

KANSAS HERPETOLOGICAL SOCIETY NEWSLETTER NO. 88

MAY 1992

ANNOUNCEMENTS

LONGTIME KHS MEMBER PASSES AWAY

George Toland, charter KHS member, died on 15 March 1992 following complications from surgery. Among the many contributions that George made to the world of biology and the world at large were his renowned trips to Oklahoma prior to the nefarious rattlesnake roundups to rescue a few reptilian souls from fates worse than death and then to return these animals back to their native habitat after the roundups were over. The KHS Executive Council extends its sincerest condolences to George's family for their and our loss. For further insight into this remarkable person, read the Feature Article by Jim Knight in this issue of the newsletter.

TOPEKA ZOO RECEIVES GHARIALS

Hugh Quinn, director of the World Famous Topeka Zoo, announces that his institution has received two juvenile Gharials (*Gavialis gangeticus*) from Japan. These captive-bred animals were imported by the Bronx Zoo in New York and placed on loan to Topeka. Topeka now becomes only the fifth institution in the U.S. to display these unique and highly endangered crocodylians.

Although this species is probably related to crocodiles, with their long, narrow snouts and almost exclusive fish-eating habits, they are most uncrocodyle-like and have been objects of veneration by certain religious sects in India, to which Gharials are native.

Dr. Quinn invites all KHS members to come take a peek at these marvelous archosaurs in their new home at Topeka's Tropical Rainforest building.

INFORMATION WANTED

Jack Shumard is trying to compile a list of veterinarians in Kansas who work with or are willing to work with captive amphibians and reptiles. If you know of such a vet, please send the name and address to Jack at 607 Marcellene, Wichita, Kansas, 67218.

SECOND WORLD CONGRESS OF HERPETOLOGY

For those of you with the bucks and the time, please note that the Second World Congress of Herpetology will

be held in Adelaide, Australia from 29 November 1993 to 6 January 1994. Those wishing more information on the congress should contact Dr. Michael J. Tyler, Department of Zoology, University of Adelaide, Box 498, GPO Adelaide S.A. 5001, AUSTRALIA. Start saving your pennies and vacation hours now.

SSAR ANNUAL MEETING

The annual meeting of the *Society for the Study of Amphibians and Reptiles* will be held 2-6 August 1992 at the University of Texas-El Paso (mention of the UTEP-KU basketball game is *verboten*). In addition to the traditional activities of the Society, the first Regional Societies Conference (led by yours truly) in many years will be held in conjunction with the meeting on 6 August. The topic of the conference will be: *Federal and State Wildlife Laws and How They Affect Regional Herpetological Societies*, a topic sure to inflame passions of those who have had to tangle with these authorities in the past (weapons will be checked at the door). Those wishing additional information on the meeting should contact Dr. Carl Lieb at (915)747-5844 or me.

INTERNATIONAL HERPETOLOGICAL SYMPOSIUM

This year's *International Herpetological Symposium* will be held at St. Louis on 25-28 June. Nearly 40 papers and seven workshops are scheduled for this year's session. Speakers include such well-known herpetologists and herpetoculturists as Bill Lamar, Phillippe de Vosjoli, David Grow, Mike Tyler, Gary Ferguson, and Dave Barker. Unfortunately, since I did not receive the announcement in time for the February Newsletter, full registration is \$185 and registration closes 15 May. Those wishing more information on the Symposium should write Dr. Michael Uricheck, Department of Chemistry, Western Connecticut State University, Danbury, Connecticut, 06810. You might mention that due to the announcement coming out late on their part, you were unable to register promptly and see if they will cut you a break on the price.

PUBLICATION AVAILABLE

John Iverson is offering *A Revised Checklist with Distribution Maps of the Turtles of the World*. This soft-

cover volume includes updated distribution dot maps for all species, and information on the original citations, type specimens, type localities, distribution, and pertinent literature for all recognized species and subspecies. Write Dr. John B. Iverson, Department of Biology, Earlham College, Richmond, Indiana, 47374 for current price information.

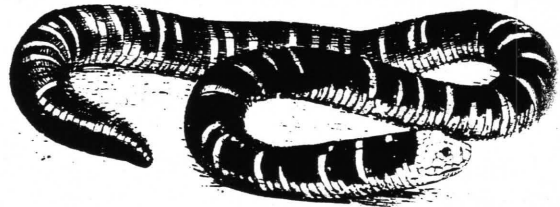
program. Everybody (turtles, Costa Rica, KHS, but most of all you) benefits.

GERMAN JOURNAL TRANSLATION AVAILABLE

SAURIA, a widely-known and used German herpetological/herpetocultural journal, is now available in English translation. HERPRINT INTERNATIONAL, 167 Main Street, Spotswood, New Jersey, 08884 is offering Volume 1 (176 pages = 4 issues+supplement) for \$38. This volume contains contributions on *Varanus flavescens*, *Gonocephalus grandis*, *Trachemys decorata*, *Sphenomorphus aquaticus*, *Calloselasma rhodostoma*, and *Eublepharus macularius*. Write HERPRINT for information on additional volumes.

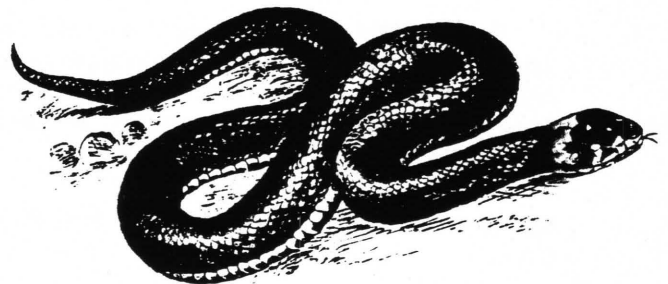
POSTER AVAILABLE

Longtime KHS member John Fraser announces that a new Milk Snake poster entitled *Milk Snakes of North America* is available from him. The poster contains 20 full-color photos of ten subspecies of *L. triangulum*, three photos of which are of Kansas specimens photographed by John. Photos are titled with common and Latin names, distributional information, and exact locality data for specimens photographed. Seven of the 20 photos were taken by John. The poster is available for \$15.00 postpaid from John Fraser, 119 North 15th Street, Fredonia, Kansas 66736-1627, phone (316)378-3138 evenings.



TURTLE TAGGING PROJECT

The Massachusetts Audubon Society is looking for volunteers to help with the continuation of the late Archie Carr's Green Sea Turtle tagging project in Tortuguero, Costa Rica. This project is heavily dependent on volunteer individuals who are willing to give of their time and money and who would like to appreciate the natural beauty and wonders of Costa Rica. Two programs, one 10-day and one 17-day, are being offered this year and will take place between 3 July and 30 August 1992. Cost for the 10-day program is \$1675; the 17-day program costs \$1900. In addition, the Massachusetts Audubon Society will donate \$50 for every individual who notifies Massachusetts Audubon of their affiliation to the organization (i.e. KHS) which advised them of this program. For further information, contact: Massachusetts Audubon Society, Natural History Travel, Lincoln, Massachusetts 01773; 1(800)289-9504; 1(617)259-9500. If you can, try to participate in this



KHS BUSINESS

**KANSAS HERPETOLOGICAL SOCIETY
TREASURER'S REPORT
FISCAL YEAR 1991 (1 JANUARY-31 DECEMBER)**

Balance on hand 1 January 1991	\$2944.86
Income 1991	1041.19
Interest earned	79.37
Total income	1090.37
TOTAL	\$4065.42

EXPENDITURES

Printing expenses for newsletter	
#83	\$200.82
#84	270.10
#85	221.59
#86	201.72
Total printing expense	894.23

Postage expenses for newsletter	
#83	\$219.16
#84	237.28
#85	195.82
#86	193.43
Total postage expense	845.69

Postage for Cimarron National Grasslands mailing		331.25
Misc. Postage		82.29
Dues envelopes		78.22
Auction expenses (1990)		175.03
Misc. expenses		51.14
Bank charges		10.00
TOTAL EXPENSES		\$2467.85

Balance on hand 31 December 1991\$1597.57

Respectfully submitted
Karen L. Toepfer
KHS Secretary/Treasurer

JUST A REMINDER

Remember, folks, that this year's annual KHS spring field trip will be held 5-6 June at Sheridan County State Lake. Those wishing directions, information, or just wanting to harass the field Trip Committee should contact Kelly Irwin, 2861 West 32nd Avenue, Manhattan, Kansas 66052, (913)776-8940, or Travis Taggart, 2302 Donald Drive,

Hays, Kansas 67601, (913)625-5707. A fall field trip is tentatively planned for the Gyp Hills in Barber County in September. Details will be in the August issue of this Newsletter.

Also, remember that April and May are the official months for KHS Herp Counts. For those of you unfamiliar with this program, a Herp Count is exactly what it sounds like: pick an area of your choice and go out and count the herps you find therein. You can also do counts while road-driving. When you finish with your count (or counts; feel free to do as many as you wish), send the information to Joe Collins, Museum of Natural History, University of Kansas, Lawrence, Kansas 66045. Be sure to include all pertinent information; i. e. Name(s) of participants, verifiers, exact locality (including county), date, time of count, and species and numbers. For road counts, add the route followed and mileage.

COUNCIL MEETING NOTES

Believe it or not your Executive Council does actually meet and try to conduct the affairs of this Society. The first KHS Executive Council meeting of this year was held in North Newton on 23 February with Dr. and Mrs. Dwight Platt acting as gracious hosts.

Over the period of some four hours (a record for this group), a large number of items and issues were discussed and acted upon. Among items discussed were a switch from first-class postage for the Newsletter to bulk rate, the forthcoming publication of Edward Taylor's Masters thesis, Kansas Wildlife Heritage Day, the spring and fall field trips, the 1992 annual meeting, proposed by-law changes, representation at the Farm & Home Show in Hays, informational pamphlets, and an increase in annual dues.

The Council made the following actions: it authorized yours truly to solicit bids from the University Press of Kansas and Thompson-Shore, Inc. for publishing the Taylor manuscript, resurrected the Conservation/Legislation Committee and appointed Larry Zuckerman chairman of same (anyone wishing to serve on this committee should contact Larry), voted to change Article IV, Section 5 of the bylaws (the proposed change will be published in the August Newsletter), and, due to the continuing effects of Reagan's trickle-down, voted to raise annual dues from \$8 to \$10 beginning in 1993. The latter item was necessary due to continuing increases in Society business expenses and adjusting for hidden costs. Membership in KHS continues to be among the lower 10% of the 95+ regional herpetological societies in the U.S.

— EMR

KHS BRINGS YOU GREAT NEWS OF THE WORLD

WEED KILLER USE RESTRICTED BY THE STATE

Saying the use of farm chemicals is harming food chains and poisoning wildlife, the Kansas Department of Wildlife and Parks has banned the use of most pesticides on land it manages.

Beginning this growing season, the agency will allow only eight herbicides and one insecticide to be used to control weeds and insects on the land it leases to farmers.

The farm chemical industry accused the agency of overreacting.

"I don't know what, if any, research they have to substantiate that," said Chris Wilson, a spokeswoman for the Kansas Fertilizer and Chemical Association.

The pesticides that the state will allow are: 2,4-D, chlorosulfon, dicamba, glyphosate, glyphosate plus 2,4-D, metsulfuron methyl, sethoxydim, tebuthiuron, and malathion.

The change won't have a big effect on Kansas agriculture. The wildlife agency manages only 50,000 of the 30 million acres of Kansas farmland. But the state hopes to use its land as a demonstration project, showing farmers that they can produce crops with fewer chemicals.

The 350 farmers who lease land from the state promise to either leave some of the crop in the field to provide food and cover for wildlife or split the profits from the crop with the state. The agency makes about \$500,000 a year, which it spends on parks and refuges.

The agency began notifying farmers this week of the ban. Some complained to their legislators.

The loss of some chemicals is going to reduce yields and profits, said Rep. Don Rezac, D-Onaga.

"These farmers can't walk away and leave this land," he said. "A lot of the public land was taken through condemnation. The farmers have been farming it through generations."

The action also has upset Monsanto Co., the nation's second-largest manufacturer of farm chemicals.

"It is the message that it sends to the public, who is already overwhelmed by messages that they don't understand," said Dan Holman, spokesman for the company. "There is a terrible misperception of risk of our products. We don't think there are any studies that would suggest that the products are a risk to wildlife. And we don't believe this sort of action is necessary at all."

Such bans are not unusual. The U.S. Fish and Wildlife Service has a similar policy on farmland it manages near federal wildlife refuges.

Although pesticides occasionally kill flocks of birds or schools of fish, most of the effects on wildlife are subtle, said [KHS member] Larry Zuckerman, an aquatic ecologist who served on the state agency's pesticide use committee.

Herbicides can kill algae in lakes and insecticides can kill [insects], depriving fish and birds of food. The chemicals can also attack the sensory systems of wildlife, Zuckerman said.

"A fish may not recognize its mate," he said. "Those kinds of things happen. Or the fish comes to the surface and acts weird and it is easy for a bird to pick off. It is not doing what it normally does."

— Wichita Eagle, 7 February 1992
(submitted by H. C. Year Ow, Bird City)

SNAKES ALIVE

[KHS member] Dr. John Rand Neuenschwander would rather have snakes in the house than a dog or cat.

Snakes are much safer, he believes.

Yes, snakes can bite, the local physician admitted, but rarely.

"And a snake bite is less likely to cause infection than a cat scratch or dog bite," he noted.

Neuenschwander knows that few people share his beliefs, so practically every chance he gets, he and his snakes visit local and area schools to teach children about the benefits of snakes.

Most adults would just as soon kill a snake than let it live, he said.

"That's a travesty of justice. ...They're really pretty innocuous. A Bullsnake, there's no reason to kill it. They do nothing but good. They eat mice and sparrows, and they've been known to chase away and eat Rattlesnakes.

Even if they do bite you, it's like falling into a sandbur patch...or being stuck by a cactus. It hurts, but it's not agonizing," he said.

"So I tell kids, don't kill snakes."

There's always an exception to the rule, he hastily added. Killing rattlesnakes is OK by him.

Animal rights activists might challenge him on that one, he agreed, but it's his role as a physician that guides him on this tenet.

"I don't like things that kill people," he said.

Non-venomous snakes are rarely harmful, he said. He can't say the same about dogs or cats; he said he's treated too many people in the emergency room for injuries caused by those pets.

The benefits make snakes far superior pets, he contended.

"Snakes are really affectionate," he said. "No, they won't fetch your paper, but they can be quite placid and docile."

Other benefits, according to Neuenschwander: they don't require daily care. You can leave town for several days and not worry. They eat relatively little, and therefore produce little waste. They have virtually no diseases that can be transmitted to humans.

Neuenschwander said he has little difficulty convincing children about the benefits of snakes. They are fearless and genuinely curious.

"The kids run up to you," he said. It's the adults who stand back and cringe.

Of the two dozen snakes Neuenschwander keeps at his home, the Python and Boa Constrictors are the most popular among his young fans.

"Berniece" – a name his children mistook for her common name, Burmese Python – is 9 feet, 2 inches long. Neuenschwander estimates she's been petted safely by 1,000 schoolchildren.

"If she's grabbed she might hiss, but she won't bite," he said.

Boas and Pythons are jungle natives [sic], and it's their immense sizes that no doubt attract children's adoration.

But Neuenschwander spends most of his time telling children about Kansas snakes and their benefits.

He has Bullsnares [*Pituophis catenifer sayi*], Western Hognose Snakes [*Heterodon n. nasicus*], a Plains Garter Snake [*Thamnophis radix haydeni*], [Yellowbelly] Racers [*Coluber constrictor flaviventris*], Black Rat Snakes [*Elaphe o. obsoleta*], a [Great] Plains Rat Snake [*Elaphe guttata emoryi*], a Central Plains Milk Snake [*Lampropeltis triangulum gentilis*], and Prairie Ringneck Snakes [*Diadophis punctatus arnyi*].

They all have names, and Neuenschwander handles them with ease.

Neuenschwander and his brothers and sisters grew up with a variety of animals. They and their father, Dr. John Neuenschwander, often cared for sick and injured animals with the assistance of wildlife officials.

Snakes, in particular, caught the younger Neuenschwander's attention, and he soon had a Boa Constrictor. When all the siblings had left home for college, the snake was given away.

But after Neuenschwander returned to practice medicine with his father in Hoxie, a friend who remembered his affinity for snakes soon brought him a Bullsnares he'd found.

When the Neuenschwanders' daughters, Lori and Cindy, fell in love with the snake, Neuenschwander began collecting them with a fervor.

His wife, Sylvia, admitted she wasn't particularly

fonds of the animals.

"I'm getting used to it," she said. "I like the larger ones better."

Their northeast Hoxie neighborhood is becoming somewhat of a snake-fancier's retreat. Two neighbors also own Boa Constrictors.

Eva Krannewitter, a junior in high school who lives down the street, has a three-month old Colombian red-tailed (sic) Boa Constrictor named "Costello". The snake is incredibly affectionate, she said, but she has friends who no longer come into her house.

She brought the snake with her to Fort Hays State University earlier this summer while she took some advanced courses, but soon she was ordered to send the Boa home. Despite being kept in a locked cage, others in the dormitory could not bear to walk by her door, she said.

Ridiculous, scoffed Neuenschwander.

There are ground rules for owning snakes, however.

"No, we don't put a large snake around our necks if no one else is around," he said.

No, he wouldn't leave a small child with a large snake. Nor would he leave such a child with a large dog, either. And no, he wouldn't handle a wild snake until he was certain it wouldn't harm him, just as he wouldn't pet a stray dog.

However, unless someone is willing to learn how to care for snakes, they shouldn't own them, he added.

Boas and Pythons, for instance, need warmth and humidity similar to the [tropics]. They won't eat if they're too cold.

Food is just as important as climate. Some snakes eat mice and rats. Others [eat] rabbits and chickens. Still others [eat] toads or earthworms. Neuenschwander kills the intended food first; snakes don't need live food, he noted.

For those willing to learn how to care for snakes, there is plenty of information available, he said.

"I knew nothing when I started, but I'm an avid reader, I read everything I could," he said.

— Hays Daily News, 18 August 1991
(submitted by Travis Taggart, Hays)

TURTLE POWER

And they say Teenage Mutant Ninja Turtles are violent Adam Henson, 8, found that real turtles can be worse Monday morning when "Lightning", his pet Red-eared Slider [*Trachemys scripta elegans*], stretched its 3-inch neck sideways and clamped on to Adam's upper lip.

"I think the kids were playing with it and spooked it," said Adam's father, Randy Henson. "It's a shame. I think we're going to donate it to the zoo."

Adam's mother, Marie, said Adam and his sister Meredith, 5, have always been told to keep animals away

from their faces.

"He's used to being played with," Mrs. Henson said of Lightning. "That was his best buddy all summer. Usually he'll come up and he likes you to talk to him. He's never been aggressive before."

He was Monday. After chomping down on Adam's lip, the turtle refused to let go. For five minutes the family tried to get the creature to open its jaws. At one point, Mrs. Henson had a knife at the turtle's neck, ready to decapitate the transgressor.

The Henson called 911 for help, but before rescue crews arrived, Mrs. Henson took her son's advice and stuck a carrot in Lightning's mouth, prompting the turtle to give up its grip.

"He was holding on to my lip, and I was beating on him," Adam recalled. "When he let go, I threw him down and went to look in the mirror, and said, 'That's not too bad'".

Several hours and one sore lip later, Adam was less emotionally attached to Lightning than last spring, when the family rescued the turtle from a disastrous fate on Yoder Road.

Until Monday, Lightning had been a good pet, entertaining the Hensons on their living room floor and eating nothing more serious than fruit, spinach leaves, carrot sticks, and an occasional insect.

Adam went to the doctor Monday to get his swollen lip checked out, but his pet's betrayal probably cut deeper.

— Hutchinson News, 15 November 1991
(submitted by Daniel G. Murrow, Kansas City, Kansas)

Editor's comment: For you kids out there, the next time you have an urge to kiss your turtle, go stick your tongue on the freezer instead.

READING, WRITHING, AND 'RITHMETIC

Step right up, ladies and gents, boys and girls, and meet Jack Shumard, the amazZZZZZZZZZZZZing "Snake Man of Wichita".

He walks. (He's a letter carrier.)

He talks. (With a pretty hefty Kansas twang.)

But he doesn't crawl on his belly like a reptile. He leaves that to his friends.

When he shows up at a school or a Wichita Wild demonstration, the ooohs and aaaaaahs are never far behind, because children and adults know that eventually Shumard will pull something slithering and hissing out of a sack or his ever-present wooden box.

Kids count on that, in fact. They can't seem to get enough of Shumard or his critters. Even though he may appear at the same place repeatedly, the kids come again

and again to see the critters writhe and wriggle.

When Shumard appears at the Wichita Children's Museum, for instance, his show runs in shifts to accommodate the throngs. When he appeared last week at Derby Middle School's science olympiad, teachers had to scramble to find a room big enough to hold the 300 children out of 900 who had signed up to see his presentations — in three shifts, it turned out, and still a far better draw than anything else at the school that day.

At Derby, Shumard stood at the front of the library as a Milk Snake [*Lampropeltis triangulum*] curlicued around his hand, a Black Rat Snake [*Elaphe o. obsoleta*] tied itself in knots — with some assistance from Shumard — and a Bull Snake [*Pituophis catenifer sayi*] hissed at him menacingly.

"He's just a lot of bull," Shumard assured the students — who didn't seem to believe him and hung back warily. (Or maybe they hung back because an earlier snake had unleashed what remained of an hours-old meal of minnows.)

Ella Mae Waterloo of the Wichita schools' community resource data bank was at Derby that day to see the man she routinely books for presentations. She had booked Shumard, she said, but had never seen him — and she thought it was about time.

"He's good," she cooed as Shumard put his snakes through their paces. "I have him booked up 'til Christmas next year."

What is that makes Shumard so enticing? It certainly isn't the slickness of his presentation. That can be halting and sometimes funny, with Shumard making fun of his own photography skills — he shows slides — or the sometimes-carelessness that has allowed his arms and hands to be dotted with infrequent snakebites. Sometimes, too, Shumard talks over people's heads as when explained "ophidiophobia" (fear of snakes) and Cottonmouth [*Agkistrodon piscivorus*] migration to a group of mostly pre-schoolers at the children's museum.

So if the information isn't the draw, it must be the visual aids. The snakes. The turtles. The exciting, stomach-knotting apprehension that arises from wondering whether Shumard will stand up there and be bitten — much like watching an auto race and hoping/not hoping for a crash.

Shumard isn't a particularly glamorous character, just a regular guy whose hair is a little long and who favors jeans and tennis shoes.

A regular guy who just loves snakes.

That's evident from what the public *doesn't see* about Shumard. The letter carrier/snake man's basement houses 21 snakes, 30 turtles, one lizard, one frog, two salamanders, two toads, 200 mice, and 300 rats. The snakes range from Garter Snakes [*Thamnophis* spp.] — several species — to a 9-foot Boa Constrictor [*Boa constrictor*] that Shumard sometimes takes to school fun nights so people can wrap it

around their necks and have their pictures snapped.

All of the animals are in cages lined with pine shavings to absorb whatever excretions the snakes and turtles and mice might unleash.

He also makes sure his lights and thermostat are timed to replicate day and night as well as the seasons. If the basement doesn't seem as close to whatever is happening outside as possible, the snakes' cycles become upset. They forget to hibernate — or whatever passes for it in the basement.

All of this manly collection is a far cry from Shumard's childhood, when young Jack couldn't bring a snake into the house because Mom wouldn't allow it.

"Mom did not like the idea of snakes around the house," remembers Shumard, 51. "Snakes, she absolutely hated them." Turtles, though, were OK, so Shumard started collecting those.

Later, Shumard started raising pigeons — the kind he could throw up into the air to watch spiral, end over end, back to earth.

When he grew up and got married, Shumard spent his time raising kids instead of animals. Eventually, his marriage broke up. His kids, all grown, moved away. And Shumard married again — oddly, to a kindergarten teacher he had met along his route when he poked his head into his old classroom at Jefferson Elementary.

Shumard says his wife, Pat, is "very understanding." She'd have to be, apparently, because a few years into their marriage, Shumard says, "I lost my mind" and "started collecting everything... It started out with one snake and got out of control."

But Pat Shumard was far from just tolerant. She's the one who started her husband's public presentations — by asking him to bring a couple of snakes to school to show her class sometime in 1984. Eventually, Shumard says, "the guy across the hall" asked, too. And then another teacher and another. He contacted the school system, underwent a sort of audition, and eventually became a regular highlight of fun nights and science shows. Last year, the school district presented him with a Good Apple Award for his consistent volunteerism.

Now, Shumard goes nowhere without his compact calendar, the better to keep track of show dates. He notes where he'll be each day off from carrying the mail — he never really has a day off; he's too busy showing his reptiles around — and which of four academic (sic) programs he presents. Shumard can talk about Box Turtles [*Terrapene* spp.], water turtles, Water Snakes [*Nerodia* spp.], or the snakes of Kansas. Shumard has developed a fifth program for school, church, and Scout fun nights, and he has developed a program for teachers on the care and feeding of reptiles. He also works with Wichita Wild.

All of which sounds very scientific and impressive until you find out the kind of question Shumard most often

encounters at his presentations:

"Do your snakes have birthdays?"

— Wichita Eagle, 24 March 1992

(submitted by L. A. Stein-and-gear, Neutral)

SNEAKY SNAKE SENDS TELLERS SCURRYING

Tellers at the First National Bank drive-through branch had a surprise visitor Thursday afternoon when a snake slithered through a light fixture and dangled ... above them.

Judging from the tellers' reaction, the snake most certainly was either a 20-foot long cobra or a man-eating python — it is hard to tell the difference when they are dangling, you know.

But once the women had calmed down a bit, the story began to unfold.

About 1:30 p.m. teller Carol Miller, who later admitted to a mortal fear of snakes, looked up and saw what appeared to be a piece of metal hanging from a light fixture above her station. Teller Cindy Jones saw it, too.

Then it moved.

"He was turning his head like he was watching us," Mrs. Jones recounted. "We called everybody. The fire department wouldn't come, the pest control wouldn't come..."

But after a call to 911, animal-control workers David Williams and Tina Tracy quickly arrived at the scene.

Williams climbed up on the teller's counter and lifted the light fixture. Just as he reached for the snake, it slid back up into the ceiling.

Ms. Miller said the snake was about the diameter of a quarter and was probably about 15 feet long.

Williams tried to reassure the tellers that they were not in any danger.

"That's a Bullsnake or King Snake that's up there. It's not poisonous," Williams said.

Carol Berger, vice president of deposit services, spearheaded the snake hunt in the small office. She called several men who work in the bank and calmly began each conversation with "Are you afraid of snakes?"

Ed Coons, an investment officer in the trust department, answered the call for help.

He said that he was not afraid of snakes and that he often removed them from his duck blinds when he hunted.

"When you work in investments you get used to working with snakes," he said.

Coons helped Brian Robertson, a bank maintenance worker, remove a lighting fixture and peer into the hole with a flashlight.

Robertson said that he could not see the reptile.

"Maybe he fell in love with that conduit," Robertson

said.

The group guessed the snake might be an escapee from the nearby Santa Fe Pet Company, so they called the store.

Sandy McFarland walked over from the store and assessed the situation.

"It could be ours; we had one on the loose. On nice days we leave the back door open. But it could be an outdoor variety, you never know," Ms. McFarland said. "I guess I could bring down some mice and he'd come out to eat them."

The solution sounded worse than the problem to most of the tellers.

"Sick!" said teller Michelle Ideker.

The serpent, probably more scared of the people than they were of it, remained hidden for a few more hours. Tellers took deposits with their faces toward the ceiling, worried a snake might land on their heads.

Finally someone called Advance Termite and Pest Control. The menace had to stop.

A man was sent right over, and he proceeded to remove all four light fixtures. Still no snake.

It was not until he climbed atop the vault in the back of the room that he saw it, perched on the bottom shelf of an I-beam.

A co-worker quickly set up a ladder and calmly told the tellers – three of them huddled near the bathroom for safety – that he was ready to yank the snake out.

A few seconds later, it was finished. The snake first coiled around the Advance man's arm, who hurried it to the floor before it tightened its grip.

The snake – all 2 ½ feet of Bullsnake – was transferred by paper bag to the bed of a pickup and whisked away.

At 5 p.m., an hour before closing, the drive-through tellers finally could relax again, even if their office was littered with ceiling tiles, shorted-out lights, and dirt atop desks and cabinets.

"Our stomachs are still all in knots," a relieved Ms. Ideker said Thursday night. "The snake is gone, and we're alive."

Before leaving, they left a note for the cleaning personnel who might not have heard about the reptilian crisis.

"The snake is gone; the coast is clear," it said. "and we hope there aren't any baby snakes running around."

— Hutchinson News, 15 November 1991
(submitted by Daniel G. Murrow, Kansas City, Kansas)

HUNGRY PET PYTHON SWALLOWS THE HAND THAT FEEDS IT

A woman's 12-foot pet Python grabbed her hand and swallowed it and began working its way up her arm. But the woman told rescuers: "Don't kill my snake! Don't kill my snake!"

"She's lucky he didn't get around her neck and choke her to death," said Marvin Parrish, chief of Clayton's [North Carolina] rescue squad. He declined to identify the woman, who eventually freed her hand by herself.

The snake grabbed the woman's hand while she was feeding it hamsters... She called 911.

By the time rescuers arrived, Parrish said, the reptile had swallowed her hand up to her wrist. And he said it had coiled itself around the rest of her arm and started squeezing, a Python's method of suffocating and subduing its prey.

The woman was so adamant about not harming her snake, Parrish said, that he and his workers did nothing but call a veterinarian, who, by coincidence, had returned from a reptile seminar earlier in the week.

But by the time Mike Bagley of Clayton Animal Hospital arrived, the woman had managed to jerk her hand out when the snake let of momentarily before trying to extend its grasp. "I was pretty happy that when I got there the snake was already back in its cage," Bagley said. "I knew exactly how to take care of its medical needs, but that's different than going in and wrestling with it.

Although Pythons have no venom, ... their teeth point backward to keep live meals from escaping. "It's geared so things go down but don't come back up," Bagley said. "It would be harder to pry off the snake than you might imagine."

The woman was taken to a hospital for treatment of several cuts.

— The Denver Post, 23 January 1992
(submitted by Judy Schnell and Warren Voorhees, Scottsbluff, Nebraska)

Editor's note: Certainly was an ambitious snake, wasn't it? At any rate, once again, although large boid snakes may not be inherently dangerous, this article illustrates that careless behavior on the part of human keepers can have potentially life-threatening hazards. Have you considered your feeding methods lately?

GENETICS OF THE GARTER'S GETAWAY

Secure from predators and sheltered from the falling rain, a female Garter Snake lies beneath a tangle of blackberry vines. The brilliant red stripe on her back and the yellow ones along her sides fade slightly toward her tail, where her skin is stretched from the bulge of the babies she is carrying. She begins to undulate rhythmically as waves of contractions force the first baby from her body. Encased in a membranous sac, the baby begins to squirm as the mother crawls a few inches away. With a thrash of its head, the baby splits the sac and breaks the umbilical cord trailing from its belly. Crawling away, the newborn Garter Snake

immediately begins to shed its natal skin and reveal its color pattern. Unlike the mother, the baby has no stripes on its sides, only a single, straw-colored stripe down its back. A few minutes later, a second baby sloughs its skin and exposes a stripeless body with a row of black spots down each side. When the striped mother has finished giving birth, seven babies have wriggled off into the underbrush: two with red and yellow stripes like their mother, three with a single straw stripe, and two with no stripes at all but with a row of spots along each side.

The color patterns of other snake species may vary from one place to another, but the great variety of colors and markings, called polymorphism, found within litters of Northwestern Garter Snakes [*Thamnophis ordinoides*] is exceptional. Snakes living within the same meadow or backyard may have red, orange, yellow, straw or blue stripes on their back, a pair of yellow or straw stripes on their sides, rows of small or large black spots along their back or sides, and either plain or red- or black-spotted bellies. Individuals might have almost any conceivable combination of markings: stripes, one stripe and a row of spots, spots only, or no markings at all. To complicate matters even more, the dorsal stripe, when present, sometimes fades before the end of the body, creating a partly striped snake.

I first noticed the color pattern polymorphism of Northwestern Garter Snakes when I was a child growing up in coastal Oregon. In backyards and parks and on the hillside behind my house, I caught snakes of differing patterns and always hoped that I had found a new species. Invariably, upon checking the identification in my field guide, the new "variety" would turn out to be a Northwestern Garter Snake, although sometimes of a color pattern not listed in the book. These variable snakes were little more than a memory of frustration to me until, as a graduate student at the University of Chicago, I began to search for a dissertation topic.

As I learned that polymorphisms are not expected in nature — traits that influence an animal's ability to survive and reproduce are subject to natural selection so that the most favorable traits replace others through time and the most advantageous color pattern becomes the dominant one — I recalled the range of patterns on the snakes in my grandparent's backyard. How can such variation exist not only within this species but also within small populations and even single litters? Polymorphism has intrigued biologists since Charles Darwin and Alfred Russel Wallace independently proposed natural selection as an evolutionary process in 1858. If more than one pattern exists, then something must act to eliminate the advantage of one type over another.

While most snakes simply remain in burrows or under rocks on cold rainy days, Northwestern Garter Snakes, restricted to the Coast Ranges of the Pacific Northwest,

must hunt in the cold rain and fog for which this region is famous. They feed almost exclusively on slugs and earthworms, which are active above ground only during wet weather. A snake crawls slowly through the fields and meadows during light rain, frequently putting its head to the ground and flicking its tongue to try to pick up the scent of a slug. After picking up a fresh slug trail, the snake follows the scent until it locates the quarry. Such searches often take the predator far from its normal hiding place.

When a snake does capture a plump slug, it must then spend several days basking in order to digest its meal. Because it is coldblooded, a snake's metabolic and behavioral processes depend on its ability to elevate its body temperature by external means. Whenever a snake eats a meal, begins to shed, or is pregnant, it must bask to absorb what little sunlight filters through the clouds and mist. All this adds up to a large portion of time exposed to potential predators.

Many snake predators, however, depend on vision for detecting prey, so a snake's color pattern could determine whether it lives or dies. For so many color patterns to persist, Northwestern Garter Snakes (which, like most snakes, rely less on sight than on a keen sense of chemical detection to recognize both mate and prey) must somehow behave in a way that makes one color pattern as good a protection from predators as another.

The primary threat to Northwestern Garter Snakes comes from birds. In my study sites, I have seen many raptors — including golden eagles, red-tailed hawks, marsh hawks, and kestrels — circling overhead while the snake are active. More common, however, are the crows and Steller's jays that frequent the clearings. These birds often sit in the alder and maple trees that surround meadows, watching for movement in the grass and brambles below. On one unusually sunny morning, I watched a Steller's jay sitting on a tall stump near a blackberry bramble where I normally find several snakes. From time to time it would fly to the ground and hop along for several feet while pecking at the ground. It repeated these movements about four times before flying back to the stump with a juvenile Garter Snake writhing in its beak. In less than a minute, the bird swallowed its prey and resumed its watch over the field.

Birds, which hunt by sight, may represent a force of selection on the color patterns of Garter Snakes. When a group of herpetologists from the University of Florida compared the color patterns of all species of snakes in North America, they found that they could predict a species' color pattern based only on knowledge of how it escapes predators, how it feeds, where it breeds, and when it is active.

Snakes with broken patterns, such as spots or blotches, are usually secretive. Many of these species are active only at night, sitting in ambush for their prey, rather than hunting widely for it. These snakes also rely on camouflage to avoid

detection by predators, but become aggressive when threatened. Blotched and spotted snakes include most venomous species, such as Rattlesnakes [genus *Crotalus*], Copperheads [*Agkistrodon contortrix*], and Cottonmouths [*Agkistrodon piscivorus*]. Snakes with striped patterns usually live in open areas such as meadows, are active during the day, forage widely for their food, try to escape when threatened, and generally lack any special defense or threats.

Color patterns and behavior may be correlated because of the optical illusions of moving and fixed patterns. Stripes on the back and sides give the eye no points to fix on and make it difficult to detect motion or to judge speed. One section of a stripe looks just like any other. A predator, such as the jay on the stump watching a striped snake below, may not even realize the snake is moving until it's gone. A blotched or spotted pattern, on the other hand, provides flickering reference points for the eye; a predator can more accurately judge the speed of a moving snake with these patterns and thus has a better chance of capturing the prey.

While blotches or spots are not useful to a fleeing snake, they are advantageous to a stationary one. The broken pattern disrupts the outline of a snake's body and makes it more difficult to detect. A passing hawk might never notice a partly exposed spotted snake. Stripes, on the other hand, accentuate the shape of a snake by colorfully outlining the body form. Harvey Pough, of Cornell University, suggests that while a steadily moving striped snake may be difficult to pin down, a blotched or spotted snake may have an advantage if it moves in fits and starts. The blotches blur together as the snake moves and make it difficult to identify when it stops. The sudden disappearance of the pattern confuses a predator.

Northwestern Garter Snakes are exceptionally docile and rarely, if ever, bite. If caught, they exude a malodorous musk from a gland in the tail and may attempt to smear it on their captor; but their first line of defense is escape. During a year of fieldwork in the Coast Ranges of Oregon, I found that the method of escape depends upon the snake's color pattern. Striped snakes usually crawl straight away from a predator, while spotted or unmarked snakes often reverse direction and freeze.

I believe that the behavioral differences between striped and spotted Northwestern Garter Snakes equalize the advantage of one pattern over another. Simple flight is a more effective strategy for striped snakes, while evasive stop-and-go behavior works best for spotted individuals. But how does a snake "know" whether it is striped or spotted, and, thus, how to behave when threatened? Such self-awareness being unlikely, appearance and behavior must be genetically linked. That is, the genes for striped color pattern must be inherited along with those for direct escape, and likewise for spotted patterns and evasive behavior.

For the past four years I have been examining the genetic control of color pattern and escape behavior in a population of Northwestern Garter Snakes in coastal Oregon. Pregnant females are active throughout most of the summer, emerging daily from burrows and refuges in the morning to warm up. Slowed by the burden of their clutch, these females can be easily caught as they bask in the early morning. I kept pregnant females in a field laboratory for a few weeks until they gave birth to their young at the end of the summer.

Each female gives birth to about six offspring. The baby snakes are born with color patterns already developed for life. Two days after each litter was born, I tested the escape strategy of each baby on a doughnut-shaped race-track covered with AstroTurf. Since starting the project, I have examined more than 200 families of Garter Snakes and a total of more than 1,200 babies. I compared the variations of color pattern and escape strategy found within individual litters with the variations among all the families. If a trait is heritable, one would expect less variation within a family than in the general population, and one might even be able to determine how much is genetic and how much environmental. I then used a formula developed by animal and plant breeders to find out how much a particular trait is determined by genetic factors. (Animal breeders value such information so that they can crossbreed for the greatest possible production of milk or eggs. Biologists have recently begun to realize the equation's value for understanding the evolutionary history of plants and animals.) The results showed that color pattern and escape behavior are genetically linked: striped snakes are more likely to flee in one direction, while spotted snakes usually reverse direction several times during flight.

In spite of this genetic association between color pattern and behavior, some snakes are occasionally born with the wrong combination for traits, a striped snake that will reverse direction or a spotted snake that flees. To confirm that natural selection in the wild actually favors particular combinations of color pattern and behavior, I marked and released more than 600 baby snakes, the subjects of my genetic studies, into my study population. When I return next year to recapture the marked individuals, they will have been exposed to from one to three years of natural conditions, complete with the normal predation risks encountered by wild snakes. By seeing which snakes have survived, I'll be able to determine the relative advantages of different combinations of color pattern and escape behavior.

If predictions about the way birds view moving patterns are correct, the snakes that survive ought to be the striped snakes that flee directly and the spotted ones that are evasive. Such an outcome will prove that the selective advantage does not belong to a single color or behavior, but rather to specific combinations of the two. By reducing the

relative benefit of any single character, selection should maintain the variety of colors and patterns in the Northwestern Garter Snake.

— Natural History, July 1990
(submitted by Ralph Black, Wichita)

TURTLES SPARED DREDGING HAZARDS

Responding to pressure from the National Wildlife Federation and an affiliate, the South Carolina Wildlife Federation, the Army Corps of Engineers ceased dredging in Charleston Harbor during warm weather last fall and agreed to resume only after cold weather had driven rare sea turtles out of the area.

Warm-weather dredging led to the deaths of three threatened Loggerhead Turtles [*Caretta caretta*] last summer. NWF had given a 60-day notice of intent to sue, as required under the Endangered Species Act, but it was powerless to stop the dredging in the meantime.

To protect the turtles from further harm, the National Marine Fisheries says it will limit harmful "hopper" dredging to the cold-weather months.

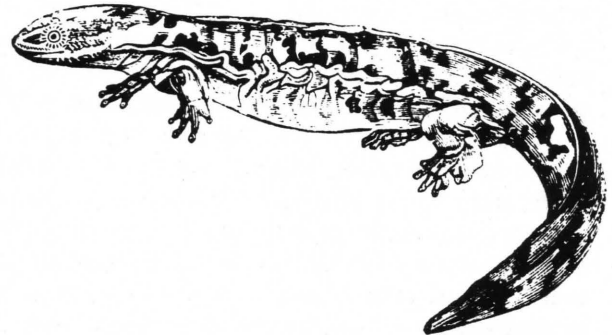
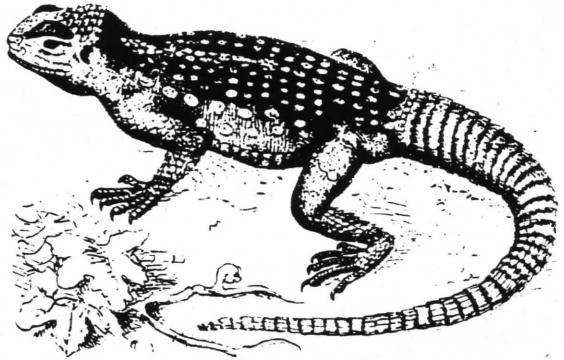
International Wildlife, January/February 1992
(submitted by Dan Schupp, Wichita)

U.S. EXTENDS USE OF TURTLE PROTECTORS

Under threat of a lawsuit by the National Wildlife Federation, the Department of Commerce has ordered Atlantic shrimpers to use turtle excluder devices (TEDs) year-round through 1992.

The agency required use of the special devices, which prevent sea turtles from becoming caught in shrimp nets, from May 1 to September 1. NWF argued that the number of turtles that washed ashore last year after drowning in shrimp nets proved that year-round protection was necessary. The Federation is now urging Commerce to issue permanent regulations requiring year-round use of TEDs in the Atlantic, action the agency appears likely to take.

International Wildlife, January/February 1992
(submitted by Dan Schupp, Wichita)



FEATURE ARTICLES

IN MEMORIAM: GEORGE TOLAND

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George Toland, teacher, advisor, friend and father, charter member of the Kansas Herpetological Society, died on 15 March 1992, in Salina, Kansas, where he lived and taught since 1947. His death leaves a void that will not be filled. As one former mayor of Salina observed, "There is just not another George Toland." The following remembrance is an open letter to George, written by one person, but it is really from the thousands of lives he touched over the many years.

Dear GeeTee,

It has been a while since I have written to you, so I thought that I would drop you a note to tell all who read it what you mean to a lot of people. We first met when I was in the 5th grade. I had caught a snake that I wanted to keep, but I didn't know what it was. Your name was the one provided by the newspaper as the "local snake expert", so my parents had me call you. You graciously took the time to look at it and proclaim it safe to keep. That attitude of always having time for "snakers" was one of your hallmarks, and it was one all of us tried never to abuse. You had time for civic-minded projects also. I got my Boy Scout Reptile Study Merit Badge because you had taken the time to be the merit badge counselor for that award. And, just because you knew me already, you didn't let me "slide" on any of the questions or assigned work, even though you were sure that I already knew the answers.

Most people who didn't have you as a teacher of biology at the old Salina High School probably remember you most for your famous snake hunts. These were the events that made you familiar to the "non-snakers". You would load up the car and trailer with kids and away we would go for high adventure, chasing diamondbacks in northwestern Oklahoma, or timber rattlers and copperheads in eastern Kansas. To this day I do not slam car doors because that was one of your standing rules! God, those were good times, George. When Jerry Johnson and I got back from Viet Nam, you gave a "welcome home snake hunt". I remember walking up a wooded trail carrying my

clamp stick at "port arms", and you came up, put your hand on my shoulder, and told me to take it easy, no one was going to attack.

You were responsible for the collecting ethic that I carry to this day. How many diamondbacks did you carry back to the hills west of Waynoka, Oklahoma, after the "hunt" was over? Not many people have a capture-release ethic with any wild animals, much less venomous snakes. Some people thought that was strange behavior; I am impressed by it even now.

The one thing that I most appreciate about you, though, was a lesson you once gave me. It concerned the term "parallax". I was a sophomore or junior in high school, and I was trying to weigh something on a sophisticated balance in your classroom. I was trying to read it from the side. You came up, asked me if I knew what "parallax" was, and then told me how to correctly read the scale. You then said that looking at something head-on, like the balance, was most likely going to give the truest view. Looking at something from one side or the other would, very often, provide an inaccurate reading. I have carried that lesson over into my entire life. It was one of the best pieces of advice that I have ever received.

So now, George, after touching the lives of literally thousands of students, friends, and even people who didn't know you personally (I wonder how many people who enjoy the trees in the city parks of Salina realize your input on those many projects?), we cannot say good bye. We were not ready for you to go. There was so much left unsaid, so many "thank you" notes that all of us owed to you ...

You are missed, my friend. Just knowing that you were out there in Salina was enough. You were a father figure, a person who could be trusted with anything. As important, though, you were a teacher and friend. I shall always treasure our times together.

Hasta luego, mi amigo,

Jimsan

OBSERVATIONS ON KANSAS AMPHIBIANS AND REPTILES

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During the period 1979-1991 I made observations on various species of amphibians and reptiles throughout Kansas. My observations were primarily in Allen and Ellis counties, but I have also included others which might be of interest. The information presented below supplements, in some instances, that of Collins (1982) and the scientific and common names are those of Collins (1990).

Ambystoma texanum Smallmouth Salamander

I observed migrations of this amphibian in the following Kansas counties on the following dates: Allen, 21 January-4 April 1979-1989; Bourbon, 17 March 1989; Douglas, 18 February-16 March 1990 and 5 November 1990; Neosho, 17 March 1989; Leavenworth, 28 February 1989; Jefferson, 7 March 1990; Shawnee, 7 March 1990.

Eurycea lucifuga (Cave Salamander)
Eurycea longicauda (Longtail Salamander)
Typhlotriton spelaeus (Grotto Salamander)

On 4 July 1989, Kevin Comcowich and I observed 33 adults (4-6 in TL) of *Eurycea lucifuga* inside the first 300 feet of Schermerhorn Park Cave in Cherokee County. On 13 August 1989, another 21 were seen within the same cave. Only one *Eurycea longicauda* was seen on either occasion. Eleven *Typhlotriton spelaeus* larvae were found in the stream inside the cave, seven on 4 July 1989 and four on 13 August 1989.

Bufo americanus American Toad

From 1979-1989, I found adults active on rainy nights as early as 24 March (46° F) and chorusing as early as 2 April (52° F) in Allen County.

Bufo debilis Green Toad

The following information about *Bufo debilis* was obtained during studies supported by a nongame wildlife research grant from the Kansas Department of Wildlife & Parks through its Chickadee Checkoff program. The toads were observed in Wallace, Greeley and Wichita counties from 15 June-27 August 1991.

This rare Kansas toad seems to prefer rugged habitat.

It is concentrated in areas that have the following characteristics — prairie with rugged topography and a water system, such as an intermittent stream, that produces temporary pools. They are also found below pond dams and stock tanks.

Development from egg to newly metamorphosed toadlet takes less than a week, and by then most of the water in the pool has evaporated. Mud cracks on dried pond and pool bottoms provide toadlets of this species protection and moisture during the summer. I observed these toadlets outside of the cracks only during evenings, and, when I walked over the cracks, they would emerge ahead of my footsteps.

I observed newly metamorphosed Green Toads eating brown ants, small moths, beetles, and small grasshoppers. The brown ants were by far the most common food item — harvester ants were ignored. Three times I placed a small toad near a harvester ant mound and witnessed a group of these ants attack the toad. Within fifteen seconds the toad appeared to look wet and the ants immediately left it. The toads were recovered, maintained in captivity, and appeared to have no ill affect from the confrontation except for a few small lacerations that healed quickly.

The only observed predator of Green Toads was *Thamnophis radix*. These serpents were alert, and I witnessed predation by them on both the toadlets and tadpoles of *Bufo debilis*.

Bufo woodhousii Woodhouse's Toad

I found adults active on rainy nights as early as 15 April at 51° F and chorusing as early as 28 April at 58° F in Allen County during the years 1979 to 1989.

Acris crepitans Northern Cricket Frog

I observed a single adult active on the banks of Shoal Creek in Cherokee County on 1 January 1990 with an air temperature of 47° F and a water temperature of 32° F.

Pseudacris triseriata Chorus Frog

I found a live adult in Trego County under a pile of tumbleweeds below the dam of a small pond on 23 December 1988 at an air temperature of 38° F. The frog was half

buried by dead grass and the earth under the tumbleweeds was frozen.

Hyla chrysoscelis/Hyla versicolor Gray Treefrog

I collected a single adult in Allen County on 15 March 1988 while it hopped on a tree-lined road near a street lamp during a rain storm at an air temperature of 46° F.

Rana areolata Crawfish Frog

I observed and collected specimens in three locations in Allen County from 1987-1989. Most of these frogs were found hopping on newly-cultivated ground, in the low and usually moist areas of cultivated fields. I also observed this amphibian active in the same areas as early as 28 March with an air temperature of 51° F and have heard and seen them chorusing at air temperatures as low as 58° F and as early as 2 April.

Gastrophryne carolinensis Eastern Narrowmouth Toad

While assisted by Shane Eckhardt, Kelly J. Irwin, and Joseph T. Collins, I discovered a large adult specimen (KU 218746) under a large but thin sandstone rock situated at the edge of a clearing at the top of a east facing rocky hillside on 15 September 1991 in Cherokee County.

Gastrophryne olivacea Great Plains Narrowmouth Toad

I observed predation on this species by a *Thamnophis proximus* in Chase County at an abandoned quarry in May 1990.

Phrynosoma cornutum Texas Horned Lizard

I collected a specimen from Wilson Reservoir in Russell County on 4 July 1987 at an air temperature of 97° F. When picked up, it released a stream of blood from the posterior angle of its eyes for a distance of ca. 2.5 feet, which hit me on the chin and chest.

Ophisaurus attenuatus Slender Glass Lizard

This lizard is abundant in Ellis County, especially along the Saline River. Since 1989, I have collected 103 on gravel roads (45 DOR) and found 14 while searching off the road on rocky hillsides.

Heterodon nasicus Western Hognose Snake

Scott Meyers and I collected a large specimen near the Smoky Hill River in southeastern Ellis County on 28 June 1990. It was maintained in captivity by Scott and deposited

16 eggs on 2 July 1990. None hatched.

Heterodon platirhinos Eastern Hognose Snake

Although considered scarce in Kansas, I found 26 of these snakes in five counties in one season, as follows: Ellis (21), Rooks (2), Trego (1), Gove (1), and Norton (1). They were taken from April to September 1990. Fourteen were DOR, five were AOR, and seven were taken under rocks on sparsely vegetated hillsides.

Opheodrys aestivus Rough Green Snake

I observed two specimens of this arboreal snake fall prey to a large *Coluber constrictor* on 8 September 1988 at Woodson County State Fishing Lake.

Lampropeltis getula Common Kingsnake

I found 22 specimens from May to September 1990 in Ellis (11), Trego (3), Ness (1), Russell (3), and Rooks (4) counties, and have found this snake to be fairly common on open prairies near streams in the Smoky Hills of Kansas. They are often encountered just after dusk on country roads after a hot summer day. Prairie hayfields can also harbor large numbers of this snake. On 13 July 1988, 10 specimens were found by rolling over hay bales in 1/4 of a section field in Allen County. I collected a specimen with white (not yellow) spots from Chautauqua County on 23 May 1986.

Lampropeltis triangulum Milk Snake

From April to October 1990, I collected 265 specimens of this serpent from the following counties: Atchison (6), Cheyenne (2), Cloud (1), Douglas (2), Ellis (94), Ellsworth (4), Gove (1), Hodgeman (14), Leavenworth (6), Lincoln (5), Mitchell (5), Osborne (11), Republic (1), Rooks (18), Rush (17), Russell (28) and Trego (43). It was by far the most abundant serpent encountered in Ellis County that year. *Pituophis catenifer* was the second most abundant species, with 71 specimens observed. On 24 May 1984 I discovered in Russell county a large Milk Snake (ca. 29 inches) that lacked orange bands and only had alternating black and slightly blackened cream-colored bands.

Tropidoclonion lineatum Lined Snake

I collected 47 specimens of this small reptile under flat rocks on one quarter mile of hillside in Hodgeman County on 5 May 1990. I observed 72 specimens under flat rocks during 3 hours of collecting in southern Ellis County on 17 June 1991.

Nerodia sipedon Northern Water Snake

On 1 January 1990, Kevin Comcowich and I captured

a small adult specimen sunning on the north bank of Shoal Creek, Cherokee County, near a pile of exposed rocks and tree roots. Air temperature was 47° F and the creek had a thin layer of ice extending from its edges about 3–4 feet.

Crotalus viridis Western Rattlesnake

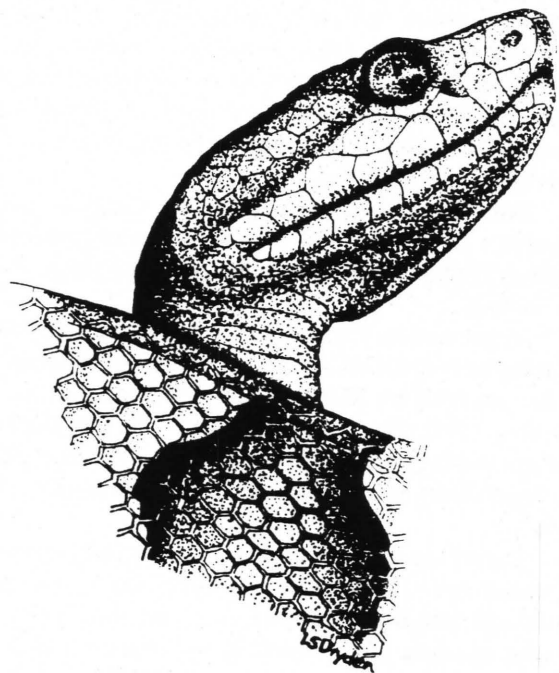
Based on my extensive searching for this species since January 1990, *C. viridis* should be looked for in these habitats during the following times of the year: On warmer sunny days (>57 ° F), even as early as March, this species can be seen sunning at the edge of den sites on south-facing hillsides with large rocks. It can be found at the same type habitat in early spring also, but it soon moves away from rocky hillsides in favor of open prairies. Road cruising on and above river floodplains at any time of the day during late spring and early summer is productive, but summer evenings are the most productive. Also, turning large objects in scrap piles yields many specimens during the afternoons. As it gets hotter and drier later in the summer, this species becomes easier to locate. Early evening in a prairie dog town is very productive because this snake comes out of its cool daytime retreats. Nights are the best, and road cruising near prairies in association with rocky areas will lead you to many of these serpents. During the hottest days, probing with a stick under a rock overhang at the base of an outcrop will often reveal *C. viridis* in shady retreat. During the fall, road cruising in the evenings and, to a lesser extent, during the day can be very rewarding, especially for newborns. After the first or second cold snap, searching possible denning sites (massive rocky hillsides, caves, wells, or mammal burrows) will often reveal these rattlesnakes.

Acknowledgements

During the course of these observations I have been assisted by many individuals. In particular, I wish to thank Ken Brunson and Gerald Horak, Kansas Department of Wildlife and Parks, for their advice and suggestions regarding my project involving the Green Toad. I also thank Joseph T. Collins, Museum of Natural History, University of Kansas, Lawrence, for urging me to publish my observations. His comments and suggestions added immeasurably to this manuscript.

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HIGH PLAINS SERPENTS: RESULTS OF A LONG-TERM STUDY IN TEXAS COUNTY, OKLAHOMA AND MORTON COUNTY, KANSAS

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This study began on 1 July 1985 in western Texas County, Oklahoma. Excursions in Morton County, Kansas were begun during the spring of 1986. Although data for both counties are presented herein, there is no intent to compare the two herpetofaunas. Much of the study area in western Texas County was cultivated when the study began, but at least half of that land was subsequently placed into the Conservation Reserve Program. The area most intensely studied in Morton County was not cultivated at any time during this study. However, this area was contained within the Cimarron National Grassland, which is managed for multiple uses, and much of the area was grazed. This study was temporarily suspended when I moved from the area in late 1991.

Data herein have been presented orally at annual meetings (1987, 1990) of the Oklahoma Herpetological Society (Table I). The latest summary of data is presented in Table II.

Seven species not previously documented for Texas County were recorded in this study. One species not previously recorded for Morton County, Kansas (Collins and Collins 1991) was discovered there. The specimens of *Lampropeltis getula* appear similar in lepidosis and pattern to those observed in Texas and Cimarron Counties, Oklahoma.

During the six years of this study, my observations of *Crotalus viridis* in Texas County declined substantially. Although data from Morton County are incomplete, expected numbers of *C. viridis* in and near to prairie dog (*Cynomys ludovicianus*) towns in the Cimarron National Grassland were not found. Virtually all specimens of *C. viridis* found dead on the road (DOR) had been decapitated. Many *Heterodon nasicus* also appeared to have been deliberately killed, as human footprints were frequently present near the carcasses. This suggests that drivers deliberately stopped to mutilate rattlesnakes but subsequently found and killed harmless species. Many other DOR's appeared to have been deliberately killed.

ACKNOWLEDGMENTS

I thank Bill D. Hlavachick of the Kansas Department of Wildlife and Parks and Steve Lewis of the Oklahoma Department of Wildlife Conservation for their help in gaining the necessary permits to conduct this and other

studies. I also thank Joe Hartman, District Ranger, Cimarron National Grassland for his efforts in making my field work easier. Robert and Rodney Boughner and Jack and Becky Schnauffer provided valuable field assistance during the course of this study, as did my wife, Nancy, and my older daughter, Rachel.

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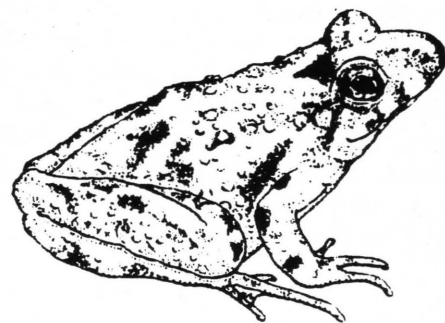


TABLE I. Preliminary data for the years 1985–1990 for snakes observed in Texas County, Oklahoma and Morton County, Kansas. Abbreviations: A = Abundant, A/D = abundant/declining, C = common, U = uncommon, R = rare, LA = locally abundant, NO = not observed, P = possibly occurring, COM = comments, COL = recorded by Collins (1988), CC = recorded by Collins and Collins (1991), NCR = new county record, DK = deliberately killed, DES = conservation designation, I = in need of conservation, T = threatened.

	TEXAS COUNTY, OKLAHOMA			MORTON COUNTY, KANSAS			DES
	# OBS	% COMP	COM	# OBS	% COMP	COM	
LEPTOTYPHLOPIDAE							
<i>Leptotyphlops dulcis</i>	5	1.0	LA	—	—	COL	T
COLUBRIDAE							
<i>Arizona elegans</i>	22	5.0	NCR	48	11.1	C	T
<i>Coluber constrictor</i>	10	1.0	NCR	22	5.1	U	—
<i>Diadophis punctatus</i>	1	0.2	NCR	—	—	P	—
<i>Elaphe guttata</i>	2	0.5	NCR	—	—	P	—
<i>Heterodon nasicus</i>	9	2.0	C	90	20.8	A	I
<i>Heterodon platirhinos</i>	—	—	NO	—	—	NO	T
<i>Hypsiglena torquata</i>	1	0.2	NCR	—	—	NO	T
<i>Lampropeltis getula</i>	2	0.5	R	2	0.05	NCR	—
<i>Lampropeltis triangulum</i>	2	0.5	NCR	3	0.07	R	—
<i>Masticophis flagellum</i>	44	11.0	C	27	6.3	C	—
<i>Nerodia erythrogaster</i>	1	0.2	?	—	—	P	—
<i>Pituophis catenifer</i>	120	29.0	A	162	38.5	A	—
<i>Rhinocheilus lecontei</i>	15	4.0	NCR	20	4.6	C	T
<i>Sonora semiannulata</i>	5	1.0	R	—	—	P	—
<i>Tantilla nigriceps</i>	8	2.0	C	3	0.07	C	—
<i>Thamnophis marcianus</i>	5	1.0	LA	16	3.7	LA	T
<i>Thamnophis radix</i>	8	2.0	LA	16	3.7	LA	—
VIPERIDAE							
<i>Crotalus viridis</i>	154	37.0	A/D	23	5.3	DK	—

TABLE II. Data for the years 1985–1991. Abbreviations same as in Table I.

	TEXAS COUNTY, OKLAHOMA			MORTON COUNTY, KANSAS			DES
	# OBS	% COMP	COM	# OBS	%COMP	COM	
LEPTOTYPHLOPIDAE							
<i>Leptotyphlops dulcis</i>	6	0.80	LA	—	—	CC	T
COLUBRIDAE							
<i>Arizona elegans</i>	47	6.42	NCR	57	11.20	C	T
<i>Coluber constrictor</i>	21	2.86	NCR	27	5.30	U	—
<i>Diadophis punctatus</i>	6	0.80	NCR	—	—	P	—
<i>Elaphe guttata</i>	4	0.54	NCR	—	—	P	—
<i>Heterodon nasicus</i>	32	4.37	C	97	19.06	A	I
<i>Heterodon platirhinos</i>	—	—	NO	—	—	NO	T
<i>Hypsiglena torquata</i>	3	0.40	NCR	—	—	NO	T
<i>Lampropeltis getula</i>	5	0.67	R	5	0.98	NCR	—
<i>Lampropeltis triangulum</i>	7	0.96	NCR	5	0.96	R	—
<i>Masticophis flagellum</i>	86	11.75	C	36	6.10	C	—
<i>Nerodia erythrogaster</i>	2	0.27	?	—	—	P	—
<i>Pituophis catenifer</i>	203	27.77	A	188	36.94	A	—
<i>Rhinocheilus lecontei</i>	27	3.68	NCR	28	5.50	C	T
<i>Sonora semiannulata</i>	8	1.10	NCR	—	—	P	—
<i>Tantilla nigriceps</i>	14	1.91	C	3	0.59	C	—
<i>Thamnophis marcianus</i>	32	4.37	LA	16	3.14	LA	T
<i>Thamnophis radix</i>	33	4.50	LA	18	3.54	LA	—
VIPERIDAE							
<i>Crotalus viridis</i>	205	28.03	A/D	29	5.70	DK	—

A SIMPLE METHOD FOR PRESERVING SNAKE SKINS

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The following technique is recommended for freshly killed (no rigor mortis or rotten smell) specimens only and can be accomplished while in the field, with a minimum of equipment and time. You will need the following supplies for preparing a skin specimen, a box of Borax (Twenty Mule Team works well), a pair of sharp scissors (straight blade surgical stainless steel are best), a sharp knife or scalpel, fifty or more push pins, a piece of cardboard large enough to accommodate the length and width of the skin to be prepared, paper towels, and water.

To begin, lay the specimen out belly up, make an incision down the length of the body, preferably along one side of the ventral scales where they almost contact the dorsal scale rows. This allows for the display of complete dorsal and ventral pattern. Next carefully snip the skin from around the cloaca, this is the most delicate area for the loosening of the skin and requires some patience. It should be noted here that the skin of the head is very difficult to remove intact and is most often left by cutting the flesh around the base of the head and proceeding with skinning the rest of the body. Peel the skin off of the carcass, keeping in mind that some cutting of connective tissue may be required. Care should also be taken when skinning the tail, because this is a delicate area and the skin is easily torn. Once the skin is removed lay it flesh side up, take your knife or scalpel and carefully scrape any remaining tissue off of the skin. This should be done in the direction in which the scales lay (i.e., from head to tail). Wash the skin in water to remove excess scrapings, blot dry with paper towels. Lay out the skin flesh side up again, and rub in a good thick layer of Borax. Place the skin on an appropriately sized piece of cardboard flesh side up and pin the skin down every 10 to 15 mm. Now let the skin dry for at least 24 to 48 hours. After drying remove the skin from the cardboard and rub any excess Borax off. You now have a completed skin, which can be rolled up and placed in a clean dry jar, vial, or plastic bag. After preparation store in a cool dark dry place, as light will cause to the specimens colors to fade.

Such skins are worthy as voucher specimens for scientific collections or can be used as teaching aids. A skin has several advantages over alcoholic or live specimens for teaching. They are much easier to work with than alcoholic specimens which must be kept moist at all times, they take up less storage space and are easily handled without the drying effects to your hands caused by alcohol or other preservatives. Skins also retain pattern and color with

minimal fading. Skins are obviously much easier to work with than live specimens which require an even greater amount of effort to maintain. The disadvantages of a skin specimen are many: key characters can not be exhibited, such as a vertically elliptical pupil or sensory pits as in live or preserved specimens. Further, all anatomical and skeletal material is gone, and with it evidence of diet, growth, reproductive condition, and genetic composition are lost.

But the idea here is that the uneducated can learn to identify a snake by its basic color pattern without having to look for specialized characters, and in this way can become more familiar and knowledgeable about these reptiles.

