

SHHS *Rattle!*

News and Info for SHHS Members

In This Issue: *B. asper*, *C. molossus*, *B. nasicornis*

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Rattlesnake Roundups:

“Get used to the idea”

An editorial by Karl Betz, SHHS VP

This year was the second anniversary of Fitzgerald Georgia's Annual Wild Chicken Festival. The overwhelming response from the venomous reptile keeping community was apparently “*So what!*”

Previously, Fitzgerald held an annual rattlesnake roundup which was quite the cash boon for this sleepy little Georgia town. Under pressure from reptile enthusiasts and the Georgia Department of Natural Resources, the Fitzgerald Jaycees decided to try to capitalize on something unique to their town – the wild population of Burmese Wild Chickens to be the focus of their annual festival. They asked that DNR ensure that the venomous keeping community, which had been so vocal in attempting to end the roundup, come and display the snakes that they were so passionate about. DNR sent out the call to the Southeastern Hot Herp Society and the Georgia Herpetological Society. The idea was to get herp keepers to volunteer to display their reptiles so that people would still get to see their rattlesnakes and it would still draw in customers for the other booths and therefore money into the town.



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Chris Harper, the President of the SHHS, emailed a group of the most reliable educators in the society and posted several requests for support in the Yahoo Groups and the SHHS forums. The few people who did respond mostly had other educational events that they had previously scheduled. Some folks wanted to know if they would be reimbursed for their time, travel and room and board expenses. The answer to that is obviously "No." Fitzgerald never had to pay anyone to come and collect and then kill rattlesnakes. Switching over to pay someone to come display them does not show a profit.

The general feeling from our community was one of "They have already done away with their rattlesnake roundup, we should move on to Claxton and Whigham since they still have roundups!" I sincerely doubt that those two towns will end their roundups based on the drop in money brought in at Fitzgerald since they stopped theirs. In fact, several vendors at Fitzgerald this year were overheard to be commiserating that there were a lot more customers when they were killing rattlesnakes.

In the vacuum of participation, Cyndi (hereafter "The Boss") and I made plans to drive the four hours to Fitzgerald. As I normally do not keep Eastern Diamondback Rattlesnakes, I found myself asking people if they had one that I could borrow to display. The responses were an overwhelming "NO!" They ranged from "I don't want my snake to be stressed" to "Ask somebody else, I am busy!" Fortunately for me, The Boss is quite level-headed and said to me, "Why don't we just go catch our own, display it and then let it go?" So, off we went, and 5 minutes out of the van, we bagged a beautiful 4 footer. 15 minutes after that, we found another four footer that we photographed but did not keep. On any other given day, I could not guarantee that we would even find any snake. This time it seemed to be an omen. Now we had a snake for the festival but needed a cage to display it in. Matt Crews was kind enough to supply a very nice Neodesha which was just what we needed.

Not sure what to expect when we got there, we loaded up the van and headed out at 4 in the morning to Fitzgerald. When we arrived, we were directed to a \$4, all-you-can-eat pancake breakfast that was really quite good. Set-up only took a few minutes for the few snakes that we had. Jason Barron was the only other SHHS member to show up. His uncle, Delton Hilliard, has the requisite permits for nonvenomous display in Georgia and has displayed snakes at Fitzgerald for several years.

The Georgia Herp Society showed up and had quite a few displays including a couple of non-indigenous venomous snakes that had been confiscated by DNR. The gist of their display was mostly the nonvenomous snakes and turtles of Georgia and they offered things for sale to the public

such as local field guides and the ever-popular "Have your picture taken with a snake or turtle."

At the only SHHS table, The Boss and I fielded questions ranging from "Why do you keep these awful animals?" to "What months do Diamondbacks mate in and are they more aggressive then?" The younger people were, as usual, more interested in the animals but they dragged their parents along with them. Several people were very interested in why we thought that rattlesnakes should not be indiscriminately killed wherever they are found and some left with a newfound respect for these magnificent animals. Certainly there were people who had never left the county in their entire life and several who had never even entered high school. People from all walks of life need to be educated to not kill snakes, not just the ones that share our interests, religious or political views, or even our educational background.

At the end of the day, as we packed up, I overheard several people leaving discussing whether or not Fitzgerald would or should return to having roundups as that would certainly get attendance back up. As they walked away, I looked around at all the support they had gotten from the venomous keeping community and wondered why they had ever quit having roundups. I expect that next year there will still be the usual petitions to stop roundups and the gripes and complaints about how horrible they are. The fact is that they bring money into otherwise quiet little communities which support very humane causes, like the Jaycees, Lions, and other civic organizations. Now that I have witnessed it first-hand, I would have to agree with those people leaving the Wild Chicken Festival. If folks won't support an alternate agenda, why not continue the roundups? "It's not good for ecological balance." "They keep down rat populations and therefore prevent diseases like Hanta Virus and Black Plague." "It is cruel, mean and hateful." While all good arguments, these do not bring money into a small community. Rattlesnake roundups certainly do catch the public's attention and do bring in money for the local economy.

In closing, I would like to say that rattlesnake roundups are an awful blight on an ecologically conscious society. People will make the right choices as long as they don't have to suffer to make them. What are YOU doing to support them making the decision you support? If the answer is nothing, then by your inaction, I submit that you are supporting roundups. Take a really good look at the situation. Where do you stand?

About the Author:

Karl Betz is currently serving in the US Navy at Kings Bay in St. Mary's Georgia.



Apalachicola 2003:

“Land of the fortunate few”

by Chris Harper, Pres. SHHS

Anyone in the general vicinity of the Florida panhandle on the nights of April 4th and 5th can relax.

That wasn't an earthquake you were feeling. It was Chad Minter snoring at Camel Lake campground 12 miles south of Bristol, Florida. I know this as my tent was only 30 feet from his. For the 3rd year in a row, the SHHS had returned for our annual group herping trip.

If you were one of the unfortunate people that didn't attend, let me tell you what you missed. First of all, the Apalachicola National Forest (ANF) is a nearly 560,000-acre tract of pine and palmetto forest located southwest of Tallahassee, Florida in the panhandle. Directly to the south is Tate's Hell Swamp, which is also an incredibly large tract of land. If I had to guess, I'd say that combined, there is well over a million acres of land that you could've been herping! Splitting them both down the middle is the Ochlockonee River, a typical black, swamp fed river, loaded with gators, cottonmouths and turtles galore.

On Friday night when I arrived, a few folks had already been herping the whole day. Chad

Minter claimed to have seen no less than 15 snakes prior to my arrival.

Saturday morning I awoke to the sound of rain drizzling on the tent. "Oh no. Not again." I thought to myself as I looked up through the screen mesh at the gray tarp covering my tent. I slowly climbed out and surveyed the overcast sky. Hmm, not too dark and ominous and the temp was in the low 70's. I could live with that.

Just as quickly as we could eat breakfast, we got into our vehicles and hit the dirt roads. My riding partner for the day was Derrick Kesler of Royston, Georgia, a first time herper. We decided to head to the southern end of the ANF, and then work our way west. While I enjoy road cruising, I also like to make sure that I explore every nook and cranny of any place that I visit, and hence, I use GPS software and a laptop computer to navigate. In short order, I showed Derrick how to use the software, took over as navigator and we started looking for places that I hadn't been before.

I'm not sure what was going on at camp, but Derrick and I got into a hard rain that lasted for hours. We made the best of it and put my Jeep



From Left: John Pullian, David Smith, Derrick Kesler, Dr. Bob Herrington, Chris Harper, Karl Betz, Cyndi Betz, Bill Spencer, Brad Kalota, and Chad Minter. **Not pictured** -- Chase Gwaltney and Tyler Lee.



Photo by Karl Betz

Wrangler through the deepest water holes we could find. At least once, we almost didn't come out.

Just after noon, it stopped raining and occasionally the sun peeked out from behind the gray overcast. Our personal total for Saturday was only 3 snakes: a DOR garter, a Black racer and a Florida water snake. But we also found a couple of lakes with large American alligators, with one 3 footer found dead on the bank. (Brad Kalota looked at it the next day and discovered a bullet hole through it's sinuses and it's tail missing. Obviously, it had been poached.)

I also happened to spot and videotape a couple of turtles on Saturday, one of which was a female Gulf coast box turtle. It turned out that Cyndi and Karl Betz were looking for one on behalf of a zoo, and weren't very happy with me for not bringing it back. Another interesting find was a baby turtle that appears to be an Eastern box turtle, which isn't supposed to range into the ANF. I got good shots of both the shell and the plastron and will probably let some turtle experts look at it in the future.

When Derrick and I rolled into camp on Saturday night at around 8:30pm, Dr. Herrington had already cooked up a huge low country boil. Starving from being out all day, we stuffed our faces with tasty Gulf shrimp, kielbasa, potatoes and corn. I can't begin to tell you how it hit the spot, and I didn't even have to do any cooking. We then moved over to the campfire ring, where the truth-telling contest began. Taking a running tally, our venomous captures included 2 Eastern coral snakes, and 2 Dusky pigmy rattlesnakes, one of which was anerythistic. All of these snakes

were in camp, but we also heard tales about the ones that "got away". ;-) Late into the night, we sat around the campfire recounting our experiences and captures. As usual, I tossed in a few paramedic stories to spice things up.

On Sunday morning, I awoke to find a very large, ill-tempered Black racer making his way around my tent. (*I think someone had slapped him around a bit before tossing him in with me, because he was mad before I even woke up good.*) Fortunately, he didn't smell my breath and bite me in the face. I went ahead and bit the bullet and grabbed him right in the middle of his body. At a rate of about 5 bites per second, it took me about 10 seconds to toss him out the door and let the pranksters chase him down. While applying direct pressure to my wounds, I crawled out into the morning sun.

It warmed up quickly as the sun burned away the wisps of clouds left over from the previous day. Both Brad Kalota and Derrick rode with me during the first part of the morning, with our first discovery being a small Florida cottonmouth that had just been run over only a few minutes before. The driver had also finished the snake off with a large knife by the look of it. We had just passed a truck coming from the area only a couple of minutes prior, and we suspected he was the culprit.

Brad later transferred into Chad Minter's vehicle, and Derrick and myself headed south on Hwy 67 to check out Tate's Hell Swamp. Any place with a name like that had to be interesting, and I wanted to experience it. On the northeastern corner of Tate's Hell, there were a couple of entrances that I decided to bypass, which was a mistake. However, as a result, Derrick and I ended up eating lunch at a place called "The Hut" on Hwy 98 overlooking the



Photo by Karl Betz

THE LEGEND OF TATE'S HELL...

A tale that has been told for many years recounts how Tate's Hell Swamp got its name. Local legend has it that a farmer by the name of Cebe Tate, armed with only a shotgun and accompanied by his hunting dogs, journeyed into the swamp in search of a panther that was killing his livestock. Although there are several versions of this story, the most common describes Tate as being lost in the swamp for seven days and nights, bitten by a snake, and drinking from the murky waters to curb his thirst. Finally he came to a clearing near Carrabelle, living only long enough to murmur the words, "My name is Cebe Tate, and I just came from Hell!" Cebe Tate's adventure took place in 1875 and ever since, the area has been known as Tate's Hell, the legendary and forbidden swamp.

http://www.fl-dof.com/state_forests/Tates_Hell.htm

Gulf of Mexico in the town of Apalachicola.
(Seafood platter - \$6.25.)

We headed back into Tate's Hell, finding an entrance on the southwestern corner off of Hwy 65. Our goal was to exit on the northeastern corner at Hwy 67, crossing Tate's Hell diagonally and seeing as much as we possibly could. Part of our goal did not come to pass. The topo maps on both the computer screen and the Florida Gazeteer both show the exact same roads. What they don't show are the multiple gates that seem to have been arbitrarily erected throughout the maze known as Tate's Hell. After awhile, I expected to round the corner and find the mythical Minotaur waiting to kill us. A few hours later, we found our way out, but did not succeed in transversing the width of Tate's Hell. Our total snake encounters included: 1 Rough green snake, 2 Black racers, and 1 Florida water snake.

We then headed back up to the ANF to finish out the day. On the way, we met a rough looking old hermit named George, who told us that he had moved to Sumatra, Fl. in 1927. During our 30-minute conversation, he advised that in the past few years, he had killed 3 Eastern diamondbacks on his 50-acre property. He also advised that when the rain had overflowed the riverbanks just recently, there were more snakes crawling through his yard than at any other time. Finally, he pointed out a road on the map where we were most likely to encounter Eastern diamondbacks. "Thanks for the herping tips, George!"

Back in the ANF, Derrick and I quickly got back down to business, knowing that this was our last day to herp. In the last 30 minutes of daylight, we caught 2 Peninsula ribbon snakes and 1 beautiful Eastern coral snake, the only snake that we kept. It was one that I have needed for a long time to include

in my snakebite lectures. Arriving back at camp, we discovered that Sunday had been a banner day for all who had stayed.

Early Monday morning, I awoke at 7:15 am and ate breakfast alone, as everyone else was still asleep. (Where's a ticked-off Black racer when you need one?) I was already breaking down my gear and packing it up when the others started climbing out of their tents. When my gear was stowed, we all said goodbyes and I climbed into my Jeep and headed north.

In one of life's typical ironic twists, about 15 miles north of Bristol, Florida on Hwy 12, I discovered a robust 5 1/2 foot Eastern diamondback dead on the shoulder of the road. I stopped to look at it, and found that it had probably been hit about 12 to 14 hours prior; around the same time we had been capturing our coral snake. Not out of character with the brave souls who kill rattlesnakes with cars, the rattles had also been neatly severed.

I sighed deeply, as I picked up the limp carcass with my hook and tossed it off the shoulder of the road into some high grass. "At the very least", I thought to myself, "it can return to the soil without being gawked at by those who haven't learned to appreciate such an awesome animal."

About the Author:

Chris Harper is a full-time paramedic and EMS snakebite instructor. He is also the founder and president of the SHHS.



A short list of the animals found includes:

5(+) American Alligators, 4 Dusky Pigmy Rattlesnakes (*one was anerythritic*), 3 Eastern Coral Snakes, 7(+) Black Racers/Brown-chinned Racers, 2 Eastern Coachwhips, 3 Florida Cottonmouths, 3 Scarlet Kingsnakes, 4 Corn Snakes, 3 Eastern Mud Turtles, 1 Yellow-bellied Slider, 3(+) Gulf Coast Box Turtles, 1 Mud Snake, 2 Florida Water Snakes, 5(+) Eastern Ribbon Snakes, 1 Eastern Garter Snake, 1 Bullfrog, 1 Oak Toad, 1 Pig Frog, 1 Southern Leopard Frog, tmtc Spring Peepers, tmtc neonate toads (either southern or spadefoot), tmtc southern toads, 2 Eastern Glass Lizards, several fence lizards, anoles, ground skinks, scorpions and centipedes.

More on "Teaching dogs to avoid snakes."

By Doug Lemmons, Walker Basin, CA

In the SUMMER 2002 issue of the Southeastern Hot Herp Society (SHHS) newsletter "RATTLE" was an article "NEWS ITEM" "Teaching dogs to avoid rattlesnakes" by Javier Erick Olveera. The article was very interesting, but there were a couple of things that I am concerned with. 1) Using venomous snakes (that are "humanely muzzled"; 2) The electronic collar.

By using venomous snakes, he increases his liability to himself and his assistants in-case one of them was to get bitten. I don't know how he "humanely muzzled" his rattlesnakes, but, to me, that would put the rattlesnake in an awkward/unnatural setting/situation and I don't feel the rattlesnake would render the same response out in the wild. As for the electronic devise, (I did try it a couple of times and didn't get the desired results and felt it was more inhumane to the dog than it was beneficial.) the dogs went right out and got bit by the snakes after the electronic collars were removed. "Go figure?"

I have been using snakes to train dogs since 1969 in Viet Nam. I used non-venomous snakes that we would catch while out on different missions and worked with our combat trained dogs and dog handlers so we wouldn't lose any of these valuable soldiers as victims of snake bite.

After returning stateside, I continued training dogs and their owners, using Gopher snakes *Pituophis melanoleucus catenifer* and/or the different snakes that were available in their area. Some of the other snakes that I have use are Bullsnares, Pine snakes, which are *Pituophis* also. and water snakes *Nerodia* all of which were aggressive in there mannerisms.

I would first place the snakes out in the open field to see if the dogs would recognize snakes as a danger, then, I would walk the dogs on leash towards the snakes until they saw the snake and/or heard the snake and recognized the danger and let the dog tell me when there was danger in my immediate area. It is my belief that my dog is out there to protect me and I am to protect my dog. If I live in "snake country", then It is my responsibility to make sure my dog is trained, not only when I'm with him, but when he is out sniffing around for all the new smells that happen to invade our property during the day and night, while he is waiting for the urge to do his nature calls.

I like to do a follow-up session with the dogs every six months or so for a year or two to re-enforce their training and to see what kind of memory they have after being away for a while.

Some of the people that I have worked with have lost very valuable show/hunting dogs to rattlesnake bite and to this day have not lost anymore dogs from snake encounters. Every dog I have ever had has

gone through this training and most of my neighbors/dogs as well. I have never charged anything for this training, but with inflation the way it is I think I might start.

I would like to find out what kind of training he (Mr. Olveera) gave his assistants in the care and handling of venomous snakes, what species of rattlesnakes he used and how Mr. Olveera "humanely muzzled" the rattlesnakes.

At no time did any of my snakes get injured, being confronted by dogs, but most of the dogs got bit on the nose one or two times by the non-venomous snakes, and now they won't walk up to a stick and smell it to see what it is unless I tell them it is okay. I would be devastated if one of my dogs was to get bit by a venomous snake. I would not only lose a member of my family (if it should die) but the financial burden that it would place on me and my family (veterinarian expenses) that would be incurred, would put me in the poor-house and I wouldn't be able to afford either of these precious pets (dogs and snakes).

If you live in "Snake Country" then I suggest you contact your local reptile society and have someone (work with your dogs and yourself), teach you about snakes. I also work with people so they can overcome their phobia of snakes, which is more difficult than with dogs.

I am a member of the SHHS, Southwestern Herpetologists Society (SWHS), Founder of the Al Robbins Chapter (SWHS) in Bakersfield, CA., (1983), past Curator of Reptiles at the California Living Museum (volunteer for 3 years), Founder of the Kern Valley Reptile Society (2001), in Lake Isabella, CA and a member of a local Reptile Rescue, Research, Rehab, and Relocation team in Kern County, California and a founding member of the Annual Reptile Celebration held on June 14th & 15th 2003 at the Audubon California, Kern River Preserve in Weldon, California.

If anyone is interested in having their dogs go through this type of training, I would be more than happy to assist them. I do not recommend you go out and catch snakes to try this on your own unless you have studied reptiles and are comfortable in handling live reptiles.

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Beautimus *Crotalus molossus*!!!

By Jeff Miller

The Northern black-tailed rattlesnake- *Crotalus molossus molossus* of the American Southwest, ranging from central Texas, West through New Mexico and most of Arizona, and South into Mexico, is arguably one of the most beautiful and variable species of rattlesnake North America. There are "Texas Blue" phases, "S.E Arizona High-yellow" phases, and a "Desert" phase, at least to those who have seen many blacktails. These rattlesnakes, no matter what 'phase' they are, are striking in appearance with a contrast of a olive, green, blue-ish, grey, golden or yellow base and light brown to chocolate to dark brown and deep black dorsal blotching and a face mask, giving the appearance of a snake that has been decorated in Apache war paint. Of course that tail, hence the name, is normally solid black from the rattles to the vent.

Adult black-tails can range from around 30 inches up to 48 inches, and can either be thick, fairly heavy bodied to somewhat slim and long, depending on the locality. The general but decidedly unscientific rule seems to be that the animals from

higher elevations tend to be heavier bodied and more colorful, and I can attest to that with the molossus I've found and seen in Arizona.

Being such amazingly attractive snakes through much of their range, black-tailed rattlers are often well sought as captives. They are produced in captivity regularly, but captive bred babies are usually hard to come by. I am under the impression that there are relatively few keepers out there who have either mastered the propagation of captive *molossus*, or have been lucky enough to end up with a hungry, horny pair. These are the keepers who will regularly produce captive offspring, and there isn't many of them. Each year, a few wild-caught molossus seem to hit the scene, and in my opinion, they are usually the easier-to-find but less attractive 'desert' phased animals from AZ, NM, or west TX. We rarely see the brilliantly-colored yellow and black animals from S.E. Arizona or the steely blue/ black hotties from Texas

offered for sale, and I can only make more assumptions about why that is as well. But then we would be getting into discussion the habits of commercial collectors, and commercial collecting is either illegal in some states, or simply too controversial a subject to get into here. But I will venture to say this: the desert-phase, lower-elevation populations of *C. molossus* are far more likely to be encountered on paved roads, and relatively close to civilization, which also happens to be where you can find most visiting herpers looking to collect reptiles for whatever reason. Sparing any sort of social statement here, I will simply say that the animals I have worked hardest to find have been rewardingly beautiful, no matter what they happened to 'look' like.

As with many fairly specialized species of



rattlesnake, wild-caught captive black-tails can often be difficult to acclimate and often present quite a challenge as regular feeders, even to experienced Crotalid keepers. We should keep in mind here that some populations of molossus seem to be, more or less, 'specialists' in

the academic sense of the word, and then there are the localities that have populations representing more generalist types of behaviors. The latter just happen to be the same populations that seem to most often provide us with captives. This is a good thing for captive molossus, but still doesn't let us keepers off the hook. Black-tailed rattlesnakes, wherever they come from, may very likely be difficult to acclimate. Obviously parasite load can be a contributing factor, and I would recommend that any WC black-tail be treated appropriately for parasites. Even after a 'successful' period of acclimation, these rattlesnakes may be sporadic feeders. I have often speculated that wild *C. molossus* may only eat a few times during a good year, but I haven't researched this idea any further than that. Nor have I begun to speculate as to why a captive snake refuses a meal one session, and readily accepts a meal the next.

When it comes to prey and food animals, wild molossus are predominantly rodent eaters, from mice to packrats and squirrels, and surely young rabbits when available. Once a wild-caught black-tail is in captivity, a keeper may realize that *C.molossus* seems to be VERY particular about their food choices when it comes to the senses, most notably that of smell and sight. I doubt I have ever heard of a newly aquired WC black-tailed rattlesnake that has accepted a white domestic mouse or rat as a first meal as a captive. In the eperience of several keepers I have communicated with, and mine as well, newly aquired molossus may not accept prekilled prey either. This leaves a few options. First, for those who reside in areas where wild rodents can be obtained, mice and wood rats can be trapped, and roadkilled rodents in good condition can be collected and frozen for later use. The most obvious and most reliable meal for a captive meal will be a wild rodent, preferably some desert or mountain species, or an animal that resembles such species. We have had great luck getting acclimating adult black-tails who have refused every other option to take domestic gerbils. Hamsters may work fairly well too, and of course one can always try live domestic mice of any color other than white. Keep in mind that the above is mentioned in cases in which a captive molossus is proving to be difficult to acclimate and get feeding. Once my black-tails have eaten a couple meals as descrined, suddenly they no longer seem to mind white domestic mice or rats. Go figure. But they still may fast for long periods, and I have had to start over with the feeding games, once again having to feed a long term captive snake wild rodents again.

As with other WC rattlesnakes, adults specimens are usually harder to acclimate than younger animals, although the most trouble I've had was with a yearling youngster from the Chiricahua mountains. After maybe nine months of refusing every type of prey item I could think of, and including a period of broomation, that little snake unexpectedly consumed a couple of prekilled domestic mice without issue.

Once acclimated, and if temporary enclosures were utilized during that period, perminant caging is in order. Because black-tails are relatively large snakes, they will require relatively large quarters. As with any species of Crotalid in captivity, a hide is strongly recommended, and clean water should be available at all times.

Again as with other rattlesnakes, as long as appropriate space is provided, *C.molossus* can be maintained in very simple enclosures or rack-systems, with newspaper or other types of readily available substrate options. However, I am one of those fanatical

types that considers my enclosures to be a small piece of the environment from which a specimen originated. But then again I am lucky enough to live within molossus range and have fairly easy access to many types of substrates and litter that would be present in the environment of wild molossus. For those of you who don't live anywhere near black-tailed habitat (and most people don't), remember that black-tails reside in habitat ranging from low-elevation, rocky-desert scrub and bajada up into juniper-spotted, grassy, hilly mountainous regions, on up to alpine-type pine/ oak forests. I have discovered that my favorite natural substrate for my molossus is a sand base covered with a nice thick layer of oak



leaves, some pine cones, and a few small sticks. A rock pile over an appropriate diameter lenth of PVC pipe ensures great seclusion in a very naturally-appearing setting. The benefit to a simplistic set up, of course, is the ease in maintenance and saftey. With a naturalistic cage, you just think about it a bit differently. The snakes stay in the enclosure unless I absolutely have to remove them for some reason. I scoop the poop I can see with a scoop attached to a long rod. I keep a large bowl of water right at the front of the front-opening enclosure for easy access. I have multiple animals in the same cages, and if and when I need to change the substrate of perform more serious cleaning, I simply hook and remove the animals I can get to, put them in secure temporary confinement, and wait for the others to come out of hiding before I do the same with them. Sure, it takes a bit longer, but who needs to rush when handling venomous snakes anyway?

Once acclimated, adult black-tails seems to breed fairly readily, and do not present any notable difficulties in terms of reproduction. In the wild, female *C.molossus* may not breed until they are 3 to 5 years old, and seem to skip a year or two between litters. There has been some very notable data from a few researchers that newborn neonates will spend their

first few weeks with their mother, and she seems to protect them. I'm sure there are more details available if one is so inclined to search for them. I would recommend reading anything written by Harry Green on the topic of *C.molossus*.

My captive black-tailed rattlesnakes have proven to be very rewarding and exceedingly beautiful captives, even if they do tend to take a lot more work and patience to acclimate than many other Crotalid species. I certainly would not recommend *C.molossus* as good beginner species, but if you have some decent experience with Crotalids, you may be ready for your first black-tail! ~JM

News Item:

Snakebite results in charges

Venomous cottonmouth was allowed to roam free in man's Annapolis house

By Julie Bykowitz, Sun Staff, March 15, 2003

The Annapolis man whose pet cottonmouth snake bit his girlfriend last week was charged late Thursday with reckless endangerment and importing a venomous snake into the state.

Devin D. Conley, 29, told Maryland Natural Resources Police that the snake was roaming free in his house "to get some exercise" when it emerged from newspapers on a coffee table and sank its fangs into Jacqueline L. Lee's left thumb.

"It was a dumb thing to do," Conley told police, according to charging documents. He said he brought the snake from Florida in the fall.

Lee, a 21-year-old Annapolis resident, was rushed to Anne Arundel Medical Center late March 5, where she was given antivenin. She said her left arm was badly swollen and her thumb was covered in a blood blister.

She was released Monday, a hospital spokeswoman said.

Conley was arrested late Thursday, said John Surrick, a spokesman for the Department of Natural Resources. He was released on his own recognizance yesterday after a bail review hearing. His bail originally had been set at \$50,000.

Because he had experience with poisonous snakes - and had been bitten several times himself - he was not too concerned about the dangers of a cottonmouth, charging documents state.

Conley told police he had no other snakes at the home, but that he does have a three-foot lizard that roams free. No other details on the lizard were available.

Lee said last week that she will continue to date Conley.

<http://www.sunspot.net/news/local/annearundel/bal-ar.snake15mar15,0,610819.story?coll=bal-local-arun>

CLOSE CALL WITH A RATTLESNAKE

by Doug Lemmons, Walker Basin, CA.

While traveling from Walker Basin across the "Lions Trail" headed for Bakersfield to visit my wife in the hospital, I came across a 2 ½ foot rattlesnake on the edge of the pavement and decided to stop and help it off the road before someone came along and ran over it. When I first touched the snake with a stick, it coiled and struck at me, just missing my leg about 3 inches. If I hadn't had the stick between me and the snake, I would have been bitten. The strike hit the stick and venom shot out of both fangs and sprayed me from the knees and up over my head. As the venom crossed my face, some went into my left eye and I had immediate burning and pain in my left eye.

Since the eye is covered with mucous membrane, the effect of the venom was almost like getting bit. I immediately (within 30 seconds) flushed my eye with water for several minutes and continued on to Bakersfield, but this time I was headed for the hospital to get treatment for snakebite. As I continued, I came across other snakes on the road and stopped and caught them so they wouldn't get ran over. The encounter with the rattler was at 7:00 p.m. and I arrived at the hospital at 7:45 p.m. My eye was as red as a beet and the burning pain had increased 10 fold. There was some swelling under my lower eyelid and redness around my left eye socket. I told the first lady (Hospital Employee) that I had been bitten by a rattlesnake and she told me to sign in at the front desk at the emergency room and have a chair. I did that and another 30 minutes went by and they still hadn't called my name. I went back to the front desk and told another lady (a Nurse) and this time I got some fast results. She immediately took my blood pressure, pulse, and temperature and admitted me to the Emergency Room and had a Doctor examine me within one minute. Another Nurse started an I-V in my left arm and gave me a shot of Benedryl for any allergic reaction I might have from the venom. The Doctors and Nurses came around and checked on me every few minutes for about five ½ hours and the swelling had not increased, but the pain had increased a little, and my vision in my left eye was not very good. The attending Physician decided to release me around 12:30 a.m. and told me to see my family doctor and an Eye Doctor the next day.

After being checked by my personal doctor and the eye doctor, it was determined that there would be very little damage done to my eye and my vision returned to normal within 24 hours. By the way, I had to drive an hour back home that night, back to Bakersfield the next day and then to West L.A. to the Veteran's Hospital to see the eye doctor. The trip went fine and I'm very happy with the outcome of the whole incident.

For those of you that like to stop and move snakes off the road, just remember you don't have to get bitten to get "envenomated" by a snake. Venom coming in contact with a mucous membrane and/or open wound (scratch or cut on the skin) can be very similar to being bitten and needs to be treated by a Physician as soon as possible, especially if it's neurotoxic. If the venom had entered into a cut on my skin, then I could've been in for even more complications.

Of Capuchins and Eyelash Vipers: *Herping in Costa Rica* by Thomas Eimermacher

Costa Rica has one of the richest and most herpetologically significant fauna collections worldwide. Approximately 400 species of reptiles and amphibians are found in a country that is the third smallest in Central America. It is one of the few places in the world, where the combination of nature and tourism has not yet resulted in massive habitat destruction, as the ecotourism plays a crucial role in the 'tico' economy. It was all the more exciting when I received the opportunity to spend some time in Costa Rica, working at a federally recognized serpentarium and exploring the natural treasures that the country's fauna has to offer. Anyone who has ever visited the country can attest to its beauty and ecological diversity.

With just 51,100km² of landmass, only Belize and El Salvador are smaller in size than Costa Rica. The distances within the country are accordingly small, and one can travel from one side to the other in just a few hours, using the relatively efficient bus transit system. Ecologically, Costa Rica may be divided into five physiographic regions, which include the Caribbean lowlands in the north, the interior highlands, the central plateau, the plains and tropical dry forests of the Guanacaste Province in the northwest, and the southern Pacific lowlands in the southwest. There are about 133 species of snakes found in Costa Rica, and 17 of those are known to be venomous. The majority of these inhabit the lowland areas of the country, while species like the side-striped palm-pitviper (*Bothriechis lateralis*) and the black-speckled palm-pitviper (*Bothriechis nigroviridis*) are found in the montaine forests.

One trip led me to the Limon Province on the Caribbean coast. I spent several days herping in the Cahuita National Park, which stretches 2,600 acres along the beach. This beautiful park features a great assortment of wildlife and natural wonders, such as coconut groves, coral reefs, and blue waters. It also offers a great abundance of reptiles and amphibians. Among others, it is known to be a prime habitat for eyelash vipers (*Bothriechis schlegelii*), or orepels, as

they are commonly referred to by the "ticos". Observing this species was part of my primary focus on this trip.

My probably most adventurous experience in Cahuita occurred on the second day of my stay there. I had been herping since the early morning, and had observed a variety of animals, ranging from white-faced capuchins (*Cebus capucinus*) to iguanas (*Iguana iguana*). The capuchins were quite abundant and rather fresh at times, indicating that they had been fed by visitors. I had also heard the roars of a nearby troop of howling monkeys (*Alouatta palliata*) earlier, a sound that is quite powerful and rather impressive to hear. It was about mid-afternoon now, and I had taken a break from herping, and decided to spend the heat of the day relaxing at the beach. The

setting was most convenient, as the forest literally borders the white beaches. When the hottest time of the day had passed, and the few naturalists were returning to their cabins, I decided to take another walk through the forest, to see if I would get a glimpse at some more interesting animals. Earlier that day, I had been able to observe a



neonate *Boa constrictor imperator* catching and swallowing an adult bronze-backed climbing skink (*Mabuya unimarginata*), immediately followed by a adult golden eyelash viper resting on a branch. Both specimens had to undergo extensive photography sessions, but remained otherwise untouched. It was now about two hours before sundown, and the park was about to close for the day. As I made my way down the trail, I encountered several naturalists that were on their way out of the park. Two of them, a German traveler and a Costa Rican naturalist, I had met earlier, and they decided to join me in anticipation of observing some snakes. We walked for approximately 30 minutes, when I suddenly spotted another golden eyelash viper resting on a plant at about shoulder height. This was another beautiful specimen, and I was now kicking myself for having brought my camera back to the cabin prematurely. My two fellow herpers were also very much put in awe by

the beauty of this animal. Despite its rather distinctive coloration, the snake was blending into its environment amazingly well, and remained cryptically concealed, yet remarkably exposed at the same time. Still fussing about the camera being at the cabin, we continued to walk, and it was barely 10 minutes later, that I spotted yet another golden eyelash viper resting on a palm tree at about chest height. This specimen was even more beautiful than the previous one, and its setting would have made for an attractive photograph. I was now desperate for my camera, but we were far over an hour walk from the cabin, and there was no way to get there and return with the camera before darkness. And even if I did make it back before complete darkness, it was highly unlikely that I would find the snakes again, even if they did not move. However, I felt strangely obsessed with photographing these specimens, and decided to run to the cabin and back, and to take pictures with whatever light may remain at that time. My two fellow herpers gladly offered to wait by the animals, which would make my chances of finding them again significantly higher, while I sprinted through the woods, sending iguanas dashing for safety from the perceived threat. I knew that lighting was going to be crucial for the shots, and the image of an obsessed herper running through the woods certainly left the capuchins wondering about the mental state of said person. Nevertheless, I arrived at the cabin, grabbed the camera, changed my soaking-wet shirt, and made my way back to the park. With a meager excuse, I convinced the park guard to give me a few minutes in the park, which was now officially closed to visitors. As I was running back to the spot where my two friends and – hopefully – the two eyelash vipers were waiting for me, the sun was going down at a speedy rate, and my hopes of arriving at the spot with enough light left for photography were decreasing. It was now getting darker by the minute, and within a short period of time, I could hardly see the trail in front of me. After what appeared to be just a few minutes, darkness completely surrounded me, and there was hardly enough light to see the way, much less for decent photography.

I finally arrived at the spot where my two friends were waiting, who – much to my dismay – had moved from the snakes to another spot, where they had seen “something” earlier in the day. Through a combination of luck and bizarre circumstances, we somehow managed to find both specimens again, who had remained at the spot where we had originally discovered them. However, it was now nearly pitch-black dark, and I could not even see the animals in the viewfinder of the camera. None of us had been equipped for night herping that day, so we did not have a flashlight at hand either. The only available item that was of use turned out to be a cigarette lighter, which my German friend was able to supply

from his backpack. Holding the lighter in one hand and the camera in the other, I began taking pictures of the snakes while trying to keep both hands out of striking range. This was easier said than done, as it was otherwise completely dark, and the mosquitoes had meanwhile opened season on anyone crazy enough to be in the woods at night. I was also all too aware of the risks associated with holding a lit flame within a few inches of a pitviper, but I was determined to get some decent shots of the two animals as exchange for all the hassle I had put upon myself in the process. After a brief photography session with each animal, we decided to head back to the cabins, as the mosquitoes were starting to carry us away.

During our walk back, we each shared some of our personal adventures that we had experienced while traveling other countries. Unfortunately, my various stories involving snakes in the wild made my two non-herper friends feel a bit uneasy, considering that we were walking deep through prime Terciopelo (*Bothrops asper*) habitat, and they were glad when we finally reached the cabins without incident.

About the Author:

Thomas Eimermacher is the recent recipient of an MBA from the University of New Orleans.



“Safety Tip of the Quarter”

The safety tip of this quarter is the tip of this thumb. This is what's left after a Prairie rattlesnake bite. This could definitely interfere with your ability to hitchhike. ~CH



Rhinoceros Vipers in Captivity

By Matthew T. Crews

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Introduction:

The Rhinoceros Viper, *Bitis nasicornis*, is a very colorful ambush predator found in the rain forests of Africa. They get their common name from their two to three pairs of nostril scales "horns". Sometimes they are referred to as the "River Jack" because of their semi-aquatic nature, they are often found near rivers and streams. The Rhinoceros Viper is a stout snake with an average size of 2 ½ to 3 ½ feet with some individuals reaching 4 feet in length.

Housing:

I house newborns to juveniles in small opaque plastic boxes with paper towels for substrate and a water bowl. Newborns need to be soaked every two weeks for several hours to insure proper hydration. I keep sub-adults to adults in medium size enclosures measuring 3 feet long by 1 ½ feet deep and 1 foot high. I use a substrate of sani-chips and a water bowl with fresh water at all times; the bowl should be shallow and large to allow easy access and prevent spills. The room in which they are kept is temperature controlled with a daytime temp of 80 to 82 degrees with a nighttime drop to 76 to 78 degrees.

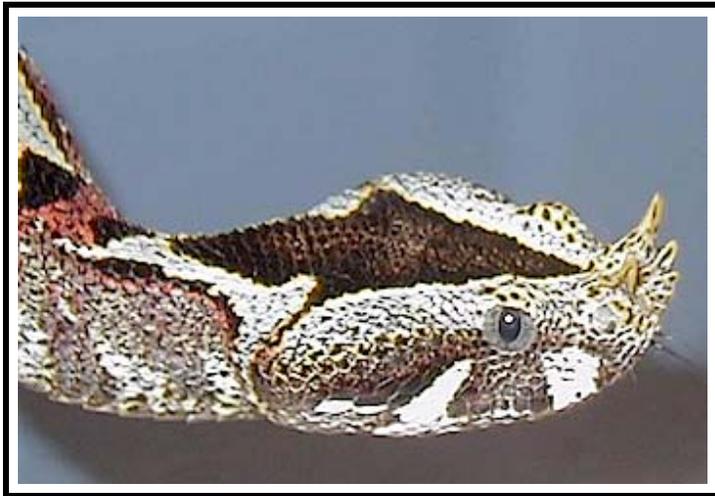
Feeding:

Newborns will usually take pinky mice after their first shed, and although some may hold out for a week or so, most will start eating without any trouble. After they do start eating, food is offered every 7 to 10 days for the first two years. After two years of age, I skip approximately every fifth feeding. The amount of food offered must be adjusted according to body weight. They are a robust snake, but can quickly go from being heavy bodied to obese. Obesity can lead to fatty liver disease and unwillingness to breed.

Breeding:

Rhinoceros Vipers in my experience have not proved difficult to breed, although I do things quite contrary to their natural habitat, besides keeping a semi-aquatic rain forest animal mostly dry; I also breed them at the wrong time of the year. Beginning the first week in December, the temp is slowly

decreased to the low 60's. This temp is maintained for approximately four weeks. During this time food is not offered, but fresh water is available at all times. Care is taken to disturb them as little as possible. In early January they are slowly warmed up to their normal temp. Seven to ten days after being warmed feeding is resumed. A few days after their first meal the male is placed into the females' enclosure, mating will usually occur almost immediately. Separate them for feeding, then reintroduce the male a few days after feeding, reintroduce the male several times to insure a successful breeding. During separation from the female, the male may become very active moving



constantly about his enclosure. Whenever this behavior is noticed, place the male back with the female and mating will usually take place immediately. If a successful breeding has taken place, the gravid female will continue to take food up to July. At this point she will be very noticeably gravid. And a clean hide box should be offered for her to

give birth in. A few days after her shed in mid August she will give birth.

Notes:

Let me start by saying that I know that the way I keep Rhinoceros Vipers is contrary to the way most people keep them. I am not saying they are wrong, I just know what has worked for me. I have been keeping this species for many years and have been very successful in breeding them. Also, it is my opinion that a major factor in my success is captive born stock. Wild caught imports do not fare well in captivity, often succumbing to parasites and stress.

Conclusion:

For the advanced venomous keeper, the Rhinoceros Viper with its gorgeous coloration has to be one of the most spectacular snakes on earth. They have a relatively calm disposition and can be handled with two hooks fairly easily; although care must be taken when moving due to their heavy bodies. And no matter how beautiful they may be, we must not forget they have highly toxic venom and can deliver a deadly bite very efficiently.

Bothrops asper: A collection of captive care notes By Sierra

In my opinion, *Bothrops asper* is one of the most spectacular species in the entire world and is one of my personal favorites. Yet, it is probably also one of the most over looked. It has a reputation as being a psychotic, unpredictable snake, but this is not entirely true. However, I would recommend that only very experienced keepers maintain this species. I would further recommend that shift boxes be used, as it is by far the safest way to deal with them, as well as many other species of venomous snakes. And it is much less stressful on the animal. With *aspers*, shift boxes totally

prevent the explosion that they are famous for when disturbed. On most occasions an *asper* will sit motionless until you physically contact it in some way, however if you happen to bump it with your hook it will explode into a spastic missile, usually in the opposite direction of the

disturbance. *Aspers* are also known to ambush their pursuers (...by initially fleeing then doing a lightning quick 180 and waiting for the pursuer to get within striking range. This has been noted by several herpetologists such as Harry Greene and Dean Ripa). I have witnessed this personally, it is quite startling, and you could be in real trouble if unprepared for this tactic. Another tactic it uses is to strike its head just past its target, then double back quickly twisting its neck to catch the prey from behind. A quote from Dean Ripa "By my estimation, the world's most dangerous viper to catch." Our personal experience with this species is relatively new. We have maintained a large adult female for nearly a year now and just recently purchased 2.2 cb neonates from Dean Ripa.

The home range of the *asper* ranges from northwestern Mexico, southward to which it extends from Mexico to Ecuador. Countries within this range are Belize, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, and its presence is questionable in Venezuela. It occupies mainly tropical rainforest and tropical evergreen forest, but is also found in dryer regions of tropical deciduous forest, thorn forest and pine savannah in near proximity to rivers, streams or lakes. Often also found in agricultural areas and plantations

it can thrive in nearly all habitats (it is one of the most abundant pitvipers in the world). It is mainly nocturnal, spending the day hidden among roots, leaf litter or other similar locations. It has several names from Lancehead to Barba amarilla and Fer-de-lance but one of the most commonly



Our largest female *asper*, 91.5 inches in length and 12 lbs-3 oz. Photo by Sierra

used names is most likely Terciopelo. It also varies greatly in size within its range with the some of the largest specimens located near Manzanillo, Limon province Costa Rica (this is the locale of our 2.2 neonates). Coloring can vary slightly among the locales as well. The size of *Bothrops asper*, especially females, is one of its most amazing features. *Asper* females are a thick-bodied snake, extremely powerful, and one of the largest/heaviest bodied venomous snakes in the world. Adult females may reach a body weight in excess of 13 lbs perhaps even reaching up to 22lbs. Max. reported length is 8.2 feet, with unconfirmed reports of 9.8 feet but average is most likely around 6'. It is very possible that an unbred female could reach nearly ten feet in captivity. Our largest female is currently a three year old CB, with a

length of 91.5 inches and a weight of 12 lbs-3oz. *Aspers* are sexually dimorphic, perhaps more so than any other snake in the world. Females are much larger and can reach more than ten times the size of a male from the same litter. Any Terciopelo reaching or exceeding 6.5 feet is definitely female. In an adult male of equal length to an adult female, the female's head will be twice or even three times larger, with much larger venom glands and fangs. The size-difference is not noticeable in neonates and is not visible until the males have reached about half their reproductive age somewhere between 7 months



B. aspers approximate home range indicated by arrows pointing to contiguous color. thanks WW)

and one year of age. At this time females begin to overtake the males in size. Sexing neonates is quite easy as the males will have yellow caudal luring tail tips and females will not, however both sexes will utilize caudal luring techniques and this can be useful in establishing feeding.

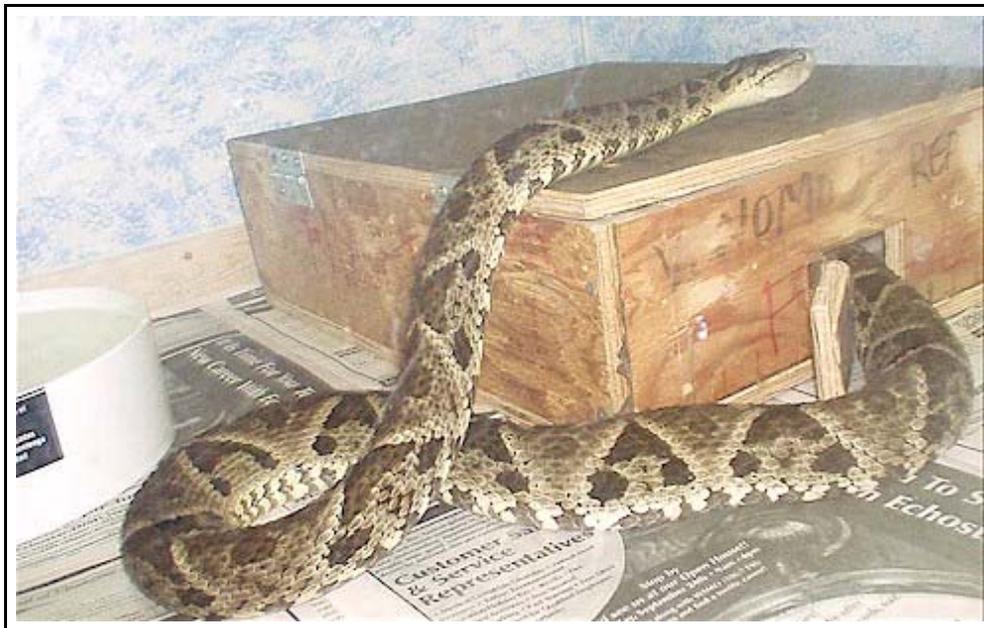


Cb Neonate from Costa Rica -Siquirres, Limon Province locale. photo by Matt Harris

Temperament of an *asper* has mythological attributes and most people fear and respect them greatly, including many venomous herp enthusiast that I have talked to. *Aspers* may strike repeatedly from any body position, requires no fixed coil, and strikes at movement as well as heat. These snakes are extremely fast and agile. When threatened it will vibrate its tail and also expand itself to appear larger. Mostly a shy snake, it will try to escape but if it feels cornered, this nervous snake is extremely dangerous.

I have found *aspers* to be fairly easy to maintain (notice I said maintain, not handle), but of course it depends on the animal and individual your dealing with. We *aspers* can be difficult to get feeding especially neonates. Anoles may be one of the first foods to be taken and using scenting techniques you can easily switch them over to pinkies.

Pre breeding conditioning seems to be quite simple with perhaps not much more than an increase in humidity and several introductions



Our new arrival in a quarantine enclosure. We strictly adhere to quarantining our new animals in a separate room and in its own enclosure.

Photo by Sierra

at a slightly lower temp. *Bothrops* reach sexual maturity at around 1.5 years and are live bearing, annually. Males can mate successfully with several females many times over many months. In a typical breeding season in the wild, *aspers* will breed approximately in March-May and bear the young in November-December (Caribbean side of Costa Rica) or depending on locale, breed in August-October and young are born in May-July (pacific side of Costa Rica), again these are approx. depending on locale. *Aspers* can have huge litters and up to 80-100 young have been reported but the average seems to be around 30 or so. Temperatures should be lowered to around to 68-73.5F for short periods to induce courtship. Male combat has been observed in *Terciopelos*. Typical duration of pregnancy is between 180-240 days. Males usually stop feeding at the beginning of the reproductive cycle, while the female will usually continue feeding into her third month of pregnancy, she will then most likely not feed at all or maybe rarely for about 6 months. Females require increased feeding during the 4-6 months after the young are born to replenish themselves. Females growth will taper off after breeding due to the stress exerted on her body. Also worth noting is what seems to be a common occurrence, a few of the neonates die around 2-3 months of age even if they have been feeding and doing well. While I have not had the pleasure of breeding them yet (next year will be the first year that our males will be mature enough to mate) very experienced *asper* keepers have mentioned this phenomenon to me. It has been suggested that this is just natural selection but perhaps there is some bacterial, environmental, physiological or other cause such as stress, it will be interesting to learn more information about this. Eye infections seem to be common among neonates as well, especially on a substrate that is too moist. This infection will blind them and eventually kill them.

Sphagnum moss may well be the most suitable substrate for neonates to help avoid this problem, while closely monitoring how moist the substrate is. Caging requirements aren't very complicated and *aspers* can be kept very basic. *Terciopelos* are quite agile climbers as well and love to bask on branches provided for them, however this can also be a hindrance in dealing with them, the more clutter in the cage the more you have to contend with while dealing with the animal. Normal lighting cycles can be used. Temps should be around 76-82 degrees F daytime with a drop to no lower than 68-72 at night and they are prone to regurgitation if temperatures are too high or too low. Also *aspers* will utilize a basking spot if provided. A once a week misting with an increase around shed time will usually suffice. Although I haven't found humidity to be critical for the adults (our hot room is kept around 60% relative humidity), a friend of mine has had a specimen with difficult and sticking eyecaps...and it can be quite a task to remove them. If needed, soaking may be utilized to help deal with this situation, but in his case it became so severe that it required anesthesia. *Aspers* drink lots of water so use a large dish to provide it. Pre-killed rodent prey is teased fed and adult *aspers* aren't particularly fussy eaters. For the most part they don't use their fangs while eating, they kinda walk down the prey item like a python would. Feeding at night may be required for finicky neonates but most adults will feed readily during the day. They can and will consume large amounts of food so caution must be used in maintaining a proper and healthy weight for them. I would recommend feeding neonates proportional meals every 7-10 days and adults every 14-28 days (tip: you can monitor this by carefully charting the bowel movements and this will give you a general idea of their metabolism).



Our *B. asper* hiding in her shift box. We use shift boxes with a solid opening top and secondary barrier of 1/4" clear Lucite that can be slid back for easy access. Photo by Sierra

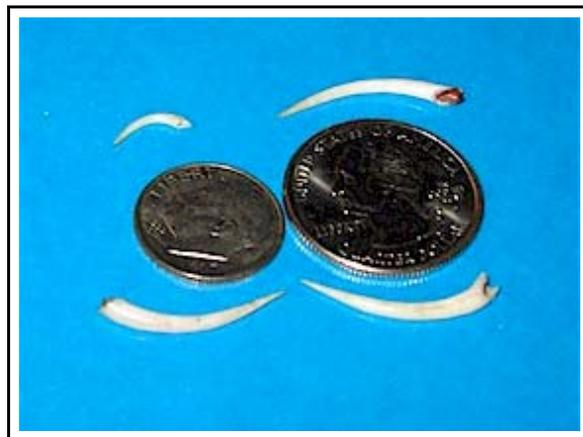
Use caution when purchasing, especially online. Many times they are confused with *Bothrops atrox* (also commonly called Fer-de lance). It is best to avoid purchasing WC *asper* and the best way to ensure success is to purchase cb neonates and even better if they are at least 6 mo-1 year old (this may cost you a bit more but is well worth it to ensure success). Wc babies tend to be harder to establish and have a higher mortality rate. As well as the need to treat them for parasites. Also another special consideration when shipping *aspers* is that if the knot in the bag or pillow case is resting on the snake's head, it can actually stress the snake into placing its head under its body coils and cause suffocation.

Aspers also have huge fangs, with an adult length of around 1 1/4"-1 1/2" in an *asper* with a length of 78-84 inches and can even reach 2 inches in large females. They also produce large quantities of primarily hemotoxic venom with an intraperitoneal LD50 of 2.844 mg/kg, putting it between *Crotalus mitchelli pyrrhus* (2.7 mg/kg) and *Tropidolaemus wagleri* (3.58 mg/kg). The intravenous LD50 is 1.244 mg/kg, the same as *Crotalus durissus durissus*. However, *B. asper's* bite has a low mortality rate of only 1-2% even though it has a high venom yield. Although in most cases *asper* bites don't seem to be life threatening, more information is needed, because most reported bites within its range are bites by smaller specimens. Also people native to the *aspers* habitat tend to lump all the snakes in the area together in their descriptions (often confusing it with the Bushmaster), so info is unclear on large *asper* envenomations. A bite from an adult *asper* would be

a bad situation to say the least. Symptoms include, local effects including pain, severe swelling, bruising, blistering, and necrosis. Antivenom is fairly effective, however, tissue necrosis is quite severe and many individuals bitten lose various parts of the extremities. Amputations are common, even in parts of the body away from the envenomation site. For example, several individuals bitten in the upper extremities required the amputation of toes or even an entire foot.

In conclusion, the *Bothrops asper* is one of the most spectacular snakes in the world (at least in my biased opinion). Although relatively easy to maintain, it is an extremely agile and dangerous animal that should be kept only by very experienced keepers. If you plan to add this species to your collection it may be advisable to seek out another experienced keeper to help you to become familiar with them. I would also suggest that you maintain

your own supply of antivenom as well as a emergency plan and bite protocol printed out and ready if needed. The Instituto Clodomiro Picado in San Jose, Costa Rica produces a polyvalent antivenom that is effective on *Bothrops asper*, *Lachesis stenophrys*, *Crotalus durissus* which costs about 25.00 a vial and it is more effective than US antivenoms. It may be suitable to keep 15-20 vials on hand. And it goes without saying, use secure caging, preferably within a snake proof room.



The upper left above the dime is a 3' *Crotalus h. horridus* fang. All others are various *B. asper* fangs. Largest is around 1 1/4" along the curvature.

Photo by Matt Harris

I would love to hear anyone else's experiences with *aspers*, post them in the forum if you'd like to share info on them.

Although not directly related to this article, I might also add that in order to keep the "right" to maintain venomous reptiles as well as all other reptiles, more of us need to take a proactive role in preserving our interests. Get involved and help make a difference. Contribute in any way that you can. And show the community, that we can be a respectable, trust worthy group, and maybe "the powers that be" won't take away our ability to maintain these magnificent creatures.

I would like to give special appreciation and thanks to Matt Harris for his extremely kind sharing of knowledge in regards to this species, he has been great in sharing info, pictures, and tips with me on *B. asper* for nearly a year....Thanks Matt!!!



Additional source of info:
The Bushmasters (Genus Lachesis Daudin 1803) Morphology in Evolution and Behavior. Dean Ripa..... Ripa Ecologica

Bothrops asper (Terciopelo) from Belize
Original photo copyright © Dr Wolfgang Wuster



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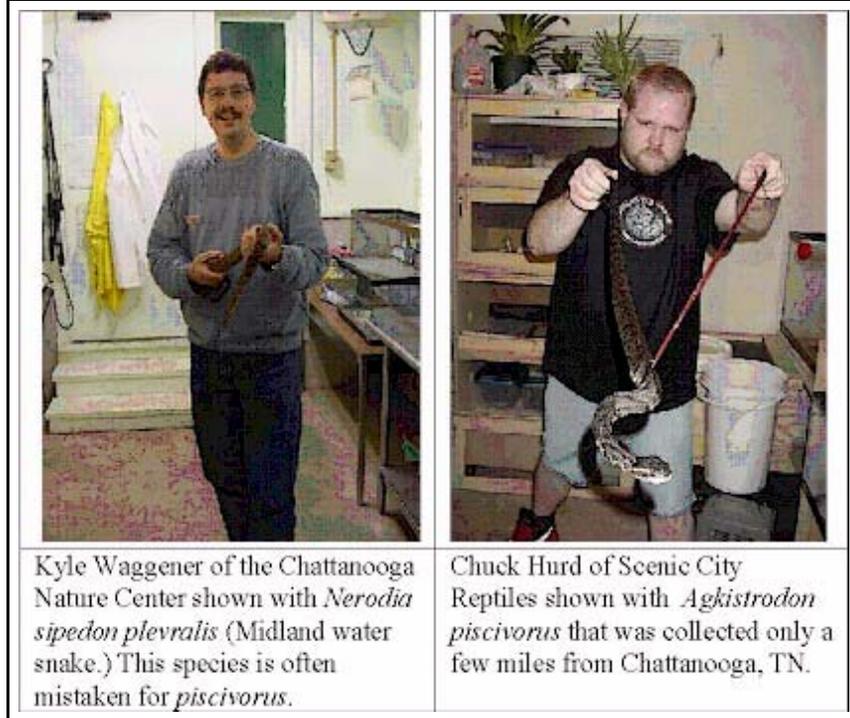
“Are there Cottonmouths in Chattanooga?”

By Chuck Hurd
www.SCReptiles.com

Agkistrodon piscivorus (translation: hooked-tooth fish eater) is a semi-aquatic North American pit viper with three recognized subspecies: *Agkistrodon piscivorus leucostoma* (western), *Agkistrodon piscivorus conanti* (Florida), and the *Agkistrodon piscivorus piscivorus* (eastern.) Adults average 30 – 48 inches in length with the record specimen being 74.5 inches. (Side note: The Nashville Zoo has an exaggerated specimen on display for anyone interested in this species.) Adults tend to be dark or even black in coloration with obscure back markings. Juveniles, however, tend to be of very bright copper to yellow color with dominate back markings. Young *piscivorus* is often mistaken for its cousin, *Agkistrodon contortrix* (copperhead.)

Agkistrodon piscivorus is often called “cottonmouth” due to its defensive display of coiling its body, looking up, and holding open its mouth, displaying an almost solid white interlining. *Piscivorus* eats both warm and cold blooded prey. Their diet includes fish, frogs, salamander, lizards, small turtles, baby alligators, birds, small mammals and other snakes. Prey such as frogs, fish and other snakes are held in the jaws after captured for a few moments to allow them to succumb to the venom. Mammals are struck and then instantly released. If the victim flees before the venom takes effect, the cottonmouth tracks it by scent. For many years there has been a debate among herpetologists and the general public concerning the native range of *Agkistrodon p. piscivorus*. Most long time residents of the Chattanooga, TN area have a story to tell about an encounter with this infamous serpent, however most herpetologists write off these accounts as urban legend or mistaken identity. There are certain water snakes native to Chattanooga that mimic the venomous cottonmouth and to a layperson these snakes could easily be mistaken for *Agkistrodon p. piscivorus*. But are all of the encounters mistaken identities?

Most herpetologists agree that *Agkistrodon p. piscivorus* is not indigenous to Chattanooga, TN; however, there is not 100 % consensus. Some herpetologists, including myself, hold that *Agkistrodon p. piscivorus* may very well inhabit Chattanooga in limited numbers. The National Audubon Society is recognized as the standard for North American reptile range maps. Audubon lists



Kyle Waggener of the Chattanooga Nature Center shown with *Nerodia sipedon pleuralis* (Midland water snake.) This species is often mistaken for *piscivorus*.

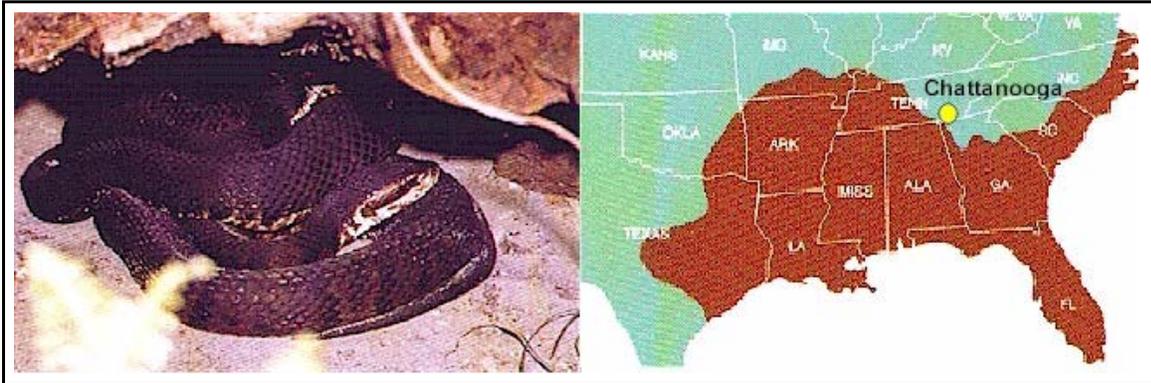
Chuck Hurd of Scenic City Reptiles shown with *Agkistrodon piscivorus* that was collected only a few miles from Chattanooga, TN.

piscivorus as indigenous west, east, and south of Chattanooga. The official Audubon map shows the *piscivorus* range to form a U-shape around Chattanooga, with the animals being native to the northwest Georgia and northeast Alabama but not southeastern Tennessee.

In late 2002 an article ran in the Chattanooga Times Free Press in the Outdoors section. The author claimed to have encountered two specimens of *Agkistrodon p. piscivorus* on the Tennessee River just across the Alabama state line, about 15 river miles from Chattanooga. The old debate over the *piscivorus* range was rekindled.

Naturalist, Kyle Waggener of the Chattanooga Nature Center (www.ChattaNature.org) told me in an interview that he has not seen evidence that *piscivorus* is thriving in Chattanooga; however he sees no natural boundaries that would prevent this species from propagating in the area. The Tennessee River runs directly through Chattanooga. It and its any tributaries form many lowland swamp-like areas that are ideal locations for *piscivorus*. The Chattanooga climate is wet and very warm during the summer months and food sources are plentiful. Many *Agkistrodon contortrix*, the closest living relative of *piscivorus*, are collected from Chattanooga annually, thus illustrating the area’s capacity to sustain this type of reptilian life form.

The Times article quoted Tennessee Wildlife officials as saying, “No credible reports of cottonmouths in Chattanooga have even been made.” The official was also



*Note the proximity of Chattanooga to the current range map boundary of *A.piscivorus*. The mystery is that there are no known barriers to prohibit them from ranging into Chattanooga.*

quoted as saying he would like to see a cottonmouth taken from Chattanooga.

Therein lies a problem. Tennessee law does not allow for collection of any venomous species, thus making it legally impossible to prove the local existence of *piscivorus* in Chattanooga, TN. The officer's statement "No credible reports" leaves room for interpretation. Obviously there have been reports, but none that are considered credible. It seems to be considered credible, a witness would need to present the snake to officials, who may then make an arrest for illegal possession of Class I wildlife, which includes all venomous snakes under the state's law code. Perhaps trustworthy herpetologists have made reports of *piscivorus* sightings, but knew better than to bring forth their evidence?

Scenic City Reptiles is spearheading a campaign for the 2003 summer season that will attempt to prove the existence of limited numbers of *piscivorus* in the Chattanooga area. Evidence will be collected and presented in a two fold manner. We will be herping the areas of Chattanooga that are environmentally friendly to *piscivorus* and taking close range digital pictures of any specimens we may encounter. We will also be herping the same type of areas just across the Tennessee and Georgia state line. This area of Georgia is a suburb of Chattanooga and shares the same topography and climate. According to Audubon, there should be no *Agkistrodon piscivorus* in this area. If a live specimen can be located, Georgia law will allow for legal collection and it would then be a safe assumption that *piscivorus* is indeed indigenous to Chattanooga, TN.

Anyone interested in assisting with the 2003 cottonmouth project please contact SCR via the website, www.SCREptiles.com , or by phone at 423.580.7513.

INTERESTING NEWS ITEM Snake Venom Used By Government Assassins

The following paragraph was taken from a news item describing a bioweapons program developed by the government of South Africa and one of its scientists, who was trying to sell some of their products to the US government. This portion describes some of the work that he did for the South African government:

"Project Coast's notorious military commander, Wouter Basson, used the lab to create novel weapons for use against anti-apartheid activists and supportive black communities, according to documents and testimony in a murder and fraud case that ended last year in Basson's acquittal. One of Goosen's first assignments, he has said, was to harvest highly lethal venom from the black mamba snake for use in secret assassinations. Fangs from a dead snake were used to make impressions in the victim's skin so the death would appear accidental."

http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_Type1&c=Article&cid=1035781086345&call_pageid=968332188492&col=968793972154

THE DEVELOPMENT OF A SAFE RESTRAINT METHOD FOR HANDLING ADULT SPECIMENS OF THE NEOTROPICAL RATTLESNAKE (*CROTALUS DURISSUS*)

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The Venom Research Unit at the Liverpool School of Tropical Medicine houses two sub-species of the neotropical rattlesnake, *Crotalus durissus collilineatus* and *C.d.terrificus*, both wild caught from different locations in Brazil.

While *C. durissus* does not attain the maximum size of *C.adamanteus* or *C.atrox*, they are still large heavily bodied rattlesnakes with an average weight of over 2 Kg and a length in excess of 1.3 m. In comparison to the body girth, the neck is very slender.

The animal is very strong and if handled conventionally the powerful muscular thrashing movements can easily result in a broken neck. The extent of this problem is not as noticeable when handling other large rattlesnakes. In addition, because of this violent movement, there is a real danger of a bite to the handler. Thus safe restraint of this species presents a major handling problem.

The aim of this article is to outline the various methods used to handle these snakes. This experience has led to the development of a specific piece of equipment designed for restraint.

1. Conventional handling technique

The conventional method of handling rattlesnakes is well documented and widely used among herpetologists. However it is our experience that attempts to pin neotropical rattlesnakes with a hook often results in the snake violently pulling its head free and if additional pressure is applied to prevent this, the snake will usually start to thrash about wildly. This results in a high chance of damaging the head or neck of the snake or the handler being bitten.

2. Use of carbon dioxide

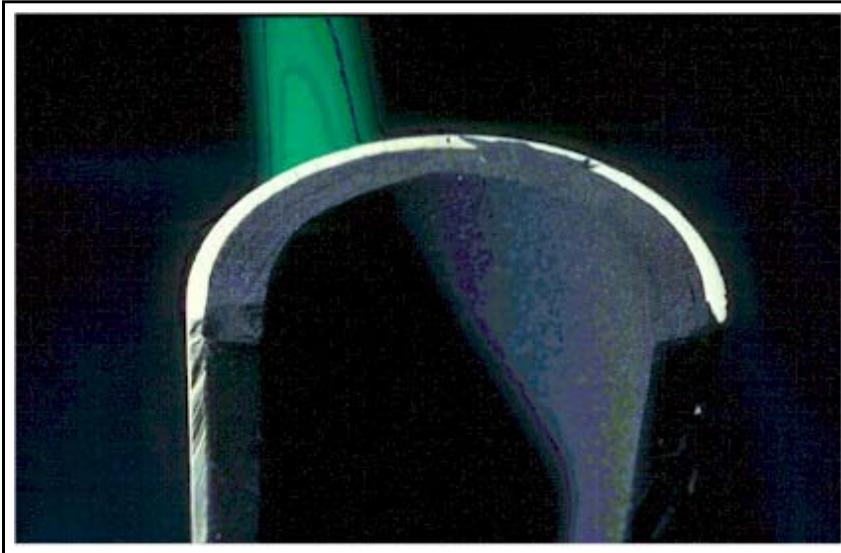
(1) Solid carbon dioxide (dry ice):



A second method is to use a procedure employed both at the Fundação Ezequiel Dias in Belo Horizonte, and the Instituto Medicina Tropical, Manaus AM, Brazil. This involves the use of dry ice as both a mild anaesthetic and as a cooling agent. The original ventilated cage lid is replaced with a solid perspex version. Dry ice is then placed into a container, such as a small bowl, and water is added. As well as lowering the temperature, this also results in the release of CO₂ gas which fills the cage and anaesthetises the animal. This procedure takes five to ten minutes depending on the effectiveness of the lid seal and the quantity of dry ice used. The snake requires careful and constant monitoring during the process due to possible deleterious effects of excessive exposure to CO₂ causing brain damage

(2) Carbon dioxide gas:

Gaseous CO₂ is used to anaesthetise all venomous snakes prior to milking at the Instituto Butantan, São Paulo in Brazil. Here the animal is lifted using a snake hook and placed in a large narrow-necked container (eg a plastic milk churn). This is then filled with CO₂ gas which, because of its high density compared with the atmospheric gases, sinks to the bottom of the container. This again results in the anaesthesia of the



rake handle (cut down to 85 cm) by a pair of angle brackets with flat-headed coach bolts. All the edges were smoothed off and the inside surface was padded with high-density foam. To discover any surface imperfections and to ensure an even spread of pressure, a forearm was laid across a set of bathroom scales and a downwards force was applied with the tool. Even with a indicated pressure of 50 kg, only a light impression remained momentarily on the skin

animal which, after a variable length of time, can be lifted out of the container with the hook. Again careful monitoring of the condition of the animal is necessary.

Once fully anaesthetised, the animal can be easily picked up and milked whilst in a condition of hypoxia. The main disadvantages of using CO₂ are (i) the time required for the process, (ii) the frequently unpredictable state of anaesthesia of the animal with associated bite risk to the handler, (iii) the risk of killing the animal due to hypoxia, cerebral haemorrhage and resultant brain damage.

3. Acrylic tube method

Because of these problems we started to look at other possible methods of restraint. We had previously been successful immobilising other species by placing them in a clear acrylic tube. This works but the method requires skill and patience to encourage the snake to crawl along the length of the tube without suddenly reversing out. The technique also involves some degree of risk to the handler.

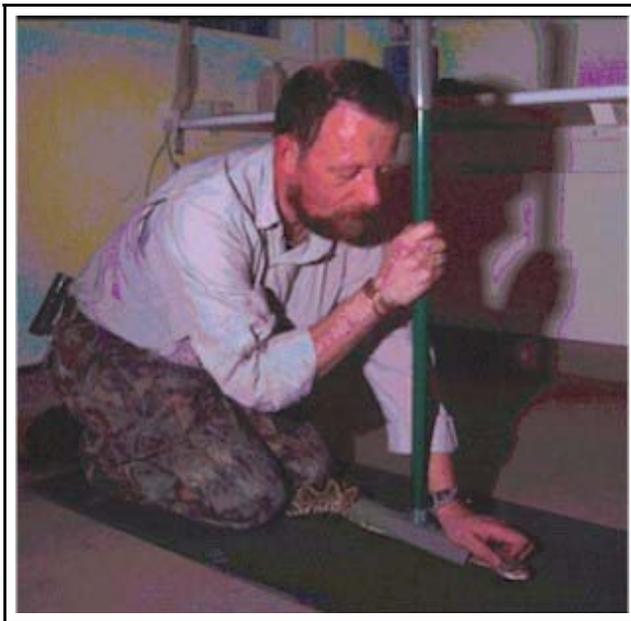
4. Neck-brace method

All the techniques mentioned above have some major disadvantages. As the main aim is to support the snake's neck prior to actually grasping the animal behind the head, we decided to design a padded neck brace in order to permit both increased safety of handling and decreased risk of damaging the snake. The brace was made from a 24 cm length of 55 mm diameter plastic drainage pipe cut in half lengthways, attached to a garden

following this exercise. A similar test carried out with a large rattlesnake indicated that a weight of 2-4 kg was sufficient pressure to fully restrain the snake.

While it is advisable to have a second person present when handling large rattlesnakes, this is not essential when using this restraint tool. The snake is carefully lifted out of its cage with a hook onto either a foam camping mat, to provide additional padding, or directly onto the floor. With the hook in one hand the snake is encouraged to straighten out just sufficiently for the tool to be placed over the back of the neck, approximately 3 cm. behind the head

Fig. 2



(Fig.1). Once positioned correctly, downward pressure is applied as described.

The next step is to kneel down and use the knees to grasp the rear of the body; (Fig.2), The left hand is can then grasp the back of the head in the conventional manner .

If required a second person can lightly pin the head with a hook before the main handler grasps the back of the head. Once satisfied with the grip the tool is removed. From this position various procedures such as the administration of oral, topical or injectable medication, removal of brilles, loose skin, assisted feeding and venom extraction can be carried out.

With the help of an assistant, additional procedures such as cloacal probing, scale counting or veterinary examinations can easily be carried out.

While this tool was designed specifically for restraining *Crotalus durissus sp.* There is no reason why it cannot, perhaps in a different size or curvature, be used with other solenoglyphous species such as large *Bitis sp.*

Furthermore it is not limited to the spartan space of our milking room floor, due to its reasonably compact size it could just as easily be used in a walk-in vivarium as found in many zoological collections around the world.

Additionally it would be very useful for the safe capture of specimens in the field, the only precaution when using on a natural substrate would be to ensure that there were no sharp objects under the snake that may cause injury.

This tool has exceeded our initial expectations in the ease of operation and has been in constant use since it was constructed in November 1995.

In conclusion, this article describes the design and use of a padded neck brace for use in the safe handling of large, active snake species for veterinary, venom extraction and other purposes. The device has the important added advantage that the entire process of handling is rendered less traumatic for the individual specimen than other more conventional methods. In addition, due to the large number of specimens held, there are considerable savings in both time and effort.

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News Item: Redbacks 'taking over the world'

AUSTRALIA'S humble red-back spider seems poised for world domination, authorities have warned.

Venom expert Dr Ken Winkle said spiders, believed to be Australian red-backs, had been discovered in Japan and as far away as Belgium in the European Union. He said authorities suspected the spiders, or their egg sacks, had hitched a ride with Australian trading goods, said Dr Winkle, director of the Australian Venom Research Unit at the University of Melbourne. He said red-back spider egg sacs carried hundreds of potential spiders and were virtually immune to quarantine chemical spraying. "And one single spider escaping customs inspectors can lay several of these egg sacs," Dr Winkle said. He said it was extremely likely the arachnids had also made their way into other nations around the world, but were yet to be discovered. "The spiders have proven themselves to be resilient to most weather types and can thrive almost anywhere," he said. Dr Winkle said the spiders had turned up in the port city of Osaka in Japan, which receives a variety of Australian trade goods, in the late 1990s, and had quickly multiplied. "At first the Japanese were complacent, believing the tropical spider would die out with the first snows," he said. Now, several years later, the spiders have spread into neighbouring districts with some reports suggesting they may have even reached the nation's capital, Tokyo. Dr Winkle said with the appearance of red-backs had come a spate of spider bites, with analysis showing the appearance and venom of these spiders was extremely similar if not identical to that of the Australian red-back. He said Australian spider experts were collaborating with Japanese officials to find a way to stop the venomous invader in its tracks - but so far with little success.

Dr Winkle said specimens matching the red-back's characteristics were also found in Belgium, with the species now firmly entrenched. In their home country of Australia, red-back spiders can now be found in all six states and two territories, but they prefer settled or urban areas. They are closely related to the notorious black widow spider in the United States.

A red-back spider bite can be lethal to children, the elderly or adults with pre-existing medical conditions.

In severe cases an antivenom is available.

http://www.heraldsun.news.com.au/common/story_page/0,5478,6245146%255E401,00.html