



EXTENSION
College of Agriculture,
Biotechnology & Natural Resources



SP-07-07
(Replaces FS-98-35)

Venomous Reptiles of Nevada



Figure 1

The buzz from a rattlesnake can signal a heart stopping adventure to even the most experienced outdoor enthusiast.

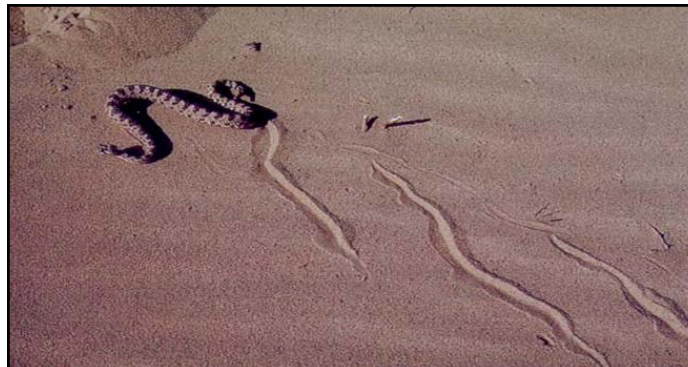


Figure 2

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NEVADA'S REPTILES

Approximately 52 species of snakes and lizards share the Nevada landscape with us. Of these, only 12 are considered venomous. Only 6 can be dangerous to people and pets. Encountering them is uncommon because of their body camouflage and secretive nature, which are their first defenses in evading predators. Consider yourself fortunate if you do see one! As with all wildlife, treat venomous reptiles with respect.

Reptiles are ectothermic, meaning their body temperature increases or decreases in response to the surrounding environment. They are most active in the spring, summer and early fall when it's comfortable, short sleeve weather for us. Reptiles usually hibernate, or brumate, during winter in response to colder temperatures. During high summer temperatures in the Mohave Desert, reptiles may estivate underground in order to maintain vital body temperatures.

In most cases*, collecting Nevada's native reptiles is not allowed without the appropriate permit, which is issued by the Nevada Department of Wildlife. Please visit www.ndow.org to become familiar with the different types of collection, species allowed, limits and types of permits required by the department.

THE VENOMOUS SNAKES

Nevada is home to 5 snake species that can be dangerous to people and pets. They are all members of the Viperidae family, the pit vipers. They are the Sidewinder, Mohave, Speckled, Western Diamondback and Great Basin rattlesnakes. With the exception of juveniles, most rattlesnakes we encounter in Nevada are 1½ to 4 feet long. **It is very important to remember that rattlesnakes do not always rattle their tails in warning a rattle does not always precede a strike!**

General Characteristics

All rattlesnakes in Nevada have facial or loreal pits, heat-sensitive depressions, on either side of the head between the nostril and eye. These pits can detect differences in temperatures of less than 0.5° F in nearby objects and aid rattlesnakes in detecting prey even in complete darkness.

Compared to most non-venomous snakes, rattlesnakes have broad, triangular shaped heads that accommodate the venom glands and muscles controlling them (see Figures 3 and 4). Pit vipers use fangs to dispense venom, which is a complex toxic compound used both to subdue prey and protect against predators. Having the ability to dispense venom using these fangs can mean life or death for rattlesnakes.

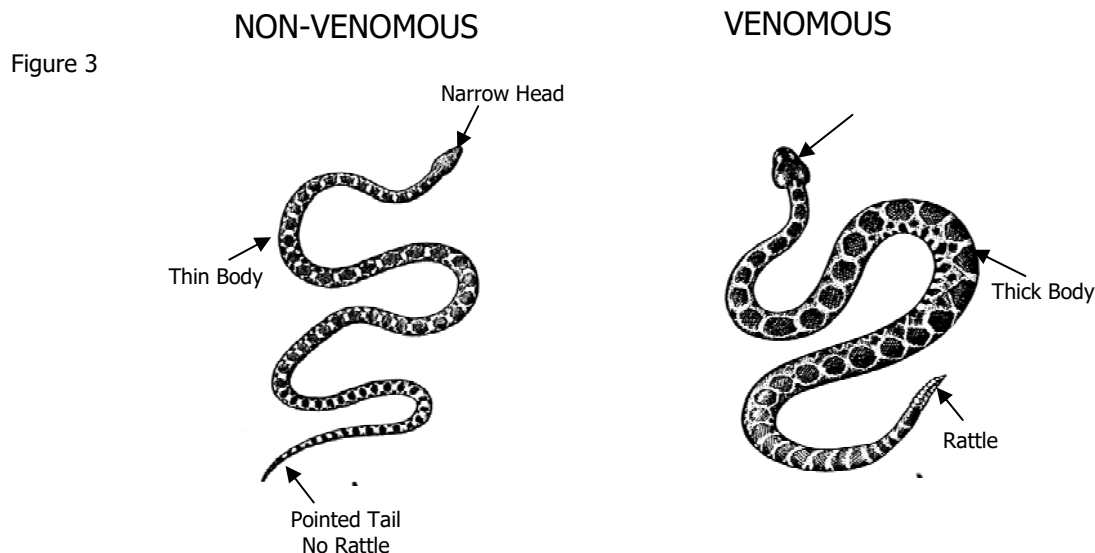


Figure 4

Illustration courtesy of Robert C. Stebbins from his 1954 "*Amphibians and Reptiles of Western North America*" (McGraw-Hill Book Company, Inc.)

When not in use, fangs are folded against the roof of the mouth. These fangs swing down as the snake lunges forward to strike and venom is dispensed through the fang into the prey. Fangs are not permanent; they are periodically replaced. The flexible jaws allow snakes to swallow their prey whole.

Rattlesnakes have a triangular head that gives way to a narrow neck, thick body, and a tail tipped with a series of inter-locking segments making up the rattle. Every time a snake sheds its skin a new segment is added. Snakes shed from one to three times a year and sometimes rattle segments break off, which is why rattlesnakes cannot be aged by simply counting the rattle segments (see Figure 5).

Rattlesnakes do not hatch from eggs; they are born alive from mid-summer to fall. The ability to vibrate the tail is instinctive, but the rattle cannot be heard until juveniles shed at least three times. Remember, juvenile rattlesnakes should not be mistaken as harmless, as they can deliver a fully potent bite and lack the ability to control the amount of venom injected.

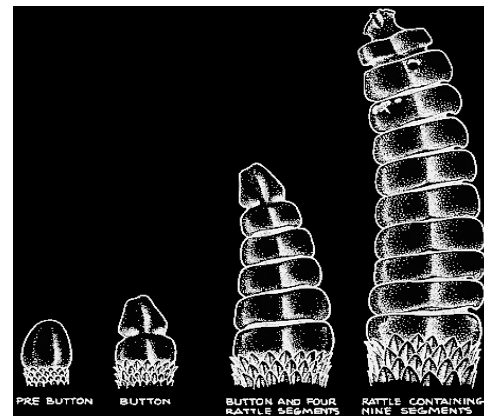


Figure 5

Figure 4 and 5: <http://www.rattlesnakes.com/info/fangs.html>

Sidewinder (*Crotalus cerastes*)



Figure 6

Named for its side-winding locomotion, it is Nevada's smallest rattlesnake, reaching up to 31 inches in length. Primarily inhabiting valleys and alluvial fans (Figure 6), a series of backward J or S shapes left in loose soil indicates one has passed by (see Figure 2). It will partially or nearly completely bury itself in loose sand or gravel when at rest (Figure 8). It is sometimes referred to as the "horned rattler" because of the modified scales above its eyes (Figure 7).



Figure 7



Figure 8

Mohave Rattlesnake (*Crotalus scutulatus*)

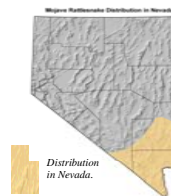


Figure 9

Also called the Mohave Green, this snake (2 to 4 feet in length) mainly inhabits valleys and alluvial fans of southern Nevada (Figure 9). Notice the light to medium green body with yellow bordering darker diamonds on the back. A pronounced dark stripe edged with yellow to yellow-green runs along both sides of the head angling down through the eyes to behind the corner of the mouth. The tail has contrasting **narrow black and broad white bands**, (Figures 10 and 11) (compare with Western Diamondback). The venom is very potent.



Figure 11

Figure 10

Speckled Rattlesnake (*Crotalus mitchellii*)



Figure 12

Inhabiting rocky slopes and hills (Figure 12), this rattlesnake (2 to 4 feet in length) has the most variable body color and pattern of Nevada's rattlesnakes. Two sub-species occur in Nevada, the Southwestern Speckled (*C.m. pyrrhus*) (Figure 13) and the Panamint (*C.m. stephensi*) (Figure 14). There are no obvious facial stripes, and the Panamint has a more well-defined body banding pattern. The salt and pepper, or speckled, appearance can sometimes be faint or lacking altogether.



Figure 13



Figure 14

Western Diamondback (*Crotalus atrox*)



Figure 15

This is the largest of Nevada's rattlesnakes. Typically having a body length of 3 to 6 feet, this snake is able to deliver a large volume of venom. It is found only in the Lake Mohave, Searchlight and Laughlin areas of southern Nevada (Figure 15). Its distinctive markings include the diamond body pattern edged with white and black on brownish background, facial stripes, and *equally broad alternating black and white banding* on the tail (Figures 16 and 17).



Figure 16

Figure 17

Western Rattlesnake (*Crotalus oreganus*)



Figure 18

A habitat generalist and widely distributed over the western United States, it is represented in most of Nevada by the sub-species known as the Great Basin rattlesnake (*C.o. lutosus*). Its coloration is variable, but consists of primarily browns and grays (Figures 19 and 20). Facial stripes can be faint to pronounced. With exception to localized overlap with the other rattlesnakes of southern Nevada, the Great Basin rattlesnake is the only one inhabiting the northern two thirds of the state (Figure 18).

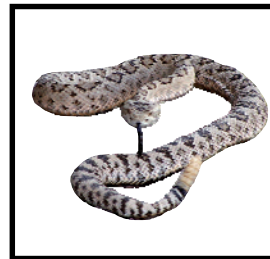


Figure 19



Figure 20

THE IMPOSTOR!

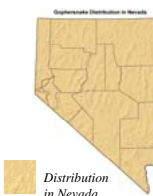


Figure 21

The Great Basin gopher snake is found throughout Nevada and is non-venomous (Figure 21). *Pituophis catenifer deserticola* is locally called the Bull snake. This non-venomous snake is an impostor. It has the ability to mimic a rattlesnake by flattening its head to a triangular shape and inflating its body to appear larger (Figures 22 and 23). It can even imitate the sound of a rattle by vibrating its tail in dry grass, leaves or loose gravel.



Figure 23



Figure 22

ANOTHER VENOMOUS REPTILE?



Figure 24

The Gila Monster (*Heloderma suspectum*) is the only venomous lizard in the United States. It is protected by state laws in all U.S. states it resides in. Protected status is assigned to this species because it is unique in terms of North American lizards and is reasonably uncommon. The Banded Gila Monster is a sub-species (*Heloderma suspectum cinctum*) that occurs in southern Nevada (Figure 24). Adults (Figures 25 & 26) vary from 16 to 20 inches long.



Figure 26

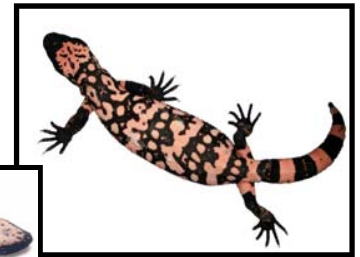


Figure 25

It spends up to 98% of its life underground and because observations are rare, everyone is encouraged to report Gila Monster sightings to the Nevada Department of Wildlife @ 702-486-5127 ext. 3718 with locality data and a photo. Coloration is black and salmon to orange mottling with four to five irregular broken chain-like bands (Figure 25). Venom, mixed with saliva, is delivered along grooved teeth in the lower jaw as the lizard chews with a vice-like grip. Other reptiles that are often confused with Gila Monsters include the Chuckwalla typically 11-18 inches in length (see Figure 27) and the Banded Gecko which are generally 4 to 6 inches in length (see Figure 28). Adult Gila Monsters are typically 16-20 inches in length, have bumpy skin covering their entire body and will have black faces with pink or orange on their heads.



Figure 28

bodies. Gila Monsters have black forked tongues used to smell their surroundings and banded geckos have pink tongues used to moisten their eyes. Banded Geckos also have relatively transparent skin on the ventral side rather than a thick bony skin which the Gila monster has. Geckos have the ability to cling to vertical surfaces, although they're not normally found there. See (Figure 26) for size comparison of these four lizards.

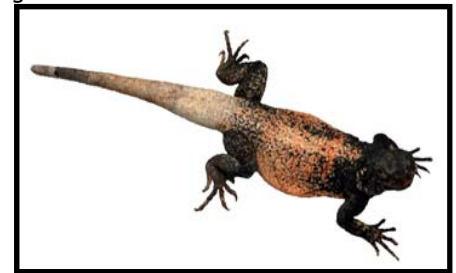


Figure 27

Chuckwallas do not have bumpy or beaded skin and have mostly black heads. Young Gila Monsters (Figure 29) have mostly black feet and black faces and much thicker bodies compared to adult banded geckos, which have pink feet and slender



Figure 29

PREVENTION

The best way to avoid trouble with venomous reptiles is to be aware of your surroundings and observe some safety rules. Most bites result from deliberate harassment of reptiles. Avoid disturbing, removing or killing venomous reptiles. If a venomous reptile is seen in an area where it poses a direct threat to human safety, call the Nevada Department of Wildlife's urban wildlife hotline at 702-486-5127 X 3213. Do not handle dead venomous reptiles; reflex action may persist up to 24 hours after death and a serious bite can still be inflicted.

- Learn how to identify venomous reptiles.
- Use caution when hiking. Determine safety from a distance before placing hands or feet atop or among rocks or crevices, entering abandoned dwellings, caves or mines.
- Lift rocks, wood, or other potential cover sites so they are between you and the possible rattlesnake underneath.
- Check under your car on hot days in case a reptile is seeking shade.
- Check where you are going to step before getting in or out of your boat.
- Choose open campsites and always carry a flashlight when walking at night.
- Supervise your children's activities and teach them not to play with any snakes they find. Have them report any snakes they see to an adult.

First Aid if Bitten

The primary goal is to seek emergency medical treatment immediately. If you believe you have been bitten by a venomous reptile do not wait for symptoms to show.

1. Immobilize the victim and keep the wound below heart level. Gravity can quicken the spread of the venom if the wound is above the heart. Do not use tourniquet, cut and suction, electro-shock, or put ice on the wound.
2. Calm the victim. A rapid pulse from panic or anxiety circulates venom more quickly.
3. Watch the victim for any unusual reactions. Remove all jewelry in anticipation of swelling.
4. Identify the snake if possible. This helps the caregiver give the correct medical treatment.
5. Transport the victim to a medical facility immediately. If it is necessary to walk, do so slowly and rest frequently.

First aid suggestions taken from *What's the Buzz About Nevada's Venomous Reptiles?*

Remember that a venomous bite does **not mean certain death**: annually **only 1/10 of 1 percent** of venomous bites result in death nationwide. Timely medical treatment simplifies recovery. This also applies to pets.

Suggested References:

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Wagner R. and M. Wagner. 2005. *Tread Lightly: Venomous and Poisonous Animals of the Southwest*. Rio Nuevo Publishers. Tucson, AZ.

Photo Credits:

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Bob Myers - www.rattlesnakes.com for Figures 4, 5

Ralph Phenix (NDOW GIS) - Figures 6, 9, 12, 15, 18, 21, 24

* The non-commercial collection of unprotected reptiles does not require a permit by the NDOW, however there are bag limits as determined by the Board of Wildlife Commissioners.

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