

7:30pm - calls of *Hyla cinerea* heard from various parts of the marsh, particularly from a  
an armadillo emerged from the thicket and began to dig. We hiked for an additional 2 miles  
6/29/18 - *Agkistrodon* in the Palo Verde area  
Hwy 118 - species seen included *Rhinoceros* lecontei, ADR adult, one mile south of the bar  
Several *Phrynosoma modestum* seen, north of Study Butte, along the right-of-way. Temp

*A journal of observations and essays regarding wildlife and wild places in Texas*

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Rattlesnakes, Roundups &  
Poisoning Texas Habitat

Photo: Carl Franklin



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*Statement of purpose:*

*Texas Field Notes exists to  
advance the following  
purposes: (a) appreciation of  
wildlife and wild places in  
Texas; (b) understanding of  
natural history and biological  
concepts; and (c) support for  
conservation of plant and  
animal communities in Texas.*

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*Texas Field Notes* benefits greatly  
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shortcomings rests with the authors



# Rattlesnakes and Texas Culture

*Michael Smith*

As a ten-year-old boy, in a suburb of Denver, I was introduced to “snake hunting” by the girl across the street. We had caught a garter snake or two, but on one of our walks we probably disturbed some bees under a log, and the buzzing that followed sent us running for our lives. We had of course jumped to the conclusion that the buzzing came from a rattlesnake, and we didn’t feel safe until we had run far away. A beginner’s love for snakes did not extend into the terrifying unknown region of the rattlesnake.

Within a year, our family moved to Fort Worth and I began spending every spare minute at what is now the Museum of Science and History, getting carefully guided exposure to copperheads, massasauga rattlesnakes, and later, other rattlesnake species. Any fear I had instantly vanished in the atmosphere of respect and fascination with these reptiles.

When it comes to rattlesnakes, some respond with respect and appreciation, some with scientific interest, and others with fear and loathing. And a few people seek to take advantage of the reactions people have to these animals, by exploiting the rattlesnake for money. The exploitation sometimes comes in the form of people who collect large numbers of the snakes to sell to processors who make money from the skins, the meat and organs such as the gall bladders, and rattles or heads that are made into gaudy trinkets. The exploitation also takes the form of people who compete with each other to collect as many as they can and sell them to rattlesnake roundups. The roundups are essentially middlemen who, after subjecting the reptiles to cruel treatment as entertainment for spectators, sell the snakes for the same purposes described above.

*Rattlesnakes and Texas Culture* (continued)

This issue of *Texas Field Notes* is focused on the western diamond-backed rattlesnake (*Crotalus atrox*) which is a common and widely distributed snake in Texas. It is the species most exploited in the commercial trade, including rattlesnake roundups. The western diamond-back is also the snake that figures most prominently in Texas culture and folklore, including the many tales to be found in J. Frank Dobie's book, *Rattlesnakes*. In this issue, we will provide a little information about the western diamond-back and its habits and life history. We will document some of the mistreatment and misinformation promoted by commercial collectors and the roundups (particularly the one in Sweetwater), and explore the motivations of people who want to kill and mistreat this snake.



Photo: Mark Pyle

So why do so many people want to kill snakes, and why do people pay money to watch firsthand as rattlesnakes are brutally handled and killed at rattlesnake roundups? Is it just out of fear? If so, why do people go out of their way to get close to rattlesnakes in these roundups? Don't we usually stay away from the things we fear? The person who goes out of their way to kill snakes and who likes to attend roundups may be motivated by more than fear. There is in us, in our culture, a desire to get rid of anything that threatens us and to be the winner in any perceived struggle with something that is dangerous. Although naturalists and herpetologists might argue that rattlesnakes are usually not much of a threat if left alone, a rattlesnake's bite certainly poses a danger to any of us unlucky enough to be bitten.

Here is a dramatic example of the threat I am speaking of: a number of years ago, I was contacted on behalf of a family in

Wise County whose toddler had been bitten by a rattlesnake and sustained a serious injury. Although the snake in question had been killed the family was afraid there could be more rattlesnakes under the house, and so several of us volunteered to search the crawl space to insure that there were no other snakes. The young child had discovered the rattlesnake on their porch and picked it up, and was then bitten. He was taken by helicopter ambulance to a regional hospital and ultimately had a fasciotomy (a serious surgery to relieve pressure) on his arm, before recovering from the bite. As much as those of us who are naturalists say that it is humans who invade the rattlesnake's space, we can certainly understand the family's fear, and more than that, their determination to protect their son from further injury. Who could blame such parents if they killed every rattlesnake they found and each time felt a sense of having done a good thing?

Those of us who know these snakes would caution such a family that trying to kill the snake puts them more at risk than if they let it go on its way. We could cite statistics that tell us we are much more likely to die of a lightning strike than to be killed by a venomous snake. We would want to educate them about recognizing venomous snakes and encourage them to have nuisance snakes relocated. But any of us, especially those who are parents, can understand how these arguments might be unconvincing.

Extend this drive to "protect what's mine" and you find many examples of wildlife killing. In places in the U.S., some ranchers are determined to kill wolves because the wolf might kill pets or livestock. There are occasional killings of people by wildlife in various parts of the world. People expect that the proper response to any wild animal attack on a person is that the animal must be killed. Whether we agree with this or not, it represents a perception that people must be protected from danger. In the United States, usually the truth is that the person intruded on an animal – a bear, a mountain lion, an alligator – that would typically not go out of its way to attack, but the animal acted defensively.

With mammals such as wolves, we may have the opposite of the impulse to kill. We see them as cute and cuddly, and so the wolf has at least as many supporters as detractors. But animals are more complex than the personalities we assign to them. Even whitetail deer are not just "doe-eyed innocence." There are reports of deer attacking humans on occasion, but nobody goes after Bambi with the garden hoe to guarantee the safety of the neighborhood. The "cute" factor wins humans over, perhaps



*Rattlesnakes and Texas Culture (continued)*

inducing them in some cases to get too close, provoking a defensive attack from the deer.

Reptiles, on the other hand, do not reap many benefits from being cute. They don't display social signals such as submissive postures, licking and grooming others, whining, having "sad eyes," and so forth. A rattlesnake has a fixed expression on its face, and does not show an expression of fear or pain. And so, it is harder to feel empathy for the reptile. Without empathy, there is little to hold us back from cruelty. This, combined with potential dangerousness, places the rattlesnake in a very difficult position vis-à-vis humans. I believe it allows our tendency toward self-protection to run amok, giving many people little reason to spare the snake.

In Texas, as much or more than any other place in the nation, rattlesnake persecution fits right in with the no-nonsense cowboy ethic of rugged individualism and the "tough guy" spirit. If our governor sees a coyote while out jogging, why, he'll just shoot it. Whether or not the coyote was an actual threat, the governor reported that he or his dog were in danger. If anything stands in our way, we defeat it, and there's not much room in this scheme of things for sensitivity or a nuanced sense of what is really dangerous. Cowboys don't wear their hearts on their sleeves, and they're not about to be pushed around by a little reptile.

And so, in a place like Sweetwater out in west Texas where the rattlesnakes are common, folks tell the world that their roundup

is a way to control numbers of an animal that threatens their community. They bring their schoolchildren out to see guys chop the heads off of squirming, struggling snakes, no doubt telling themselves "it was either him or me." In such a contest, the snake has to die, and it dies as part of a ritual that celebrates man's domination over a dangerous world.

Well, the world can be a dangerous place, but rattlesnakes contribute little to that danger. They help keep rodent populations in check, and we benefit greatly from that. Their venom evolved as a way of subduing and helping digest the rodents that they eat, but snake venoms are making strong contributions to medical research. Additionally, many a rattlesnake has sat still as a human walked past, saving its venom for better uses and avoiding a confrontation.

So perhaps what would help is for people to have more safe, informative experiences with rattlesnakes in a setting that does not play up the drama, danger, and "us against them" theme. Events like the Texas Rattlesnake Festival in Round Rock may be a way to help people see rattlesnakes a little more realistically. Hopefully it will enable participants to be less fearful and rein in that protective impulse a little. Texans can be strong, can meet challenges and prevail, and carry on the John Wayne legacy while also appreciating an animal that has adapted to its environment in fascinating and amazing ways. Rattlesnakes are resilient and tough, dangerous only if "messed with," and worthy of respect and admiration. Kind of like what Texans aspire to be.



# Texas Rattlesnake Festival

# The Western Diamond-backed Rattlesnake

*(Crotalus atrox)*

Michael Smith



Photo: Michael Smith

The western diamond-backed rattlesnake is one of our largest venomous snakes and one of the icons of the old west. Stories about this snake's size, venom, and supposed aggressiveness have been passed along by ranchers, folklorists, hunters, and others. J. Frank Dobie told of a newspaper account in the 1800's of a rattlesnake eighteen feet long (though even Dobie commented that the "report must have been exaggerated"). The western diamond-back has become larger than life, but the real living and breathing serpent is nearly as impressive as the legends.

## *Description*

These are big rattlesnakes, though not as big as some of the stories of ten-footers and photographs where the camera angle makes the snake look as big around as a man's thigh. Many western diamond-backs that people come across are between two and five feet long, and many people have observed seeing fewer and fewer big ones. One possible explanation is that with more roads and development, and more encounters with people, in many places these snakes often do not live long enough to reach their maximum length. Some sources show the maximum recorded size for a western diamond-back to be 7 feet, 8 inches, but another record was 8½ feet.

They are fairly stout snakes with chunky heads at the end of relatively slender necks. On the top of the head are larger scales

above the eyes, but most of the other scales are small. This feature helps differentiate the western diamond-back from the similar-looking Mojave rattlesnake, which has larger scales on the crown of the head. The diamond-back has two light stripes on the face, running downward and back, on either side of the eye and both lines coming down to the mouth line. The Mojave also has these two diagonal stripes, but the posterior one extends back past the mouth in that species. The eyes have vertical pupils, which look "cat-eyed" in daylight but open up so that they look rounded in darkness. In front of the eye, along the side of the face, is a depression or "pit" containing receptors that are sensitive to infrared. They enable the snake to "see" warmth in complete darkness, such as when a rat or mouse is nearby. The snake is much more able to aim a strike at such a potential meal.

The overall color of the snake is brown, tan, or gray, although in areas with reddish rocks and dirt the rattlesnakes may have a reddish tinge to them. The diamonds that give the diamond-backed rattlesnake its name are a darker color, edged in cream, yellowish, or white color. Toward the tail, these become more flattened and indistinct. Then, at the tail, the color abruptly shifts to black and white (or smudgy gray) bands, ending in a rattle.

The famous rattle, a development that is unique in the snake world, is a series of hollow, dry, interlocking segments made of the same sort of material that makes up fingernails. At birth, a



*Western Diamond-backed Rattlesnake (continued)*

rattlesnake's tail ends in a hard, smooth "button," and each time the snake sheds its skin, a new rattle segment forms and is added at the base. Sometimes rattle segments break off, and so you cannot really tell much about the snake from the length of its rattle string. The tail is usually held so that the rattle is off the ground, and the rattle is silent unless shaken. When the snake is alarmed or annoyed, specialized muscles in the tail shake the rattle at such a high rate that the rattles are a blur and the sound produced might be described as a cross between a buzz and the sound of sizzling bacon.

*The venom apparatus*

Like other pit-vipers, the western diamond-back produces venom in glands toward the back of the head, and the venom is delivered through hollow fangs and injected in an animal when the snake bites. Pit vipers have two long fangs at the front of the mouth, each attached to a short maxillary bone. An arrangement of bones and muscles rotates the fangs downward when the mouth is open in a strike, and then rotates the fangs back and up against the roof of the mouth when they are not in use. The snake's venom is a complex mixture of proteins that attack the victim's muscles, blood, and other tissues. As it is distributed through the victim's lymph system, it not only begins breaking down tissues at the site of the bite, but interferes with nerve transmission, attacks the heart muscle, and breaks down tissues wherever it circulates in the body. A small animal that is part of the snake's diet will die before being able to run far, and the digestive process begins even before the rat or mouse is swallowed. Something larger, such as a human, will experience a variety of symptoms including swelling, bruising, pain, nausea and vomiting, problems with blood and clotting, and blood pressure changes. In some cases, a person can die from western diamond-back envenomation, but such deaths are rare.

It is important to note that many of the first aid techniques that have been tried in the past are useless or even harmful, such as cutting and suction, applying ice, or using electric shock. The most important thing to do if someone is bitten by a venomous snake is to keep them calm and still and get them to the hospital as quickly as possible.

*Where they are found*

The western diamond-backed rattlesnake is found throughout western and central Texas, and in scattered counties in the Texas panhandle. This is a species that does well in rocky canyons and hillsides, grasslands and savannahs, and mesquite scrub. It is unlikely to be found in forests with closed tree canopies or wet bottomland habitats. It is an adaptable snake that is sometimes found surprisingly close to humans, under discarded building materials and around disused buildings where it can find the rats and mice that it eats. These rattlesnakes make use of burrows and crevices to take refuge from extremes of temperature.



Photo: Michael Smith

*A young western diamond-backed rattlesnake from Parker Co., TX**Behavior*

Every spring, as longer and warmer days signal the end of winter, western diamond-backed rattlesnakes emerge from the underground refuges where they spend the coldest part of the year. At first, they may stay near the places where they have spent the winter, soaking up the warmth and becoming more active. Later, the snakes disperse to summer hunting areas, sometimes traveling a mile or so from a winter den site. During the hot summer months, these snakes are active mainly at night.

These snakes tend to travel within a consistent area (which may be as large as 20 acres or more) and when experimentally relocated to a different area, they are known to have some ability to find their way back to this "home range" if they have not been moved much more than a mile away. Moving them far outside

*Western Diamond-backed Rattlesnake (continued)*

their home range sometimes results in the snakes having poorer survival chances than snakes that were not moved.

In an encounter with an a human, the snake may do any of several things. One is to freeze in place; in rocky, sparse grassland this snake blends in to the background well enough that it may not be seen, and for the snake this is the best outcome. Another possibility is to flee, especially if the snake is not cornered and not being attacked. However, if it becomes alarmed, the rattle begins to buzz furiously and the snake takes a position with head and

agitated it is, the strike may throw the body forward, so it is important to give the snake plenty of distance.

*Diet*

This snake eats large numbers of rodents, which benefits us because it helps limit crop damage from rats and mice and also because those rodents often carry hantavirus, which can cause serious illness or death in humans. Larger western diamond-backs prefer ground squirrels, cottontails, and rats, but will also eat mice and other small mammals and occasionally birds. At times, the snake (especially smaller individuals) may eat lizards.

*Reproduction*

Rattlesnakes have live birth (they do not lay eggs), and babies are born in a clear sac from which they quickly push out. The young are born in late summer and are a little over a foot in length. Their pattern is similar to that of adults, and as noted above, they have a button and so they initially cannot rattle. However, they are quite capable of delivering a venomous bite. A larger female western diamond-back will have more babies than will a smaller one, and litter size averages about 14 babies. Mother rattlesnakes may stay near their young for a week or so, or until the babies shed their skin the first time; however, the mother does not feed the babies and certainly does not swallow them



Photo: Mark Pyle

*Neonate rattlesnake - note the button at the tail tip*

neck elevated and pulled back, ready to strike. The black tongue may be extended and slowly waved up and down, back over the snout and then down below the chin, testing the air. A rattlesnake in this defensive position may back away while facing its attacker, or it may hold its ground and wait for the intruder's next move. If the person comes too close, the snake may strike, extending the head and neck over half the animal's length, with mouth open and fangs extended. The strike is aptly described as lightning fast. Depending on the snake's posture and how

to protect them from danger, as some folk tales say.

*What other snakes look like this?*

As mentioned earlier, the Mojave rattlesnake is a close look-alike for the western diamond-back, although the Mojave has larger head scales, the second diagonal face stripe extends back of the jaw line, and the white bands on the tail are usually wider than the black. Additionally, with the Mojave, different colors (such as the edge of the diamonds) do not shade into each other on a single scale. Instead, each scale tends to be one color, making the



*Western Diamond-backed Rattlesnake (continued)*

pattern seem like a mosaic of different colored scales. Additionally, the prairie rattlesnake is found in parts of west Texas, and it has an overall appearance resembling the western diamond-back.

Several non-venomous snakes may be confused with the diamond-backed rattlesnake. Chief among them is probably the bullsnake, which can get quite large and has blotches down the back that shift to a light and dark ringed pattern on the tail. Of course, the bullsnake has no rattles, fangs or venom. The bullsnake has a narrower head, the blotches are not really diamond-shaped, and the pupils of its eyes are round. When cornered, bullsnakes do have a tendency to assume a strike position and hiss (as well as rattle the tail) in a way that can seem quite threatening.

The western hog-nosed snake might be mistaken for a small rattlesnake, except that it has an upturned nose and a black (or black and orange) belly. It has reddish brown blotches which shade into rings on the tail and a facial pattern vaguely suggesting the prairie rattlesnake. It is harmless, but is another snake that hisses and bluffs when disturbed.

There is a diamond-backed water snake, but it is completely unrelated to the rattlesnakes and is harmless (even if pugnacious when picked up). It is a chunky dull green snake with a black chain-like pattern down the back.

*How they are classified*

The western diamond-backed rattlesnake is closely related (in the same genus) with several other Texas rattlesnake species, including the timber, Mojave, prairie, rock, and black-tailed rattlesnakes. It is more distantly related to the smaller massasauga and pygmy rattlesnakes which are in the genus *Sistrurus*. All of these rattlesnakes are in the same family with the copperheads and cottonmouths (all are pit-vipers within the family Viperidae). The eastern diamond-backed rattlesnake, not

found in Texas, is a separate species but is still closely related (within the genus *Crotalus*).



Photo: Michael Smith

*Bullsnake (non-venomous)*

Photo: Michael Smith

*Western hog-nosed snake (non-venomous)*



# Poisoning the Land with Gasoline

Michael Smith



Every year, hunters go out and spray a mist of gasoline down into crevices, burrows, sinkholes, and other places where various wildlife species shelter from the cold of winter. They insert a long tube deep into the ground and use a pump sprayer to spray the gas where rattlesnakes may be taking refuge. These hunters either believe that what they are doing is harmless, or they believe that collecting some rattlesnakes to make some money is more important than the poisoning of our land and wildlife, and the possible contamination of our waters. Our state wildlife agency understands that this is destructive and should stop, but have not yet been able to stop it. Texas Parks & Wildlife Department (TPWD) is currently proposing to ban this practice, but it is anybody's guess whether they will be able to do so.

Is it because gasoline poisoning is no big deal? Let's have a look. Medline, from the National Institutes of Health, show the following as just a few of the symptoms that can be seen from swallowing gasoline or breathing its fumes:

Breathing difficulty	Throat swelling
Pain	Vision loss
Blood stools	Skin irritation
Low blood pressure	Convulsions
Depression	Dizziness
Headache	Loss of alertness
Staggering	Burns of the skin
Loss of alertness	Staggering
Abdominal pain	Weakness

A Material Safety Data Sheet on gasoline notes the following: "Cancer hazard. Contains material which may have reproductive toxicity, teratogenic or mutagenic effects. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage." It also states that "precautions should be taken to

protect surface and groundwater sources from contamination. ... Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant" ([http://www.valero.com/V\\_MSDS/002%20-%20UNLEADED%20GASOLINE%20Rev%202.pdf](http://www.valero.com/V_MSDS/002%20-%20UNLEADED%20GASOLINE%20Rev%202.pdf)).

What are the chances that, for some reason, this information only applies to humans? Not a chance. When several species of snakes, collared lizards, Woodhouse's toad, and the house cricket were exposed to gasoline fumes in the laboratory (Campbell, et al., 1989), all were impaired immediately after exposure and many died. Western diamond-back rattlesnakes exposed to fumes for 30 minutes were turned upside down (a standard test for neurological impairment) and were not able to right themselves right away. None of them tongue-flicked or rattled right away, and time to recover ranged from one to several hours; one rattlesnake did not recover from 60 minutes of exposure. In a contaminated burrow, of course, any snakes that were not forced out would be exposed to the fumes for a much longer time. In the experimental exposure, other species of wildlife were more vulnerable to gas exposure than were the rattlesnakes. Further, tests of the ability of the lizards and the toads to capture food seven days later showed that these animals were much less able to do so after gasoline exposure. In other words, even an animal that survives in the short run may not be able to find food or escape predators and may die for that reason. Birds such as burrowing owls would stand to suffer to an even greater degree than reptiles, as their high rate of respiration would result in rapid and intense exposure to gasoline.

So, who thinks it's a good idea to spray a highly toxic, cancer-causing substance into places where wildlife takes refuge, places where it can work its way down into someone's well or into our groundwater? That would be commercial rattlesnake collectors, who want to pull the snakes out of the ground at the end of winter and sell them to people who turn them into trinkets,



*Poisoning the Land with Gasoline (continued)*

hatbands, gaudy paperweights, and cans of “tastes like chicken” meat that would seem likely to be contaminated with gasoline. Many of the snakes wind up at the rattlesnake roundup in Sweetwater, where a Jaycee once told me, “it don’t hurt nothing, just takes the oxygen out of the air so they have to come out to breathe.” Whether he ignorantly believed this or did not really believe what he was saying, I will never know. However, it’s certainly not true.

Three years ago, the Texas Parks & Wildlife Department began exploring citizen reactions to the idea of banning the use of gasoline in this way. Finally, this year, a proposal was made to the Commissioners and a regulation was drafted. And while there is substantial support for banning this practice, a howl went up from Sweetwater, from the collectors, and from a legislator or two. There were accusations that the research was flawed, as if somehow the tree-huggers were making gasoline out to be dangerous when in fact it was as innocuous as sweet tea. People floated the ridiculous idea that those thugs at TPWD might enforce such a ban on citizens who merely wanted to poison wasp nests, “flushing or harassing wildlife,” in the language of the regulation.

And what did TPWD do? Well, it’s hard to know what the complete story really is, but in an apparent display of extreme sensitivity and deference to those who want to poison your land and sell you a tacky hatband, they have pulled the regulation to be “re-drafted.” At some point in the near future, it will be published in the Texas Register and the agency will again take comments on this regulation. Ultimately, if common sense prevails, a ban on the use of gasoline to collect wildlife will be enacted as a regulation.

So this is where those regular folks with good common sense can make a real difference. If we all stay silent, the only people who will be heard on the issue will be the guy with the pump sprayer full of gasoline. What we have to do is to stand up and show the state of

Texas that we care about our wildlife – not just the rattlesnakes but the birds, mammals, reptiles, amphibians, and invertebrates that take shelter in the places that get gassed. We have to say that we would like our water with no benzene, toluene, and other gasoline-related pollutants, thank you. We need to offer comments to TPWD through their website or attend a Commissioners meeting and tell them. Or both.

TPWD maintains a web page for public comment on proposed regulations ([http://www.tpwd.state.tx.us/business/feedback/public\\_comm\\_ent/](http://www.tpwd.state.tx.us/business/feedback/public_comm_ent/)). It shows news releases about recent proposals, and you can watch for the new regulation to be posted and offer your comment through the website. It only takes a minute to do so. For the sake of Texas habitat and wildlife, we hope that you do so.

**Reference:**

Campbell, J.A., D.R. Formanowicz, & E.D. Brodie (1989) Potential impact of rattlesnake roundups on natural populations. *Texas Journal of Science*, 41:301-317.



Photo: Carl Franklin

*Places like this provide shelter for a wide variety of wildlife, including ground squirrels, moles, shrews, foxes, burrowing owls, turtles, snakes, lizards, salamanders, frogs, toads, and invertebrates*



## Poisoning the Land with Gasoline:

### Statement from the Kentucky Reptile Zoo

*The Kentucky Reptile Zoo is a facility devoted to venom extraction for pharmaceutical uses, as well as supporting education and research. They keep many species of reptiles, including the western diamond-backed rattlesnake, and their animals are maintained in a healthy state and provide high-quality venom. Many have watched Jim Harrison and Kristen Wiley, the director and curator, on such networks as National Geographic and PBS. Here is their statement to Texas Parks & Wildlife Department:*

"Here at Kentucky Reptile Zoo we are completely AGAINST using gasoline (or any chemical) to collect rattlesnakes. We do collect *C. atrox* [western diamond-backed rattlesnakes] in Texas and other western states, and currently produce roughly 1.5 kg of *C. atrox* venom annually. It is our strong opinion that the use of gasoline is not only unethical and environmentally unsound, it is completely unnecessary from a venom production viewpoint. Snakes can easily be collected via other less harmful ways, and *C. atrox* are not difficult to breed in captivity. While it would probably be harmful to venom production if ALL collection was prohibited, the use of gasoline is completely unwarranted. Because gasoline is almost exclusively used to collect snakes for roundups, our comments relate to both practices.

In our experience snakes that have been collected by gas and/or subject to the abusive conditions that exist at roundups are not viable. They are so damaged by the gasoline and the stressful and damaging handling methods that there is no way to keep them alive in captivity. In contrast to this, snakes that are gently collected and treated with good husbandry can survive in captivity for decades, and also produce viable young. Even if we need 100+ *C. atrox* a year, we are able to collect this number WITHOUT using gasoline. "Nuisance" animals and ones collected by hand by professionals or ourselves reach this number.

Lastly, venom that is produced from roundups or from gassed animals suffers from several problems. First, we are unaware of any study that shows that gasoline is not present in the venom of snakes that have been exposed to it. Considering how dangerous gasoline is, venom produced from snakes collected this way should never be used in any product that might be used in humans. Second, snakes that are used only once for extraction and then die present the problem that their venom can never be replicated exactly, (since the snake is no longer alive) so research use of this venom is limited in this regard. Last, snakes that are in poor condition for any reason produce less venom and a venom

of a poor quality. Venom is energetically expensive for the snake to make, and if they are not in good health they are unable to produce venom that has a high protein content. Why would any drug company want to use the poorest possible starting component in making a drug?

One of the main goals of Kentucky Reptile Zoo is to produce venom in a manner that is humane to the snake and sustainable to the environment. We are not the only facility that is capable of giving proper husbandry to venomous snakes, nor are we the only facility that is able to produce venom in a humane manner. If there was never another roundup, there would still be *C. atrox* venom available on the market. Venom from many other species of venomous snakes, such as South American rattlesnake (*C. durissus*), various cobras (*Naja* species), copperheads (*A. contortrix*), etc. is readily available and there are zero roundups or gasoline used to collect those species or their venom. There is no reason to think that *C. atrox* would be any different.

We are aware that there are claims that *C. atrox* venom sourced from roundups is being used for various drugs currently available in the US. We would urge TPW [Texas Parks & Wildlife Department] to investigate these claims thoroughly, including requesting the exact name of the drug(s) and also requesting that the FDA be made aware that venom for its production comes from roundups.

We strongly urge the state of Texas to ban not only the use of gasoline but the abuse that occurs at roundups. We consider the gasoline ban to be at least a step in the right direction and we support it completely."

Jim Harrison, Director / Kristen Wiley, Curator

*(Thanks to Jim Harrison and Kristen Wiley for permission to reprint this statement.)*



## Poisoning the Land with Gasoline:

### Statement from Bryan Grieg Fry

*Bryan Grieg Fry is an Associate Professor in the School of Biological Sciences of the University of Queensland in Australia. He has authored or co-authored some 70 scientific papers and has appeared regularly in documentaries on the BBC, Discovery Channel, etc. He has led expeditions to almost 40 countries and half the U.S. states working with the venomous animals that are his passion. His website states, "While my research has significant medical implications, the end of the day, it is all just a grand excuse to keep playing with these magnificent creatures!"*

*He recently responded to an official request from Texas Parks & Wildlife Department (TPWD) to make a comment in regard to a question about whether prohibiting the use of gas to collect snakes might reduce the supply of venom for research. As a world-renown venom researcher, Dr. Fry is eminently qualified to speak to this question.*

This is the statement from TPWD: "TPWD has recently published a proposed rule to prohibit gassing as a means of collection. During the course of public comment for our recent proposed prohibition on this practice, we received feedback indicating that prohibiting the use of gassing to collect WDRs [western diamond-backed rattlesnakes] would cause a shortage of WDR venom supplies for medical research as well as for antivenin here in the US and abroad. We have researched the antivenin issue and have confirmed that prohibiting gassing would not cause a shortage of venom for WDR antivenin production. However, it has not been as easy to determine if there would be a shortage of WDR venom for medical research. The avenues for venom to enter the medical research 'supply line' seem to be more numerous than for antivenin production. Therefore, determining the impact is more difficult."

Dr. Fry's response: The species they are collecting are very large venom yielders and thrive in captivity. Thus their venom is amongst the easiest to obtain from animals already in captivity. With the market so saturated that the venom is only worth a little over \$120 a gram

(<http://www.kyreptilezoo.org/?Venom+Extraction:Venom+Price+List#Viperidae>)

Compare this to rarer venoms from lower yielding snakes which may be nearly \$4,000 a gram:

<http://www.venomsupplies.com/snakes/>

In addition, for any use in venom research, the venom must be collected in a sterile manner, immediately frozen in liquid

nitrogen and kept at cryogenic temps, from snakes in good health and from snakes from a known geographical locality. Variables entirely unmet from the venom from a roundup. The venoms milked in a dirty environment, kept liquid at room temp for extensive periods of time (thus the enzymes would be destroying other venom components and themselves), from snakes that have been starved and dehydrated for months (thus having a detrimental impact on venom quality) and from snakes from multiple, unknown localities (this is important because venom can vary extensively in a rather short period of time, see our in-press paper on the Southern Pacific Rattlesnake as an example).

So in a nutshell, roundup venom is absolutely useless for venom research and also antivenom production. Further, the needs for both are met in vast excess from snakes already in captivity.

In addition, University animal ethics committees must approve the use of all biological samples, even those not directly collected by the researchers themselves. No competent animal ethics committee would approve venoms obtained from roundups due to the extremely unethical manner in which the snakes are collected and treated once collected. The animals are treated in an absolutely disgraceful manner. So much so that if this was a feral cat roundup, the participants would certainly be prosecuted for animal cruelty. Why reptiles are considered any different is a mystery to me since the animal welfare legislation puts all vertebrates under the same legal protection.

*(Thanks to Dr. Fry for granting permission for us to reprint this statement.)*



# At Sweetwater!

Michael Smith

(This article was first published in the April, 2001 issue of the *Cross Timbers Herpetologist*)

Stepping through the doors of Nolan Coliseum into the 43<sup>rd</sup> annual Sweetwater Rattlesnake Roundup felt like stepping into a county fair from the Twilight Zone. What would Carl Franklin and I see at this legendary event? Walking onto the dirt floor there, one of the first sensations was an unusual smell, a little like bad cologne and also like something gone bad. It would take a while for us to figure it out.

The first of the several “pits” starkly illuminated on the coliseum floor was the “Safety/Handling Demonstration” pit. There, a Jaycee with a cowboy hat was talking to a group of school children about Jack and the Beanstalk. He was trying to make a point about keeping your cool if confronted with a rattlesnake and not yelling and jumping up and down, provoking a strike. It seemed ironic that a safety demonstration would involve a cowboy standing among a pile of western diamond-backed rattlesnakes. But of course the main point of the event is thrills and attracting tourists, with some supposedly educational talks added as a garnish. Walking through piles of stressed and often injured rattlesnakes, casually kicking them out of the way, is poor education but does hold the attention of those who come to see the spectacle.

I threaded my way through the display tables with gaudy trinkets on display, dry and glistening rattlesnakes in scary threat postures, jars of preserved bats, and bumper stickers proclaiming, “If you can read this, our snipers can drop you.” County Fair meets The Dark Side.

I arrived at the “Milking Pit,” a small chest-high enclosure with two Jaycees busily extracting venom. The pit had a small table in its center, with an apparatus holding a glass funnel draining into a flask surrounded by ice. A small western diamond-backed



Photo: Michael Smith

*At Sweetwater! (continued)*

rattlesnake sat on one end of the table, motionless with its head hidden. Occasionally a Jaycee would spray the table down and casually touch or move this snake as he did so. An offhand thrill for onlookers that this rattlesnake, harassed to the point of hiding its head, could be treated with such disregard for its dangerousness. But the real activity of the Jaycees was pulling rattlesnakes from plastic yellow trash barrels and milking them into the funnel contraption. Onlookers ooh'ed and aah'd and snapped pictures as the yellow venom flowed and then the rattlesnake was summarily tossed to the side. One snake, limp and obviously dead as it was hooked out of the barrel, provoked

Photo: Michael Smith



the Jaycee's comment that the other guys sometimes just packed too many snakes in and they suffocated. "But he'll get some air and come back around in a minute." The snakes on the blood-stained floor were in some cases past "getting some air," lying limp with mouth slightly open as snakes do when they have lost all muscle tone in death. Others sat and buzzed. In fact, the backdrop to the entire coliseum was the buzzing of hundreds and hundreds of snakes, sounding a futile warning note. And then there was that smell.

Asked about whether the snakes were collected using gasoline, one of the men gave a guarded answer: "Oh, they might have been collected any number of ways." An answer showing an unwillingness to talk about one of the more controversial roundup issues. Later, sitting with a Jaycee looking down on the

scene below, the friendly fellow told me, "Yeah, we use gasoline," saying that it really wasn't harmful – just took the oxygen out of the air to make them come out of the den. I knew better, having read the article by Dr. Jonathan Campbell and others from 1989 about exposure to gas fumes, and furthermore most people with good common sense know better.

The biggest pit of them all awaited me – a big enclosure where snakes being brought in were dumped, and next to it, the "Research Pit." Here, Jaycees in cowboy hats pulled snakes out one at a time, holding them against a measuring tape on a table, then quickly probing them to determine sex and tossing them into a Plexiglass box on a scale. One of the men leaned back, answering questions from a visitor. They Jaycee asserted that there was no way they would ever really damage the population. He even indicated that if they find little rattlesnakes, they don't collect them but "put them back out for seed snakes." *Seed snakes?! And we had been told the roundups were about controlling populations of vermin that threaten livestock and ranchers. "Seed snakes" reveals the real truth: Roundups are a harvest of an economically important resource, and they don't want to see the supply threatened. Next time I hear someone say that roundups help control the rattlesnakes, I'll remember the "seed snakes" remark.*

Next were the darkest moments of the trip. The loudspeaker announced the call for various personnel to come to the "Skinning Pit." A Jaycee with a red vest sharpened a machete, and then the first of the rattlesnakes was pulled from another garbage bin, twisting and trying to bite the tongs. As the snake was positioned on a tree stump, down came the machete and the head was separated from the body. The writhing body was hung over a darkly blood-spattered bin, while the head was dropped



Photo: Michael Smith



into a five-gallon bucket. Looking down into the bucket, I saw heads from earlier slaughters and newly-decapitated heads moving, tongue-flicking, and trying to right themselves. Their slow reptile metabolism meant that the interrupted blood flow did not produce quick brain death. These heads were essentially alive. As another head was dropped in, many of the other heads reacted by turning and trying to bite, with heads biting one another in a vain attempt at defense from the onslaught.



Photo: Michael Smith

Meanwhile, in the galleries immediately above, schoolchildren looked on, and each machete blow brought a mixture of exclamations and laughter. What could the schools be thinking, Carl and I wondered, bringing these children here? Blood from this and other killing sessions covered the floor and the skinning table in clots of gore, and twisting rattlesnake bodies were hung to be gutted and skinned, still moving as if to try to get away. How could children be brought for this ... entertainment? Or education? Carl recalls a child asking to pet a beheaded carcass and a member of the skinning pit holding the snake's body up to be touched.

Then, "Miss Snakecharmer" was suited up in a white jumpsuit and guided through gutting and skinning a rattlesnake. She smiled and

grimaced as the audience teased her about her "pedicure" (perhaps the educational events should include the difference between a pedicure and a manicure).

By now, the significance of the smell had registered with me: the smell of the musk, feces, and blood of a thousand terrified snakes, half-covered with sprays of deodorant from Jaycees working the pits. Although not overpowering, it was a revolting smell that I was glad to get away from at the end of the day.

A "safety talk" provided one of the most foolhardy demonstrations we saw. After teasing rattlesnakes, thrusting a balloon at them in an attempt to get them to bite and when that failed offering his backside (which did provoke a strike!), a Jaycee singled one out for special treatment. After repeatedly poking it to the point that the snake gave up and hid its head beneath its coils, the Jaycee scooped it off the table onto his hand like some reptilian pastry and paraded around with it sitting atop the palm of his hand. How this could be considered a safety talk I cannot imagine, as he bragged that "none of the books say that this is even possible."

Miss Snakecharmer nearly stopped my heart in the next event I witnessed. She was led into the "Safety/Handling" pit, and the Jaycee pinned a western diamond-back on the table. I could hear him asking her if she was right or left-handed, and I thought to myself, "oh, no." Sure enough, she placed an index finger on the top of the snake's head and grasped its neck – too far back! I hardly knew whether to keep videotaping or cry out, "don't!" She picked up the rattlesnake and it did not do what I feared that it would do. She could not have controlled the sideways twisting of a healthy snake's head, and so my assumption is that after being gassed, stuffed into garbage cans, dumped, kicked, and harassed in earlier demonstrations, the snake was just too debilitated to twist around and bite her. Miss Snakecharmer, with her tense smile and death grip around the snake's neck, charmed the crowd.

After Carl and I were interviewed by National Geographic TV and by the German network Pro-Seiben, it was time to go. The Sweetwater Jaycees had treated us professionally and they had a very well-organized operation. The roundup itself involves mis-education, mistreatment, disrespect for wildlife, destructive collection practices, and it is hoped that some day the Jaycees will recognize that. We condemn the event but not the community; if Sweetwater put on a Wildlife Appreciation Festival, we would be the first ones there to support them.





## Texas Rattlesnake Festival

**March 8, 9 2014**  
**Saturday 9am-5pm , Sunday 10am-4pm**

**Dell Diamond's "United Heritage Center"**  
**3400 E. Palm Valley Blvd. Round Rock, TX 78665**

The Texas Rattlesnake Festival is an educational, no-kill rattlesnake event. We intend to create a fun, family friendly event in which we can share the value of these amazing and beautiful animals and in which **NO SNAKES WILL BE HARMED OR KILLED.**

We will be displaying private collections including some very unique colorations, along with non-venomous snakes native to the state of Texas. We will have presentations from some of the most respected and well known people in the Reptile Industry along with fun hands on activities for children and adults alike.

Children's activities include Bounce House, Scavenger Hunt, Face Painting, Playground, Coloring area, See, touch, and feel harmless reptiles.

**Don't miss the opportunity to see live venom extractions presented by Kentucky Reptile Zoo, while learning of the many benefits of Snake Venom. Adults \$8, 4yrs-14yrs \$5, 3 and under free.**

<http://www.texasrattlesnakefestival.net/>

The publication you are looking at is V.8 #1 of

## Texas Field Notes

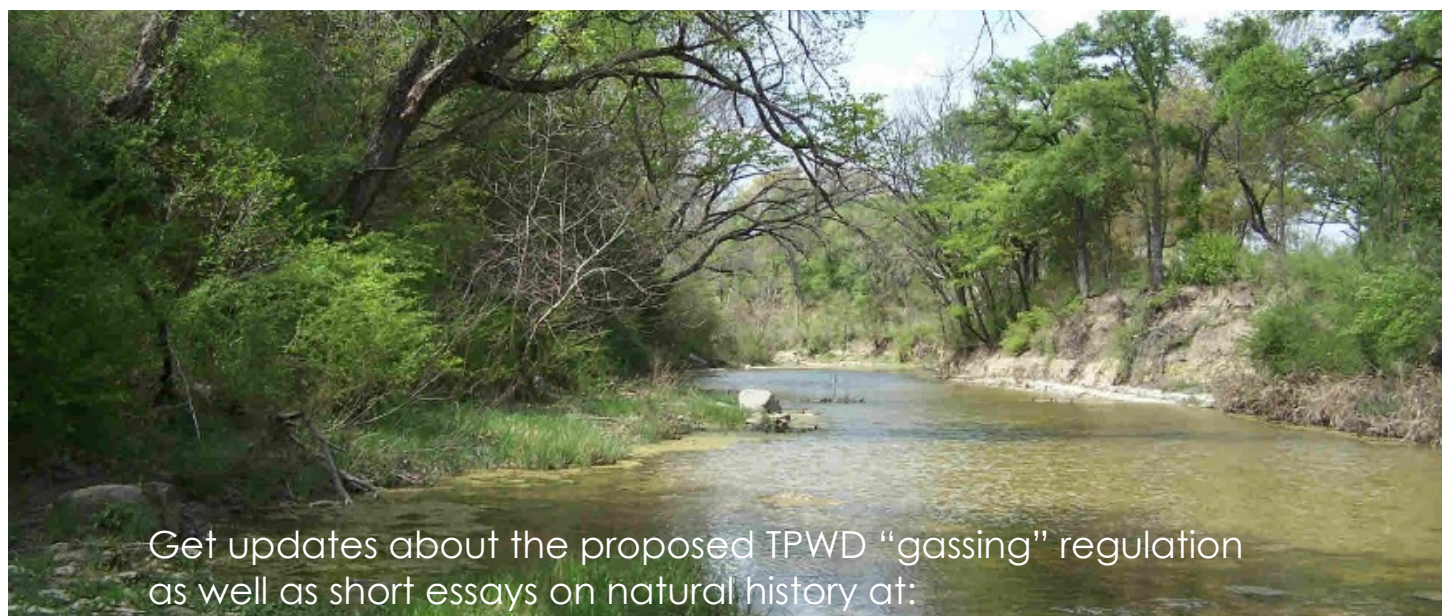
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We invite you to become a regular reader!

While some issues of TFN may be printed for special occasions, the usual way to get a copy of the publication is to subscribe and get it by email. Clint and Michael often write about trips to various places in Texas, and other writers such as Thom Marshall have contributed (and such contributions are very welcome - contact Michael if you would like to submit something).

Herpetology is what we know best, so reptiles and amphibians are featured prominently. However, we are interested in natural history in general and will include topics when possible on birds, invertebrates, etc.

For questions, or to subscribe, email [masmith51@live.com](mailto:masmith51@live.com)



Get updates about the proposed TPWD "gassing" regulation as well as short essays on natural history at:

## Notes From the Creek

[www.texasherp.wordpress.com](http://www.texasherp.wordpress.com)



# Excerpt from *Rattlesnake: Portrait of a Predator*

(Smithsonian Institution Press, 1998)

by Manny Rubio

*Editor's note: Author Manny Rubio has written or co-authored several books on rattlesnakes and venomous snakebite. The 1998 book is a comprehensive introduction to the rattlesnakes, their natural history, and their significance in human culture. We are indebted to him for permission to re-print a portion of the chapter on rattlesnake roundups.*

## Rattlesnake Roundups - pages 149-154

During the past half century in the United States, enterprising people have managed to combine the fascination for and unwarranted fear of rattlesnakes with commerce and exhibitionism. Rattlesnake roundups are highly visible commercial events promoted as a method of controlling rattlesnake populations (ostensibly to prevent the deaths of cattle and people). Civic associations organize and manage these events, which are sometimes called rattlesnake rodeos. Some of the profits are donated to regional charities or given as scholarships. In their simplest form, rattlesnake roundups are events for which rattlesnakes are caught and brought to a site where they are displayed and sold. The snakes are bought by the foot, and the purchaser will slaughter them for a variety of by-products. Contests are held, with cash prizes and trophies for the longest, heaviest, and greatest number of snakes caught, to generate more collecting and participation.

Year-long publicity attracts thousands of tourists, and hundreds of thousands of dollars may accrue to small towns that often have little else to offer tourists. Snake collectors receive sizable amounts of cash for their snakes, making roundups a profitable venture for everyone – except the rattlesnakes.

The first roundup was held in 1934 at Okeene, Oklahoma. The grandfather of rattlesnake roundups is held annually (and has been since 1958) in Sweetwater, Texas, on the second weekend of March. The Jaycees, sponsors of the four-day event, report that 35,000 visitors come to enjoy “The World’s Biggest Rattlesnake Roundup!” Outstripping many county fairs in organization and array of amusements, it is easily the slickest of all roundups.

Jaycees and Kiwanis are responsible for more than a dozen roundups held in other

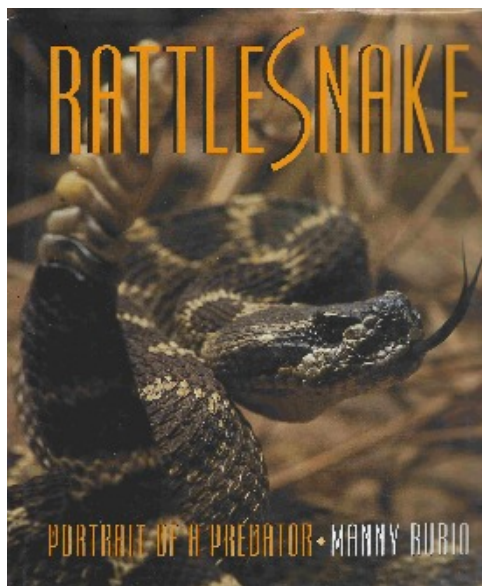
southern cities. The other large, heavily attended spring perennials, along with Sweetwater and Okeene, are at Big Spring, San Angelo, Freer, and Taylor (Texas); Waurika and Waynoka (Oklahoma); Opp (Alabama); and Claxton, Fitzgerald, and Whigham (Georgia). At various times roundups have been held in South Dakota, New Mexico, Kansas, California, West Virginia, Florida, Arkansas, and Mississippi. In Pennsylvania, although small by comparison, no less than a dozen roundups are held each year. In total, about thirty rattlesnake roundups are promoted annually in the United States. An estimated 5,000 rattlesnakes are captured and killed for and during roundups each year.

Recent changes in Kansas wildlife laws that have increased the number of rattlesnakes allowed to be taken from four to thirty have encouraged roundups there. Roundups are being attempted or proposed in Louisiana and southern New Mexico. As one might expect, they are being met with vigorous opposition from conservationists, herpetologists, and animal rights groups, but they appear to be thriving nevertheless. The established roundups are being challenged by environmental and animal rights groups. From a disjointed handful of protesters a few years ago, the protesters and pickets have grown into an organized

movement, numbering in the hundreds today. The media are beginning to disclose the carnage involved that their attention unwittingly promotes. With increased pressure from the public, attitudes will change, it is hoped, before the environmental damage is irreparable.

### Sweetwater Roundup

At Sweetwater, as well as the other roundup sites in Texas and Oklahoma, the western diamondback, *Crotalus atrox*, is the main attraction. The number killed each year is mind boggling – so much so that



*Excerpt from "Rattlesnake" (continued)*

amounts of snakes are recorded by the pound, not by the number of individuals. The annual catch varies, but the sponsors boast that no less than a ton has been brought in each year. In 1985 a whopping 13,500 pounds (5,035 kilograms) were claimed. Unlike in the early days, few really large snakes (over 5 feet, or 1.5 meters, in length) have been caught in recent years. The majority are in their second or third year (between 3 and 4 feet, or 1 meter) and weigh 2 pounds (less than 1 kilogram) each. One dealer offers a standing \$1,000 bonus for any rattlesnake longer than 8 feet (2.4 meters).

2001 Rattlesnake Roundup			
Daily Totals		Team Totals	
Friday	1594.0	Bill Westerman	602
Sat	316	Cliff Seakars	387
Sun.	209	Garrett Hoover	318
		Andy Lee	149.5
Total	1919		

Scoreboard from Sweetwater

The contest rules are ambiguous and notably flexible. Nowhere is a time period set for collecting, so many snakes are caught during the previous summer and fall and stockpiled by the collector. To continue with the professed ideal of controlling the size of their populations, rattlesnakes are supposed to be captured on specific private ranches, although this restriction is not always followed. The hype surrounding the roundups leads citizens to believe that rattlesnakes are proliferating and pose a serious risk to humans and cattle in the area. In reality, many of the snakes are trucked in from all over Texas and from the surrounding states. Older collectors now admit having to hunt much wider areas and for longer periods to catch quantities of snakes. Attempts have been made to purchase and import rattlesnakes from other states, most specifically from Arizona. For example, the western diamondback, *Crotalus atrox*, although not native to Kansas, is the most common snake at Kansas roundups, and thus it is obvious that this species is being brought in from other states.

#### "Gassing" the Dens

The largest numbers of rattlesnakes are caught from their dens during winter and early spring while they are hibernating, by

means of a method known as "gassing." A long, flexible plastic hose is forced into the deepest fissures of the den. The hunter twists the hose about and listens for rattling or movement. If the response is appropriate, a hiss or rattle, gasoline is poured through the hose. The gassed snakes react to escape the fumes by abandoning their haunt. Volatile fertilizers, as well as other noxious and environmentally unsafe chemicals, are used occasionally instead of gasoline.

This form of underground fumigation can produce startling results. Frequently, a number of rattlesnakes flee from the pestilent vapors. Their fate, along with the fate of a bevy of frogs, toads, lizards, tortoises, nonvenomous snakes, and other small animals, is all but sealed. A study on the effects of gassing on burrowing animals proved that this technique has "severe and obvious short term effects on the vertebrate species" (J.A. Campbell, D.R. Formanowicz, and E.D. Brodie, Jr., *The Effects of Gasoline Fumes on Selected Reptiles and Amphibians*, Austin: Texas Parks and Wildlife Department, 1989). Known commensals in burrows include amphibians, reptiles, moles, shrews, prairie dogs, foxes, skunks, and a broad spectrum of other animals. It is ironic that rattlesnakes have proved to be the most resistant to the gasoline fumes.

What happens to those animals that have become disoriented and unable to escape? Most likely, they are overcome and they suffocate. Others may suffer permanent, debilitating damage. The fumes, much heavier than air, lie trapped in recesses, making the sites uninhabitable for an unknown period, possibly as long as a year. With their retreats poisoned and limited denning sites available, many forms of wildlife face exposure during the remaining winter. The majority of captured rattlesnakes, after being gassed, show lingering adverse physical effects and die from the fumes or improper care within a few months.

Gassing has been outlawed in some states, so many roundups do not permit its use. The practice is difficult to monitor, however, and few state wildlife organizations (e.g. Department of Fish and Game, Department of Natural Resources) enforce the law. Also, many older hunters find gassing the simplest way to capture snakes with a minimum of effort. The practice will doubtless continue as long as roundups continue.

When gassed snakes exit the den, they are grabbed with special snake tongs or are noosed. Because the snake is held tightly by a 2-inch or shorter constricted section, nothing supports the weight of the rest of its dangling body as it writhes and thrashes about, attempting to escape. Larger snakes suffer serious spinal and



*Excerpt from “Rattlesnake” (continued)*

internal injuries, many of which will eventually prove fatal. The snakes are kept (sometimes for several months) in containers with luckless brethren that have been caught the past summer or fall. A 50-gallon drum will hold a 15-inch deep layer of a dozen or more western diamondbacks, *Crotalus atrox*. Stored in outbuildings, they are not fed, rarely offered drinking water, and not protected from inclement weather. Many will die of suffocation or dehydration. The rest will be butchered eventually anyway, so collectors accept this treatment as a matter of course.

**Main Event**

At Sweetwater there is a Miss Snake Charmer beauty contest. Aside from meeting the requirements of a pleasing physical appearance, contestants must be able to milk a rattlesnake. At best, this is an interesting attribute to include in a personal résumé.

In the name of education, “experts” milk venom, behead, and rip the skin from the doomed snakes. They lecture on the various dangers imposed by rattlesnakes. A country dance, flea market, and gun show add to the carnival atmosphere. For three days, an hourly bus provides transportation to a nearby den where would-be collectors and tourists are shown how “real” snake hunters do it. The rattlesnakes that these hunters will learn to catch have been seeded (released there previously).

A somewhat dubious recognition given to persons bitten while collecting or handling rattlesnakes (at some of the roundups) is enshrinement into the Order of the White Fang. As many as thirty people have been so honored in a single year. A majority of handlers receive the award by participating in the sacking or quick-bagging contest. In this competition, a pile of rattlesnakes is released in a pen or pickup truck bed and pairs of contestants work against the clock. One pins, grabs, and throws the rattlesnakes into a bag being held by the other. The fiercest competitors waste no time in pinning, and instead resort to “free-handling.” Because bites are common, this practice all but guarantees enshrinement.

Perhaps the most macabre part of the roundup is the preparation of the meal – rattlesnake meat. As part of the entertainment, the snakes are beheaded, skinned, chopped into sections (while still writhing and jerking), breaded, and deep-fried. Attendees wait in long lines to gobble thousands of pounds of rattlesnake meat at \$2 or more per serving. Gourmets can have it as barbecue, in chili, or on pizza. Other roundups offer rattlesnake burgers. A

rattlesnake-meat-eating contest is a popular activity. The meat is not inspected and can be unsafe. *Salmonella* bacteria have been found in improperly prepared snake meat. Most likely, the bacteria flourish while the snakes are being improperly maintained prior to the event. Also, gassed snakes absorb some of the toxic chemicals and pass them on to the consumer through their flesh.

**Validity of Venom Extraction**

The roundup sponsors report that venom is extracted and sold for scientific research. Legitimate venom research facilities, however, want to buy quality venom collected from healthy snakes under sterile conditions. Roundup snakes are so poorly maintained that their venom is sometimes laden with impurities such as blood and pus. The majority of research-quality venom is provided by private institutions.



Photo: Michael Smith

*At the Sweetwater roundup in 2001, venom from injured and dying rattlesnakes was milked into an uncovered funnel and container. The container was nestled into an ice bath, periodically centrifuged and dumped into a Tupperware container kept on dry ice.*

## Comments by Manny Rubio Concerning Rattlesnake Roundups

Sadly, Texas remains in “The Dark Ages” when it comes to understanding the importance of maintaining the elaborate food chain that sustains our precious wildlife. In the past few years a barrage of education materials and negative publicity has awakened the “powers that be” in the other problematic state, Georgia, to stop their remaining rattlesnake roundups. One hangs on, but waning attendance, lack of interest, and progressively fewer rattlesnakes weigh heavily toward its going the way of other outdated vestiges of the old south. The only other eastern rattlesnake roundup is in Opp, Alabama. Its purported claim to infamy is a uniquely repulsive, barbaric combination-- the use of gasoline and a gaff to snag, maim, and pull rattlesnakes from their retreats. In the simplest of terms, it is sadistic and unconscionable, beyond what a sane person would do.

Gassing has been proven to be the most commonly employed method of extricating and catching snakes in Texas and Oklahoma rattlesnake roundups. It has never been clear what other techniques are utilized because the vast majority of rattlesnakes are taken over several months, on private lands, clandestinely, away from observers.

Why rattlesnake roundups exist is very simple - ego, machismo, braggadocio, misunderstanding, misinformation, instilled fear, and (to a much lesser extent) money. The latter may bring ancillary revenue to the small community or organization hosting the event, but the collectors are underpaid for their time and out of pocket expenses.

We all know that the rattlesnakes are the biggest losers, but - who are the winners? The ultimate buyer of the snakes is able to

replenish his stock in one place, with a minimum of time and labor-- a veritable bargain price. What happens to the snakes next is an abominable, stomach turning topic that has been described elsewhere (see “At Sweetwater!” in this issue). The biggest winner is the “professional” snake milker. In trade for demonstrating extraction, he keeps the venom. To understand why this process is little more than a sham and needs to be thoroughly investigated and regulated by the FDA, I suggest reading the comments of Jim Harrison & Kristen Wiley (page 11, this issue). The staff of exhibitors, or perhaps *exhibitionists* is a better word, are satisfied to receive their annual “five minutes of fame” by “bravely” handling snakes and dispensing a mishmash of invalid and valid information, before returning to obscure everyday life.

One avenue that appears to have been overlooked in educating about the long term damage and habit destruction being done by gassing is to get to the core. It’s a “no-brainer:” add a mandatory wildlife management course (with specific emphasis on chemical destruction of micro habitats) to every student’s agenda when majoring in all forms of agriculture. It would have to be effective because nearly every modern rancher and farmer enrolls in an “Ag” program in high school and/or college, and the data on permanently damaging habitat and killing a variety of commensals is conclusive.

Passing a non-gassing law is paramount to halting the environmental destruction and carnage, while beginning to refurbish and replenish our rapidly deteriorating natural world.

*A mating pair of western diamond-backed rattlesnakes*



Photo: Carl Franklin