

NEWS FROM THE PIT

Arizona Poison and Drug Information Center



No Snake, No Bite. Rattlesnake Prevention As An Overlooked Aspect of Public Safety

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Anyone living in Arizona knows that a rattlesnake in the yard is a possibility from time to time. Fortunately for all involved, methods of dealing with the situation have come a long way in recent years. Thirty years ago, a rattlesnake in the yard was, typically, promptly killed. However, regional attitudes are shifting to more effective, long-term, and sustainable prevention of unwanted snake visitors.

For myself, two decades of working closely with Arizona residents who encounter rattlesnakes at home have formed a clear view of the situation: residential rattlesnake encounters are often a symptom, not the problem. The unexpected rattlesnake in the backyard may be solved long before that dangerous situation develops, by simply never inviting it in to begin with. The most survivable rattlesnake bite is one that doesn't happen.

NEWSLETTER HIGHLIGHTS

Factors that attract rattlesnakes to residential locations

Image 1: Western Diamondback Rattlesnake (*Crotalus atrox*)

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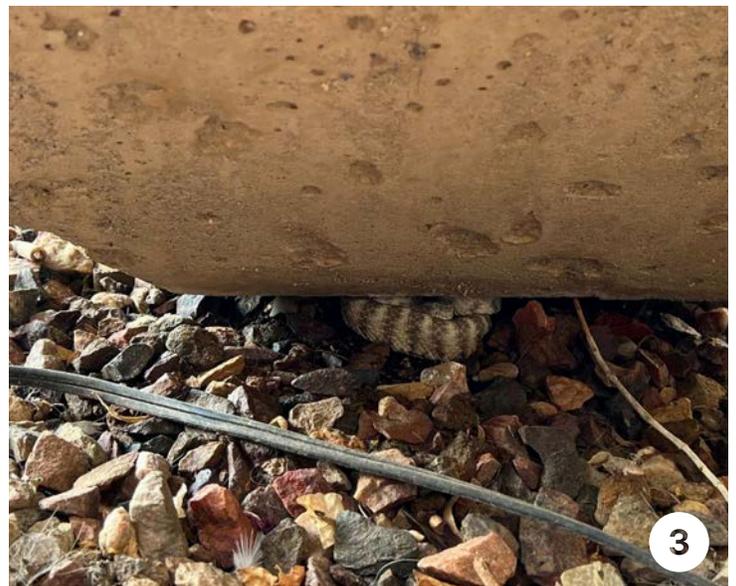
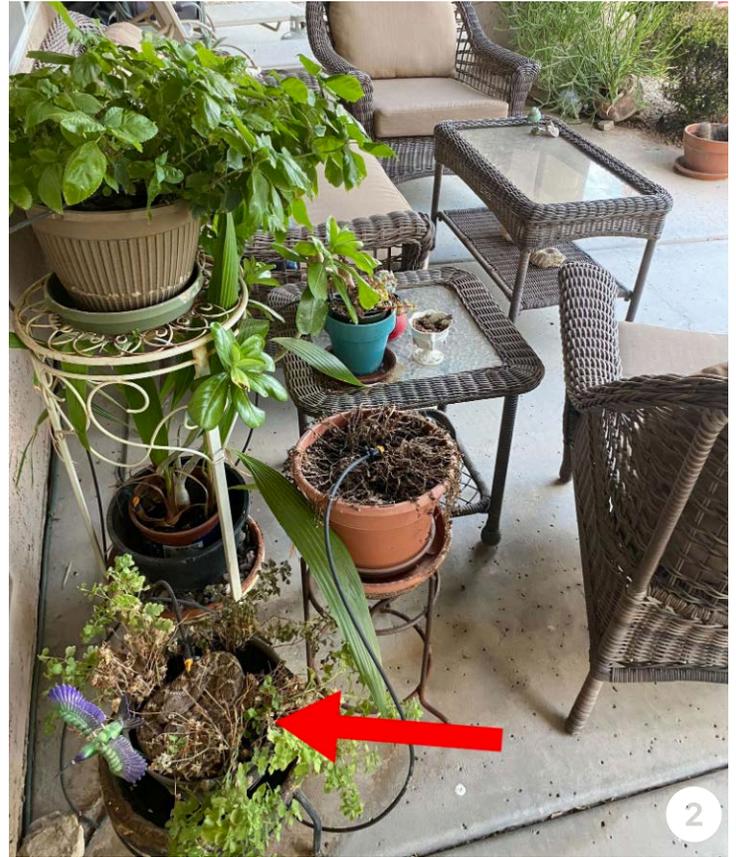
Continued from page 1

Passive prevention is an easy first step.

Rattlesnakes are not uniformly present in the wild. Their exact locations and numbers can change dramatically based on the availability of resources and preferred habitat. On a hot, typical Arizona summer morning, few, if any rattlesnakes would be exposed to the desert sun. An adjacent desert wash, however, with numerous deep retreats and higher ambient moisture, could be home to a half dozen or more. Rattlesnakes, like all animals, choose specific situations to survive. The presence of ideal conditions can dictate where and when a rattlesnake shows up. This does not change when the latest block of new homes shows up.

When examining the big picture of the rattlesnake situation in residential areas, there may be a form of survivorship bias. Attention is placed on the situations where encounters occur often, rather than carefully examining where they are not. It's common to find a home with a dozen or more rattlesnake visits each year, while the neighboring home claims none. What the latter instance is doing may or may not be intentional, but there are recognizable trends found at such properties.

In a backyard, rattlesnake encounters are not a random event; many landscaping factors may provide easy resources for wildlife. In an arid desert environment, a shaded patio alongside an over-watered lantana and a bird feeder (fig. 2) is, essentially, a "rattlesnakes welcome!" sign. An eroded tunnel under a north-facing concrete patio (fig. 3) is an easy approximation of a natural spot to beat the heat. Understanding these factors and making changes to reduce accessibility and availability can help prevent rattlesnakes passively. In a few hours on a weekend, purposeful action to reduce the availability of food, water, and shelter can make a difference.



No Snake, No Bite. Rattlesnake Prevention As An Overlooked Aspect of Public Safety

Continued from page 2



Any plant that provides unchecked cover and needs to be often watered (fig.4), can be useful to snakes. If you have any plants that could be described this way, be sure to keep them as well-maintained as possible, removing all leaf litter, and carefully watering only as much as the plant needs. If you have these plants and wish to keep them, be sure that if you look at them from directly above, you can see some bare ground through the branches.



Some plants attract snakes by proxy. As described earlier, citrus trees (or any fruit-bearing plant) and trees that produce a lot of seeds or nuts can attract rodents and birds (fig. 5), which may be easy hunting opportunities for snakes. Working with native plants and landscaping that doesn't need a lot of water and is easy to maintain is recommended. A variety of cacti, Palo Verde trees, ocotillo, creosote (fig. 6) and others are all native to the Arizona desert and easy choices. Replacing a daily-watered lawn and mid-western style yard for something a little more in line with natural soundings may be far less useful to rattlesnakes.



Especially in desert areas, providing water sources can be a major source of snake encounters. Snakes need water, like all animals, and they'll often stop by to take a drink when it's offered. A dripping air conditioner condensation pipe or leaky hose make a great place to get a moisture (fig. 7). It also provides a hunting opportunity, as rodents, rabbits, and birds will also be frequent visitors.



No Snake, No Bite. Rattlesnake Prevention As An Overlooked Aspect of Public Safety

Continued from page 3

Specific actions that a homeowner can take for passive rattlesnake prevention:

- Go natural – design landscaping with native plants, cacti, and others that require less water and provide minimal shade
- Remove or replace lantana, rosemary, and similarly “heavy”, leafy, and shaded plants.
- If choosing to keep lantana or rosemary (fig. 8), keep it well-maintained and always remove leaf litter
- Change the watering schedule to be only as much as needed. If there are native plants that are healthy, consider removing the drip system entirely.
- End the oasis – keeping water sources dry and unavailable.
- Replace any leaking hose, spigot, or anything else that’s dripping.
- Buy and install critter ramps and filter covers to make sure snakes that do drink from the pool can escape
- Adjust automatic sprinklers to be efficient and eliminate wasteful irrigation
- Consider native plants and landscaping that use less water
- Consider removing fountains, birdbaths, ponds, and decorative water features that are not working or no longer enjoyed.

A scam is a scam: avoid snake repellents (fig. 9).

Several products claim to repel snakes. These range from chemicals and moth balls to herbal or ‘natural’ products and electronic solutions such as sonic emitters and motion-triggered flashing lights. While these would be a great option, there is no evidence that any of these provide any repellent effect on snakes in any way.

Our group's first-hand experience includes instances of rattlesnakes sleeping directly on top of piles of snake repellents and even a Tiger Rattlesnake *giving birth* inside a bag of a popular brand. As much as it would be ideal, these products are currently not recommended.



No Snake, No Bite. Rattlesnake Prevention As An Overlooked Aspect of Public Safety

Continued from page 4

The lantana is gone and the hose is fixed. What's next?

While passive prevention is always a recommended first step, it is only part of the overall picture of a sustainable, rattlesnake safe property. In the next issue, we'll discuss direct prevention of rattlesnake encounters by creating a physical barrier, known as rattlesnake fencing.

Planning ahead is a surprisingly hard sell.

The suggestion of reasonable preventative measures, rather than killing snakes whenever found, is often met with harsh criticism. It is a surprising challenge, which I suspect may be more a matter of Western culture and social media feedback than snakes. However, the reason to focus on prevention, rather than extermination, is more a matter of efficacy than snake conservation .

The shift in thinking from killing rattlesnakes as they are found to preventative measures can be a challenge. It is a departure from a cornerstone of Western culture, and what our grandparents may have referred to as common sense. Planning ahead to prevent a rattlesnake encounter does not provide the same social media feedback as an exciting moment on the patio, and the snake encounter that never happened doesn't make discussion at happy hour. But for those for whom safety for kids and dogs is truly more important than social artifacts, there is much that can be learned and done.

Once a homeowner spots a rattlesnake, the situation where an accidental bite could occur is over. At that point, killing or relocating a snake after its discovery may not affect the likelihood of future encounters when the real problem is left in place. In fact, if it is believed that killing the snake is the end of the issue, it may stop action to prevent the next encounter. In our experience, this is exactly what happens.

A common example of this: A homeowner states that they kill a dozen rattlesnakes each year by their backyard shed, and has done so for a decade. Each time, believing the issue solved, needing no further examination. But, the questions are never asked: what's going on with that shed? Why are so many rattlesnakes found there? Can the situation be changed to result in fewer rattlesnake encounters there?

There may be lessons to be learned from communication about other public safety issues, where prevention is key. If the bulk of education and discussion with the public revolves around how to behave in the event of a rattlesnake encounter, this may be missing an opportunity. Fire safety messaging, for example, is focused on fire prevention, rather than just operating a fire extinguisher and assuming fires are random, unavoidable events.



No Snake, No Bite. Rattlesnake Prevention As An Overlooked Aspect of Public Safety

Continued from page 5

Moving out of the Wild West into the ... Reasonable West?

To homeowners, there are more options than ever to live safely in areas where rattlesnakes are present. Considering rattlesnake encounters an inevitable surprise that comes with a home in the desert is no longer the case.

Numerous resources are available for homeowners to become educated on the animals they may fear the most. A greater understanding of the underlying ecology of urban interface zones can improve public safety. An interest in snakes or even the natural world is required to convert even basic information into actual return. To that end, every effort that can be made to provide such information is useful.

To a safety-concerned homeowner who makes informed decisions to take preventative action, the end result may never be known. It's not possible to count the number of snake encounters that didn't happen. We can't know how many rattlesnakes crawled right past without an easy opportunity to drink, or were prevented from entering entirely, and kept on going. And although stories of finding rattlesnakes in the yard might be an interesting story, I'd bet most people would be fine trading it in for a rattlesnake-free property.