

Rattlesnake Awareness



Rattlesnakes. How dangerous are they? What should we do if we see one or find one in our yard? What should we do if a person or pet is bitten?

These are questions rattlesnake expert Mike Cardwell answers regularly. He is a volunteer lead instructor at Effie Yeaw Nature Center on the American River Parkway.



Mike Cardwell

Cardwell has gained national recognition for his study of both rattlesnakes in the Mojave Desert of Southern California and the snakes that inhabit the Effie Yeaw reserve here in Sacramento. He is noted for implanting radio-telemetry devices in rattlers so he can track their activities and learn more about their life cycle and interactions with their environment.

After serving 32 years with the San Bernardino County Sheriff's Department in Southern California, Cardwell followed his lifelong interest in rattlesnakes by earning a B.A. in Biology and a Master's Degree in Ecology, Evolution and Conservation from Sacramento State University. He has participated in snakebite studies conducted at Loma Linda University in San Bernardino County and lectures regularly at a number of California universities.

WDDNA interviewed Cardwell and learned that many notions about rattlesnakes are more myth than reality.

Q: How did you get interested in rattlesnakes?

A: As I was growing up, I was always fascinated by creatures that I felt people unreasonably feared. While rattlesnakes are dangerous, people fear them way out of proportion with the actual threat they present.

These little animals want nothing to do with something our size. In fact, when I'm trying to catch new snakes for my study, they are hard to catch because as soon as they think they are discovered, they are off into the weeds in a flash.

Of course, if you accidentally step on one or surprise it or intentionally bother it, it will bite to defend itself. But they fight as a last resort.

Q: What have you learned about rattlesnake behavior?

A: They are ambush predators. They don't actually hunt their food like gopher snakes and king snakes and garter snakes do. They'll find a place where they are likely to be able to ambush a vole or ground squirrel or some other small animal, then they'll curl up and wait. They may sit there for days. Often people walk right by them and never see them.

Q: When are snakebites most prevalent?

A: We know from studies that I was involved in at Loma Linda University, where we saw a lot of rattlesnake bites in their emergency department, that over 80 percent of the rattlesnakes that were biting people were males and the bites were occurring during the snake's courtship season, which is the spring and fall.

We also know that female rattlesnakes move very little. They find a place where there's food and shelter and a good place to stay when they're pregnant and they don't move around very much. During courtship time, the males wander all over the place looking for females. As a result, most snakebites occur in spring and fall. It's the males that turn up in yards and bike paths and roads.

Most snakebite patients that show up in hospitals have intentionally interacted with snakes. They were either trying to catch it or kill it or make it strike or make it rattle and they just get too close and the snake strikes and grabs them.

Q: What does rattlesnake venom do to a snakebite victim?

A: The only variety of rattlesnake we have in Sacramento is the Northern Pacific Rattlesnake. It has proteolytic venom that destroys proteins and causes tissue damage, swelling and severe scarring if not treated quickly. It causes proteins in the body to come apart. Anti-venom neutralizes the venom, but cannot reverse damage already done, so time is critical to avoid serious damage and scarring.

Q: What should you do if you are bitten by a rattlesnake?

A: The only thing that will change the outcome of a serious rattlesnake bite is anti-venom and you can only get anti-venom in a hospital emergency room. We no longer cut the wound or suck out the venom or apply ice, we don't use tourniquets or compression bandages. The only thing that you should do is transport a snakebite victim to an emergency room.

Up and down the parkway, the best thing to do is call 911 because they can get paramedics to you in just a few minutes. They will get you to an emergency room quicker and they will take you to one where they know they have anti-venom.

(For pets, experts advise that you check ahead of time to see if your vet regularly carries anti-venom. Not all vet clinics do. So plan ahead.)

Q: What should you do if you find a rattlesnake in your yard?

A: I don't suggest that people try to catch them and move them. That's a good way to get bitten. If there's one rattlesnake in your yard, there's a good chance there are other rattlesnakes in your yard frequently. So you need to take precautions. Watch where you step during warm weather. If you go outside at night, use a flashlight. And if you have toddlers, you need to watch them at all times while they are in that yard. Getting rid of one rattlesnake does not get rid of all rattlesnakes.

Q: How can you keep rattlesnakes out of your yard?

A: Fences are not very effective because snakes are always getting into vole and ground squirrel burrows to hunt. So they can get under fences. The best thing to do is to eliminate places in your yard that attract snakes because they also attract the rodents that snakes eat. Woodpiles are a favorite

place for both animals, so if you have one, get one of those metal racks that elevate the wood up off the ground and then clean out under it regularly. Also keep the rest of your yard neat and clear of undergrowth where rodents might live. That will reduce your chances of having rattlesnakes living in your yard, but it may not prevent the occasional male snake from wandering through during courting season.

Q: How can we be safe from rattlesnakes in the American River Parkway?

A: Stay on the bike trail. On the trail, you can see where you're stepping. If you see a snake, stay at least two snake-lengths away from it. So, if it is about a three-foot snake, stay at least six feet away. It can't strike more than its body length.

And, most important, if you see a rattlesnake anywhere, leave it alone. Often, young men see a snake and can't seem to leave it alone. Emergency room docs say the typical snakebite victim is late teens or early 20s, male and has some alcohol in him.

Q: What should a bicyclist do if there is a rattlesnake on the bike trail?

A: If you can't avoid it, just take your feet up off the pedals and coast past it or just ride over it. If you're going fast, it's not worth crashing to avoid the snake.

Q: When you are hiking in wild areas, what kind of protective clothing should you wear to protect yourself?

A: When rattlesnakes strike, they just propel their head forward by stretching out their necks. They don't spring. So, most accidental snakebites are to the feet or the ankles. So, if you are going to go hiking in grass or weeds, wear high-top leather shoes. Snakes cannot bite through leather.

Q: What is the greatest rattlesnake myth?

A: That baby rattlesnakes are more dangerous than adults because they have not learned how much venom to inject. Baby rattlesnakes are about the size of a pencil ... little, tiny guys. They're miniatures in every way, including the size and capacity of their venom gland. Even if they inject most or all of their venom - which they never do - they just have a tiny fraction of the amount of venom available to adult snakes, so can't cause as much damage.