

LEVELED BOOK • R

RATTLERS



Written by Robert Charles

RATTLES



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Resting
rattlers like
this one rarely bite.

INTRODUCTION

While most snakes are harmless, there are a few that can strike with a deadly bite. Rattlesnakes, commonly known as rattlers, are some of the most feared of these deadly snakes. But before you get the wrong idea about rattlers, let's set the record straight. Snakes don't go around looking for someone to bite. In fact, most snakes, including rattlers, would rather avoid people. And also, most people who are bitten by rattlesnakes do not die from the bite.

You should also know that snakes have an important role to play among living creatures. Rattlers eat rodents such as rats and mice. Since many rodents carry diseases and destroy valuable crops and property, rattlesnakes help humans by keeping the number of rodents under control. So the next time you think bad things about rattlesnakes, don't forget the good they do.



A rattler eating a mouse



Many species of rattlesnakes live across North and South America. The numbers indicate the center of each territory.

WHERE RATTLES LIVE

All of the world's rattlesnakes are found in North and South America. They live in almost every state of the United States, in every South American country, and throughout southern Canada. Their habitat

includes swamps, deserts, prairies, forests, and mountains. The greatest numbers of rattlesnakes are found in the deserts and dry areas of the southwestern United States and northern Mexico.

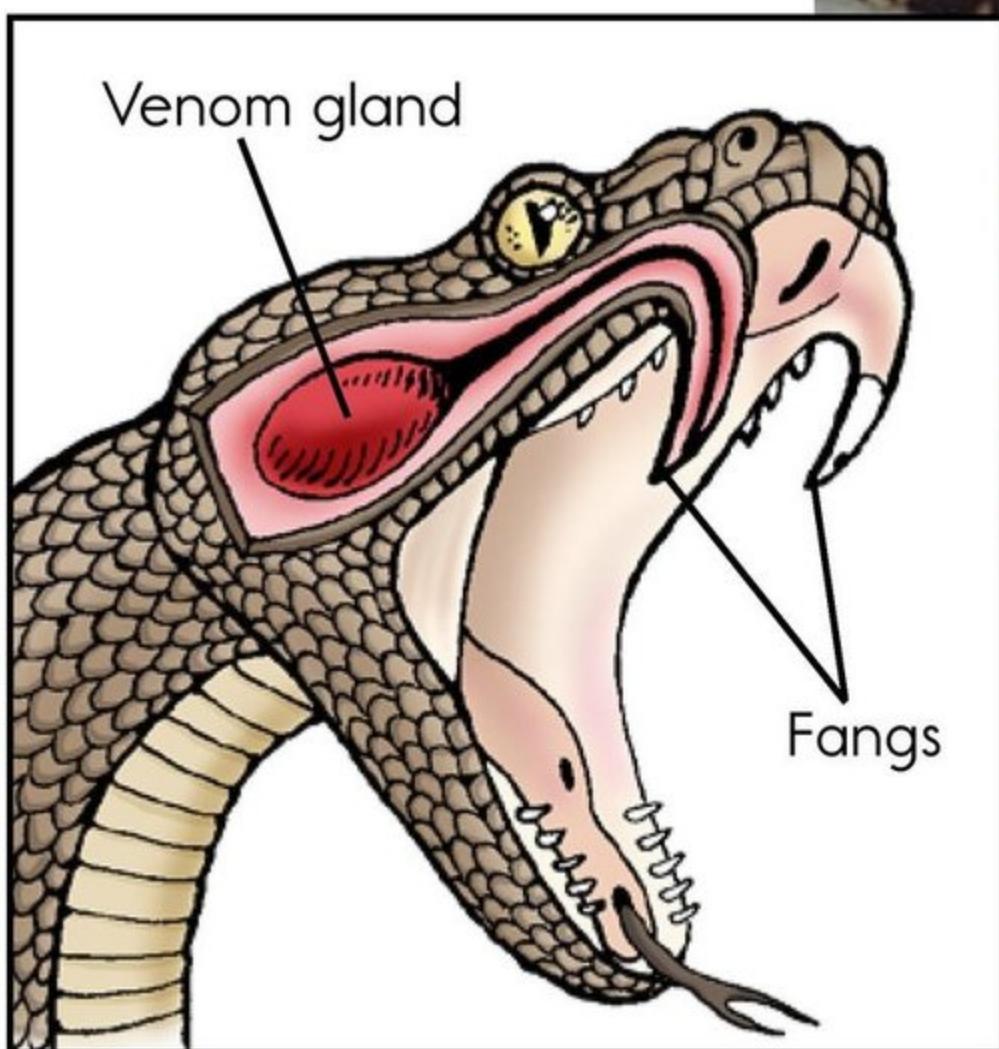
Like all reptiles, rattlesnakes are **cold-blooded**. This means their body temperature goes up and down with the temperature around them. Because they can't keep their bodies warm, rattlers spend the winter **hibernating** in dens below the ground. For the most part, rattlers are loners, but during hibernation, hundreds can gather in the same den.

As spring begins, rattlesnakes crawl out of their dens to bask in the sun. As the sun warms their bodies, the rattlers become more active and get ready to spend the summer hunting. You are most likely to see rattlesnakes when the temperature is 21° to 30° C (70°–90° F). In areas where it gets really hot during the day, rattlers must find shady places to stay cool. They often like to lie under rocks, bushes, cactuses, and trees.

HOW RATTLERS HUNT

Rattlers belong to a group of snakes called **pit vipers**. Pit vipers have deep, heat-sensing pits below their eyes. The pits detect the body heat of rodents, birds, and other **prey**. A rattler can detect the heat of a candle flame from as far away as 10 meters (30 ft). Rattlers also “smell” with their forked tongues by flicking them in and out of their mouths. Using heat and smell to find food makes rattlers good night hunters.





The rattler's fangs swing down in preparation for a bite. The illustration at left shows the structures that produce venom and send it through the fangs.

Using their blending skin patterns, rattlers hide near small trails or holes where rodents, lizards, and birds pass by. As the prey goes by, the snake strikes with its long, hollow **fangs**. Normally, the fangs are folded back against the top of a rattler's mouth. When the snake bites, its fangs drop down and its mouth opens wide enough to drive them through the skin. Rattlers produce a poison called **venom** in glands behind their eyes. When the snake bites, the venom travels through tubes into the fangs. The fangs act like doctors' needles, giving the victim a "shot" of venom.



Unless the prey has a good chance of escaping, such as if it can fly, a rattlesnake lets go after it bites. The prey runs off, but it does not go far before the poison begins to take effect. Rattlesnake venom works in two ways. First, it affects the nerves and muscles so that the victim has difficulty breathing and moving. Second, it begins to break down the victim's muscles and organs. By the time the rattler is ready to eat its victim, digestion has already begun.

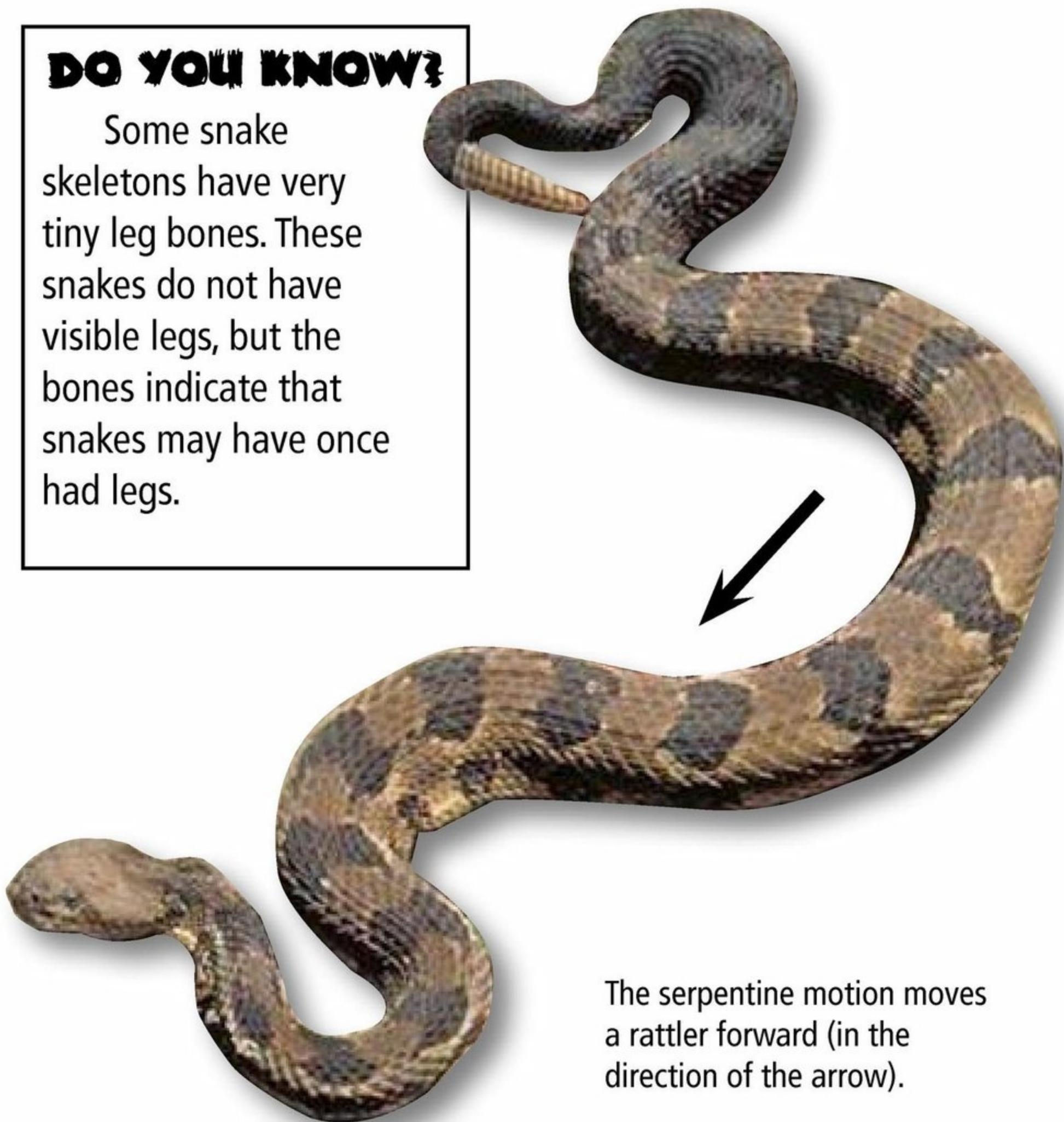
The snake uses its “smelling” tongue to follow its victim. Once the snake finds its prey, it swallows it whole and headfirst. Rattlers can separate their lower and upper jaws in order to swallow prey that is larger than their own heads. Since snakes don't use energy keeping themselves warm, rattlers can last for months on one meal.

HOW RATTLERS MOVE

How can something with no legs hunt other animals? Rattlesnakes move in three ways. The most common is the **serpentine** (SERP-en-teen) method. The rattlesnake moves its body in an S-shaped motion. Muscles along the curves push the snake forward against the ground. This motion also makes rattlesnakes excellent swimmers.

DO YOU KNOW?

Some snake skeletons have very tiny leg bones. These snakes do not have visible legs, but the bones indicate that snakes may have once had legs.



The serpentine motion moves a rattler forward (in the direction of the arrow).



Sidewinding pushes the snake's body sideways, as opposed to forward.

The **sidewinding** motion is only used by a few kinds of rattlers that live in sandy deserts. It looks a lot like the serpentine motion, only it pushes the snake sideways.

The third type of movement, **caterpillar** locomotion, uses the snake's scales. Rattlers have wide, flat scales across their bellies. The snake can use its muscles to lift and lower the edges of the scales. The edges dig in and push the snake's body forward, the way caterpillar treads push a tractor forward.



Caterpillar® tractors were named after the way caterpillars move.

BABY RATTLERS

Female rattlers begin having babies when they are three or four years old. Rather than laying eggs like most reptiles, rattle mothers give birth to live babies. Rattlers usually have 10 to 12 babies each time they give birth.

After they are born, baby rattlers do not need their mothers. However, they tend to stay close to their mothers for about ten days until they shed their baby skin and begin to hunt. Baby rattlers may outgrow and shed their skins 3 to 4 times each year.



Baby rattlers (left) stay near their mother until they shed their skin.

Even at birth, a baby rattlesnake has a poisonous bite. But babies do not have rattles. They cannot sound a warning. The babies also have less control over how much venom they inject. In these ways, tiny baby rattlers can be more dangerous than big adults. On the other hand, many predators, including owls, hawks, ravens, coyotes, and even other snakes eat baby rattlers.



Many predators, including hawks, eat baby rattlesnakes.



A rattler warns other animals to keep away.

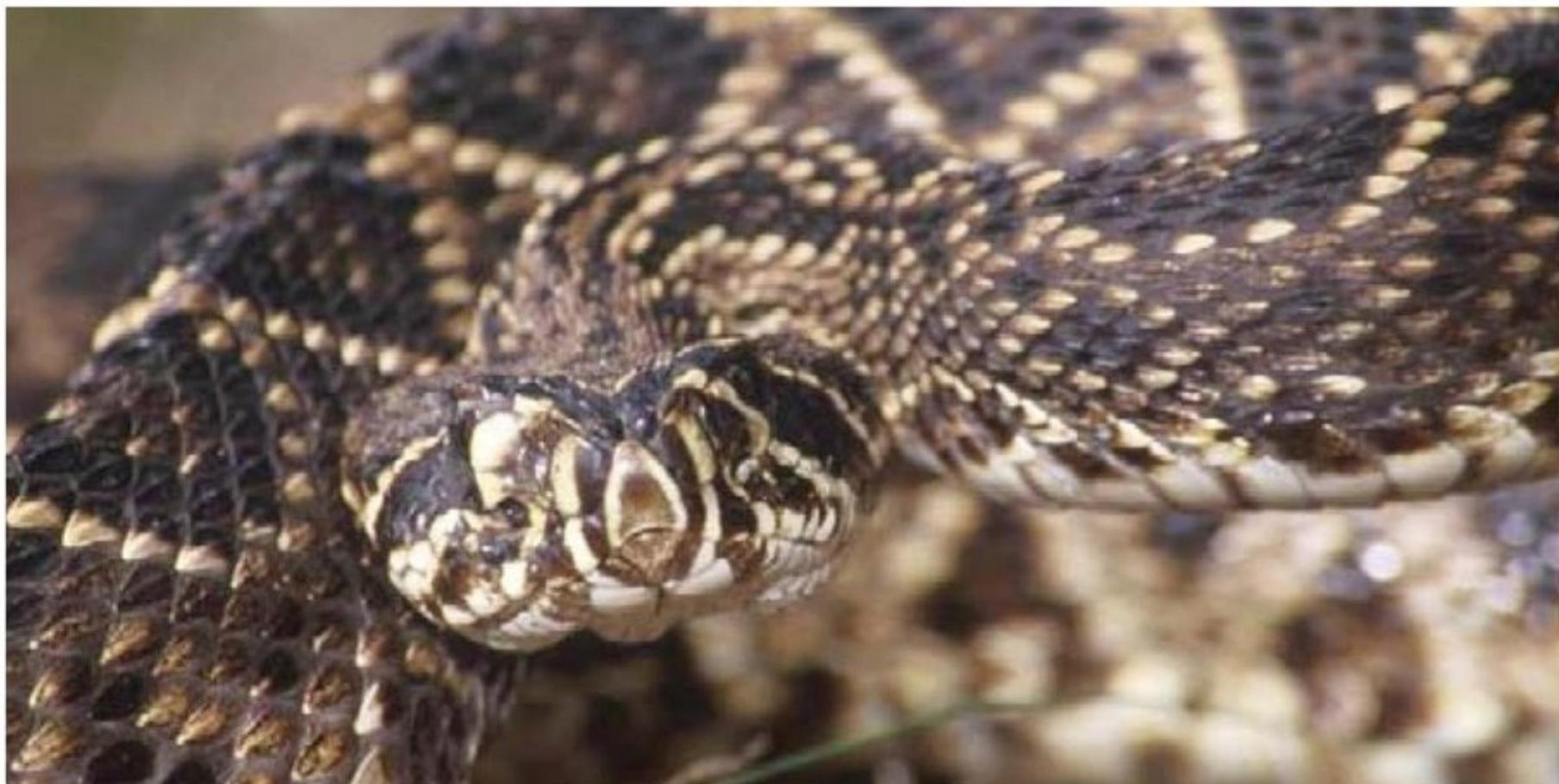
A RATTLER'S RATTLE

The rattle makes rattlesnakes different from all other snakes. The rattle serves as a warning to any animal that threatens the snake. Each time the snake sheds its skin, or molts, a section of hollow, fingernail-like material is left behind on its tail. The rattle sections get bigger as the snake grows. When it is afraid, the snake coils up and shakes its tail. The hollow sections clatter against each other, making a buzzing sound. This gives rattlers the nickname "buzztails."

Some people think you can tell the age of a rattler by the number of sections on its rattle. But older parts of the rattle break off. There are usually no more than ten sections. Since rattlers can live 25 years and molt 2 to 3 times a year, it is probably good that sections fall off. Otherwise, an old rattler might have a huge rattle with up to 75 sections. Can you imagine how loud an old “buzztail” with a rattle that big would be?



Rattlers coil up and lift their heads when threatened.



The eastern diamondback has bold patterns.

TYPES OF RATTLES

There are more than 30 types of rattlers. The largest are the eastern diamondbacks. They have been known to grow to almost 2.5 meters (8 ft). Western diamondbacks are slightly shorter, but they can be thicker and heavier than eastern diamondbacks. Most western diamondbacks grow from 1 to 1.5 meters (3–5 ft). Diamondbacks get their name from the diamond-shaped pattern on their skin.

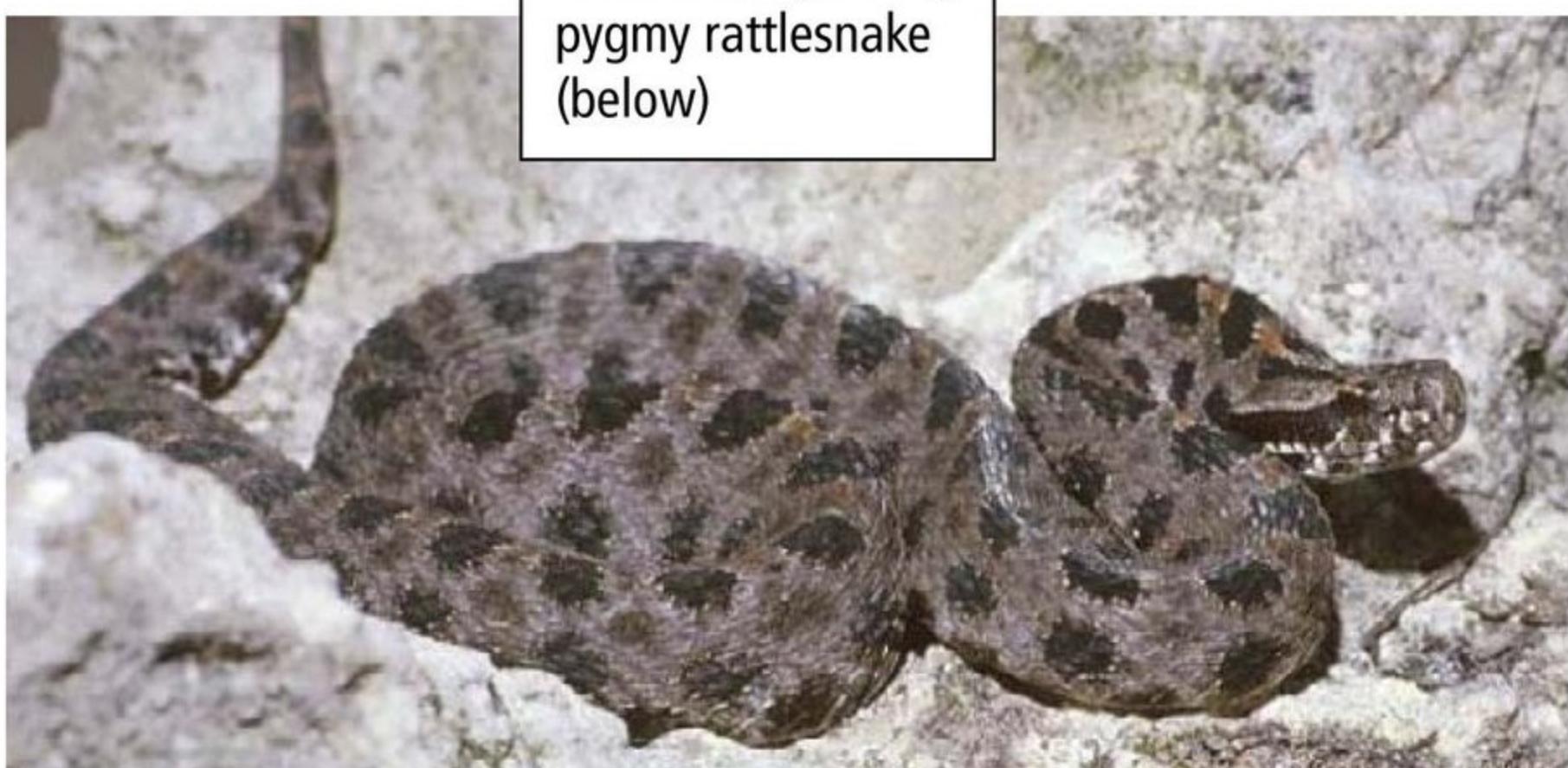
Timber rattlesnakes can be found in many wooded parts of North America from southern Canada to northern Mexico. They are about 1.5 meters (4–5 ft) long.

Other common rattlers include the sidewinders. They get their name because they move across the desert sand using the sidewinder motion. Sidewinders are smaller than diamondbacks, usually less than 1 meter (3 ft) long.

Smaller rattlesnakes include the banded rock and pygmy rattlers. How do you think these snakes got their names?



Banded rock
rattlesnake (above);
pygmy rattlesnake
(below)





A rattler in a defensive posture

SNAKEBITE

Other than when hunting, rattlers only bite in self-defense. Most people get bitten when they bother the snake or accidentally step on it. Often, a threatened rattler gives a “dry” bite with no venom. And even if the snake does inject venom, it usually injects a small amount. Rattlers aren’t trying to kill people or animals that threaten them. They only want to hurt the person or animal enough so that he or she will go away and keep away in the future.

RATTLESNAKE SAFETY

Most people who get bitten by rattlesnakes were trying to catch, tease, or kill the snake. Rattlers are not dangerous if you follow these safety tips:

- 1 Never bother a rattlesnake or other snake. Snakes are wild animals, and you should not try to catch or touch them.
- 2 If you go into wilderness areas where snakes may live, wear long pants and boots that cover your ankles. Snakes bite down low, and a layer of clothing can block a bite.
- 3 Keep your pets on leashes. Do not let your dog get close to or chase after snakes.
- 4 Do not stick your hands or feet under rocks, logs, or bushes where you cannot see. Snakes like to hide under things.
- 5 If you hear a rattle, stop moving immediately. Calmly look around and try to spot the snake with your eyes. Back slowly away from the snake. Remember, rattlesnakes are trying to warn you with their rattle—they do not want to bite you if they don't have to. Pay attention to that warning.

RATTLESNAKE SAFETY

If you or someone you know is bitten, follow these steps. Follow the same steps for your pet:

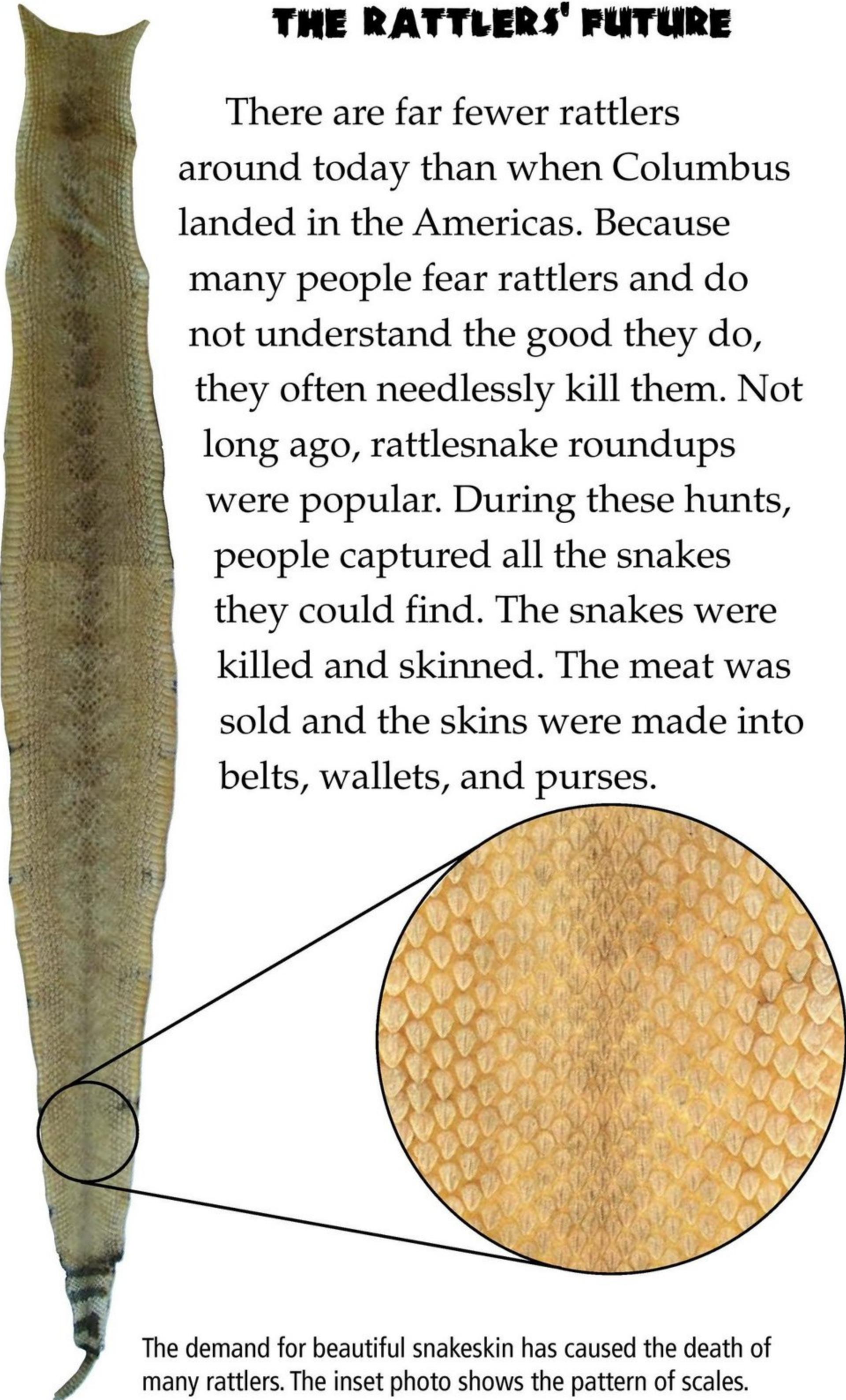
- 1** Keep the victim calm. Panic will only make the heart beat faster, carrying the venom through the body more quickly.
- 2** Get to a doctor as quickly as possible, but do not let the victim run or do any other exercise. If possible, have someone carry the victim.
- 3** Put a cool, wet cloth over the bite. Do not use ice, since ice can cause frostbite.
- 4** Tell the doctor or hospital workers what kind of snake you think may have bitten the victim. But do not try to catch the snake, kill it, or bring it to the hospital.

DO YOU KNOW?

Antivenom, the medicine used to treat snakebites, comes from horses. Doctors inject the horse with a little bit of snake venom. The horse is not hurt, but it builds up a chemical that stops the effects of the poison. Doctors collect this chemical, which also stops venom's effects in people and other animals.

THE RATTLES' FUTURE

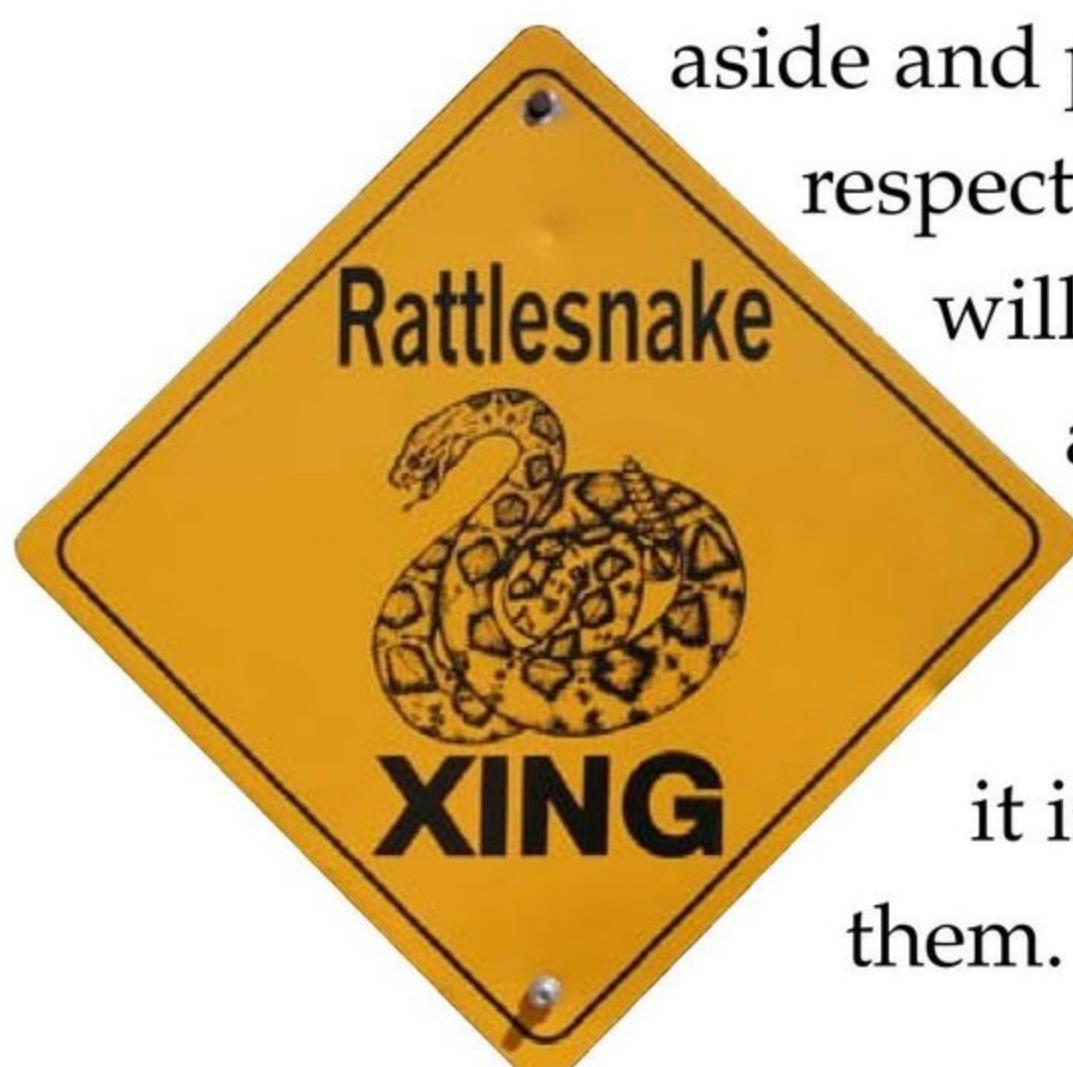
There are far fewer rattlers around today than when Columbus landed in the Americas. Because many people fear rattlers and do not understand the good they do, they often needlessly kill them. Not long ago, rattlesnake roundups were popular. During these hunts, people captured all the snakes they could find. The snakes were killed and skinned. The meat was sold and the skins were made into belts, wallets, and purses.



The demand for beautiful snakeskin has caused the death of many rattlers. The inset photo shows the pattern of scales.

Other things threaten the survival of rattlesnakes. Rattlesnakes like to sun themselves on warm roads. Cars and trucks kill many of these snakes. People also destroy rattlesnake habitats as they build larger cities and more highways.

Some people are beginning to take action to help rattlesnakes survive. Many rattlesnake roundups have been banned or limited. Signs alert drivers to roads where rattlesnakes may be sunning themselves. Snake habitats have been set aside and protected. If we respect these animals, they will not hurt us. And as we learn more about rattlesnakes, we understand why it is important to protect them.



GLOSSARY

caterpillar	a snake motion in which the edges of the snake's scales catch on the ground and pull the snake's body forward (p. 12)
cold-blooded	having a body temperature that goes up and down with the temperature of the surroundings (p. 7)
fangs	long, hollow, sharp teeth (p. 9)
habitat	the natural environment of a plant or animal (p. 6)
hibernating	spending the winter in a deep sleep (p. 7)
pit vipers	snakes that have pits on their heads that detect heat (p. 8)
prey	animals that other animals eat for food (p. 8)
serpentine	a snake motion in which the snake moves its body in an S-shape, pushing itself forward where its body bends (p. 11)
sidewinding	a snake motion in which the snake moves in a fast, strong S-shape, pushing its body sideways (p. 12)
venom	poison that animals use to kill prey and defend themselves (p. 9)

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