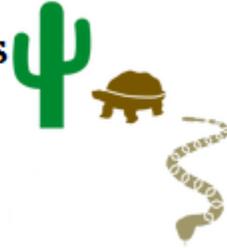


Colorado River Indian Tribes

Fish and Game



Venomous Snake Training & Handling Course



Instructor Information:

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Arizona Snakes

Venomous:

13 Species of Rattlesnake

1 Species of Coral Snake

Non-Venomous:

Over 35 species of harmless snakes

Protected Arizona Herps:

Arizona Ridge-Nosed Rattlesnake (*Crotalus willardi*)

Twin-Spotted Rattlesnake (*Crotalus pricei*)

Banded Rock Rattlesnake (*Crotalus lepidus*)

Massasauga Rattlesnake (*Sistrurus catenatus*)

Sonoran Desert Tortoise (*Gopherus morafkai*)

Gila Monster (*Heloderma suspectum*)

Chiricahua Leopard Frog (*Lithobates chiricahuensis*)

Sonoran Tiger Salamander (*Ambystoma maourtiium stebbinx*)

Milk Snake (*Lampropeltis tringulum*)- Within Cochise County Protected Only

Grand Canyon Rattlesnake (*Crotalus oreganus abyssus*)

Snakes Mimics:

Gopher snakes will mimic a rattlesnake

Milk snakes will mimic a coral snake

Hognose snakes will mimic a rattlesnake

King snakes will mimic a coral snake

FACTS

Kingsnakes are considered to be mostly immune to rattlesnake venom, allowing them to prey on rattlesnakes.

They normally eat rodents and lizards, but will routinely constrict, kill and eat rattlesnakes.

All snakes will come out of hibernation when the ground temperature reaches 78°

Rattlesnakes come out and hunt and digest their prey at 78° to 90°

Gopher snakes come out and hunt and digest their prey at 85° to 100°

Coachwhips AKA Red Racers come out and hunt and digest their prey at 100° and higher temperatures

Rattlesnakes can detect a change in temperature from 20ft away. They can sense a change in temperature of as small as 1° in change

It takes a rattlesnake 3 to 5 days to replenish their venom

It takes a rattlesnake 5 to 7 days to digest their prey

Some Snake Diversity

While there are 18 families of snakes, these are three of the most common and the ones that are discussed in this training.

Vipers (Family Viperidae)

- Triangular, or arrow- shaped head
- Hinged front fangs
- Primarily have live birth
- Venomous- mostly hemotoxic
- Examples: Rattlesnake, fer-de-lance, Mangshan Mountain Viper, Cottonmouth, Copperhead

Elapids (Family Elapidae)

- “Normal” shaped, round head (although some “hood”, making the head appear a different shape)
- Fixed front fangs
- Primarily lay eggs
- Venomous – mostly neurotoxic
- Examples: Cobras, Coral Snakes, Mambas

Colubrids (Family Colubridae)

- “Normal” shaped, round, narrow head (unless imitating triangular head of vipers)
- No fangs, but small rear-facing teeth
- Mostly round pupils
- Primarily lay eggs
- Non-venomous
- Examples: Corn Snakes, Rat Snakes, King Snakes, Gopher Snakes

Hemotoxin Venom	Nuerotoxin Venom
<ul style="list-style-type: none"> – Destroys tissue – Kills prey by causing massive internal hemorrhage, aslo assisting in pre-digestion of prey – In humans, can cause localized tissue damage, necrosis, nerve damage, systemic symptoms such as convulsions, muscle tremors, seizures, irregular heartbeats, and cardiac arrest. Tissue damage is extensive and can result in amputation or removal of the affected extremity or area. – Antivenin: usually CroFab or species secific equivalent 	<ul style="list-style-type: none"> – Affects nerves and nervous system – Kills prey by blocking nerve receptors from receiving or sending "messages" from the brain to vital organs, thus affecting breathing, heart rate, ect – In humans, causes multiple organ system shut downs and failures, usually leading to a coma and eventually death if not treated ASAP –Antivenin: species specific

For Successful Snake Handling

- Make sure that you clearly can see the snake.
- Remove the lid from the bucket and hold on to it.
- If you can only see a portion of the snake, then use your hook to slowly pull the snake into view so that you can see it and there are no obstructions.
- Identify the species of the snake if possible, from a safe distance. It is important to always keep a safe distance until you know what you are dealing with.
- With tongs in one hand and the lid in the other, grab the snake 1/3 down from the head of the snake (not the tail). The lid can be used as a shield. You don't want to hurt the snake, but you want to make sure you have a good grip so that it doesn't fall from the tongs. If the snake moves around and it becomes to difficult to handle, then put it back on the ground until you have it under control.
- Take your time. You need to be careful. Do not rush.
- If people are present, you must also consider crowd control. You can put one person in charge of keeping people back at a safe distance, or you can verbally instruct everyone to back up for everyone's safety.
- With the snake still in the tongs, place both the snake and the end of the tongs into the bucket. Do not release the snake. Be sure the tongs are completely at the bottom of the bucket. Lean over and look to make sure the head of the snake is down at the bottom. Slowly release the tongs and place the lid on the bucket. DO NOT hold the side of the lid, only the middle. Sometimes a snake may try to come out of the bucket, so you need to move safely and swiftly.
- Make sure you do not place your second hand lower on the snake tongs or on the side of the lid at any time. Hold it "pistol-grip", not "shot-gun" grip.
- To release the snake, place the bucket near the appropriate release site. Unscrew the lid but do not lift it up. Step back and use the tongs to push the bucket over, away from you, making sure you are not downhill from the way the bucket will tip. The lid will come off then. If the snake doesn't come out on its own you can use the tongs to lift the back of the bucket up so the snake slides out, or tip the bucket completely over and lift it up, still using the snake tongs.

SNAKE BITES

<p>PREVENT A BITE:</p> <p>NEVER go barefoot or wear sandals when hiking</p> <p>ALWAYS stay on the marked paths or trails</p> <p>When hiking/climbing, NEVER reach for a rock without looking first</p> <p>NEVER tease a snake to see how far it can strike</p> <p>Never place your hands or feet where you cannot see them</p> <p>AVOID tall grass, weeds and underbrush</p> <p>Flip pool toys over with a broom or a stick before picking up with hands</p> <p>DO NOT handle dead snakes</p> <p>Do NOT keep a rattlesnake as a pet (even babies are venomous)</p> <p>Teach children to respect snakes and to leave them alone</p> <p>Teach children NOT to reach for toys that have rolled under a bush</p> <p>If you encounter a snake, take ONE BIG STEP in the opposite direction</p> <p>ALWAYS GIVE SNAKES THE RIGHT-OF-WAY!</p>	<p>ALL Arizona residents should have a snake bite emergency plan developed <u>before</u> it is needed. If you are less than one hour from the nearest emergency facility, initial treatment is relatively simple but <u>PREVENTION works best.</u></p>	<p>TREAT A BITE VICTIM:</p> <ul style="list-style-type: none"> • CALL 9-1-1 • Keep victim calm • Do not worry about snake ID <p>DO</p> <ul style="list-style-type: none"> • Elevate bite site • Remove restricting clothing and jewelry from effected extremity • Transport victim to nearest emergency facility for further <p>DO NOT</p> <ul style="list-style-type: none"> • DO <u>NOT</u> use ice to cool the bite • DO <u>Not</u> cut open the wound and "suck" out the venom • DO <u>NOT</u> use a tourniquet — this will cut off blood flow and the limb may be lost • DO <u>NOT</u> drink alcohol to ease the pain • DO <u>NOT</u> use electric shock • DO <u>NOT</u> cut the bite
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SNAKE REMOVAL HOTLINE (928)669-1277

Benefits of Snakes:

- 1) **FREE, ORGANIC Pest Control.** A main staple of snakes' diets are rodents, including rats and mice which are carriers of many diseases, including life-threatening illnesses such as hemorrhagic diseases and the plague. When snakes (venomous and non-venomous) digest their prey, they eliminate the viruses and bacteria on the rodents that can cause diseases, therefore indirectly protecting or buffering us from the potential parasites or diseases. Snakes are available in many habitats free of charge and are completely natural and organic. For more information about diseases that can be carried or transmitted by rodents, visit <http://www.cdc.gov/rodents/diseases.direct.html>.
- 2) **Natural Component of Native Ecosystems.** All organisms within an environment are important. They are all connected in some way and depend on the presence of each other to survive; this is called interdependence. Some components are living (biotic), while others are non-living (abiotic). Whenever we (humans) change or remove a biotic or abiotic component of an ecosystem, it affects the others, disrupting the balance. Snake, even venomous snakes such as rattlesnakes, are important components of native ecosystems, serving as predator and as prey in some cases. Killing them or removing them from their natural habitat disrupts the balance that nature had created; they are important in nature, even if we are uncomfortable with them. Rattlesnakes/other snakes are currently being studied regarding the role they play in seed dispersal. Seeds of various kinds have been found germinated in the colon of rattlesnakes.
- 3) **Biomedical Research and Human Applied Medicine.** Snake venom has and continues to be researched and applied to human medical conditions as anticoagulants and blood thinners, as cancer and tumor treatment, as pain medication, and for neurological research and treatments. We are only beginning to understand how snake venom may directly benefit humans in medical treatment, but new breakthroughs are always around the corner. If these reptiles had been eradicated due to fear, they would not be available to help us in these ways today.
- 4) **Personal Enjoyment, Hobby, Reptile Enthusiasts.** Many people simply enjoy reptiles, whether in captive situations (such as pet reptiles) or wild situations. "Herping" is a popular hobby across the United States, but especially in Arizona, where people hike the desert and mountains looking for elusive, but captivating reptiles. Many people also own snakes as pets, such as Ball Pythons, Burmese Pythons, King Snakes, Corn Snakes and many more.
- 5) **Scientific Research.** Herpetology is classified as the scientific discipline that specializes in the study of reptiles and amphibians. Scientists, researchers and students across the world are actively studying these incredible reptiles to learn more about their natural history, conservation status, adaptations, behaviors, and much more.
- 6) **Art, Spiritual Significance, Symbolism.**
 - India-** Cobras are worshiped as a fertility symbol and it is said that placing a statue of one in a garden can aid in conception of a child.
 - Aztecs of Mexico-** Considered snakes (especially rattlesnakes) symbols of renewal, due to the process of shedding their skin.
 - Mayan Cultures-** Snakes were revered as gods, as they were thought to be the only animals which could descend into the "underworld" (underground) and return unharmed. They have also been a long-standing source of inspiration for art, symbolism, and cultural significances.
 - United States-** Don't Tread on Me Flag and Caduceus as a symbol of medicine.

SNAKE MYTHS

Myth: Snakes chase people.

Truth: Snakes really have no interest in people, and therefore no reason to even attempt to harm a person, unless they are being threatened. If a snake feels threatened, they may try to escape using the easiest route possible, which sometimes may be towards a person, giving the illusion of a snake “chasing” a person

Myth: Rattlesnakes are poisonous.

Truth: For something to be poisonous, you must eat it or drink it to get sick or feel the effect. Since rattlesnakes are technically edible, they cannot be poisonous. They are, however, **VENOMOUS**. Since they can bite or sting and cause an affect, they are venomous, using venom they produce in specialized glands.

Myth: Rattlesnakes kill people.

Truth: It is extremely rare for someone to die from a rattlesnake bite. Although it has been documented, it is not normally seen in typical, healthy adults. Rattlesnake venom is produced to kill and pre-digest their prey: small animals such as rats and mice; it is not intended for large predators (such as people), which is one of the reasons their venom rarely kills humans.

Myth: Some snakes will bite their own tail, stiffen to become a hoop, then roll down a hill to chase someone.

Truth: False, just false.

Myth: Snakes can't bite underwater and they can't swim.

Truth: All snakes can swim. One of the best examples for this is the Cottonmouth, a venomous snake to the Southern regions of the United States. Its scientific name *Agkistrodon Piscivorous*, which translates to “fish-eater”. How would a snake eat a fish unless it could bite underwater? Another example is the Sea Snake, which also preys upon fish and must therefore bite underwater. Even a snake such as a Rattlesnake is a capable swimmer and has the ability to bite on land or in the water.

Myth: If you step on snake scat(poop), you will get an unbearable itch that will drive you insane.

Truth: Other than possible bacterial infection/contamination, snake scat will not harm you. If you become exposed to any scat, including snake scat, the best action is to simply wash the affected area after exposure.

Myth: Snakes can't hear

Truth: It is true that snakes cannot process most audible sounds the way we can and do not have external ears, but using primitive ear bones, they can feel and interpret a wide range of vibrations.

Myth: The number of buttons on a Rattlesnake's tail is how old it is.

Truth: Every time a rattlesnake sheds its skin as it grows, it adds a new button (or segment) to its rattle. Snakes, including rattlesnakes, may shed their skin multiple times a year, resulting in multiple new buttons in a calendar year. Therefore, the rattle cannot indicate the age of a snake. The other issue with this myth is that rattles may break off periodically, also complicating aging a rattlesnake by its rattle.



Myth: Snakes can jump their body length when they attack.

Truth: Some people respond to this myth with “isn’t it hard for them to jump without legs?”. The truth is that most snakes can lunge about 1/3 of their total body length. So if a snake is 3ft long, it can lunge forward approximately 1ft.

Myth: Snakes don’t sleep

Truth: Current scientific evidence suggests that snakes do not achieve a state of unconsciousness or sleep with REM cycles, like humans experience during sleep. They do, however, rest intensely for long periods of time.

Myth: Snakes don’t blink.

Truth: Snakes cannot blink or close their eyes in front of people, because their “eyelids” are actually a single clear, fixed ocular scale. It is always fused “closed” with the other scales, but they can see through their scale, giving them the sense of vision.

Myth: Snakes dig holes.

Truth: Snakes may utilize holes to escape predators, to avoid high or low temperatures, or to simply rest out of view. These holes, however, are usually created by other animals, such as birds, rodents, ect. Some snakes have been documented to “dig” using their nose as a shovel, but it is to find prey underground such as burrowed toads or frogs; they do not use their nose to actually dig a hole to hide in.

Myth: Snakes make and live in dens and or nests.

Truth: Snakes may come together at certain times of the year to mate or hibernate (also known as bromating) in a given location, which is sometimes referred to as a “den”. However, this is mostly due to chance or because many suitable locations may not be available, and many snakes end up in the same locations because of a lack of other options.

Myth: Snakes want to attack people and are aggressive animals.

Truth: Most snakes usually want to avoid people altogether. From their perspective, we probably look like giant aliens that could harm them and if we put them into a corner or situation in which they need to defend themselves, they may try to bite in defense.

Myth: Snakes are slimy.

Truth: Snakes do not produce slime or oil. Since many snakes appear shiny, it is assumed that they are slimy, when in actuality, they are dry. The only time a snake may feel wet is if it has just come out of a body of water.

Myth: Rattlesnakes lay eggs.

Truth: Rattlesnakes give birth to live young that are enclosed in a soft amniotic sac.

Venomous Snake Training & Handling Course Disclaimer

Please understand that this course was designed to teach homeowners, individuals, and business representatives about native venomous snakes, how to safely remove and relocate a snake, and background information to prepare participants for questions they may receive in the future and to better prepare to be a rattlesnake conservation ambassador. This training DOES NOT make any participant an expert. Anyone using any information during this training is still responsible for using sound judgement and using maximum safety precautions. If you are uncomfortable, the best thing to do is step back, evaluate the situation, and make a careful decision. The CRIT Fish and Game Department is not liable for any snake bites or mistakes made in the field.

