

The Short Life & Times of a Twin-spotted Rattlesnake

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Two Very Bad Days

The bad luck all started on an otherwise idyllic afternoon in late May 2006. The Gambel oak branches rustled in the slight breeze, an occasional cloud shaded the talus slope, and tasty Mountain Spiny Lizards (*Sceloporus jarrovi*) were visible on the rocks just a few feet away. Although he was only nine months old, the Twin-spotted Rattlesnake (*Crotalus pricei*) was already almost a foot long, and he knew he had picked a great ambush site. His spots helped him become almost invisible among the small boulders in the partial shade of the trees. It wouldn't be long until one of those cocky lizards came traipsing within reach.

Suddenly, he felt the rocks vibrate underneath him. This was no lizard! An awkward, yet terrifying biped (*Homo sapiens*) stumbled over the horizon into view. The rattlesnake panicked. He rattled as he dove into the rocks, but didn't get far before he felt the soft leather of a glove on his tail and watched his escape route recede beneath him. Over the next 20 minutes, he was subjected to numerous

indignities – having a cold metal stick probed into one of his two hemi-penises, being stretched out along a tape measure, having a PIT tag injected under his skin, having his rattle painted blue and aqua green, and finally being dropped into a Ziploc bag and dangled from a scale.

Soon after his abduction, though, he found himself back in familiar surroundings. He could smell the faint track he had left across the rocks hours before he horror began. The Gambel oak branches were still rustling, the clouds were still floating placidly across the sky, nearby lizards were chasing flies and caterpillars as if nothing was wrong. The only signs that anything out of the ordinary had happened were the fading smell of the musk he had released during his frantic escape attempt and the strange new bump on his right side. A few weeks went by without further unpleasantness. The weather had become hot and dry, so the twin-spot remained under the rocks more often than before.



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However, one day his appetite got the better of him, and he moved up into an ambush position. Once again he felt the rocks move under his scales, once again he rattled and dove, and once again he was captured. This time, however, he was about to embark on a cross-country trip. He was never to see Mountain Spiny Lizards, talus, or anything even remotely resembling his home ever again.

An Unwanted Vacation

It was dark and cold inside the suitcase. The Twin-spotted Rattlesnake could smell other reptiles nearby, the same smells he had become accustomed to during the previous few days at the Motel 6 in Benson. Perhaps due to the fact that the educational film "Snakes on a Plane" was still two months from its release date, the crack Transportation Security Administration team at Tucson International Airport managed to completely overlook the bag full of rattlesnakes and Gila Monsters.

Eventually the bag containing the Twin-spotted Rattlesnake, one Banded Rock Rattlesnake (*Crotalus lepidus klauberi*), two Ridge-nosed Rattlesnakes (*Crotalus willardi*), and three Gila Monsters (*Heloderma suspectum*) was opened in the home of the collectors – Jerry Hammond (age 52) and his son Trent (age 22) – in Guntersville, Alabama. Guntersville is located in the Appalachian foothills in the northeastern portion of the state and is famous for being founded by John Gunter, Will Rogers' great-grandfather. However, because the Twin-spotted Rattlesnake had spent his whole short life in the Chiricahua Mountains, the Ridge-nosed Rattlesnakes and Banded Rock Rattlesnake were only familiar with the Huachuca Mountains, and the Gila Monsters were accustomed to the desert just east of Tucson, it is doubtful that the reptiles were appreciative of having the opportunity to be a part of Guntersville's history.

Jerry Hammond, a mechanic at a Ford dealership down the road in Albertsville, and Trent, an employee at a local pet store, supplemented their income by collecting, buying, and selling venomous reptiles. In addition to the Twin-spotted Rattlesnake, Banded Rock

Rattlesnake, Ridge-nosed Rattlesnakes, and Gila Monsters collected on the family vacation to Arizona, the Hammonds also had two other Banded Rock Rattlesnakes from the Huachuca Mountains, one Hopi Rattlesnake (*Crotalus viridis nuntius*; probably from Arizona), two Mottled Rock Rattlesnakes (*Crotalus lepidus lepidus*; from Sutton County, Texas), three Dusky Pygmy Rattlesnakes (*Sistrurus miliaris barbouri*; from the southeastern U.S.), two Mexican Lance-headed Rattlesnakes (*Crotalus polystictus*), and two Baja California Rattlesnakes (*Crotalus enyo*) in their collection at the time.

Everything was going great for the Hammonds until Trent's fiancé decided she didn't really want to share her future husband with a bunch of venomous snakes. Wisely, Trent decided to acquiesce to his fiancé's demands and get rid of his collection. Unwisely, he decided to accomplish this by getting in touch with Henry "Hank" Molt.



Twin-spotted Rattlesnake (*Crotalus pricei*) retrieved following its poaching from the Chiricahua Mountains. Note its loose skin and emaciated condition. Photo by Dave Prival. Monster

Three Costly Mistakes

Hank Molt (age 66) has been selling snakes, lizards, turtles, and crocodylians for over forty years, starting out with a business called Philadelphia Reptile Exchange. A few cities and a conviction for illegal wildlife trafficking later, he settled in Anderson, South Carolina, where he currently operates Global Herp. As the company name implies, Molt sells high-dollar herps from around the world, including several endangered species. He has a long-standing reputation among both reptile fanciers and wildlife law enforcement officers. In 1974, he and a couple of associates collected over 600 reptiles from various international locales and smuggled them

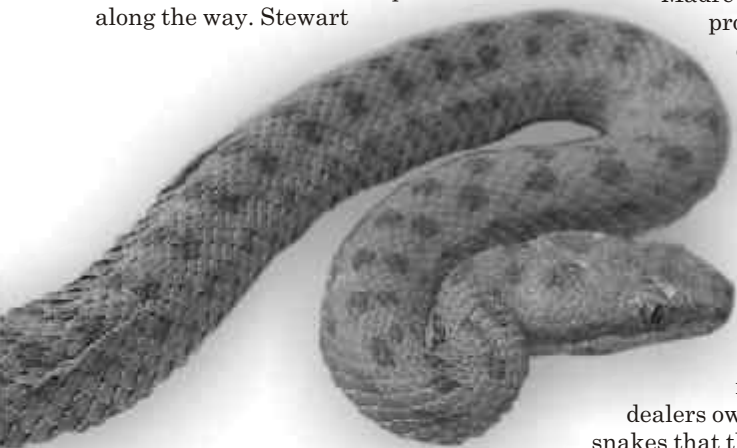
into the U.S. in hopes of a big payoff. Among these were several protected iguanas from Fiji, which he sold to another dealer, contrary to both Fijian and U.S. law. The sale of these iguanas (which are now listed as endangered) resulted in a \$10,000 fine and a sentence of three years probation for Hank Molt. Molt has found himself at odds not only with law enforcement but with his reptile-dealing cohorts. In 2006, he was accused by reptile dealer Tim Colston of Oklahoma of stealing a Twin-spotted Rattlesnake and two Ridge-nosed Rattlesnakes (apparently a different set of snakes than the ones the Hammonds collected). Molt subsequently accused Colston of theft and spammed accusations against this former business associate. But to Trent Hammond, Hank Molt seemed like just the guy to help him make a quick profit from some illegally caught reptiles.

Belton, South Carolina, is located a few miles from Anderson, in the northwest part of the

state near the Savannah River. In addition to boasting a concrete water tower that is one of the few of its type in the South and being the highest point between Greenville and Columbia, South Carolina, Belton is home to 33 year old transplanted Californian Adam Stewart. In 2004, Adam Stewart decided to make some money off of his affinity for reptiles by selling them. He started a business called Living Earth Reptiles, through which Stewart sells herps of all varieties, but particularly venomous reptiles. Hank Molt and Stewart had done business together before, and neither were too concerned about little technicalities such as whether the animals were protected or not, wild-caught or not, legal or not. The important thing was to double your investment. When Molt asked Stewart if he wanted to go in on the deal together, Stewart was excited about the opportunity to make some money and gain notoriety for his new business. In fact, he was so excited that he convinced Hank Molt to let him

purchase and sell the rattlesnakes and Gila Monsters on his own. This was the first of three costly mistakes made by Adam Stewart.

Stewart agreed to purchase Trent Hammond's collection for \$5,200. Stewart came up with a large wad of cash from somewhere, put it in his left front pants pocket for safe keeping, and together he and Molt took a road trip to Guntersville, Alabama, to make the deal. Guntersville is about 300 miles west of Belton, and the two reptile dealers made a few rest stops along the way. Stewart



got out of the car at these stops, which was his second costly mistake. When they finally reached the Hammond residence, Stewart realized that the \$5,200 in cash had fallen out of his pocket at some point during the trip!

They drove all the way back to Belton, checking their previous stops, but oddly enough the money was nowhere to be found. A few weeks later, Adam Stewart managed to come up with some more cash. By this time, the anxious Hammond had sold off part of his collection, but Stewart agreed to purchase the remaining twelve reptiles for \$4,500. These reptiles included the Twin-spotted Rattlesnake, Banded Rock Rattlesnake, two Ridge-nosed Rattlesnakes, and three Gila Monsters Trent Hammond and his father had recently collected on their Arizona trip. This time Stewart went alone. He and Trent Hammond met halfway, along Interstate 20 across from the Six Flags Over Georgia parking lot, just west of Atlanta. This time Stewart kept a close eye on his cash. This time he arrived home in Belton with a car full of venomous reptiles.

Stewart didn't waste any time marketing his new stock, as he was now \$9,700 in the hole. He posted his new animals for sale on his Living Earth Reptiles web-site, as well as on the well-known reptile clearinghouse

kingsnake.com. As dealers often do, he posted photographs of each animal in his advertisements. One of the photographs was of the Twin-spotted Rattlesnake the Hammonds had collected in the Chiricahua Mountains. This was Adam Stewart's third and most costly mistake.

Busted!

Twin-spotted Rattlesnakes, which inhabit four mountain ranges in southeastern Arizona, as well as portions of the Sierra Madre Occidental and Sierra Madre Oriental in Mexico, are protected everywhere they occur. There are no zoological institutions breeding them, meaning that there are no legal "surplus" animals that might somehow enter the pet trade. Therefore, no Twin-spotted Rattlesnakes can be legally sold. Although a significant number of reptile collectors and dealers own Twin-spotted Rattlesnakes that they have illegally collected or purchased, they are rarely openly advertised for sale. It is particularly unusual for Twin-spotted Rattlesnakes to be advertised on such a well-known and frequently viewed site as kingsnake.com. Perhaps even more unusual than that is for an advertisement to include a photograph of a Twin-spotted Rattlesnake with a blue painted rattle.

In early August 2006, Arizona Game and Fish Department Field Supervisor Hans Koenig came across the Twin-spotted Rattlesnake advertisement on kingsnake.com and knew immediately that he had a case. Typically, it is very difficult to press a case for illegal reptile collecting once the collector has left the state because wildlife law enforcement officers must be able to prove that the animals in question were collected from the state where they are protected. For example, if a collector in South Carolina has a Twin-spotted Rattlesnake, the government must be able to prove that the collector either collected the snake himself in Arizona or Mexico, or purchased it from somebody who collected it in Arizona or Mexico. Because Twin-spotted Rattlesnakes are not specifically protected in South Carolina, the collector can claim that he found the snake crawling through his backyard and collected it there (what a range extension!), in which case no laws have been violated.

A marked Twin-spotted Rattlesnake, however, is a different story. Koenig forwarded the kingsnake.com photograph of the snake to me. I am a wildlife biologist who has been studying and marking Twin-spotted Rattlesnakes in the Chiricahua Mountains since 1997. The paint mark was clearly visible in the photograph, and because I paint each rattle with a unique color code, I was able to quickly determine that I had marked that very snake in the Chiricahuas on May 28, 2006.

South Carolina is not technically within the jurisdiction of an Arizona Game and Fish Department law enforcement officer. Therefore, Koenig was going to have to convince a law enforcement officer on the other side of the country that an Arizona Twin-spotted Rattlesnake was important enough for him to bother pursuing the case. He contacted South Carolina Department of Natural Resources Officer Rhett Barwick, who put him in touch with U.S. Fish and Wildlife Service Special Agent Tom Chisdock.

Following conversations with Koenig and myself, Chisdock was confident that he could prove that the Twin-spotted Rattlesnake was illegally collected from the Chiricahua Mountains. On August 15, Special Agent Chisdock, Officer Barwick, and South Carolina Department of Natural Resources Herpetologist Steve Bennett paid a visit to the Living Earth Reptiles store. After consulting a lawyer, Adam Stewart agreed to speak to the officers. Stewart showed them the Twin-spotted Rattlesnake, which was housed in a small plastic container with newspaper covering the bottom. The paint mark was clearly visible. When confronted with the evidence that the rattlesnake had been marked in the Chiricahuas, Stewart surrendered the snake to the U.S. Fish and Wildlife Service. Stewart had been attempting to sell the snake for \$850.

The confirmation of the identification of the Twin-spotted Rattlesnake was enough for U.S. Fish & Wildlife Service Special Agent Garry Phillips and Alabama Wildlife and Freshwater Fisheries Lieutenant Mike Bloxom to pay a visit to the Hammond residence in Guntersville. Under questioning, Jerry and Trent Hammond readily admitted to collecting the rattlesnakes and Gila

Under questioning, Jerry and Trent Hammond readily admitted to collecting the rattlesnakes and Gila Monsters in Arizona in known violation of Arizona state law.

Monsters in Arizona in known violation of Arizona state law and selling them to Adam Stewart through the facilitation of Hank Molt. Furthermore, they made it clear that both Adam Stewart and Hank Molt were well aware that the animals were illegally taken from Arizona.

Repercussions

Exactly what laws were broken here? Let us begin with Arizona, which is known for its relatively strict nongame wildlife regulations. It is illegal to take closed-season wildlife, to possess or transport illegally taken wildlife, or to sell virtually any wildlife from Arizona (Arizona Revised Statutes 17-309, Arizona Game and Fish Commission Rule R12-4-402). All of the species collected

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by the Hammonds, the Twin-spotted Rattlesnake, Banded Rock Rattlesnake, Ridge-nosed Rattlesnakes, and Gila Monsters, are listed as permanently closed-season in Arizona (Arizona Game and Fish Commission Order 43).

Believe it or not, Alabama also has laws, one of which prohibits the possession or sale of any non-indigenous venomous reptile without a state permit (Alabama State Regulation 220-2-.26). Not surprisingly, South Carolina has no relevant laws, which is probably one of the major reasons businesses like Living Earth Reptiles and Global Herp locate there. Because state boundaries were crossed, the federal Lacey Act comes into play. The Lacey Act makes it illegal to transport, receive, acquire, sell, or purchase wildlife across state or international borders that was taken in violation of state or foreign law (16 USC 3372).

The penalties for committing these crimes were settled without trial. However, it may be instructive to compare what the penalties could have been with a court trial and successful prosecution with the actual penalties that were assessed. Trent and Jerry Hammond managed to violate all of the laws mentioned above – Arizona state law, Alabama state law, and the Lacey Act. For the violation of the Lacey Act alone (transporting and selling illegally collected wildlife), each of the Hammonds would have faced a \$1,000 to \$10,000 fine, as well as 4-10 months in prison or 1-5 years probation with at least 4

months in community confinement, according to federal sentencing guidelines. Instead, each paid a fine of \$825 and neither faced prison or probation. Based on the relative market value of each of the reptiles they sold, they received about \$3,700 from Adam Stewart specifically for the seven reptiles they collected from Arizona. They were allowed to keep the money they made for selling the snakes, which means that after being caught and fined, they still made a profit of \$2,050 on the illegal Arizona reptiles.

Adam Stewart violated the Lacey Act by purchasing, transporting, and selling illegally collected wildlife. Had he been found guilty in court, he would have received the same sentence the Hammonds would have received: a \$1,000 to \$10,000 fine, as well as 4-10 months in prison or 1-5 years probation with at least 4 months in community confinement. Instead, he paid a fine of \$525 and did not face prison or probation. Although he eventually turned both the Twin-spotted Rattlesnake and the Ridge-nosed Rattlesnakes over to the U.S. Fish and Wildlife Service, he was allowed to sell the illegally captured Banded Rock Rattlesnake and Gila Monsters.

Assuming that he managed to sell the Banded Rock Rattlesnake and Gila Monsters for his asking price of \$3,975 (\$1,200 to \$1,350 for each Gila and \$225 for the Banded Rock Rattlesnake), he still made \$3,450 on the illegally captured Arizona reptiles after his fine.

Of course, since he spent about \$3,700 to buy the Arizona reptiles, he ended up with a net loss of \$250 on the whole deal.

Hank Molt conspired with the Hammonds and Adam Stewart to violate the Lacey Act by putting the Hammonds in touch with Stewart and by driving Stewart to the Hammonds' residence to purchase the illegal reptiles. If he had gone to court and been found guilty of conspiracy, he would probably have received a sentence of a \$500 to \$5,000 fine, as well as 0-6 months in prison or 1-5 years probation. Instead, he did not incur any penalties for his role.



Twin-spotted Rattlesnake (*Crotalus pricei*). Photo by Roy C. Averill-Murray.

Where are they now?

Several months after his initial contact with the U.S. Fish & Wildlife Service, and after a \$3,500 sale fell through when the potential buyer was tipped off that the snakes were illegally collected, Stewart agreed to voluntarily surrender the Ridge-nosed Rattlesnakes. The snakes were loaned to the Riverbanks Zoo in Columbia, South Carolina, with the concurrence of the Arizona Game & Fish Department. Adam Stewart sold one of the Gila Monsters to a Gila Monster pet trade breeder in Asheville, North Carolina, for \$1,412.25, including tax. Stewart provided the dealer with a note that falsely stated that the Gila Monster was a captive-bred animal to the best of his knowledge. The Gila Monster was sickly when it arrived in North Carolina, but the breeder has since nursed it back to health. The fates of the other two Gila Monsters and the Banded Rock Rattlesnake that the Hammonds sold to Stewart are unknown. Adam Stewart still runs Living Earth Reptiles out of his home in Belton. He now seems to be focusing primarily on breeding his currently-owned reptiles for sale. Hank Molt still sells high-market-value reptiles from around the world through Global Herp.

After visiting Alabama and South Carolina, the well-traveled Twin-spotted Rattlesnake was flown back to Tucson at the end of August 2006. Arizona Game and Fish Department Field Supervisor Hans Koenig brought the snake to my house in early September for a reunion and assessment. It was clear that the twin-spot had had a very rough three months. The snake had shed once since May and had grown almost half an inch. However, he was clearly emaciated. He was very skinny, his skin was loose, and he had lost 28% of his body mass, despite

the fact that he had an empty stomach when weighed in May but had been recently fed when weighed that day in September.

Even though the exact location of the Twin-spotted Rattlesnake's home was known, the Arizona Game & Fish Department did not return the snake to the wild due to the risk of introducing disease into the wild population. Instead, the Arizona Game & Fish Department retained the snake with the intention of using it for interpretive programs. The fear of introducing disease into the wild may have been well-founded, as the young snake unexpectedly died in captivity in Tucson in March 2007.

Who Cares?

So, who cares? Does the removal of a Twin-spotted Rattlesnake, a Banded Rock Rattlesnake, two Ridgenosed Rattlesnakes, and three Gila Monsters from the wild have a measurable impact at the population level? Almost certainly not. However, that is a silly question, because those are not the only animals taken. In the U.S. alone, it is estimated that over \$3 billion in profits are made annually through trade in illegal wildlife (Webster 1997). Arizona has relatively restrictive laws regarding nongame wildlife and a state wildlife law enforcement agency that takes enforcing those laws seriously. Nonetheless, only a miniscule percentage of people who smuggle illegally captured reptiles out of the state are ever caught. According to the Hammonds, helpful Arizona Game and Fish Department employees actually told them where to go to find some of the reptiles they collected!

Given that the collectors in this incident actually made a significant profit even after being fined, and the loss to the dealer was minimal, it is difficult to see how being apprehended could possibly be a deterrent. It is tempting to blame the U.S. Fish and Wildlife Service for not pursuing more severe penalties by taking the case to trial. However, there are apparently few federal prosecutors or judges who take wildlife crimes seriously, especially regarding such uncharismatic animals as venomous snakes.

Is this something we should be concerned about? Could illegal collecting negatively impact Arizona's wildlife populations over the long term? In order to answer that question, we need to take into account not just the pet trade, but all of the ways we impact wildlife populations. Urban sprawl and development eliminates wildlife habitat. Between

1950 and 2006, the population of south-eastern Arizona (Cochise, Pima, and Santa Cruz Counties) has increased from 182,000 to 1,118,000 (U.S. Census Bureau 2007). Roads and traffic are associated with this sprawl, and given that vehicles annually kill tens of thousands of vertebrates on roads within and immediately adjacent to Saguaro National Park alone (Kline and Swann 2001), vehicles likely kill millions of vertebrates every year in southeastern Arizona.

Increasing human population levels also lead to decreasing water table levels. By the 1940's, groundwater pumping and changes in runoff patterns due to overgrazing by cattle had already turned the Santa Cruz River near Tucson from a place to find beavers and fish into the dry, deep, sandy arroyo we know today, and water table levels continue to drop throughout the area as groundwater pumping continues (WRRC 1999).

Even animals like Twin-spotted Rattlesnakes, which live in the mountains and are therefore much less affected by urbanization impacts than desert, grassland, and riparian species, cannot escape the dramatic habitat changes humans cause. Worldwide greenhouse gas emissions already caused the average temperature in the western U.S. to increase by 2 to 5° F over the 20th century, with models predicting additional increases of 3 to 4° F by 2030 and 8 to 11° F by the end of this century (Smith et al. 2001). Twin-spotted Rattlesnakes and other species that already inhabit the highest elevations of mountain ranges will not be able to migrate to cooler areas as the temperatures rise.

While the illegal collection of wildlife for the pet trade may have a relatively small impact on most species compared to these other threats, it can have a very significant impact on the rare, high-market-value species pet collectors target, especially in combination with the other threats. The combination of overhunting and climate change led to the extinction of many North American species during the last major period of temperature increase 10,000 years ago (Martin 1967; Diamond 1997). The current shift in temperatures is occurring at a much faster rate than the last one, so we can expect many wildlife populations to be severely stressed even without the added loss (and often habitat destruction) caused by collectors.

Arizona's nongame wildlife laws reflect a conviction that Arizona's wildlife belongs to everybody and nobody. While it is extremely difficult to stop the construction of houses and roads, the continued draw down of the water table, or the production of greenhouse gases, it is within our power to stop or at least reduce the illegal export of our wildlife for profit. The laws are already in place. What is needed is the collective will to enforce them. ☛

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