rattlesnakes.

New Mexico has seven species of rattlesnakes that vary in size and color. The color of a rattlesnake’s scales often matches the environment—brown, gray, green, red, pink or yellow.

The rock rattlesnake (*Crotalus lepidus*) occurs in isolated mountain ranges in southern New Mexico. It may be found in pine-oak forests, but mostly inhabits mountains with rugged, rocky terrain. It is variable in color and can be brown-black, greenish or gray (color plate 1).

The western diamondback rattlesnake (*Crotalus atrox*) is found throughout much of New Mexico. It’s the most frequently sighted rattlesnake in the state. It lives in flat plains and rocky canyons, from grassland deserts to pine-oak forests. The western diamondback is one of the largest of all rattlesnake species and the largest found in New Mexico. The color is most often gray-brown, although color often depends on the matching background color. Many New Mexico snakes have a reddish to pinkish gray color (color plate 2). This species has black and white rings on its tail, so it is commonly called the “coon-tail” rattlesnake.

The western (prairie) rattlesnake (*Crotalus viridis*) is distributed across New Mexico, much of the western U.S. and into Canada. It lives in a variety of habitats, from grassland desert to pine-oak forest. This species is generally more active after dark, except at high altitudes. Western prairie rattlesnakes are often greenish gray or pale brown, with a series of light-colored rings in the tail that darken with maturity (color plate 3).

The Mojave rattlesnake (*Crotalus scutulatus*) is found in extreme southern New Mexico, but it is more common in southern California, Nevada, Arizona and Texas and is more widely distributed in the Chihuahuan Desert than in the Mojave

Desert. It lives in desert or low grassland habitat, often on flat terrain. The Mojave rattlesnake is often greenish gray or olive green with a white belly (color plate 4). Its venom is highly potent.

The black-tailed rattlesnake (*Crotalus molossus*) is distributed in southwestern and central New Mexico. It lives mostly in rocky, mountainous areas and is found occasionally in lower desert habitat. It is often colored greenish or steel gray, but can be sulfur yellow or rust. The tail is dark brown or black (color plate 5). Generally considered mild-mannered, this rattlesnake can nonetheless be quick to rattle and raise its head. It has been seen several feet off the ground in trees.

The massasauga (*Sistrurus catenatus*) is distributed across southern, central and eastern New Mexico where it occupies desert grassland, often in very sandy areas. The snake is relatively small and pale brown and generally has pairs of spots on its head (color plate 6). Although not usually fatal to humans, bites from this species can be extremely painful.

The ridgenose rattlesnake (*Crotalus willardi*) is listed by the U.S. Fish and Wildlife Service as a threatened species in New Mexico. It inhabits only a small part of the southwestern bootheel of the state. It lives in pine-oak woodlands, open grassy hillsides and humid canyon bottoms. Its color is reddish brown, yellowish brown or gray (color plate 7). Ridgenoses are generally active day or night and tend to have a mild temperament.

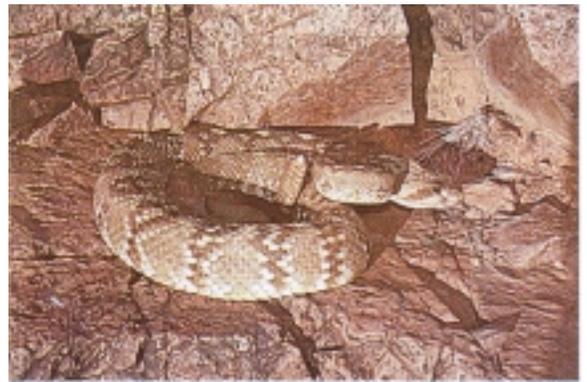
## **Coral Snakes**

The western coral snake (*Microroides euryxanthus*) is found in extreme southwestern Catron County and western Hidalgo and Grant counties. Although coral snakes rarely bite, their venom is highly poisonous, so they should not be handled. The western coral snake has a black nose and is brightly colored, with alternating broad rings of red and black separated by narrower rings of white or yellow (color plate 8). These markings encircle the body, although they are less bright on the belly.



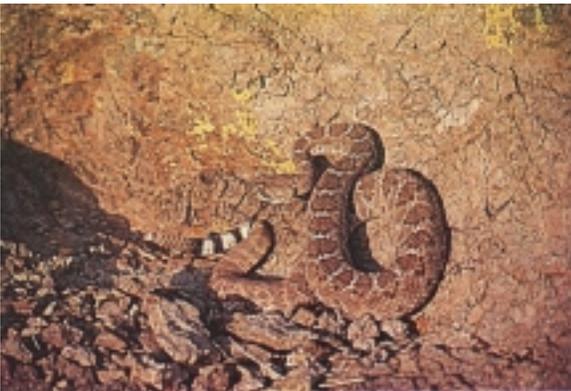
Doug Burkett

**Color plate 1. Rock rattlesnake.**



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**Color plate 5. Black-tailed rattlesnake.**



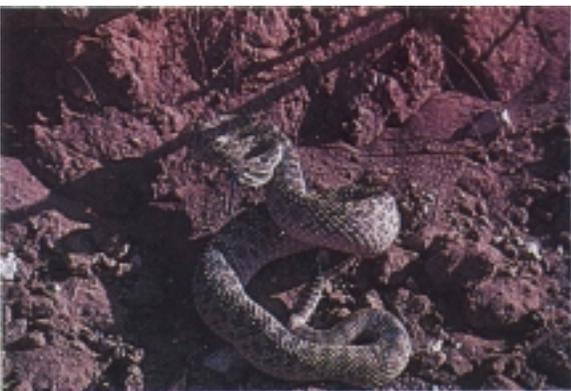
Doug Burkett

**Color plate 2. Western diamondback rattlesnake.**



Doug Burkett

**Color plate 6. Massasauga.**



Doug Burkett

**Color plate 3. Western (prairie) rattlesnake.**



H. Adams

**Color plate 7. Ridgenose rattlesnake.**



Angel Montoya

**Color plate 4. Mojave rattlesnake.**



Mark Doles

**Color plate 8. Western coral snake.**

In New Mexico, other snakes with similar markings are the milk snake, Sonoran mountain king snake and the longnose snake. On the milk snake and Sonoran mountain king snake, the red bands are bordered by black. The western coral snake has red bands bordered by yellow. The longnose snake is pale compared with the western coral snake, with stripes that don't extend around the body and white flecks on the top and side of the body.

An easy way to determine whether a red, yellow and black snake is a coral snake is to remember that on a coral snake, red touches yellow; on nonpoisonous snakes, red touches black.

## FIRST AID TREATMENT FOR VENOMOUS SNAKEBITES

Each year in the United States, about 45,000 people endure a snakebite, about 8,000 of them by a venomous snake. However, very few people die from a venomous snakebite. The key to preventing problems after a snakebite is rapid first aid, transport and professional medical treatment. The effects of a venomous bite vary considerably and depend on the species of snake, its size, the amount of venom injected, and the age and health of the victim. Therefore, all bites should be treated as serious. The following suggestions from the National Medical Association and *American Journal of Nursing* are not hard and fast rules, because much depends on the specific situation.

### What You Should Do

- Move the victim to safety and try to safely identify the species of snake.
- Keep the victim calm. Minimize any movement to slow the body's circulation.
- Remove jewelry or clothing that may become tight if swelling occurs.
- Apply a pad or sterile dressing to the wound. Immobilize the limb below heart level.

- Wrap a flat band (such as an elastic bandage or sock) a few inches above the bite and between the bite and the heart). Be sure you can slip a finger under the band. Do not cut off the victim's circulation, but keep the band in place until you get to a medical facility.
- Seek immediate medical attention.

### What You Should *Not* Do

- Do not wash the wound. Medical professionals can use venom at the wound site to identify the type of venom.
- Do not bleed the wound. This may lead to further complications such as blood poisoning or severe bleeding.
- Do not try to suck out the venom with your mouth. Some snakebite kits include a vacuum-pump device for removing venom. These devices can help if they are used correctly within 5 minutes of the bite.
- Do not use a constrictive bandage or tourniquet. The idea is to stop the spread of venom through the lymphatic system, not to stop the blood flow.
- Do not try to catch or kill the snake. You will waste time and can receive another bite.

## REFERENCES

Much of the material in this publication was adapted for New Mexico from *Snakes: Information for Kentucky Homeowners*, by Tom Barnes (University of Kentucky Cooperative Extension Service, FOR-46, 1990).

Original author: James E. Knight, former Extension wildlife specialist.





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**Las Cruces, NM**