Three Coyotes

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Essay

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For the Love of Rattlesnakes

A Most Amazing and Wonderful Animal

I love rattlesnakes. I realize that some people might feel this statement qualifies me for residency in an insane asylum, but what can I say? I absolutely love these animals. I love everything about them. I love their looks; I love their habits; I love their attitude. Simply stated, I think they are among the most amazing and wonderful animals on Earth.

I have always been fascinated by snakes and other reptiles. As a kid growing up in southwestern Pennsylvania, I was lucky enough to live in a region populated by an abundance of snakes—garter snakes, green snakes, ring-necked snakes, red-bellied snakes, common water snakes, black snakes and the occasional milk snake. And I was even luckier to have parents who tolerated and encouraged my interest in reptiles. This interest included collecting. Once when I was about twelve or thirteen, I was forced to release my collection before we embarked on a two-week family trip to Florida. The morning we left I gave freedom to some 130 serpents including my prized snake—an animal that even today I am convinced was a hybrid of some type that I could never identify in any of the snake books I owned and routinely read. I returned from that trip with a car full of exotic (at least to me) animals including a dozen or so anole lizards—the commonly called "chameleons,"—a pine snake, and an alligator snapping turtle I would later name Brutus. I no longer collect snakes, but my interest in them has never waned.

I saw only one rattlesnake as a youth in Pennsylvania, a huge gorgeous thick-bodied, green-colored timber rattlesnake, a beautiful reptile with the unfortunate scientific name *Crotalus horridus horridus.* I saw this rattler while on a hike with my Boy Scout troop. It was basking in the sun on a rock cliff below a trail we were on. My scout leader refused to allow me to approach any closer, but the memory of that rattlesnake has stayed with me. Sadly I may never get to see another timber rattlesnake in the wild. Its habitat and the snake itself have

long been under siege by the advancement of civilization. In over half of the states in which they were historically found, timber rattlesnakes have been designed as officially "threatened" or "species of concern." In many parts of their former range they have been completely extirpated.

Snakes in general are simply amazing. They share a multitude of characteristics that set them apart from the rest of the animal world. First are those sets of physical characteristics that are shared by all snakes: long and slender, with no extremities, they travel without legs —often very quickly— and often in a distinctive "s" shaped movement. They are master hunters who kill by constriction or by using venom which they inject with highly adapted, large, hollow, hypodermic needle-like teeth. They also swallow prey much larger than themselves, whole, and by use of hinged jaws. They are "cold-blooded"—I hate that term, the proper word being *ecothermic*—which means that they cannot regulate their own body temperature from within and thus must rely on an external heat source, the sun. Consequently snakes hibernate during the winter, sometimes in groups at sites referred to as hibernaculas—some species like various garter snakes numbering in the thousands—to emerge miraculously in the spring. Several times a year they shed their skins. They lack eyelids, and while some lay eggs, others—like rattlesnakes—bear their young alive and even offer a degree of maternal protection and nurturing. In every way imaginable, snakes are different.

And among snakes, rattlesnakes are in my heart in a class by themselves.

I don't know what it is that specifically attracts me to rattlesnakes. Maybe it is because they are honest. They are what they are. Rattlesnakes make no excuses for themselves; they offer no apologies. They are the ultimate survivor in a world hell-bent on their destruction. Undoubtedly a combination of other fascinating traits also attracts me to them. Rattlesnakes, for example, are uniquely American; they are found only in the Western Hemisphere. They are also wonderfully special in a number of other ways. In physical form, they are awesomely impressive—heavy-bodied animals with slender necks and broad triangular heads highlighted by mesmerizing elliptical eyes. They look powerful and dangerous, and they are. Rattlesnakes are pit vipers—snakes that possess temperature-sensitive structures called a loreal pit on each side of the face between the eye and nostril—designed to help them locate their prey. The tail of course, terminates with the rattle from which they derive their name—a series

of loosely interlocking, horny segments that are found on no other snake. Younger snakes add a segment each time they shed, which they do several times a year. Older snakes may add only a single segment each year. The leading early scholar on rattlesnakes, Laurence M. Klauber, in his definitive study *Rattlesnakes: Their Habits, Life Histories, and Influence on Mankind,* accepts the theory that the rattle is a product of evolutionary development on the plains, a means rattlesnakes have to warn hoofed animals like bison of their presence to avoid being trampled. Whatever its evolutionary origin might be, the rattle serves as a warning to potential predators—or to heavy-booted hikers—that come too close. But in reality it is more a fear response than a threat. Even the largest rattlesnake is out-manned in size compared to most creatures that seek to do him harm. If given the opportunity, a rattlesnake will usually try to escape. Rattlesnakes never attack or pursue, and seldom do they ever strike unless they feel threatened. But if it does come down to that, the rattlesnake has the equipment to make almost any predator, including humans, pay for any transgressions.

I will say more about rattlesnake venom later.

Arizona: A Serpentine Garden of Eden

In 1976 I moved to Arizona. The State of Arizona is a serpentine Garden of Eden and a Mecca for herpetologists. It is also home to no less than seventeen species and subspecies of rattlesnakes. These species range from the relatively common and widely distributed Western diamondback, Mojave, and Black-tailed rattlesnakes, to the rarer and more sparsely populated montane rattlers of southeastern Arizona's "sky islands," the Twin-spotted, Rock, and Ridge-nosed (two subspecies) rattlesnakes. In between are the other dozen species, each highly specialized, and each a wonder in its own right.

My first encounter with a rattlesnake in Arizona was one that offered little indication as to the comfort level I would later develop with these fascinating reptiles. I was teaching on the Navajo reservation at the time. Every weekend found my friend Tony Salandro and me exploring the beautiful Colorado Plateau searching for Anasazi Indian ruins or fossil beds. On one such trip we were on Black Mesa and had come across an Anasazi site. I was on my hands and knees crawling around looking for arrow points, beads, and other artifacts when I heard an unusual "buzzing" sound emerging from a nearby sage bush. Thinking it was some kind of unknown insect—or more likely not thinking at all—I stuck my hands into the bush, parted it, and pushed my face down for a closer look. Suddenly I found myself

nose to nose with a now very agitated rattlesnake! What happened next became legendary. Without moving left or right, I sprung straight backwards into the air landing several feet from the bush. While in mid-flight I also (allegedly) screamed, "It's a rattlesnake!" After regaining my composure we found a very long stick and again parting the bush, located the object of my terror—a Hopi rattlesnake maybe ten inches in length! Needless to say I was extremely embarrassed over my dramatic over-reaction to meeting this little snake. And Tony has never let me forget it. He has re-told this story a hundred times to anyone who will listen. With each telling the distance I jumped has grown greater—now he has me springing ninja-style upwards to fifty feet—and my poor little rattlesnake has continued to diminish in size. I believe that the last time Tony told the story the snake had shrunk down to about the size of an earthworm.

Since that day I guess I have handled over one hundred rattlesnakes. I use the term "handled" figuratively since I have mostly moved them off of highways and trails with a snake stick or a hiking stick. I am not a biologist, and I would never make a claim that I am a rattlesnake "expert." In sum I am a naturalist who has studied rattlesnakes closely and passionately. In all of my dealings with rattlesnakes—except in one case I will describe later in this essay—I have found them to be perfect gentlemen (or ladies): non-aggressive, non-threatening, even passive, never wanting more than to simply be left alone. Sadly it is our species that is the aggressor and our species that refuses to give rattlesnakes their space or even the respect and admiration they deserve.

Most of my rattlesnake encounters have been while hiking. This statement, however, is somewhat misleading since the main reason that I hike is to find rattlesnakes. I am always looking for them. As rattlesnakes tend to be nocturnal, road hunting—slowly driving isolated stretches of highway shortly after twilight and into the later part of the evenings—has also proven highly productive for me. In addition, my favorite method of finding rattlesnakes is to walk the desert at night with a powerful flashlight and/or a head lamp.

Shortly after moving to Arizona I bought a house in Tucson that became my summer residence and, at other times, my full-time residence. If Arizona is a serpentine paradise, then the Sonoran Desert surrounding Tucson is the literal Garden of Eden, and my favorite spot in the Garden became the Sabino Canyon Recreation Area. In the years I actually lived in Tucson I would hike Sabino Canyon about 70 times annually. Except for the dead of winter, rattlesnake encounters are

relatively common in Sabino, especially when you are trying to find them.

Three species of rattlesnake regularly call Sabino Canyon home. The most commonly encountered is the Western diamondback —*Crotalus atrox.* The Western diamondback is Arizona's largest rattlesnake and can reach almost six feet in length, although most are about three to four feet. This snake is gray or tan with "salt and pepper" flecking throughout and brown diamond-shaped blotches on the back. Black and white bands on the tail—the distinctive "raccoon tail"—are usually roughly equal in width. A posterior light eye stripe crosses the lip forward of the corner of the mouth. Western diamondbacks can be found at all elevations within Sabino but seem to prefer the rocky lowland areas. *Atrox* is the rattlesnake that most hikers encounter on the trail.

The Black-tailed rattlesnake, *Crotalus molossus,* is probably the second-most encountered rattlesnake in Arizona and specifically in Sabino Canyon. Black-tails are also large rattlesnakes and can reach about four feet in length. They are olive brown—almost green—to yellow brown in color with conspicuous dark blotches on the back that have a few light scales within. The distinctive feature of this snake is its name-bearing black tail that can sometimes be faintly banded. The top of the snout of this handsome rattler is usually black or gray. Like the Western diamondback the Black-tailed rattlesnake can be found throughout Sabino, although I have tended to find them more commonly at somewhat rather higher elevations as opposed to the desert floor.

A third rattlesnake found in Sabino Canyon is the Tiger rattlesnake, *Crotalus tigris.* These rattlesnakes seldom exceed 35 inches in length and are found in two distinct color phases: a blue-gray, and orange. Dark and sometimes diffuse "tiger" bands cross the back. This snake does not possess any readily visible black bands near the tail. Two other very distinguishing traits exist: Tiger rattlesnakes have a much smaller head in proportion to their body size, and their rattle is disproportionately large to its body size. Once I encountered a bright brick red *tigris* with very distinctive dark bands along Bear Canyon Trail in Sabino. This snake was probably the single most beautiful rattlesnake, or any snake for that matter, that I have ever come across. Like the Western diamondback and Black-tailed rattlesnakes, Tiger rattlesnakes can be found throughout Sabino Canyon.

In addition to the above, two other species of rattlesnake inhabit, but are rarely encountered, the fringes of Sabino Canyon

Recreational area: the Mohave rattlesnake, *Crotalus scutulatus scutulatus* —found in the low-lying desert scrub land—and the Arizona black rattlesnake, *Crotalus viridus cerberus*—found in the higher mountainous regions, perhaps as low as the Seven Falls area.

Although most of my rattlesnake encounters have been in Sabino Canyon, I also spend as much time as I can in the Huachuca Mountains of southeastern Arizona near the U.S.-Mexico border. In reality the Huachucas are my favorite place on Earth. In addition to an abundance of Western diamondbacks and Black-tailed rattlesnakes, the Huachucas are one of a few mountain ranges that are also home to all three species of the before-mentioned montane rattlesnakes.

Places like Sabino Canyon stand as relative safe havens for rattlesnakes. In other places they tend to be under siege from the onslaught of mankind.

Habitat destruction is the greatest threat facing all wildlife, including rattlesnakes. In the Eastern and Southern United States, Timber and Eastern diamondback populations are in serious decline due to habitat loss. This is also true for other rattlesnake species in the West and Southwest where human populations continue to increase unchecked. Every new housing development, every new strip mall that goes up in Arizona and elsewhere, means less land—and increased conflict with humans—for rattlesnakes. Other anthropogenic factors such as climate change and its resulting "twin evils"—drought and fire—pose a serious, yet little understood, threat to rattlesnake populations.

The Cognitive Ethology of Rattlesnakes

Cognitive ethology is defined as being "the evolutionary and comparative study of nonhuman animal thought processes, consciousness, beliefs, or rationality." Many modern cognitive ethologists believe that animal behavior is largely the product of two separate but related processes: conscious rational thought—not simply "instincts"—and emotions that may very well be comparable to those experienced by humans, including love, hate, fear, joy, sadness, jealousy and empathy, to name just a few. The idea that animals are sentient beings that possess an emotional life is not a new idea. Charles Darwin, for example, published a book entitled *The Expression of Emotions in Man and Animals* (1871) that described examples of thought and emotions in a wide range of animals. The serious study of cognitive ethology, however, languished for over one hundred years until Donald R. Griffin published his seminal work, *The Question of Animal Awareness:*

Evolutionary Continuity of Mental Experiences, in 1976. More recently the writings of Mark Bekoff and others have led to cognitive ethology being considered a legitimate and recognized area of scientific study and research.

I certainly believe that animals are rational, thinking and emotional beings. Moreover, and more to the point of this paper, I extend my cognitive ethological beliefs to all species of animals, including rattlesnakes. Who is to say that a rattlesnake does not reason? Who is to say that a rattlesnake cannot experience sadness or joy?

Cognitive ethologists also tend to believe that all animals are individuals and thus exhibit individual personalities. This is certainly true among rattlesnakes. If a person were to encounter ten Western diamondbacks on the trail, that person may very well witness ten different ways in which this species responds. This, I believe, illustrates personal behavior. While most rattlesnakes tend to be very docile, occasionally one comes across an individual rattlesnake who seems to possess a negative personality or have a chip on his/her shoulder.

The only such rattlesnake that I have ever encountered was a very large Blacktail I met one morning on the Bluff Trail in Sabino Canyon. I was a good fifty feet away from this reptile when I heard his rattling. Rattlesnakes don't hear as we do; they pick up on vibrations from the ground. This snake knew I was coming and instead of moving away, he stood his ground. By the time I came within view he had positioned himself in full strike mode and was ready for action. Buzzing loudly and aggressively he meant to convey to me that he was simply not in the mood to be bothered. I did indeed move him off the trail with my hiking stick, but in the process he struck at the stick several times. This in itself was highly unusual because the majority of rattlesnakes I have moved never struck, even when being lifted off the ground. Maybe this Blacktail was just having a bad day. More likely an earlier hiker had already messed with him. Whatever the reason, if a human was foolish enough to have come within striking distance, that person would also have ended up having a very, very bad day.

In contrast, on another occasion I encountered a Western diamondback—almost at the same location on Bluff trail—that exhibited exactly the opposite behavior. I was returning from a late morning hike on which I had seen very little of special interest and certainly no snakes. My mind had lost its focus and was already back home immersed in all of the work I had planned for later that day. I was walking fast and not paying attention, a bad combination. Suddenly I heard one single, soft, but very distinguishable, rattle...a single

"click." I froze in my tracks. Without any further movement I looked all around and saw nothing. My eyes scanned the ground in front of me and the brush to either side. Nothing. Maybe I had imagined the sound or heard something else? I took another step and that produced another single, soft, yet even more unmistakable rattle. I froze again. Looking straight down, I was amazed to see a very large *atrox* coiled... semi-buried in the soft earth...on the trail *between* my feet! This was an awkward situation to say the least. My left foot was all but brushing against the snake's nose. The distance between us was only millimeters! My right foot was in not much of a better location. I remember very distinctly hearing my heart pounding. Slowly, ever so slowly, I began to lift my left foot straight up in the air away from the rattler's head. While doing so I also slowly, ever so slowly, twisted my ankle so that the heavy sole of my hiking boot would absorb the strike if it came. Balancing myself over the snake on my right foot—on my best days I am not very graceful—while I moved my left foot to safety also proved to be something of an adventure as well. What certainly took only seconds seemed like minutes. With my left foot finally planted firmly behind me...although still within striking distance...I then slowly lifted my right foot to relative safety. A few steps backward and I was able regain my composure and for the first time really admire the western diamondback now in front of me. It was a beautiful snake, large, full-bodied and magnificently camouflaged. Most certainly other hikers had stepped over this snake earlier that morning and had never seen him. I had been very lucky. I always talk to every rattlesnake I come across. When handling them I have found that talking to them seems to put them at ease. In the case of this snake, we had quite a chat, our discussion mostly comprised of me thanking him for his tolerance and apologizing for my own carelessness. After a while I picked this snake up with my stick and carried him gently off the trail. During this entire process, he emitted only one more single rattle.

Oh yes, I do talk to rattlesnakes. I will say more about this in a moment.

I attribute the two very different examples of rattlesnake behavior I have just described to *individual personality*. I realize that there might be dozens of other explanations, but *why not* personality? Certainly we all attribute personality traits to the dogs and cats with whom we share our lives, but we seem reluctant to do so regarding so-called "lower" forms of life. By not considering individual personality in all animals, we only succeed in limiting our own ability of better understanding them.

A number of years ago I was again hiking Bluff trail—it seems as if many of my most memorable rattlesnake encounters have occurred on Bluff trail—when I had another experience which further reinforces my belief in rattlesnake personality. I was on the trail, this time alert and paying attention to all around me, when quite shockingly a rather large Desert Spiny, or perhaps a Clark's Spiny lizard fell out of the sky and onto the ground right in front of me! In reality he had not "fallen from the sky," but rather fallen, or jumped, from a branch of an over-hanging mesquite tree that grew over the trail. The lizard, a little stunned for a moment, regained his senses and scrambled up the hillside. As I scanned the tree to determine how far the lizard had fallen, I was amazed to see a Tiger rattlesnake stretched out on a branch, undoubtedly the same branch from which the lizard had leaped. Clearly the snake had been in pursuit of the lizard which then took its only escape route—which was down. I took a few photos and returned the next day to measure the exact height of the tree branch. The height proved to be 15 feet. I later talked to Matt Goode, a herpetologist at the University of Arizona who specialized in Tiger rattlesnakes. In fact Matt probably knows more about Tigers than anyone. Matt informed me that I had just recorded the only known case of arboreal behavior in a Tiger rattlesnake. Later with his help I wrote up an account of this behavior which was published in the *Sonoran Herpetologist.*

The behavior of thousands of Tiger rattlesnakes has been recorded over time. Why did this one single snake decide to climb fifteen feet into a tree in pursuit of a lizard? There are countless possible explanations. But once again I would argue that *individuality* must have played a role. Was this snake engaging in conscious, rational thought when it chose to climb the tree? Did it perhaps even weigh the consequences of its actions in doing so? No one can answer these questions. But keeping an open mind to such possibilities is the true beginning of understanding.

In the summer of 2011, I attended the International Biology of the Rattlesnake Symposium held in Tucson, Arizona—an event I will discuss in greater depth later in this essay. At this symposium I listened to talk after talk given by the world's leading authorities on rattlesnakes, stating their belief that these animals—historically considered to be dumb, cold-blooded, instinct-driven creatures—possess a wider range of mental capabilities than we would have ever imagined. A number of these "hard core" scientists used language in describing rattlesnakes and rattlesnake behavior that would have warmed the heart of any cognitive ethologist. Again, the more we allow ourselves to truly know

another species of life, the more we understand that there are more similarities than differences between ourselves and them.

One final note to this section: I have already mentioned a couple of times in this essay my habit of talking to the rattlesnakes I encounter. While I make no claim to being the "snake whisperer," I have found time and time again that I can settle down the most agitated rattlesnake by talking to him (or her) in a calm and steady voice. Most often I compliment them—tell them how handsome or beautiful they are. Often I ask them how their day is going or perhaps warn them to stay away from roadrunners and kingsnakes. Sometimes the discussions we have—admittedly somewhat one-sided—are rather rambling in nature. Do they understand what I am saying? Probably not. But without question, they *respond.* It's more about the tone of my voice, and, very importantly, I believe, the *thoughts* behind my words that are important. I believe that after talking to a rattlesnake for a period of time, the snake will at the very least come to understand my good intentions, thus lessening its own fears. The snake no longer sees me as being a threat. I realize that talking to rattlesnakes is another trait some might think qualifies me for a rubber-padded room. I can accept that since I would be in such good company. Steve Irwin, for example, the famed "Crocodile Hunter," was well known for his penchant of talking to snakes and other animals. J. Allen Boone in his book *Kinship With All Life* includes a wonderful chapter on Grace Wiley, a woman from Long Beach, California, who enjoyed great success talking to rattlesnakes. The entire arena of human-animal communication is simply another facet of the "brave new world" of cognitive ethology that needs to be further explored.

Ophidiophobia and Beyond: The Fear, Hatred, and Exploitation of Rattlesnakes

Ophidiophobia is the fear of snakes. The popular nature writer David Quammen defines it as being the "exaggerated, inexplicable, uncontrollable and debilitating" fear of snakes. Ophidiophobia is the most common, yet least understood, of all phobias. Some people simply become unglued at the very sight or even the thought of a snake. What causes this phobia is unknown. Recently some anthropologists have championed the theory that ophidiophobia is evolutionary, that it is a fear developed by our ancestors as a survival mechanism. In other words we are genetically geared towards avoiding and fearing contact with snakes. In her book *The Fruit, The Tree, and the Serpent: Why We See So Well,* anthropologist Lynn Isbell actually argues that our fear

of snakes is a good thing because it helped human beings develop enhanced visual abilities. Of course an evolutionary argument does not explain why most people *do not* fear snakes, or the fact that children, if anything, are inherently drawn towards touching and playing with snakes, earthworms, and other such animals. Nor does it explain why ophidiophobia is almost exclusively a phenomenon of modern western industrialized societies. Indigenous North American cultures that had extensive contact with snakes demonstrated no inherent fear of them, and Eastern cultures were, if anything, decidedly snake-friendly.

The fact is that fear is a *learned* behavior.

Sadly it begins with the Old Testament, the Christian creation story in which the snake appears in the guise of the tempter, Satan. The serpent, we are told, tricks Adam and Eve into eating forbidden fruit from the Tree of Knowledge. By eating the apple Christianity's first man and woman are exiled from Paradise. For its part in the fall of humankind, the snake is cursed by God to a life of crawling on its belly and eating dust. Later Christianity further "demonized" snakes by simply associating them with all evil, even with witchcraft. Consequently every generation of children were—and to a large extent continue to be—taught to hate and fear snakes.

In time, Hollywood took over where the Bible left off. Hundreds of movies and television programs continued the evil snake theme and further served to instill a degree of ophidiophobia in untold numbers of American people. What Western would be complete without a menacing rattlesnake to overcome? Who could forget the beautiful Jennifer Lopez's epic struggle with a 50-foot, man-eating Anaconda? How many of us wish we could forget Samuel L. Jackson's encounters with *Snakes on a Plane*—arguably the worst movie ever produced? In recent years the SyFy Channel has routinely served up a menu of B-class "killer snake" movies. In the wonderful world of cinema, snakes are always the villains.

A number of years ago I was returning from a morning hike in Sabino Canyon. I was about a half a mile from the parking lot when I looked ahead and saw a young woman standing on the trail about fifty yards in front of me. As I approached her I saw that she was Asian—Chinese I would later learn—and probably in her early twenties. As I came nearer I realized that she was not only standing on the trail, but was literally showing no movement whatsoever, her eyes staring intently at the ground. As I came in full view of her I could also see the cause of her actions, a rather smallish Western diamondback lying across the trail perhaps six feet in front of her. So as not to frighten her

further, I spoke softly as I approached, saying something like "Good morning, what have you got there?" No answer. I don't think she even knew I was there. She was literally *frozen* in fear, her eyes and mouth wide open, and she was visibly shaking. Telling her not to move—as if that were an option at this point—I gently picked up the rattlesnake with my walking stick, told him he was a bad boy for scaring young girls, and carried it off into the brush where I set him down and wished him good luck. Returning to the trail I found that the girl's stares were now fixed on me. "You...you are the Crocodile Hunter!" She blurted out. Now although this young lady was *really* cute, I fought back the urge to say something stupid like "Yes. I *am* the Crocodile Hunter!" and instead settled for having a pleasant chat with her and assuring her that she was never really in any danger. As it turns out she was a University of Arizona student from mainland China—a country that has a rather benevolent attitude towards snakes in general. This rattlesnake was the first snake she had even seen, but she told me that since coming to the United States she had watched a lot of Animal Planet and Discovery Channel and had seen many programs on snakes. Thanks to such television viewing, she had learned to fear them.

Although on this occasion I had been mistaken for him (OK, maybe not *really*), one of my regrets is that I never met Steve Irwin, the real Crocodile Hunter. But I do know a couple of herpetologists who had the chance to work with him. They both said the same thing to me, namely, that the Steve Irwin they had met in person was the same Steve Irwin that you saw on television, that he was blessed with a contagious, youthful enthusiasm and was a joy to be around. Most importantly the guy did love his snakes and thanks to him millions of people have come to appreciate these amazing reptiles. Unfortunately the subsequent scores of television Crocodile Hunter "wanna bes," that followed—with the notable exception of Jeff Corwin—have done far more harm than good. They emphasize the sensational and the dangerous aspects of being around venomous snakes, while downplaying the beauty and harmless nature of them. Even worse are the clowns who star in the multitude of "survivalist" shows which have become exceptionally popular in recent years. The "stock and trade" of these people is to promote in their audiences a fear of the outdoors and especially of those animals—like snakes—that they have to "conquer" in order to survive the artificially wild and dangerous natural world they create each week for their loyal followers. The worst of these is Bear Grylls, a former British Army Special Forces member who, in one of his *Man Versus Wild* episodes on the Discovery Channel, bit the head

off of a living snake so that he could demonstrate how one can get by without a knife. I would like to think that there is a special place in Hell for people like Grylls who kill and torture animals for profit and entertainment. The popularity of this form of "reality TV" is truly disturbing. Today so-called "educational" networks like Animal Planet, the Discovery Channel, and the History Channel, are little better than the SyFy Channel in the way they depict snakes and the natural world in general.

For many people, the only good rattlesnake is a dead rattlesnake snake. Many people—perhaps most, if given the chance—kill rattlesnakes on sight. Untold numbers of motorists, for example, will all but drive their automobiles off the road at the opportunity to run over a rattlesnake or any snake for that matter. Most hunters I know kill every rattlesnake they encounter in the field. The same is true for ranchers, farmers, and for the "new breed" of outdoor enthusiasts —those whose oversized rear ends seldom leave the cushioned seats of their ATVS.

When it comes to sanctioned hatred and the cruel exploitation of rattlesnakes, the "Great"—yes, I use this term sarcastically—State of Texas is in a class by itself. Rattlesnake killing is a sacred rite in Texas, and there is even a Texas-based firearms company that manufactures a handgun called the "Snake Master"—one specially designed to kill rattlesnakes. One of their cartoon-like magazine advertisements features a hunter armed with his trusty Snake Master fending off an attack from an Anaconda-sized rattlesnake with fangs seemingly a foot long and dripping venom. Texas is also the only state I know of that encourages the commercial killing of rattlesnakes. For the price of a state hunting license a person can go out in the field and capture live—at least they stay alive for a day or two—as many rattlesnakes as possible which are then sold to brokers. The brokers then butcher the hapless reptiles and sell their meat and other body parts on the open market. The rattlesnake hunters sell their catch to the brokers by the pound with prices generally ranging from $2.00 to $12.00 per pound in what has been described as a "million dollar industry."

In the Spring of 2011, Animal Planet sunk to a new low when it aired *Rattlesnake Republic,* a program that followed for a day several teams of rattlesnake hunters in central and south Texas. Many scenes in this program are staged. How else can we explain the Animal Planet cameramen's uncanny ability to repeatedly find rattlesnakes crawling in an iconic manner across sun-bleached cattle skulls? This program would have actually made good comedy if not for its dark

underpinnings. The hunters themselves were a despicable lot, driven by pure greed and exhibiting a complete lack of respect for the animals they hunted. Throughout the program, for example, the snakes were repeatedly referred to only in monetary terms—as "twenty dollar bills." ("If the snakes are there, the money is there.") Nor are these "good old boys" the sharpest knives in the drawer—it's easy to see where Jeff Foxworthy finds the best material for his "Redneck Humor Tours." The whooping and the hollering and the testosterone-driven high fives and man-hugs were hard to take, as was the reckless behavior these cowboys exhibited in handling the snakes they encountered. These men were idiots, and they had the scars to prove it—one bragged that he had been bitten nine times. Worst of all was the manner in which Animal Planet sensationalized this brutal business. Every minute of this program is packed with language designed to convince the viewer that the snake hunters were courageous individuals "risking their lives" to serve a greater good. One would be hard pressed to find a television program jammed with more chest-pounding one-liners. My personal favorites include "Every step you take can be your last" and "Every time we go out, we put our lives on the line." In addition, several references are made to "protecting the public"—as if Texas were under siege by an invasion of rattlesnakes. In the meantime, rattlesnakes are demonized throughout the entire program with absolutely nothing positive being said about them. Over 25 times—once every two minutes in this train wreck of a broadcast—the rattlesnakes are referred to as being either "dangerous" or "deadly" while the snake hunters themselves are glamorized and portrayed as being larger than life. The constant sound of buzzing rattlesnakes can be heard throughout the broadcast —even when there were no rattlesnakes present—and serve to remind the viewers that impending disaster always awaited our intrepid snake catchers.

In one of the more embarrassingly over-dramatized segments, one snake hunter is shown facing down his own—in his words—"Moby Dick," a large rattlesnake he has ridiculously named "the Duke" in honor of John Wayne—and which the narrator describes as a "gigantic killer snake." Our Lone Star Captain Ahab finally spots his nemesis and takes off in hot pursuit, leaping at the terrified snake as it tries to escape into a hole in the rocks. But the hunter has the snake by the tail and a monumental struggle ensues between the six-pound snake and the 200-pound man, the outcome decided only when the hunter's faithful and worshipping son grabs his father by the belt and adds his own 200 pounds to the battle. Then and only then are they able to pull

the rattlesnake from its rocky lair and fling it through the air to the ground that offers no refuge. At this point the son notices some blood on his father's arm. Frantically he cries out, "Are you bit? Are you bit?" The camera freezes on our hero's bloody arm, then to his son's terrified face, and finally dramatic music takes us to a timely commercial break during which time I suspect the producers are expecting us to remain at the edge of our seats. Alas, we return to find that our fearless snake hunter has only scratched his arm on a cactus needle. Meanwhile The Duke is in the bag and his fate is sealed. This rattlesnake we are told, is considered a "trophy snake"—worth $300 to $400 to a collector or taxidermist.

The clear superstar snake hunter featured in *Rattlesnake Republic* is Jackie Bibby, the self-proclaimed "Texas Snake Man." Bibby—whose main desire in life seems to be making his disapproving daddy proud of him—is best known for what writer Diane Morgan has rightfully called "stupid snake tricks." Bibby—who sports a rattlesnake hat made from the skin of one of the many venomous reptiles to have bitten him—is the past or current "World Record" holder in a number of these stunts, among them, holding the most rattlesnakes by the tail in his mouth and being in a sleeping bag with the most rattlesnakes. The high point of *Rattlesnake Republic* is Bibby's quest to regain his most coveted world title, that being for time spent in a glass bathtub with the most rattlesnakes, which he eventually sets at 123. We are told that the key to success is of course to remain perfectly still. Bibby was able to accomplish this momentous feat in large part to an admiring crowd who cheered him on. One woman repeatedly calls out to him, "Go to your happy place Jackie, just go to your happy place!" No one was on hand to cheer on the rattlesnakes, and it is presumed that once they had outlived their usefulness as foils to Jackie Bibby's latest stupid snake trick, none were given the chance to find their own happy place.

Rattlesnake Republic ends, naturally, with a Texas-style barbeque. The featured meat for this feast is, naturally, rattlesnake. Perhaps Animal Planet wants its viewers to believe that rattlesnake meat is a food staple in Texas. Whatever its intent, the narrator sums up the event with the folksy observation that when it comes to rattlesnakes and people in Texas, "petting, eating, and performing are all just part of the culture." Silly me, I always thought that culture had more to do with art, music, and perhaps the theatre. But then again, we are talking Texas here.

I guess an argument can be made that in Texas rattlesnakes are a "renewable resource." Washington State, where I now live, has

its salmon; Texas has its rattlesnakes. But *Rattlesnake Republic* does not portray these hunts in quite that manner. There is no hint of conservation, only exploitation and sheer human greed. One hunter brags that he once cleaned a den of 136 rattlesnakes. No population of any animal can survive that sort of murderous onslaught. More to the point, there is absolutely no respect shown for the rattlesnakes these men are hunting, only disdain. One published review of *Rattlesnake Republic* referred to it as being a "pilot," presumably for a planned series. I hope that this is not the case, but considering the recent history of animal exploitation programming—*Swamp People* (History Channel) and *American Hoggers* (A&E)—being just two of the more disturbing examples—I would not be surprised if it were.

Without question, "mankind's" ultimate expression of hatred and ignorance towards rattlesnakes can be seen in the many "rattlesnake roundups" that are held each year throughout the West and especially—surprise!—in Texas. In these roundups tens of thousands of rattlesnakes are captured and butchered in public displays that rival the bloodlust of the Roman Coliseum. Initially these roundups were organized by ranchers in a misinformed effort to rid their ranches of rattlesnakes that were mistakenly viewed as a threat to both cow and cowboy. In time they grew into corporate extravaganzas destined to fill the coffers of small western towns that had little else to offer.

The largest and most commercialized of the rattlesnake roundups is held on the second weekend of each March in Sweetwater, Texas, a city known for little else. The website of this event, which is sponsored by the Sweetwater Jaycees, proudly boasts that it is the "World's Largest Rattlesnake Round-Up"—"With over 123 tons of Western Diamondback Rattlesnakes turned in to date." Each year since 1958, approximately 18,000 rattlesnakes—mostly Western diamondbacks—are captured and slaughtered in what has developed into a community fair complete with parades, amusement rides, arts and crafts booths, cooking contests and even a beauty pageant in which one lucky young woman wins the coveted crown of "Miss Snake Charmer." But at the center of this event and others like it are the rattlesnakes which are gathered up often months in advance. Most are captured by "gassing," a method in which gasoline and other toxic chemicals are pumped into animal burrows where the rattlesnakes seek refuge. This method drives the rattlesnake out of the burrow, but also kills or harms a multitude of other animal species from tortoises to burrowing owls. The captured rattlesnakes are then dumped in a common "snake pit" where they go without food or water while being tormented, tortured

and eventually killed. Daredevil shows, conducted by so-called "snake handlers"—under the guise of "safety talks"—are the mainstay of these barbaric events. In most rattlesnake roundup demonstrations rattlesnakes are kicked and otherwise prodded into striking boot soles or balloons. Another common act features a snake handler who gets into a sleeping bag containing rattlesnakes which is then roughly shaken or stomped on. In this performance the rattlesnakes are first "doctored," that is their fangs are brutally pulled out of their mouths with pliers. Still yet another regular roundup event is the "sacking" contests in which teams of contestants compete to see who can pick up and "whip" as many rattlesnakes as they can into a burlap sack during a timed period. The rattlesnake roundup held in Taylor, Texas features the prestigious (in Texas anyway) "National Rattlesnake Sacking Championship." All of these activities are cruel and unnecessary, and none of them are educational. Throughout the weekend of hell during which these roundups run, rattlesnakes are continuously slaughtered by decapitation in front of gathered spectators—including children—so that the meat can be sold to roundup attendees who desire a taste for the exotic. The skins and other body parts are then made into and sold as ghoulish tourist curios.

Animal welfare groups such as the Humane Society of North America have been trying to shut down rattlesnake roundups for decades with little luck. These roundups are big business in communities like Sweetwater which do their best to put a "smiley face" on their signature event. The Sweetwater website, for example, lists a multitude of charitable organizations that benefit from the money roundup-attending tourists bring to town. Among those financial recipients are the Boy and Girl Scouts—which leads one to wonder about the insensitivity to life that the Founding Fathers of Sweetwater are instilling in their children. Exactly what kind of merit badge does a Boy Scout receive for helping to organize these celebrations of animal cruelty? Perhaps one that depicts the bloody severed head of a rattlesnake? Another way in which host roundup cities attempt to legitimize their events is by claiming that they are contributing to science or that they collect venom which is then turned into valuable antivenin. Both claims are ridiculous. No one who participates in any rattlesnake roundup is a professional herpetologist or even a passable naturalist. In addition, the methods used to collect venom at roundups do not meet the strict standards required by the U.S. Food and Drug Administration, and no producer of antivenin would ever consider purchasing venom collected at rattlesnake roundups.

In sum, there is no way to put a favorable spin on rattlesnake roundups. They are always destructive to ecosystems, are always cruel to the rattlesnakes and generally serve to show only the darkest side of our humanity. They need to be stopped, and they need to be stopped now.

"Don't Tread on Me!" A Look at Rattlesnake Bites

Rattlesnake venom is one of the true wonders of the natural world. Generally speaking, rattlesnake venom is an incredibly complex mixture—often described as a "toxic brew"—of enzymes designed to kill and help digest small prey. In rattlesnakes, venom tends to be either hemotoxic—attacking the blood stream—or neurotoxic—attacking the nervous system—or in some species—a combination of both. Rattlesnake envenomation is rarely fatal in humans when medically treated, but potentially, even non-lethal bites can cause serious, life-altering, damage. Rattlesnake bites are classified as either being predatory, or defensive. All bites suffered by humans are obviously defensive in nature.

Twenty-five to 50% of all rattlesnake bites are so-called "dry bites," that is, the rattlesnake *chooses* not to inject venom into its human victim. But if a person is envenomated, the results are often devastating and occasionally fatal. The symptoms and end product of a rattlesnake bite will vary greatly based on the species and size of the rattler, the health, size, and age of the victim, what part of the body was bitten and the amount of time that has elapsed before the victim receives medical treatment. Symptoms can arise in minutes, or take several hours to appear. The immediate bite is usually painful for most victims. The majority of rattlesnake bites are hemotoxic and will likely result in a number of unpleasant physical manifestations, including the continued hemorrhaging of blood at the point of the bite (hemotoxic venom affects the clotting mechanism in blood), swelling, bruising and discoloration which will start at the area of the bite then spread, often extensively. This is due to the destruction of blood cells and tissue which is taking place. Rattlesnake venom is designed not only to immobilize small prey like rats and mice, but also to begin the digestion process—and this is exactly what is taking place within the human bite victim as well. Tissue destruction can be considerable and occasionally may result in the loss of fingers, toes, and limbs. Neurotoxic venom—Mojave rattlesnakes tend to be primarily neurotoxic—can manifest itself in muscle paralysis, as well as heart and lung failure. Other "minor" and more generalized rattlesnake bite symptoms include sweating, blurred

or "yellowed" vision, nausea, and vomiting.

As something of a side note: back in 2004 when the Discovery Channel was still an educational television network, they aired an outstanding series called *Venom ER* which followed the work of Dr. Sean Bush, Professor of Emergency Medicine, at the Loma Linda University Medical Center in California. Bush is perhaps the most highly recognized and respected authority in the United States on venomous snake bites. This series served to graphically illustrate the potentially devastating effects of rattlesnake bites. It did so without seeking to sensationalize—it didn't have to. Moreover, it was a highly educational and informative program in which rattlesnakes were portrayed largely in a positive light—Bush himself is a snake lover who earlier in life actually considered becoming a professional herpetologist. I suspect that this series can be purchased or accessed online. I would recommend that anyone thinking of handling rattlesnakes first view a couple of episodes of this series.

With the exception of professional herpetologists for whom snake bites are something of an occupational hazard, and a handful of truly knowledgeable and responsible amateur herpetologists who routinely handle snakes and make significant contributions to our understanding of these amazing animals, most adult rattlesnake bite victims fall into two broad categories: the extremely unlucky or, more often, the extremely stupid. Of course I am excluding children from my categorization—although children who are bitten by rattlesnakes sometimes tend to fall into a very special category, that of being extremely unlucky in that they were cursed with having extremely stupid parents who failed to educate or control them.

Of course there are always exceptions, but the statistics seem to affirm my unlucky/stupid hypothesis. Snake bite victims tend overwhelmingly to be male—85%—mostly young males between the ages of 18 to 28, and often—perhaps up to 40% of the time—alcohol consumption is involved. The vast majority of snake bites occur when the victims are trying to handle—or oftentimes while they are trying to kill—the snake. Another 20% of rattlesnake bites occur in children less than 13 years of age. Approximately 65% of rattlesnake bites occur on the hand.

Statistics for snake bites vary somewhat from source to source. The Centers for Disease Control report that approximately 7,000 to 8,000 people are bitten by venomous snakes each year in the United States, and a little more than five die. Other sources report that the total number of venomous snake bites is closer to 5,000. Rattlesnakes

account for somewhat less than half of these bites, but most of the deaths. Water moccasins, copperheads, and coral snakes are the other three native species of venomous North American snakes. Water moccasin bites—depending upon the source—account for ten percent to 42% of all venomous snake bites in the United States and occasionally can prove fatal. Copperhead bites are also common—perhaps 25% of all bites—but are almost never fatal. Coral snakes, which are found throughout the Southwest, are rare, seldom encountered, small and non-aggressive—they almost never bite and account for less than one percent of all venomous snake bites. This is a good thing since coral snakes possess neurotoxic venom similar to that of cobras. Historically there have been only a handful of recorded deaths attributed to coral snake bites. In addition, a surprising number of people keep exotic species of venomous snakes —cobras seem particularly popular—in collections and as "pets." Bites and deaths from these exotics are on the rise. In 2004, fifty-two people were bitten by exotic venomous snakes in the United States.

In Arizona less than 200 hundred venomous snake bites occur each year. Between 1989 and 1998, for example, 1,912 people were bitten by rattlesnakes in the Grand Canyon State. Only four of those people died—in general, less than one percent of Arizona snake bites prove fatal. Except for the occasional coral snake bite, almost all Arizona venomous snake bites are from rattlesnakes, and the vast majority of these are from Western diamondbacks. This species has the reputation for being especially aggressive. This, however, has not been my own personal experience. More likely Western diamondbacks are simply more populous and more widely distributed. Although they can be found almost anywhere within their range, they tend to be a snake of the desert lowlands—exactly where humans choose to live. Consequently Western diamondback-human encounters are more frequent and will continue to be as long as our own species continues to encroach upon their habitat. The facts and figures bear this out and can be well illustrated in the case of the City of Tucson.

Tucson has become a sprawling metropolis that covers over 200 square miles. Half a million people live in the city proper, a full million in the metro area. All of this is rattlesnake country, and human-rattlesnake encounters and conflict has reached epic proportions. In Tucson, rattlesnakes in the yard, near the pool, in carports and even in one's garage or kitchen are common occurrences. The Arizona Game and Fish Department no longer responds to rattlesnake nuisance calls and instead has licensed over a dozen rattlesnake removal outfits in

Tucson alone. The two largest ones I talked to—Animal Experts and Tucson Rattlesnake Removal—each receive ten to 12 calls *each day* during the peak season of rattlesnake activity—a period that might last eight months. Both of these companies deal primarily with calls generated from within the Tucson city limits. In addition, the Rural Metro Fire Department responds through their "rattlesnake hotline" to approximately 2,500 nuisance snake calls—mostly rattlesnakes—each season from throughout the suburban Tucson area and especially in the Catalina Foothills.

Surprisingly, few people have been bitten by rattlesnakes in Sabino Canyon despite the fact that the recreational center attracts more than 1.5 million visitors each year. In fact, it has been several years since anyone has been bitten by a rattlesnake in Sabino. In 2002, however, Sabino experienced one of the worst snake bite cases ever recorded in Arizona. A little four-year-old girl was bitten on the heel by a rattlesnake as she went to sit down on a rock. According to the attending physician, the snake "just unloaded on her" and she received a massive amount of venom. She was rushed to the University Medical Center where it took a record 44 vials of antivenin to save her—ten to 15 being the usual amount a snake bite victim receives. After months of physical therapy she reportedly made a full recovery. This child was simply unlucky in being in the wrong place at the wrong time.

And then there are the stupid. A number of years ago I was returning from a hike to Seven Falls in Sabino Canyon. The last two miles offered a choice of continuing on the Bear Canyon Trail or taking the somewhat shorter Bear Canyon Road. I chose the latter. I had no sooner started up the wide, flat, stone and gravel road when I saw a rattlesnake crossing slowly about 100 yards ahead. I quickened my pace a little to catch up to the snake, when suddenly around the bend appeared a jogger coming from the opposite direction. Much to my surprise the jogger never slowed nor did he veer even slightly to the right or left. In reality, *he never saw* the clearly visible four-and-a-half foot western diamondback stretched out full length directly in front of him on the bare roadway. By some miracle his stride took him right over the middle of the snake, missing it by inches at best. A few moments later he blew by me, giving no indication as to my presence as well. He was wearing dark sun glasses—the cool, wrap-around type, low-cut, high-speed running shoes and a headset with the music turned on so loud I could recognize the song. He was a snake bite victim waiting to happen. If anyone ever deserved to get struck by a rattlesnake, it was this clown. With all due respect to Darwin's theory of natural selection,

sometimes luck favors even the weakest minded of our species.

I have already described a couple of my own close encounters with rattlesnakes. Had I been bitten on any of these occasions, I would gladly have classified myself among the stupid. There was, however, one other time when sheer ignorance replaced stupidity on my part.

In the spring of 2002, I accompanied a group of herpers on an expedition to capture Twin-spotted rattlesnakes in the Chihuahua Mountains in southeastern Arizona. Twin-spotteds are among the rarest and smallest of Arizona's rattlesnakes—averaging approximately 14 inches in length. They are a "montane" species that inhabits the rocky and talus-slopped areas of about half a dozen Sky Island mountain ranges. This expedition was organized under the guise of the University of Arizona and our task was to capture as many of these snakes as we could, record, measure, and weigh them, collect a blood sample and if the snake had not already been tagged in a previous year —our specific area and this particular population of snakes were part of a long-term study begun many years before—put a dab of paint on their rattle and insert a microchip into each before releasing it back into its habitat.

This was my first Twin-spotted rattlesnake hunt. In fact, I had never even seen a Twin-spotted rattlesnake before. Most rattlesnakes are captured using specially made snake tongs or perhaps a snake hook. Because of their small size, Twin-spotted rattlesnakes are caught by hand using welder's gloves. These diminutive rattlesnakes have tiny fangs, unable to penetrate the glove. Moreover, these snakes live on talus rock slopes, piles of loose rocks that provide a million avenues of escape. Once a snake is spotted the collector has to move quickly and there is no time for the clumsy use of tongs, and a hook is worthless.

For several hours I climbed—tripped and slipped actually—my way up the treacherous, jagged rock hillside with nothing to show for my efforts other than bruised hands and a twisted ankle. Occasionally I would hear a distance shout from one of my companions indicating the likely capture of a snake. But for me, nothing. I did see, however, an abundance of Yarrow's spiny lizards—the favored food of Twin-spotted rattlesnakes. They seemed to be everywhere. Maybe, I mused, by their sheer numbers alone they decided to gang up and drive all of the rattlesnakes off this particular patch of rocks! I was still smiling at this thought when I spotted him—a Twin-spotted rattlesnake stretched out on a rock some twenty feet away from me. My heart pounded loudly as I slipped on my welder's gloves and slowly made my way toward the basking snake. To my untrained eye, this snake seemed large. I got to

within a few feet—still no movement other than his flickering tongue—and then with a leap I was on him—pinning him firmly but gently to the rock with my left hand. Yes! I had finally captured my first—and what has proven thus far to be my only—Twin-spotted rattlesnake! Very carefully so as not to hurt him, I improved my grip on the withering serpent. He was surprisingly docile. Although he twisted and squirmed a little in an effort to escape—I would have done the same—he made no effort to strike at the glove. And after a few soft and calming words on my part, he settled down and allowed me to lift him high for a better look. He seemed to me to be a rather large specimen—magnificent, absolutely gorgeous—and I had caught him! After a few minutes of catching my breath and admiring my capture, I slipped him into my collecting bag and then into my back pack. By now it was nearing noontime and the temperature was getting noticeably warmer. I did not want the snake to overheat, and it was now well past the most active time for Twin-spotteds. So I decided to head back to camp.

I arrived to find that everyone else had already returned. My companions were huddled in a circle, and each in turn was proudly displaying the day's catch. Someone greeted me as I joined the gathering, "Any luck?" Barely able to hide my elation, I simply smiled and replied "Got one." As my fellow herpers pulled their snakes out of their bags one by one and deposited them on the ground, it began to dawn on me how big my own Twin-spotted really was. The largest so far displayed did not come close in either length or mass to my snake, and most were barely half the size. After the last snake came out, I stepped forward and made my offering to the pile of Twin-spotted rattlesnakes on the ground before us. As my snake slipped out of the bag to join its serpentine relatives, the gasps of approval and admiration from my colleagues—toward the snake, not necessarily me!—were audible and clear. Everyone agreed that this was one of the largest Twin-spotted they had ever seen. It measured 362.6 mm—approximately 21 ½ inches—the fifth largest Twin-spotted ever caught in this project, and weighed 177.59 grams—the second heaviest ever recorded. I felt like a proud father!

Matt Goode eventually began to process the snakes. When he got to mine, I heard him ask, "How did you catch this snake?" "Just grabbed him," was my reply. At this point Matt looked up from his work, stared at me for a moment, then said in a matter of fact tone, "You do know don't you that a Twin-spotted rattlesnake this size can bite right through that welder's glove?

Sometimes ignorance is indeed the greater part of bliss.

The next morning I returned my Twin-spotted rattlesnake to the exact rock where I had captured him. As I slid him out of the bag, he seemed no less for wear nor did he seem to be in any particular hurry to retreat back into the safety of the rocks. I took several photos of him, wished him well, and made my way back down the mountain. I would like to think that we parted as friends.

Friends of Rattlesnakes and Some Final Thoughts

The rattlesnake has been called "the snake without a friend." This is something of an overstatement. While legions of people hate rattlesnakes and seek to destroy them, there have always been a significant number of people who respect, admire, and perhaps, even as myself, actually love the animal.

Traditionally, most Native American cultures in the American Southwest—the Navajos and the various Pueblo people for example —or at least until they came under the influence of Christianity—have traditionally held the rattlesnake in the highest esteem. Native American knowledge and beliefs about rattlesnakes are so deep and fascinating that they are deserving of a separate study which I hope to one day complete. So I will not comment any further in this present essay regarding this lengthy and complex subject.

Ben Franklin, one of our foremost Founding Fathers, was also a rattlesnake aficionado. Almost everyone has heard that Franklin favored the Wild turkey over the Bald eagle as a symbol for America. Few people, however, know that a decade earlier he championed the rattlesnake—most likely the Timber rattlesnake with which he was very familiar—as his favorite choice to fill that role. In 1775 Franklin wrote a wonderful essay in the Pennsylvania Journal under the pseudonym of "An American Guesser" in which he praised the character and positive traits of the rattlesnake and suggested that the animal would be a perfect symbol for our new nation. Franklin's essay contains his own observations which indicate that he had the eye and curiosity of a true naturalist.

In modern times snakes, and especially rattlesnakes it seems, have their own legion of admirers, or at least, people who appreciate the beauty and importance of these reptiles. The state-sanctioned slaughter of rattlesnakes—except for the previously discussed case of Texas—is largely a remnant of days gone by when ignorance and superstition ruled over common sense and scientific knowledge. Timber and Eastern diamondback rattlesnakes, for example, are now protected in many parts of their diminishing range. In Arizona, four

species of rattlesnake—the Ridged-nosed, Twin-spotted, Rock and the extremely rare Massasauga—are completely protected by law. The beautiful Ridge-nosed has actually been designated as the official state reptile.

Phoenix and Tucson in Arizona are also home to large herpetological societies in which snake fanciers—most of whom are non-professional herpetologists—routinely come together to share their knowledge and combine their efforts toward snake conservation.

Albuquerque, New Mexico is home to the Museum of the Rattlesnake. Although I have not yet visited this institution, I have looked at their web site, and the museum seems impressive.

On July 21-23, 2011, I had the honor of attending and presenting at the International Biology of the Rattlesnake Symposium which was held in Tucson, Arizona. Over 260 people registered for this event, and nearly 90 presentations were given in what might be called a literal rattlesnake "love fest." For me it was a once-in-a-lifetime opportunity to listen and hang around some of the biggest rattlesnake authorities on the planet—Harry Greene, Manny Rubio and Sean Bush to name just a few. A live exhibit—compliments of the Arizona Department of Game and Fish and the Phoenix Herpetological Society—of almost every known rattlesnake in the Western Hemisphere—was one of the highlights of this event and gave people a rare opportunity to see some of the beautiful and exotic species from Mexico, Central and South America. Exhibitors were on hand to sell books, t-shirts, caps and a host of other rattlesnake-related items—and not a single rattlesnake gave its life for this commercialism....In fact I am sure that if anyone had shown up with a rattlesnake hat band or belt buckle, he or she would have rightfully been taken out into the hot desert sun and strung to the nearest mesquite tree! The presentations were first-rate and covered nearly every topic from behavior, ecology, physiology, and genetics, to venom and envenomation. Unlike the previously discussed roundups and reality TV programming, this symposium was truly educational—rattlesnake people sharing knowledge to enhance the conservation and preservation of rattlesnakes. Only an actual roomful of rattlesnakes could have been better.

And so rattlesnakes do have friends, and the number seems to be growing. Slowly but surely humans are coming to appreciate these remarkable reptiles—and it could not come at a better time.

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