

# ***REPTILE MYTHS, LORE, AND FACTS***

By Steve O'Neil Executive Director Earthshine Nature Programs

When it comes to reptiles – snakes in particular – no matter who you ask from almost anywhere on earth – they will have a story to tell you. Although some of these stories may contain some truth, many are often sensationalized or just totally false tall tales. Here I present a few of the bigger myths, lore, and then the peer reviewed facts from the world of the reptile.

SNAKE MYTH: "I was chased by a snake!"

SNAKE FACT: This is a 100% false tall tale (in the USA). Snakes do not chase people. They have no reason to do so since they see us as a large predator and therefore a threat so they are afraid of us. I don't know about you but if I am afraid of something - I do not chase it. If a snake comes toward you, it is just moving in your direction. It either doesn't see you or it is attempting to make it to nearby shelter and you are between it and its destination. Just move out of its way and it will move on.

SNAKE MYTH: "Snakes are slimy!"

SNAKE FACT: This is a 100% false tall tale. Snakes are NOT inherently slimy. They are actually dry to the touch since their skin is made of keratin--the same substance that makes up your fingernails and hair. In some instances snakes may be a bit oily just after shedding their skin or damp if they have just been swimming in water- but never slimy like an Earthworm or salamander.

SNAKE MYTH: "If you chop a snake into pieces, each piece will become several small snakes or reconnect into one animal!"

SNAKE FACT: This is a 100% false tall tale. A snake is a living breathing animal and last time I checked if you chop a living animal into pieces (with the exception of a few invertebrates such as the flatworms (Platyhelminthes) that animal then promptly expires and snakes are no exception to this rule.

TURTLE MYTH: "Turtles can crawl out of their shells."

TURTLE FACT: This is a 100% false tall tale. The Turtle's shell is a living part of the turtle for its entire life and they can in no way be separated from it or they will die. Turtles can only crawl out of their shell in the movies and cartoons--not in real life.

SNAKE MYTH: "Snakes can sting you with their tongue or tail."

SNAKE FACT: This is a 100% false tall tale. The tongue of a snake is purely a chemical sensory organ and has no built-in stinger whatsoever. This myth could have originated because some snakes do have a sharp spine-like scale that they may use to "poke" at a potential predator when being handled in the hopes of being released. I have experienced this reaction from some snakes and while it may work on smaller animals it is really very ineffective when the snake uses it on a larger animal such as a human (yes, believe it or not we humans are animals and yes, we are very distantly related to snakes by a common ancestor :-)

SNAKE MYTH: "Snakes can grab their tails in their mouth and roll down hills like a wheel!"

SNAKE FACT: This is a 100% false tall tale. No snake has ever been documented exhibiting this unusual behavior. If you see a snake do such a thing, please be sure to record it and you will be famous! \*Note: myths do not become facts unless they are supported by peer reviewed, documented, credible evidence such as photographs, video, and/or living or dead specimens. If none of those criteria are met - they will remain myths, legends, and tall tales and should never be taught as facts.

LIZARD MYTH: "Glass lizards (Anguidae) – aka: glass snakes – will break into segments when threatened and reconnect once the danger has passed."

LIZARD FACT: This is a 100% false tall tale. Like other lizards the glass lizards will drop their tail when threatened but once removed the tail cannot reattach to the lizard and quickly dies however, the lizard will grow a new tail.

SNAKE MYTH: "Snakes drink milk from the udders of cows."

SNAKE FACT: This is a 100% false tall tale. Snakes do not have the physical ability to "suckle" milk from the teat of cows or any other mammal. While this myth is very common in many parts of the world, it has no basis in observable fact. It probably comes from the fact that some species of snake such as the Milk snake (*Lampropeltis*), are often found in cattle barns where they are hunting for their favorite food—rodents, lizards and such – but never milk.

TURTLE MYTH: "Box turtles make good pets and like to live in a box."

TURTLE FACT: This is a 100% false tall tale. Box turtles (*Terrapene carolina*) would much rather live in the wild. Keeping a turtle in a box or terrarium or other enclosure is simply a jail for the animal. The ONLY time a box turtle should be kept in an enclosure is when there is no other choice such as; it is recovering from an injury and will be released in its original habitat once it has recovered or it has lost its habitat and has no place to go. Box turtle nutrition, care, and housing is very complicated and time consuming and Box turtles may outlive their "owner," (they may live over 100 years!) so caring for them is a HUGE long term commitment. In many states it is also illegal to keep wild reptiles as pets because they are either endangered and/or provide an invaluable service to us by controlling pest animals that would otherwise invade our homes, gardens, farms and damage our crops and spread disease. If you are serious about keeping a Box turtle then contact me for more information on how you can provide foster care for a recovering injured box turtle until it is time to release it back into its native habitat.

REPTILE MYTH: "I once found a snake/turtle in the road and relocated it a dozen miles away to a safe forest/pond/river where it will be safe from cars and live free and happy."

REPTILE FACT: Moving reptiles very far from their home range is, in almost all circumstances, never a good idea. Recent studies, including my own, suggest that moving reptiles from their native home ranges, even by well-meaning people, often has a detrimental impact on the individual animals in the form of stress, weight loss, predation, disease transmission to/from other native reptiles and death. Reptiles seem to "imprint" on the unique attributes of their environment and are adapted to live in that specific location. Moving them to an entirely new location – even though to you it may look similar or even "better" to you than their original habitat – cannot ever exactly duplicate their home habitat. In their home habitat they know where the choice food, clean water, secure shelter, and good over-wintering sites are located. They know the best and safest pathways for movement between activity areas. When you move them to a new location – even though you may mean the best for them – you could be unintentionally disorienting them and hurting them much more than helping them by sentencing them to a much shorter life of forever searching for the smells and signatures of home. Please only move reptiles across the road when they are in danger of being hit by a car or, if their habitat has been destroyed by man in his quest to make his own habitat – move them only as a last resort – to a similar habitat nearby or, if that is not possible to a nearby wildlife park or nature center.

SNAKE MYTH: "I saw a black rattlesnake so that must mean that Timber rattlesnakes (*Crotalus horridus*) can breed with non-venomous snakes like Rat snakes (*Pantherophis*) – aka: blacksnakes – and create a hybrid offspring – the black rattlesnake!"

SNAKE FACT: This is a 100% false tall tale and like many myths it is based on faulty logic. Hybrids may occur in some species of animals but as a general rule, different species of animals cannot successfully breed and create offspring that are capable of reproduction. This myth probably arose because Timber rattlesnakes come in different color phases—yellow, brownish, and black. Rattlesnakes can only breed with other rattlesnakes and Rat snakes can only breed with other Rat snakes. There are no hybrids between the two.

TURTLE MYTH: "Some turtles can freeze solid and revive unharmed."

TURTLE FACT: TRUE! Many turtles--and other reptiles and amphibians--are able to survive periods of time partially frozen with ice crystals around their brain and internal organs and then revive unharmed. It really is an amazing adaptation for survival.

SNAKE MYTH: "Venomous snakes such as rattlesnakes may bite and not inject venom."

SNAKE FACT: TRUE! Many venomous snakes may "dry" bite. This means that they may bite without injecting any venom or only injecting a very small amount. However, all bites from venomous snakes should be treated as serious and you should seek professional medical attention as soon as possible. If you are bitten by any snake and are unsure of its species--play it safe and go to the ER just in case. Do not try to kill the snake out of emotion driven vengeance or to show it to the doctor. This is a good way to receive a second bite.

SNAKE MYTH: "There are Cottonmouths (aka: water moccasins) in the mountains of North Carolina!"

SNAKE FACT: This is a 100% false tall tale. The Cottonmouth (*Agkistrodon piscivorus*) does not occur in the WNC area. The Northern water snake (*Nerodia sipedon*) is a common non-venomous snake that is found in our mountain streams and often misidentified as a Cottonmouth. NOTE: With the climate becoming warmer due to anthropogenic climate change, the Cottonmouth may one day extend its range into the foothills of the mountains of WNC just as the Fire ant (*Solenopsis*) has done in some areas - but it is doubtful that it will make it into areas above the Blue Ridge Escarpment in our lifetimes.

SNAKE MYTH: "I saw a nest of snakes!" in the French Broad or another local WNC river."

SNAKE FACT: This is a 100% false tall tale. Snakes do not build "nests." The Northern water snake, a common snake found in our mountain streams that is often misidentified as a Cottonmouth/ water moccasin, is gregarious and may sometimes be seen in numbers sunning on logs along the rivers however, they do not build nests and/or lay eggs—they give birth to live young.

SNAKE MYTH: "I was bitten by a non-venomous (aka: nonpoisonous) snake and it will make me sick."

SNAKE FACT: MOSTLY FALSE. While any bite from a non-venomous snake could become infected if not treated by washing and cleansing with an antiseptic – it will not usually make a person sick. If you are bitten, treat it like a thorn scratch or cat scratch and clean it well. If you are not sure of the species then you should treat it like a venomous snake bite and go to the doctor.

LIZARD MYTH: "Blue-tailed lizards" (also known as Skinks (*Plestiodon*), Racers (*Cnemidophorus*) and "scorpions" in some areas) are poisonous and can sting with their tail and have poisonous flesh that will make you and/or your cat go blind."

LIZARD FACT: This is a 100% false tall tale. However, if they are attacked by a predator, their tail will break off and wiggle distracting the predator while the lizard runs away to safety to later grow a new tail.

TURTLE MYTH: "If you are bitten by a Common snapping turtle (*Chelydra serpentina*) or Alligator snapping turtle (*Macrochelys temminckii*) it will not let go until the thunder rolls."

TURTLE FACT: This is a 100% false tall tale. Thunder has nothing to do with when a snapping turtle will let go--that is totally up to the turtle.

SNAKE MYTH: Snakes have the ability to hypnotize or "charm" their prey so they cannot flee.

SNAKE FACT: This is a 100% false tall tale. There is no known evidence that snakes can hypnotize or charm their prey. Wild prey animals such as rodents may become "frozen with fear" when they come upon a Rattlesnake--but they are not "charmed." Birds often flutter about in front of a snake in the attempt to lure it away from their nests. Often, when a bird is captured and eaten by a snake an impression could be that it was charmed. In reality, that snake just knew how to hunt birds. A probable origin for this ancient myth may lie in the fact that snakes have no eyelids and therefore cannot blink and seem to be staring at you in a mesmerizing or "charming" way. Personally, I think snakes are very charming 😊

SNAKE MYTH: "Baby venomous snakes have more potent venom than adult snakes."

SNAKE FACT: This is a 100% false tall tale. While it is true that in some species of snake the venom of the young may be of a different chemical composition than that of the adult and it is also true that young snakes have not yet learned how to control

the amount of venom injected as adult snakes do. But the fact is that young snakes also have a far less volume of venom to inject due to their size so you are therefore in less danger if bitten. But if you are bitten, you should always go to the ER.

**TURTLE MYTH:** "Snapping turtles have seven different kinds of meat and eating turtle meat will make you live longer."

**TURTLE FACT:** This is a 100% false tall tale. Snapping turtles possess only one kind of meat--snapping turtle meat. Eating turtle meat could in fact make you sick, shorten your life, or even kill you! Box turtles love to eat mushrooms that are toxic to humans. Once eaten, these toxins can remain in the animal for a period of time and may render its flesh toxic to humans. Aquatic turtles such as sea turtles, snapping turtles and softshell turtles live a long time, will often eat unsavory things, and can live in conditions that would be unsuitable/unhealthy to many other animals. Often these areas and foods are contaminated by pollution, toxic chemicals, and pathogens (emitted into the environment by humans and/or natural processes) that do not affect the turtle but build up in their tissues and meat. Eating toxic turtles is a bit like "Russian Roulette" and you could be slowly poisoning yourself and shortening your life with each bite. There are many other great things to eat so please, let the turtles live.

**SNAKE MYTH:** "Snakes and turtles cannot bite underwater."

**SNAKE FACT:** This is a 100% false tall tale. Snakes and turtles are able to bite underwater. Many species of snake such as the Northern water snake and Cottonmouth live in or near water and eat aquatic animals such as fish and frogs so if they could not bite underwater they would not be able to capture their prey.

**SNAKE MYTH:** "You can tell how old a rattlesnake is by counting its rattles."

**SNAKE FACT:** This is a 100% false tall tale. Rattlesnakes may shed several times per year and each time they shed they will add a new segment to their rattle. Rattle segments are made of keratin so they may often break off shortening the rattle. Example: If a 2 year old rattlesnake with 4 segments on its rattle sheds 4 times over the course of its next year - that equals to 4 new segments plus the original 4 – for a total of 8 segments. It then loses 1 segment after getting its rattle caught in a crack in a rock it now has only 7 rattle segments remaining – but it is still only 3 years old.

**TOAD MYTH:** "You will get warts from touching a toad or frog."

**TOAD FACT:** This is a 100% false tall tale. While it is true that a toad's skin appears "warty" – it will not give you warts if you touch it. However, toads do have toxin glands behind their head that look like two elongated wart-like bumps. If disturbed, many toads will exude a toxin that may irritate the skin and eyes--so wash your hands after handling toads. Warts are caused by a virus spread by humans to other humans – toads have nothing to do with it.

**SNAKE MYTH:** "Rattlesnakes aren't the only snakes that make a rattle-like sound."

**SNAKE FACT:** TRUE! While rattlesnakes do have a rattle they aren't the only snakes that are able to make a rattling sound with their tail. Many snakes such as rat snakes and king snakes will vibrate their tail against dry leaves or grass when agitated or frightened making a rattling or buzzing sound that may serve to frighten off a potential predator. However, this fact does NOT mean that these snakes have hybridized with a rattlesnake – it just means they are nervously shaking their tail.

**SNAKE MYTH:** "The rattle of a rattlesnake contains beads, seeds, or beans that make the rattle sound."

**SNAKE FACT:** This is a 100% false tall tale. The rattle of a rattlesnake is made of loosely interlocking segments of keratin that percussively strike against each other when the snake shakes its tail thereby making the distinctive rattling sound.

**SNAKE MYTH:** "Snake away, mothballs and other chemicals will keep the snakes away from my house, garden and yard."

**SNAKE FACT:** This is a mostly false claim. When used as directed these chemicals do nothing and are a waste of money. In large amounts they stink and while they may possibly keep some snakes away...they will keep you away as well.

SNAKE MYTH: Snakes are “evil” “mean” and “nasty.”

SNAKE FACT: This is a 100% false tall tale. Snakes are not “evil”, “mean,” or “nasty.” They are animals that operate only on instinct. They have no understanding of, or any ability to produce or exhibit human emotions such as “evilness” or “meanness” or “nastiness” - only the human animal exhibits these traits. Snakes do not care at all about us and our human concerns. The act/emotion of being “evil,” “mean” or “nasty” is an emotion associated only with humans and therefore cannot be exhibited by a snake or any other animal for that matter. This complex misunderstanding within our minds and cultures likely has two ancient roots – one in evolutionary fact and one in fabrication. The factual link to this myth can likely be traced back millions of years to the danger our early ancestors faced from venomous snakes while hunting and gathering on the African savannah. Our ancestors learned that snakes were potentially dangerous and should be avoided and this instinctual knowledge has been passed down to us within our genes. Sadly, many of us still hold onto that ancient evolutionary fear of that which could harm us despite the fact that we have a much larger brain than our early ancestors, and a much greater ability to use our learned knowledge to reason our way out of a situation. Therefore, we do not need to resort to the primitive fight or flight responses as our early ancestors did. In other words – we have the ability to think before we act and make intelligent decisions. That being said there are still many people who choose to live in a reactionary manner putting fear-driven reaction before logic-driven reason. Please try to NOT be one of these people.

The fabricated part of this myth can be directly traced back to fear-driven metaphoric writings found in certain ancient religious texts. It is for these reasons that snakes are often killed on site in our part of the world. It is truly sad that in this age of instant information and science-backed facts that, when faced with any snake, many fear-driven reactionary people would choose to act out of emotion first and end the animal’s life out of some misplaced, erroneous, ancient hatred for a fellow creature that is in reality actually very beneficial to our species. I long for a day when reason and knowledge pushes fear-based reactionary lack of thinking into the past and everyone can then have an encounter with a snake or other reptile and see it as the amazing teachable moment that it truly is. Please, let snakes live.

SNAKE MYTH: "The only good snake is a dead snake!"

SNAKE FACT: This is a 100% false tall tale. Snakes are very important members of a healthy ecosystem and killing them harms more than just the snake--it harms the entire balance of nature and eventually, you. The irrational killing of snakes and other reptiles happens every day all across the globe. I have witnessed and heard stories of what happens when the uneducated and uninformed cross paths with these mostly harmless and quite fragile animals. Some of these stories follow lines like:

Those who chop any snake they see into pieces--just because it is an “evil” snake and "that is what my daddy always did."

Those who pour/pump gasoline into known Rattlesnake den sites (or any hole in the ground for that matter) in order to kill or capture the resident snakes. Many snakes have been killed or captured by this method over the years for horrible events and organizations that promote animal cruelty such as "Rattlesnake Roundups" and certain religious groups that promote “snake handling” for whatever bizarre, twisted, misplaced reasons they may make up. Then there are the countless deaths of the other resident animals that share the snake den with the Rattlesnake. Rodents, insects and spiders, amphibians, other snakes, lizards, bats, the Gopher Tortoise and so many others. These animals are often overcome by the gas fumes and perish before they can escape the den. Ironically, contamination of the local ground water supplies is a direct result of the dumped, pumped or sprayed gasoline leaching into the ground water. These misinformed people have slowly poisoned their lands, livestock, crops, themselves, and their children just to fuel their wrongful passion and hatred for killing and capturing snakes.

People that recklessly swerve their vehicles just to run down any and all snakes or turtles that they see crossing the road. Ironically, the vehicle and the human driving it are exponentially more deadly than any snake--venomous or not. Please, if you see a turtle or snake crossing the road, please stop and safely help it cross to the side it is moving toward and do not ever take the snake home or elsewhere.

Another irony of these situations is that people who kill every snake they see on their lands often wonder why they are over-run with rodents and have to call the exterminators and/or buy expensive poisons and traps---the answer is obvious to me: when you remove the natural rodent control—the snakes (and other predators)—the balance of nature has been offset and the rodents will then overpopulate—let the snakes live and do their job of controlling the rodents!

These are just some of the graphic examples of how humankind has waged war on the beneficial yet misunderstood reptile. These animals are virtually defenseless, while turtles and tortoises do have shells of armor – they often move very slowly and cannot escape danger. Snakes, while faster moving, have no arms, legs, or claws to defend themselves--only their camouflage, teeth, and in some cases venom. If you were in their "shoes" wouldn't you also bite a giant attacker who was armed with a sharp or heavy weapon and was intent on killing you before he even gets to know you?

Hopefully, through education, knowledge and understanding, we will be able to bust the myths and work to develop more respect and admiration for these beautiful, special creatures and the vital roles they play in the ecosystem...the shared ecosystem that we all rely on for our very lives...and we can then coexist with them and let them play their part in the great web of life on planet earth.

Knowledge conquers fear.

For more information on Earthshine Nature Programs pages visit our website, blog, and Youtube.com sites linked below.

If you have any questions about wildlife conservation on your lands, or have found an injured reptile or Opossum please feel free to contact me.

Please consider a tax deductible donation today to help support our unique wildlife conservation, outreach education, and wildlife rehabilitation programs.

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