

ANNOUNCEMENTS

THE SEVENTEENTH ANNUAL MEETING OF THE KANSAS HERPETOLOGICAL SOCIETY

3-4 November 1990

CORA M. DOWNS AUDITORIUM
MUSEUM OF NATURAL HISTORY, THE UNIVERSITY OF KANSAS

PROGRAM

SATURDAY, 3 NOVEMBER 1990

0830 hrs - **COFFEE AND REGISTRATION** (\$2.00) at the Auditorium of the Museum of Natural History. No dues will be accepted at the meeting; please pay by mail when your notice arrives.

0930 hrs - **WELCOME, INTRODUCTION OF KHS OFFICERS, and ANNOUNCEMENTS** by KHS President Nancy Schwarting.

0945 hrs - **David Kizirian** (University of Kansas) - Phylogenetic Relationships of Softshell Turtles.

1005 hrs - **GROUP PHOTOGRAPH.** Meet in front of Museum steps.

1015 hrs **BREAK**

1035 hrs - **David Edds** (Emporia State University) - Rediscovery of the Common Map Turtle (*Graptemys geographica*) in Kansas.

1105 hrs - **John Simmons** (University of Kansas) - Collections: Pickles, Mail Order and Lending Libraries.

1125 hrs - **David Grow** (Oklahoma City Zoo) - Breeding Programs at the Oklahoma City Zoo.

1145 hrs **LUNCH.** Free to forage. Hot food is available next door in the Kansas Union or there are many fine restaurants in Lawrence.

1300 hrs - **KHS BUSINESS MEETING** and Election of Officers for 1990, KHS President **Nancy Schwarting** presiding.

1315 hrs - **Henry S. Fitch** - Introductory Comments for Hobart Smith.

1330 hrs - **Hobart M. Smith** (University of Colorado) - Tales of Kansas Herpetology.

1400 hrs - **Larry Zuckerman** (Kansas Department of Wildlife and Parks) - What's New in Wildlife and Parks Regulations.

1430 hrs - **Randall Morrison** - Color and Patterns in Amphibians and Reptiles.

1450 hrs **BREAK**

1515 hrs - **Hugh Quinn** (Director, World Famous Topeka Zoo) - Captive Propagation and Release Program of the Endangered Houston Toad.

1610 hrs - **Ken Brunson** (Kansas Department of Wildlife and Parks) - Kansas Herp Counts 1990.

1630 hrs - **FREE-FOR-ALL SLIDE SHOW!** Bring your ten (10) best slides and be prepared to tell us about them.

1900 hrs - **SOCIAL AND AUCTION** in the Kansas Room of Student Union Building next to the the Museum. Please bring items to auction. We need photos of herps and herpers, artwork, cages, snake sacks, snake sticks, books on herps, hide boxes, herp reprints, T-shirts, color slides, herp badges, bumper stickers, etc. Items should be herp oriented. **NO LIVE ANIMALS ALLOWED!**

SUNDAY, 4 NOVEMBER 1990

0800 hrs - Coffee in 308 Dyche.

0845 hrs - **Donald Smith** - Reptile Diseases.

0915 hrs - **John Wiens** (University of Kansas) - Evolution and Development of Spadefoots.

0945 hrs - **George R. Pisani** (University of Kansas) - Population Studies at Oklahoma Rattlesnake Roundups.

1015 hrs **BREAK**

1045 hrs - **Dwight Platt** (Bethel College) - Sand Prairie Herpetofauna.

1115 hrs - **Olin Karch** (Emporia) - 1990 KHS Field Trip Video.

Noon **ADJOURNMENT** (Have a good trip home and drive safely.)

KHS MEMBER RECEIVES CONSERVATION AWARD

Longtime KHS member Dwight Platt was one of 25 environmentalists selected to receive the 1990 Chevron Conservation Award from Chevron USA. He received the award for his activities over the past 30 years in helping to create a state system of natural areas and for organizing Citizens for Environmental Action in Kansas. In addition, Platt was instrumental in helping to recognize and establish non-game wildlife programs through the former Kansas Fish and Game Commission (now the Kansas Department of Wildlife and Parks). Congratulations to Dwight for receiving this award. He is certainly deserving.

NEW PUBLICATIONS AVAILABLE

The following publications, in various media, are now available:

The Dinosauria, edited by D. B. Weishampel, P. Dodson, and H. Osmolska, is available from the University of California Press, 2120 Berkeley Way, Berkeley, California, 94720. The book is divided into two sections, the first dealing with dinosaur relationships, biology, and distribution, the second covers dinosaur taxonomy. This clothbound, technical volume is 716 pages long, with 24 maps and 200 line drawings. Prepublication price (until 28 September 1990) is \$65, \$85 thereafter.

Snakes of Eastern North America, by C. H. Ernst and R. W. Barbour is available from George Mason University Press, 4720-A Boston Way, Lanham, Maryland, 20706. The book is clothbound, 282 pages long, and contains 64 color photographs. The tome is designed to replace Volume 1 of Wright and Wright's classic *HANDBOOK OF SNAKES OF THE UNITED STATES AND CANADA*. Price is \$62.50 plus \$2 postage.

Cassette tapes of the First World Congress of Herpetology held at the University of Kent in Britain in September, 1989 are now available from Q.E.D. Recording Services Ltd., 45 Birley Road, Whetstone, London, N20 9HB, England. The eleven tapes cost £ 5.50 per tape or the entire set can be purchased for £50.00. Postage and package charges are £0.80 for the first tape and £0.40 for each additional tape up to a maximum of £4.00. Add 15% to total tape price and make checks payable to "Q.E.D. Recording Services Ltd."

Videotape of the 1989 International Herpetological Symposium on Captive Propagation and Husbandry can be purchased for \$29.95 from Greg James, P.O. Box 3520, Redmond, Virginia, 98052. Half of all proceeds from the sale of this tape go directly to IHS. Papers by such recognized

herpetocultural authorities as Ernie Wagner, Richard Ross, and Scott Wheeler are included.

Euthanasia of Amphibians and Reptiles can be purchased from the Universities Federation For Animal Welfare, 8 Hamilton Close, South Mims, Potters Bar, Herts., EN6 3QD, England for £6.25. If you gotta kill 'em, this is the work to have.

Evolution and Ecology of Unisexual Vertebrates, Bulletin No. 466, edited by R. M. Dawley and J. P. Bogart can be purchased from Publications Salrs., New York State Museum, 3140 Cultural Education Center, Albany, New York, 12230 for \$4. This large format, paperbound, 307 pp. volume with 96 tables and 122 figures contains 24 papers on parthenogenetic, gynogenetic, and cloned fishes and herps.

Michigan Snakes is available from the Michigan State University Bulletin Office, 10B Agriculture Hall, Michigan State University, East Lansing, Michigan, 48824 for \$6.95. This handy field guide is a steal at this price.

MIDWEST HERPETOLOGICAL CONFERENCE

The Minnesota Herpetological Society announces that it is hosting the Sixth Annual Midwest Herpetological Conference from 12-14 October in Minneapolis. Featured speakers include Ernie Wagner, Barney Oldfield, and KHS's own Joe Collins (who will be conducting the auction by the way. He becomes a professional auctioneer next year and can quit his day job. Just kidding). Fees are \$30 for the conference and \$20 for the banquet. For further information write: Minnesota Herpetological Society, Bell Museum of Natural History, 10 Church Street, SE, Minneapolis, Minn., 55455.

INFORMATION REQUEST

Jim Hatfield, Box I.R., Los Gatos, California, 95031, is requesting any information to improve the source material on green iguanas (*Iguana iguana*). Respondents will receive a short questionnaire and his final report.



NEWSLETTER CHANGES

As you perceptive readers surely noticed when you opened this issue, there has been a slight change in the format of the KHS Newsletter. I have switched to a double-column format and different typestyle (damn, but this new computer is fun!). The reasons for this are primarily two: first, I can cram a great deal more information into the set pagination of the Newsletter with this format (approximately 1 1/2 times the previous format). This may save the Society money on future mailings without reducing the information content of the Newsletter. Second, this new style gives the Newsletter a more professional appearance. As I anticipate accepting formal, refereed papers in the future, this change may help attract papers from professionals. However, it is not my intent to discourage anyone from submitting any type of article of herpetological slant, particularly those relating to Kansas. Any and all articles are welcome, as has always been the policy of previous editors. Believe me, we can use all we can get! Please remember, though, that the deadline for submission of articles is the first of the month prior to the actual publication date of the Newsletter. As it stands now, the Newsletter is published in February, May, August, and November. My personal deadline for production of the Newsletter is the 15th of the month previous. That is an *absolute* date. I welcome any comments, pro or con, from any member of the Society. Let me know what you think.

—Eric M Rundquist

KANSAS EXPERIENCES RATTLESNAKE HUNT

Thanks to the eagle eye of KHS Associate Editor Marty Capron, the KHS Executive Council was warned that the Kansas Bowhunters Association intended to hold a prairie dog and rattlesnake hunt near Fowler on the weekend of 19-20 May 1990. Although we were somewhat incredulous that someone actually would try to shoot rattlesnakes with bow and arrow, inquiries were sent to Alan Wentz, Assistant Secretary, Kansas Department of Wildlife and Parks, concerning the position of KDWP as to the legality of such practices. The following is a partial quotation of a letter I received from Mr. Wentz in response to my query, "...Prior to June 30, 1989, it was legal to hunt prairie dogs and rattlesnakes. When House Bill 2005 was enacted into law all wildlife was given protection on July 1, 1989. It is the policy of this agency to allow legal practices prior to July 1, 1989, to continue until specifically addressed by law or regulation change. This policy follows the legislative intent as outlined in K.S.A. 32-704 which basically states (that) old rules and regulations in effect on June 30, 1989, shall remain in

full force and effect until amended or revoked. The regulations pertaining to the harvest of prairie dogs and rattlesnakes have been drafted and will be presented to the Commission in July for their approval. Until the new regulations are in effect we are allowing the hunting of rattlesnakes and prairie dogs in Kansas..."

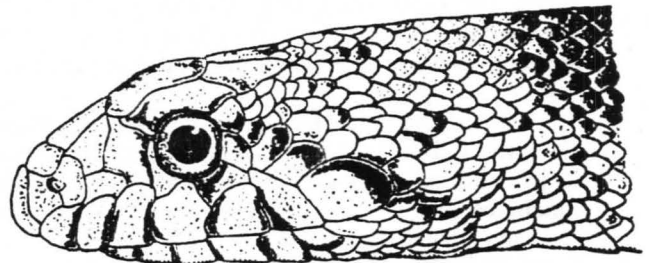
To the best of our knowledge, this hunt went off as planned. No KHS members were able to attend, so the actual take is unknown. Frankly, the possibility of more than a few animals of either species being killed is small. However, KHS has taken a strong stand, along with numerous other wildlife groups, in opposition to rattlesnake hunts of any sort and it is alarming that we now have an officially tolerated one in this state. In addition, prairie dog populations in this state have undergone drastic reductions in the past 25 years. Both of these species (the prairie dog, in particular) are integral parts of the mid-grass and short-grass prairie ecosystems. We will keep you posted on events as they occur. We understand that KDWP is going through a transitional period with its recent reorganization and have confidence that this problem will be resolved satisfactorily.

—Eric M Rundquist

YOUR SECRETARY/TREASURER SPEAKS

I wish to thank the members who received undue unpaid dues notices for their patience. One update of the membership list in December was lost via a computer error. It was an unfortunate case of a number of people being eaten by an Apple. Only 24% of those notified remembered that they had already paid; the other 76% generously paid twice. Those who paid twice have been credited for 1991. Any member(s) who are missing newsletters for this year should let me know. In addition, any member who has a change of address should also notify me.

—Olin Karch



KHS BRINGS YOU GREAT NEWS OF THE WORLD

SECRETARY OF THE INTERIOR QUESTIONS ANIMAL PROTECTION

Under mounting pressure to protect the embattled Mount Graham Red Squirrel in Arizona, the Squawfish in Colorado, and the (Northern) Spotted Owl of the Pacific Northwest, Secretary of the Interior Manuel Lujan, jr. has suggested that Congress take a look at the Endangered Species Act to see whether it is unnecessarily restrictive.

Lujan's comments in an interview in Friday's Denver Post incited an uproar from environmentalists, who interpreted them as a call for weakening the federal protection of a host of endangered plants and animals.

Following an interview at Mesa Verde National Park in Colorado, the newspaper quoted the secretary as saying the law "is just too tough", questioning whether endangered species must be protected in every locale where they exist.

The reaction was swift, with environmentalists accusing the secretary of insensitivity and creeping "Wattism", a reference to Ronald Reagan's Interior Secretary James Watt, who resigned after developing a reputation for being anti-environment.

"We are incensed that the very Cabinet official whose job it is to be the country's front-line protector of endangered wildlife would make such outrageous statements", said Wildlife Federation President Jay Hair.

The cause of Lujan's criticism of the act apparently was the fight between scientists supporting the construction of a \$200 million telescope atop Mount Graham in Arizona and environmentalists trying to protect the habitat of 100 or so Mount Graham Red Squirrels facing extinction.

The squirrels, Lujan said, presented "the best example" of the dilemma presented by the Act's requirements and the interests of development.

Opposing forces in the Arizona struggle have gone to court, and two biologists for the Department of Interior's Fish and Wildlife Service have said in depositions that their superiors ordered them to prepare reports stating the squirrels and the telescope could coexist on Mount Graham.

Lujan's complaint that the Endangered Species Act makes no provisions for economic considerations came during the same week that the Department of the Interior was forced to suspend work on a Western water project because of scientists' concerns over a protected fish.

The Department's Bureau of Reclamation put an indefinite hold on a \$589 million Colorado reservoir project after scientists for the Fish and Wildlife Service concluded that it would threaten the survival of the Colorado Squawfish.

Some \$9 million already had been invested in the project, which is designed to provide water for irrigation, to municipal supplies in southwestern

Colorado, and to Ute Indian tribes. Environmentalists hailed the action, but critics ridiculed the protection of a species regarded locally as a trash fish.

Steven Goldstein, Lujan's press secretary, denied Friday that the secretary was calling for a weakening of the Endangered Species Act.

Goldstein said the Secretary thinks Congress should determine whether the law is being used for its intended purpose, protecting wildlife, or as a tool against development.

"There are people who make it their life's work protecting endangered species, and their motives are laudable and sincere", said Goldstein.

"But there are others who occasionally use the Endangered Species Act to stop economic progress or development because they oppose a particular project, and that's what Mr. Lujan's upset about."

— Wichita Eagle, 12 May 1990
(submitted by Rufus T. Firefly, Wichita)

HERPS GET REVENGE

An Iranian hunter was shot dead yesterday near Tehran by a snake that coiled around his shotgun as he pinned the reptile to the ground, the official Islamic Republic New Agency reported.

The agency, monitored in Nicosia, quoted another hunter as saying that the victim, Ali-Asghar Ahani, tried to catch the snake alive by pressing the butt of his shotgun behind its head.

But the snake coiled around the butt and pulled the trigger with its thrashing tail, firing one of the barrels and shooting Ahani in the head, IRNA said.

— Associated Press
(submitted by George Pisani, Lawrence)

A crocodile bit off a woman worshipper's hand at a Moslem shrine in the Bagerhat District of southern Bangladesh, local officials said.

— Los Angeles Times, 8 April 1990
(submitted by Scott Hillard, Pratt)

COMMISSION WILL RECONSIDER NON-GAME RULES

About 25 advocates of all things that slither, swim and lurk in dark places showed up Thursday night at the monthly meeting of the Kansas Wildlife and Parks Commission.

They came to protest the inclusion of snakes, fish, frogs, and lizards in the regulation that defines the commercial harvest of fish, mussels, reptiles, and amphibians in Kansas.

Joe Collins, zoologist for the Museum of Natural History at the University of Kansas, apologized for his

froggy voice and then made a calm but impassioned plea against the regulation.

"There is no data about the impact of allowing the harvest of amphibians and reptiles - no data whatsoever", Collins said.

He went on to point out the problems with amphibian and reptile mortality once they were captured and sold to a commercial outlet. "There are no pet stores in Kansas that know how to care for and maintain amphibians and reptiles", said Collins.

Jan Garton, president of the Kansas Audubon Council, expressed many of the same concerns. Both Collins and Garton received applause after their presentations.

After considerable discussion by the commissioners and the public, the five regulations covering harvest and sale of mussels, fish, amphibians, and reptiles were tabled until Friday morning when they were brought back up for discussion.

Because of the complex issues involved in amending the regulations, the proposals were sent back to Wildlife and Parks to be rewritten. That will start the process over, which will allow commissioners to workshop the retooled regulation and allow public discussion, said commissioner Kathy George.

"We thought it was a very good meeting", said Collins. "It was important that we were able to get a non-game discussion going. I think the commission is a very enlightened body and really seemed to appreciate the information."

Garton was also pleased with the outcome of the meeting. "The issue had really never been addressed by the commission before", she said. "I was especially pleased to see that they really approached all of the questions with a professional attitude and that they were very careful with how they consider the issues. I am following up with a letter thanking them and encouraging them to establish criteria for evaluation of any uses of non-game wildlife."

— Wichita Eagle, 25 February 1990
(submitted by Irving Street, Jr., Lawrence)

EDITOR'S NOTE: At this time, the regulation allowing commercial harvest of amphibians and reptiles in Kansas has been eliminated. Only those with valid scientific collector's permits are allowed to take herps here. Sale, barter, and trade in native herps is forbidden and you should make an effort to let your local pet shops know this.

RESEARCHERS STUDY SNAKES' PLACE IN ENVIRONMENT

Two men in white lab coats are wrestling with a patient on the operating table.

"You hold the tail and I'll take the business end", said (KHS member) George Pisani, KU director of undergraduate biology labs.

His partner, Henry S. Fitch, obliges. He'll leave the hissing, lunging head of the rattlesnake patient to Pisani and administer the syringe of anesthetic near the tail.

Fitch, professor emeritus of systematics and ecology (and KHS Distinguished Life Member), has been snake hunting and handling for more than 50 years. In 1938, while snake-gathering in California's San Joaquin Valley, Fitch tried to put a rattler into a burlap bag. The snake bit him. Fitch had to walk a mile to his truck and drive several more miles to get help. And he survived.

These days, he collects an occasional timber rattler from KU's ecological reserves - including Fitch Natural History Reservation, several hundred acres of rural property near Lawrence that he has observed and researched for 40 years. He and Pisani surgically implant a small transmitter inside a snake, turn it loose and track it. In the fall, the snake leads the duo to den sites.

"We're using them as Trojan snakes", Pisani said. "Take us to your leader!"

Snakes introduced into unfamiliar territory may be able to find each other, following scented snake trails to a den site. As snakes crawl over obstacles, a scent gland in the tail leaves a trail easily followed by others.

"These snakes use reasonably narrow corridors through their habitat", Pisani explained. "Last year, we tracked a male that moved to the den site in the fall, along the same path a female had tried to go during the summer."

Fitch and Pisani purchase the highly specialized transmitters with personal funds. Pisani built the antenna, and the receiver is theirs on loan. Budget cuts axed a state non-game wildlife grant they expected for the work.

The object of all this research is understanding how timber rattlesnakes fit into the whole environmental picture.

"By tracking and recovering them, we can get an idea of what they eat, where they go, and when they are most abundant in different kinds of habitats, so that we can advise the public government agencies", Pisani said. As an example, he cites a state park where a visitor's shelter was built over a rattlesnake den several years ago.

"It was pretty uncomfortable for the visitors for a few years until the snakes relocated", he said. "These sorts of things are avoidable if you know the biology and habitats of animals."

Pisani predicts eastern Kansas will become heavily developed over the next 20 years. Wildlife will be squeezed into narrower habitats. Knowing the biology of animals will be increasingly important, to help snakes and humans live together in harmony - by keeping out of each other's way.

The patient that Pisani and Fitch have on their operating table is a pregnant female. She lies peacefully sleeping on her back, her head in a plastic tube and her mouth opened slightly, like a lady caught taking an afternoon nap.

Fitch takes measurements and gently palpates for eggs. Pisani makes his incision and deftly completes the surgery, using generous helpings of antibiotic ointment, sutures, and Super Glue. "All of this is aided by the fact that reptiles are extremely durable", Pisani says. "Most mammals' nervous systems are more highly developed than a reptile's. So when mammals are captured and undergo surgery, they may die of shock and circulatory failure. Snakes don't go into shock as readily. They make better patients."

The two men carry the limp body from the operating table to the cage. She doesn't look like an object of terror anymore. She looks almost ... tame.

"Personally, we like snakes", says Pisani, who grew up with an understanding mother and a basement full of pet snakes. "Snakes can do anything that mammals do, but without legs. They're very specialized."

Fitch, with a mischievous grin, gives a different reason for liking snakes.

"I discovered at age 7 that you could carry a snake into a group of adults and scatter them."

— The Oread, Lawrence

(submitted by John Simmons, Lawrence)

SNAKE HANDLING THRIVES IN GEORGIA

Byron Crawford handled the two copperheads in his left hand as confidently as he gripped the microphone in his right. The snakes, each about two feet long, stiffly extended their heads a few inches above his palm, at times seeming to move in rhythm to the pounding music that filled the Church of the Lord Jesus Christ.

Six days after Arnold Lee Loveless, 48, was fatally bitten by a rattlesnake and two days after his funeral in the same wood-paneled sanctuary, it was worship as usual in the small blue clapboard church between Cartersville and Rome.

The Rev. Carl Porter, the pastor, warned the three dozen people in the pews, "We've got some serpents up here. They'll bite you, and they will kill you. If you get one of them out, that's between you and the Lord."

But the first rousing song of the evening was only a few choruses old when Crawford, 28, and Gene Sherbert, another church member, felt led to take up the snakes.

As others in the church stood, clapped, and swayed, Crawford sang a gospel song, sounding like a young Elvis Presley, whom he vaguely resembles.

"He's the God of Alabama. He's the God of Tennessee. He's the God right here in Georgia. He's the God for you and me", he sang, accompanied by electric guitars, cymbals, drums, and tambourines.

For about 15 minutes, verse after verse, he held the copperheads, sometimes raising them to face level.

Sherbert, meanwhile, held a 2 1/2 foot rattlesnake much like the one that killed Loveless. At one point, he placed it slithering on the pulpit.

In the 10-plus years he has handled snakes, Crawford said after the service, he has been bitten four times - once each by a Copperhead and a Cottonmouth, twice

by rattlesnakes. The last time, three months ago, "it swelled me up a little", he said, but he has never sought medical attention for a bite.

Pointing to a wooden box of Copperheads he brought to church, he said, "If I'm going to live by this right here, it's good enough to die by."

Members of the church cite several Bible passages, including Mark 16:18, as their reason for using serpents in worship. In the Revised English Bible, the verse says, "if they handle snakes ... they will come to no harm."

Members believe that they are given immunity to serpents just as they are given the power to heal by faith and the ability to speak in unknown tongues.

Although sects that handle serpents believe it was done by Jesus' disciples, the practice in modern times is generally believed to have originated with George Went Hensley, a member of the Cleveland, Tennessee-based Church of God, about 1913. He died of a snakebite sustained in a religious service in 1955.

No major Pentecostal denominations now endorse the practice, which is mostly confined to small, independent churches in Appalachia, said Steven M. Kane, a Rhode Island anthropologist who wrote his doctoral dissertation at Princeton University on the subject in the 1970's.

The Rev. Porter said he first felt called to take up serpents about two years after he founded the Church of the Lord Jesus Christ in 1971, while visiting a Cartersville church pastored by the Rev. James Wade.

On this Saturday night last month, Wade gave a sermon, touching on Easter and the importance of the Resurrection. At one point, he told the congregation, "Taking up serpents is just one part" of living a holy life.

Picking up a box of snakes and putting the box by the pulpit, he said, "You know what that does? That confirms the Word."

He pulled three snakes out of the box, and, holding them in one hand, wiped them across the back of his neck before returning them to the box. Later he admonished worshipers to make sure God was with them when they picked up snakes.

He recalled attempting to stop a meeting at his own church several years ago when he believed a man was holding snakes without God's blessing. "The man lays in the hills of Georgia today. He got killed by a snakebite. They wouldn't stop. But they stopped the meeting when the boy got bit and died."

Death from a snakebite does not always mean that God was not with the snake-handler.

Asked about Loveless' death, Porter said he believes each person's fate is predestined from the beginning of the world. "I don't believe anybody can die until God gets ready for them."

Kane said he has documented 69 deaths, including Loveless', in the eight decades that snake-handling has been known to be practiced in Appalachia.

— Wichita Eagle, 12 May 1990
(submitted by Ralph Black, Wichita)

STUDENTS MAY UNWITTINGLY HAVE SICK, STOLEN PYTHON

A potentially dangerous python may be slithering around a KU fraternity.

Sgt. Schuyler Bailey of the KU police said yesterday that Belton, Mo. police were trying to locate two KU fraternity men who unsuspectingly bought a sick, stolen python last week.

Eric Carrott of Peculiar, Mo., owns two Burmese Pythons, Satan and Gamoura, which were stolen from their wooden and Plexiglass cage in his basement March 16. The female snake, Gamoura, was recovered March 30.

Carrott had been treating the snakes with daily injections for a rot infection on their undersides. Each snake required five more treatments.

The medication is lethal if injected directly in people, said Sgt. Don Spears of the Belton police.

Officials are worried that the toxic medicine could be transferred to people bitten by the python.

Carrott said the Shawnee reptologist (*sic*) who treated the snakes told him a bite from the snake would cause a strong illness. To a small child, a bite could be deadly.

He said that neither snake had bit (*sic*) him but that the male python, Satan, acted skittish.

"If you don't know how to handle them, they will bite you", he said.

Cathy Ryan, co-manager of the The Menagerie in Kansas City, Mo., said the pet store bought the two pythons from individuals about three weeks ago.

Ryan said it was common for pet stores to buy snakes from pet owners. She said people often bought baby snakes and became tired of them later.

Belton police notified Ryan that the snakes had been stolen March 16.

One snake was sold to a Weston, Mo., man, she said. Two men, who said they belonged to a KU fraternity, bought the second python March 26. The snakes are worth about \$150 each.

Ryan said she remembered the man who bought the first snake because he wrote a check. The KU students paid cash.

The pythons are about five feet long. They are constrictors and generally do not bite, Ryan said.

"They're generally very docile", she said. You can walk around with them around your neck all day long."

But Ryan said animals reacted just like people when they were ill.

"An animal that's not feeling up to par might be a little cranky", Ryan said.

George Pisani, director of KU biology laboratories, said it was highly unlikely that the toxic drug could be transferred through the snake's saliva.

He said snakes had slower metabolisms than people. Because of this, snakes require stronger medications, which would be lethal for humans.

Pisani said the medication might have metabolized by now, depending on the snake's metabolic rate and the temperature it had been kept at.

Margaret Miller, assistant director of the organizations and activities center and coordinator of Greek programs, said she notified all the fraternities on campus and asked them to make announcements about the situation at their chapter meetings.

Miller said most fraternities allowed pets, and a few python owners brought their pets forward. Those pythons were ruled out.

— University Daily Kansan, Lawrence
(submitted by Travis Taggart, Lawrence)

EDITOR'S NOTE: The previous article contains several errors of omission and commission. No medication currently used in treating reptilian diseases, such as the "rot" described in the article, is capable of poisoning a person through a bite. It most certainly would not be fatal to anyone. Because of snakes' low metabolism, medication doses used for them are *lower*, usually drastically lower, than those used for mammals such as people. Mammalian dosages given to reptiles are lethal to the latter. They do not require "stronger" medications and, again, would not be lethal to people. Finally, it is not advisable to carry any large constrictor, such as a Burmese Python, around one's neck. Should the animal be startled and react by constricting, the results could be tragic. Such accidents have happened.

TEENAGE MUTANT TURTLES ARE REAL - AND SICK

Teenage mutant turtles exist offscreen, but they are too sick to fight crime or eat pizza.

The unhappy Green Sea Turtles suffer from a disease called fibropapilloma which causes tumors internally and on their eyes, mouths, necks, flippers, jaws, and tails. It is similar to the so-called Elephant Man disease in humans.

"Some tumors get larger than a softball and often reoccur," said Elliot Jacobson, a professor of wildlife medicine at the University of Florida. "They make the turtle grotesque. Teenage mutant green turtles are for real."

Afflicted turtles have been found off the Florida Keys, in the Indian River Lagoon on Florida's east coast, the Caribbean and near the Hawaiian Islands.

In the Keys, the plague is so widespread that experts say 50 percent of the endangered Green Sea Turtles are sick or dying from fibropapilloma, which causes them to become blind or drown.

"It's an epidemic among Green Sea Turtles, comparable to AIDS in humans", said Jacobson, who is heading a yearlong research project.

Fibropapilloma was first identified by marine biologists in 1938. Its cause is unknown, but the strongest theory blames a virus possibly aggravated by water pollution, Jacobson said recently.

Scientists are unsure how many green turtles are left in the world, but they are considered an endangered species. They feed on seagrass and marine plants.

Between 1983 and 1989, 134 Green Sea Turtles were found dead. Seventy had fibropapilloma. Hardest hit were turtles in the teenage stages of life.

"It's hard to find a turtle that is healthy and free of growths", said Trina Brown, a conservationist and Keys charter boat captain.

She and Richard Moretti recruited Jacobson to study the disease at the Hidden Harbor Marine Environmental Project center, Moretti's state-licensed marine sanctuary on Key Vaca, where Marathon is located.

Six healthy turtles on loan to the Cleveland and Toledo zoos were returned to Florida earlier this month to participate in the study. Five others from Clearwater, found to be free of fibropapilloma but suffering handicaps, round out a study group.

The 11 turtles are being housed in an 800-gal. fiberglass tank, where they will be infected and exposed (*sic*) to the disease in hopes of finding its agent and ultimately the key to a serum.

Before fibropapilloma, the most serious threat to the species was its popularity as the main ingredient in soup. In the 1950's, a federal law was passed prohibiting the sale of import of Green Sea Turtles.

— Wichita Eagle, 22 May 1990
(submitted by Jack Shumard, Wichita)

JUMPING GENDER: FROGS CHANGE FROM SHE TO HE

Shrimp do it, orchids do it, even some tropical fish do it. Now biologists find that frogs do it, too - switch their sex, that is. A West German research team reports that females of two related frog species can become males without hormonal or surgical intervention. So complete is the transformation - observed so far only in the laboratory - that the newly male frogs breed successfully with members of their former sex.

Ulmar Grafe and Eduard Linsenmair detected the gender-bending while studying African reed frogs, *Hyperolius viridiflavus ommatostictus*, at the University of Wurzburg. The two were analyzing male life histories when a female began fighting with one of the males. "We were really excited, because that shouldn't happen - females don't fight", says Grafe. In the days that followed, several females adopted the masculine mating stance, extending their forelegs and emitting a low-pitched whistle.

During the next few months, seven adult females - including six previously observed to lay eggs - developed functional testicular bodies and aggressive behavior typical of male frogs, the researchers report in the current issue of *Copeia*, released in January. Four of the seven "secondary males" copulated with females, fertilizing up to 70% of the eggs and generating normal offspring, the investigators say. Grafe and Linsenmair

found that two females of a related species also changed sex in the laboratory terrariums.

"I wouldn't be surprised if sex change is found in more amphibians", says biologist Robert R. Warner of the University of California, Santa Barbara, who notes that these frog species show similarities to several others.

Grafe told Science News he did not see African reed frogs change gender during his recent three-month trip to Zimbabwe, but "it's hard to imagine any animal doing this in the laboratory and not in the field. We just have to keep looking." He adds that scientists may have missed the switch in the past because the former females appear identical to ordinary males.

The sex-switching females had been housed in one of three predominantly female terrariums; a fourth terrarium with nearly equal numbers of each gender had no switches. "That behavior is very similar to [certain] fish", notes Warner. "There's a bigger reward [among females] to changing sex if there's more females around, because there's more chance to mate." A few fish species switch sex in the the opposite direction, with males becoming females, Warner adds. But the key motivation, he says appears to be the same: to maximize breeding.

Why, then, don't more creatures change gender? Warner speculates that the energy expenditure may be too high in species with more pronounced differences between the sexes.

It remains unclear whether reed frogs and perhaps other amphibians can change sex as easily in the wild as certain orchids, shrimp, and fish do, says Grafe, who is now at Cornell University. He notes, however, that tadpoles of any species consistently develop into males after experimental exposure to the hormone testosterone. Male toads, he says, have a vestige of ovarian tissue that develops into functioning ovaries when testicular tissue is surgically removed.

— Science News
(submitted by Suzanne L. Collins, Lawrence)

MEMORY OF CHISKAKIA RIVER DATES TO 1950'S FOR MILLER

My memories of the Chikaskia River date back about as far as I can remember. I don't know just when I first fished on the river, but it must have been sometimes in the mid 1950s'. I was about six or seven years old at that time.

One early fishing trip that I remember quite well must have taken place about 1956. I remember traveling from our farm near South Haven to Barman, Oklahoma one hot summer day with my dad to meet Mr. Enos Martin. Mr. Martin was an older man. He must have been about 55 or so at that time. That really seemed old to me!

Mr. Martin, my dad, and I then traveled west of Braman on Braman Road where we put a small boat in the river. We then spent most of the rest of the afternoon setting lines along the river. I remember how big

the river looked, and how clear and clean. I also remember watching frogs jump in about every time we got close to the bank and seeing large softshell turtles sliding into the water as we rowed upstream.

I did not think setting lines was very exciting, but I remember Mr. Martin telling about all of the big catfish that he had caught over the years. Mr. Martin and my dad had both fished the river for many years. Flathead catfish well over 30 pounds had been taken from the very areas where we were setting our lines. I couldn't wait until we checked our lines the next morning.

We went to the river quite early the next morning. I was excited as we put the boat into the water and started checking lines. I remember that we did not have any really big fish, but we did have some flatheads up to about eight pounds and a number of smaller channel catfish.

There were many other fishing trips both in Oklahoma and Kansas along the banks of the Chikaskia. Some were quite successful. I can remember one fishing trip near Corbin on which we caught a number of fish in the ten to twenty pound range. We had a big fish fry along the banks of the river.

Fishing wasn't the only activity involving the Chikaskia River. During the mid to late 1960s I can remember a number of picnics I attended with friends from Hunnewell, Kansas and other towns that were held at the low water bridge at the Kansas-Oklahoma line just south of Drury. That was also a good place to play in the water on a hot summer day. We often did just that.

I spent a lot of time around Drury in 1973. That was the year a film crew from California came to Drury to film some movies. I had been teaching school in Caldwell since 1971 and had become quite interested in photography. A few of those working with the crew provided me with some valuable help, but what I remember most was how some of the promotional photographers seemed so interested with the river. They took lots of photos of the river, the old mill, and the dam. One later ended up as the cover photograph on a record album. I remember listening to David Carradine tell about the Drury Mill and dam on the Chikaskia one night as he was being interviewed by Johnny Carson on the Tonight Show. The photo of the dam and what was left of the mill was even shown on network TV.

I started doing a lot of wildlife photography along and near the Chikaskia in 1975. There were lots of subjects to photograph. In 1976 I became very concerned about what was happening to the river and the southern Kansas environment in general as tons of deadly chemicals were being sprayed on wheat fields all over southern Kansas and northern Oklahoma. I continued my research and photography along the river and found a number of problems.

I felt the river needed help, and I felt the best was to give it that help was to better educate people. I, along with Gene Trott of Hunnewell and Martin Capron of Oxford, organized the first Chikaskia River Wildlife

Study that was held along the banks of the river near Drury in 1977. The idea was to better educate citizens as to the importance of the Chikaskia River and the wildlife that depends on it to survive. The Wildlife Study caught on and continued for the next ten straight years. Hundreds of people attended from all parts of Kansas as well as Oklahoma, Missouri, Texas, and Arkansas during the ten year period. All found the Chikaskia a unique river with a lot to offer. Some did their own research and others helped with some ongoing projects.

I continue to have a love for the Chikaskia River. Much of my photography has featured the river and its wildlife. Those photos have appeared in several Kansas magazines, on Kansas calendars, and other publications around the world. I always like seeing any of my work published, but there is a very special pride when I see one of my photos dealing with the Chikaskia River published.

The Chikaskia is one of the few rivers left in this part of the nation that is still free flowing, clean, and has some of its natural beauty left. I hope generations to come will be able to enjoy the river as folks like Mr. Martin, my dad, and I have.

— Conway Springs Star and The Argonia Argosy,
1 June 1989
(Submitted by Norma Shelton, Caldwell, Kansas)

EDITOR'S NOTE: Larry Miller grew up on a farm near South Haven and graduated from Wellington High School in 1967. He graduated from Southwestern College, Winfield, in 1971 and taught sixth grade in Caldwell until this year. Larry does wildlife and environmental photography and research projects. His main interests are amphibians and reptiles. Much of the credit for the Ornate Box Turtle becoming State Reptile is due to Larry Miller and the sixth grade class.

ADDITION TO THE LIST OF INJURIOUS WILDLIFE

Effective 25 May 1990, the FWS has added the Brown Tree Snake (*Boiga irregularis*) to the list of injurious live reptiles. This action prohibits the importation, acquisition, and transportation of Brown Tree Snakes between the U.S. and its territories. Permits for importation and interstate transportation can be obtained for scientific, medical, educational, or zoological (sic) purposes. FWS made this determination based on the need to protect the interests of agriculture, human health and safety, and existing fish and wildlife resources from potential adverse effects from purposeful or accidental introduction and subsequent establishment of naturally reproducing Brown Tree Snake population into the ecosystems of the U.S.

— AAZPA Newsletter, June 1990
(submitted by Irving Street, Lawrence)

FEATURE ARTICLES

RESULTS OF SECOND KANSAS HERP COUNT HELD DURING APRIL-MAY 1990

Joseph T. Collins
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The second KHS-sponsored Kansas Herp Count, a controlled census of amphibians and reptiles held annually by various Kansas groups during the months of April and May, took place in 1990. The main count was that sponsored by the Kansas Herpetological Society at its annual field trip. Other counts are also reported herein, demonstrating various approaches to censusing amphibians and reptiles. Common names are those standardized by Collins (1990).

KHS Holds Second Herp Count During Annual Field Trip to Hodgeman County

The Kansas Herpetological Society held its traditional annual field trip in Hodgeman County, Kansas, assembling at Jetmore over the weekend of 5-6 May 1990. The 33 participants also took part in the Second KHS Annual Herp Count, held on Saturday, 5 May.

The herp count, in which participants worked in teams and maintained a record of all amphibians and reptiles observed in Hodgeman County, covered the following areas: Sec. 17, T23S, R23W (from 1030 am to 1:30 pm), and Secs. 12-13, T24S, R23W (from 2:30 to 4:30 pm), and resulted in the final tally as listed below.

Tiger Salamander.....	1
Woodhouse's Toad.....	5
Plains Leopard Frog.....	1
Bullfrog.....	1
Plains Narrowmouth Toad.....	2
Ornate Box Turtle.....	10
Lesser Earless Lizard.....	1
Prairie Racerunner.....	8
Plains Blackhead Snake.....	18
Eastern Yellowbelly Racer.....	4
Great Plains Rat Snake.....	2
Milk Snake.....	10
Lined Snake.....	37

Total

13 species..... 100 specimens

Participants in this second annual herp count were (in alphabetical order): Ann Bradley, Marty Capron, Jill Hegeman Capron, Dan Carpenter, Donna Cooper, Gary Cumro, Laura Fent, Scott Hillard, Kelly Irwin, Terran Kallam, Caleb Karch, Olin Karch, William Knighton, Brogan Lasley, Lana Madson, Larry Miller, Eric

Rundquist, Andy Schmidt, Curtis Schmidt, Nancy Schwarting, Christopher Sheil, Travis Taggart, Karen Toepfer, Mark Van Doren, James Van Doren, Jeff Whipple, Brad Wolf, Chris Wolf, Henry Wolf, Karen Wolf, Christy Zimmerman, and Larry Zuckerman. Verifiers were Nancy Schwarting, Larry Miller, and Jeff Whipple.

The third KHS Herp Count will be held in conjunction with the annual KHS Field Trip in May 1991.

Second Sumner County Herp Count

Led by Larry Miller, esteemed resident of Caldwell, Kansas, and one of its leading and best-known citizens, a spring herp count was again held in Sumner County in Sec. 15, T35S, R3W on 13 April 1990 from 4:30 pm to 6:45 pm. Participants spread out into small parties and turned many rocks. The afternoon's tally, compiled and verified by Larry Miller, was as follows:

Great Plains Toad.....	1
Eastern Fence Lizard.....	3
Texas Horned Lizard.....	2
Prairie Skink.....	3
Prairie Ringneck Snake.....	86
Rat Snake.....	1
Ground Snake.....	10

Total

7 species..... 106 specimens

According to Larry Miller, participants in the second Sumner County herp count were himself plus 12 other people (3 of whom were observers). Verifier was Larry Miller.

First Ellis County Herp Count

Led by Karen Toepfer, a two-day spring herp count was held in Ellis County, Kansas, at two localities (Sec. 1, T12S, R17W & Sec. 28, T13S, R19W). On 21-22 April 1990, eighteen participants covered the two areas selected for the count, observing amphibians and reptiles over a combined total of four hours (2:15 to 4:15 pm each day). The tally for both areas was:

Tiger Salamander.....	2
Plains Narrowmouth Toad.....	1
Ornate Box Turtle.....	3
Eastern Collared Lizard.....	1
Eastern Fence Lizard.....	2
Texas Horned Lizard.....	1

Great Plains Skink	4
Western Slender Glass Lizard	1
Prairie Ringneck Snake	21
Plains Blackhead Snake	1
Eastern Yellowbelly Racer	1
Great Plains Rat Snake	5
Bullsnake	1
Milk Snake	4
Prairie Rattlesnake	3

Total

15 species.....52 specimens

Participants in the first Ellis County herp count were (in alphabetical order): Jennifer Bryan, Donna Cooper, Mark Cooper, Laura Fent, Terran Kallam, John Klaus, Monica Klaus, Brogan Lasley, Scott Meyer, Larry Miller, Jean Purdy, Randy Rogers, Curtis Schmidt, Zack Shaffer, Travis Taggart, Karen Toepfer, Russell Toepfer, and Mark Van Doren. Verifier was Larry Miller.

First Russell County Herp Count

Led by Karen Toepfer, a spring herp count was held in Russell County, Kansas, at two localities (Secs.28 & 33, T12S, R14W). On 22 April 1990, five participants searched the two areas selected for the count, observing amphibians and reptiles for two hours (9:30 to 11:30 am). The tally was:

Midland Smooth Softshell	1
Eastern Collared Lizard	17
Plains Blackhead Snake	2
Coachwhip	1
Great Plains Rat Snake	2
Common Kingsnake	1
Ground Snake	1
Lined Snake	1
Massasauga	1

Total

9 species.....27 specimens

Participants in the first Russell County herp count were (in alphabetical order); Scott Meyer, Larry Miller, Travis Taggart, Karen Toepfer, and Russell Toepfer. Verifier was Larry Miller.

First Cottonwood Falls Herp Count

Led by Kelly Irwin, a spring herp count was held on 28 April 1990 in the Cottonwood Falls area, Chase County, Kansas. Three participants searched several localities on the rock-strewn hillsides around Cottonwood Falls (for 6 hours), and observed reptiles in nearby aquatic situations (30 minutes). The 6.5 hours (10:00 am to 2:30 pm & 3:30 to 5:30 pm) spent looking for amphibians and reptiles resulted in the following count:

Blanchard's Cricket Frog	1
Plains Narrowmouth Toad	10
Western Painted Turtle	34
Red-eared Slider	2
Eastern Collared Lizard	17
Great Plains Skink	81
Western Slender Glass Lizard	1
Western Worm Snake	2
Prairie Ringneck Snake	67
Flathead Snake	59
Eastern Yellowbelly Racer	5
Great Plains Rat Snake	3
Rat Snake	2
Bullsnake	1
Common Kingsnake	1
Western Ribbon Snake	1
Osage Copperhead	7

Total

17 species.....294 specimens

Participants in the first Cottonwood Falls herp count were: Travis Taggart, Kelly J. Irwin, and Joseph T. Collins. Verifier was Joseph T. Collins

Second Cowley County Herp Count

Led by Al Volkmann, a spring herp count was held on 28 April 1990 at a burned-over Flint Hills habitat east of Winfield in Cowley County. Nine participants turned rocks during a 2.5 hour period (10:30 am to 1:00 pm) and observed the following:

Woodhouse's Toad	4
Blanchard's Cricket Frog	5
Bullfrog	1
Plains Narrowmouth Toad	16
Common Snapping Turtle	1
Ornate Box Turtle	1
Red-eared Slider	1
Eastern Collared Lizard	7
Great Plains Skink	2
Ground Skink	2
Western Slender Glass Lizard	4
Prairie Ringneck Snake	50
Flathead Snake	6
Eastern Yellowbelly Racer	12
Coachwhip	1
Great Plains Rat Snake	3
Prairie Kingsnake	1
Common Kingsnake	2
Milk Snake	4
Western Ribbon Snake	1
Common Garter Snake	4
Texas Brown Snake	2
Northern Water Snake	3
Osage Copperhead	4

Total

24 species.....137 specimens

Participants in the second Cowley County herp count were (in alphabetical order): Chad Cowan, Amy Glidden, Jack Jones, Eric McCarrier, Bryan Thomas, Quoc Trinh, Mike Unruh, Al Volkmann, and Todd Volkmann. Verifiers were Al Volkmann and Eric Rundquist.

First Barber County Herp Count

Led by Eric Rundquist, the first Barber County herp count was held on 29 April 1990. The count combined field collection (three localities) and road-cruising (298 miles) over an 8 hour period (8:00 am to 4:15 pm). The day was clear, windy (gusts to 40 mph), and cool (high temperature - 64°F.). The tally was:

Red-spotted Toad.....	1
Plains Narrowmouth Toad.....	2
Common Snapping Turtle.....	2
Ornate Box Turtle.....	1
Red-eared Slider.....	1
Eastern Collared Lizard.....	2
Western Hognose Snake.....	1
Prairie Ringneck Snake.....	1
Bullsnake.....	2
Ground Snake.....	5

Total

10 species.....18 specimens

Participants were Ann Bradley, Terence Brotherton, and Eric Rundquist. Verifier was Eric Rundquist.

First McPherson County Herp Count

Suzanne L. and Joseph T. Collins conducted a spring herp count in McPherson County, Kansas. The count was held from 4:30 to 7:30 pm on 26 May 1990 and from 9:00 am to 5:00 pm (less a one-hour lunch break) on 27 May 1990, a total of 10 hours, all of it spent road-cruising countywide. Both days were overcast with occasional rain. The tally was:

Great Plains Toad.....	14
Woodhouse's Toad.....	5
Western Chorus Frog.....	8
Plains Leopard Frog.....	1
Bullfrog.....	1
Common Snapping Turtle.....	3
Ornate box Turtle.....	8
Red-eared Slider.....	2
Western Slender Glass Lizard.....	1
Rat Snake.....	2
Bullsnake.....	3
Prairie Kingsnake.....	1
Common Garter Snake.....	1

Total

13 species.....50 specimens

Participants in the first McPherson County herp count were Suzanne L. Collins and Joseph T. Collins. Verifier was Joseph T. Collins.

Second Belvidere Area Herp Count

Led by Ken Brunson, a spring herp count was held on 25 & 26 May 1990 in the area of Belvidere (Comanche-Kiowa Counties), Kansas. Eleven participants turned rocks (28 person hours) and road-cruised (243 miles over 8 hours) during a 24 hour period under a wide variety of weather conditions (from warm with a southerly breeze to rain shower to misty, cool, and overcast), and observed the following (this is a record count for the state so far):

Tiger Salamander.....	1
Plains Spadefoot.....	171
Great Plains Toads.....	282
Woodhouse's Toad.....	114
Blanchard's Cricket Frog.....	19
Spotted Chorus Frog.....	4
Bullfrog.....	5
Plains Narrowmouth Toad.....	3
Common Snapping Turtle.....	2
Yellow Mud Turtle.....	2
Ornate Box Turtle.....	1
Western Painted Turtle.....	5
Red-eared Slider.....	5
Eastern Collared Lizard.....	2
Eastern Fence Lizard.....	2
Prairie Racerunner.....	1
Western Hognose Snake.....	1
Plains Blackhead Snake.....	1
Eastern Yellowbelly Racer.....	2
Bullsnake.....	4
Prairie Kingsnake.....	1
Western Ribbon Snake.....	1
Common Garter Snake.....	1
Massasauga.....	2
Prairie Rattlesnake.....	1

Total

25 species.....633 specimens

Participants in the second Belvidere area herp count were Kevin Becker, Andi Brunson, Jessi Brunson, Ken Brunson, Tom Dillenbeck, Linda Ferguson, Scott Hillard, Mark Kumberg, Carol Mammoliti, Chris Mammoliti, and Kirk Mammoliti. Verifier was Ken Brunson.

Grand Total Statewide for 1990

48 species.....1417 specimens.

Literature Cited

Collins, J. T. 1990. Standard Common and Current Scientific Names for North American Amphibians and Reptiles. Third Edition. SSAR Herpetol. Circ. 19: iv + 41 pp.

MAXIMUM SIZE RECORDS FOR KANSAS AMPHIBIANS AND REPTILES

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This list represents all the maximum size records included in my second edition (1982) of *Amphibians and Reptiles in Kansas*, plus those that have come to my attention since that date. They are listed here in order to properly credit and thank those individuals who have brought records for deposition in the herpetological collection of the Museum of Natural History at The University of Kansas, Lawrence (KU), and to allow closer scrutiny of the records by KHS members in order to correct any errors prior to publication of the third edition of my book. Anyone able to supply complete first names for the individual collectors shown below should send such information to me at the above address. If possible, I plan to include the complete name(s) of these individuals in my third edition. Measurements below are given in both metric and English units, but the metric is the precise measure; the English equivalent is only an approximation. Common names used below are those standardized by Collins (1990); with a few exceptions, changes in scientific names reflect those that will appear in the forthcoming third edition of the Peterson Field Guide (Conant and Collins, 1991). SVL = snout to vent length.

AMPHIBIANS

SALAMANDERS

Smallmouth Salamander (*Ambystoma texanum*)
Kansas: Jefferson Co: SVL = 90 mm; total length = 167 mm (6 1/2 in.); female (KU 215632). Collected by Travis W. Taggart on 7 March 1990.

Tiger Salamander (*Ambystoma tigrinum*)
Terrestrial adult: Kansas: Morton Co: SVL = 153 mm; total length = 290 mm (11 1/2 in.); female (KU 2593). Collected by Theodore E. White & Edward H. Taylor on 20 August 1926. *Neotenic specimen*: Kansas: Wabaunsee Co: Total length = 300 mm (11 3/4 in.); sex undetermined (KU 155356). Collected by T. Feuerborn & H. McArdle on 25 August 1974.

Central Newt (*Notophthalmus viridescens louisianensis*)
Kansas: Cherokee Co: SVL = 52 mm; total length = 110 mm (4 3/8 in.); female (KU 204158). Collected by Stephen M. Reilly & David M. Hillis on 2 May 1984.

Dark-sided Salamander (*Eurycea longicauda melanopleura*)

Kansas: Cherokee Co: SVL = 55 mm; total length = 143 mm (5 5/8 in.); female (KU 51690). Collected by John M. Legler on 10 May 1958.

Cave Salamander (*Eurycea lucifuga*)

Kansas: Cherokee Co: SVL = 69 mm; total length = 166 mm (6 1/2 in.); male (KU 23193). Collected by Claude W. Hibbard, E. W. Jameson, Jr., & Hobart M. Smith on 21 October 1945.

Graybelly Salamander (*Eurycea multiplicata griseogaster*)

Kansas: Cherokee Co: SVL = 34 mm; total length = 76 mm (3 in.); larva, sex undetermined (KU 153034). Collected by Patrick H. Ireland on 9 October 1967.

Grotto Salamander (*Typhlotriton spelaeus*)

Kansas: Cherokee Co: SVL = 42 mm; total length = 86 mm (3 in.); larva, sex undetermined (KU 153036). Collected by Ray E. Ashton on 3 March 1973.

Mudpuppy (*Necturus maculosus*)

Kansas: Osage Co: SVL = 262 mm; total length = 385 mm (15 1/8 in.); sex undetermined (KU 209746). Collected by Tom Mosher on 4 April 1988.

FROGS AND TOADS

Plains Spadefoot (*Spea bombifrons*)

Kansas: Barber Co: SVL = 64 mm (2 1/2 in.); male (KU 20012). Collected by Claude W. Hibbard on 29 August 1935.

American Toad (*Bufo americanus*)

Kansas: Neosho Co: SVL = 102 mm (4 in.); sex undetermined (KU 211394). Collected by Travis W. Taggart & Bruce Taggart on 14 September 1988.

Great Plains Toad (*Bufo cognatus*)

Kansas: Sumner Co: SVL = 102 mm (4 in.); female (KU 186099). Collected by Jeff Ehlers on 23 June 1980.

Western Green Toad (*Bufo debilis insidiator*)

Kansas: Morton Co: SVL = 44 mm (1 3/4 in.); female (KU 5652). Collected by Theodore E. White & Edward H. Taylor on 15 August 1928.

Red-spotted Toad (*Bufo punctatus*)

Kansas: Barber Co: SVL = 56 mm (2 3/16 in.); female (KU 193290). Collected by Larry Miller on 14 June 1983.

Woodhouse's Toad (*Bufo woodhousii*)

Kansas: Douglas Co: SVL = 120 mm (4 3/4 in.); female (KU 158018). Collected by Ken Davidson on 9 July 1975.

Blanchard's Cricket Frog (*Acris crepitans blanchardi*)

Kansas: Douglas Co: SVL = 33 mm (1 5/16 in.); female (KU 215686). Collected by Kevin Toal on 24 May 1990.

Spotted Chorus Frog (*Pseudacris clarkii*)

Kansas: Rush Co: SVL = 31 mm (1 1/4 in.); male (KU 4515). Collected by Theodore E. White on 12 August 1927.

Northern Spring Peeper (*Pseudacris c. crucifer*)

Kansas: Cherokee Co: SVL = 30 mm (1 1/4 in.); female (KU 186100). Collected by Chris Stammer & Dan Hodges on 30 July 1980.

Strecker's Chorus Frog (*Pseudacris s. streckeri*)

Kansas: Harper Co: SVL = 38 mm (1 1/2 in.); male (KU 195621). Collected by Suzanne L. Collins, Joseph T. Collins, and Larry Miller on 7 April 1984.

Western Chorus Frog (*Pseudacris maculata-Pseudacris triseriata* complex)

Kansas: Douglas Co: SVL = 39 mm (1 1/2 in.); female (KU 184955). Collected by Steven M. Roble on 2 April 1980. Also a U. S. record length for the species complex.

Gray Treefrog (*Hyla chrysoscelis-Hyla versicolor* complex)

Kansas: Miami Co: SVL = 53 mm (2 1/8 in.); female (KU 21830). Collected by Ralph Taylor on 8 June 1941.

Northern Crawfish Frog (*Rana areolata circulosa*)

Kansas: Douglas Co: SVL = 110 mm (4 3/8 in.); male (KU 177224). Collected by Juan Renjifo on 22 March 1978.

Plains Leopard Frog (*Rana blairi*)

Kansas: Barber Co: SVL = 100 mm (4 in.); female (KU 215687). Collected by James L. Knight on 2 June 1971.

Bullfrog (*Rana catesbeiana*)

Kansas: Chase Co: SVL = 185 mm (7 1/4 in.); female (KU 181593). Collected by B. Haller on 26 May 1979.

Green Frog (*Rana clamitans melanota*)

Kansas: Cherokee Co: SVL = 88 mm (3 1/2 in.); female (KU 17474). Collected by Edward H. Taylor & Hobart M. Smith on 25 March 1933.

Pickerel Frog (*Rana palustris*)

Kansas: Cherokee Co: SVL = 71 mm (2 7/8 in.); female (KU 17471). Collected by Edward H. Taylor & Hobart M. Smith on 25 March 1932.

Southern Leopard Frog (*Rana u. utricularia*)

Kansas: Montgomery Co: SVL = 87 mm (3 1/4 in.); female (KU 9462). Collected by Theodore E. White & Edward H. Taylor in August 1926.

Eastern Narrowmouth Toad (*Gastrophryne carolinensis*)

Kansas: Cherokee Co: SVL = 34 mm (1 3/8 in.); female (KU 24414). Collected by Edward Beasley on 27 April 1947.

Plains Narrowmouth Toad (*Gastrophryne olivacea*)

Kansas: Ellis Co: SVL = 41 mm (1 9/16 in.); female (KU 215633). Collected by Larry Miller & Karen Toepfer on 21 April 1990. Also a U. S. record length for the species.

REPTILES

TURTLES

Common Snapping Turtle (*Chelydra s. serpentina*)

Kansas: Barton Co: Upper shell length = 360 mm (14 1/8 in.); Weight (wild caught) = 32 lbs.; female (KU 204880). Collected by Wayne Hoffman on 7 November 1985.

Alligator Snapping Turtle (*Macrolemys temminckii*)

Kansas: Lyon Co: Upper shell length = 558 mm (22 in.); sex undetermined (KU 204150). Collected by Rick Christie & J. M. McDaniel on 21 February 1967. Kansas: Labette Co: Weight = 132 1/2 lbs.; male (KU Slide 7592). Collected by Jack Gearhart, Ralph Stice, and Henry Stice in last part of April 1938.

Common Musk Turtle (*Sternotherus odoratus*)

Kansas: Linn Co: Upper shell length = 114 mm (4 1/2 in.); female (KU 45016). Collected by W. L. Minckley on 10 September 1957.

Yellow Mud Turtle (*Kinosternon f. flavescens*)

Kansas: Barton Co: Upper shell length = 135 mm (5 1/4 in.); male (KU 204882). Collected by Wayne Hoffman on 10 May 1986.

Three-toed Box Turtle (*Terrapene carolina triunguis*)

Kansas: Wyandotte Co: Upper shell length = 179 mm (7 in.); female (KU catalog number pending, JTC Color Slide 239). Collected by Tom Sullivan & Stanley D. Roth on 1 June 1989. Also a U. S. record length for the subspecies.

Ornate Box Turtle (*Terrapene o. ornata*)

Kansas: Barber Co: Upper shell length = 154 mm (6 1/8 in.); female (KU 18358). Collected by Hobart M. Smith & Claude W. Hibbard on 2 September 1933. Also a U. S. record length for the subspecies.

Common Map Turtle (*Graptemys geographica*)

Kansas: Osage Co: Upper shell length = 226 mm (8 7/8 in.); female (KU Color Slide 8872). Collected by Lenn Shipman & Warren Voorhees on 3 July 1990.

Mississippi Map Turtle (*Graptemys kohnii*)

Kansas: Osage Co: Upper shell length = 232 mm (9 1/8 in.); female (KU 3164). Collected by University of Kansas Biological Survey staff in 1911.

Ouachita Map Turtle (*Graptemys pseudogeographica ouachitensis*)

Kansas: Douglas Co: Upper shell length = 236 mm (9 3/8 in.); female (KU 40115). Collected by Joseph Logan, Jr. on 4 June 1956.

Missouri River Cooter (*Pseudemys concinna metteri*)

Kansas: Chase Co: Upper shell length = 340 mm (13 3/8 in.); female (KU 197109). Collected by Dean Jernigan & Steve Case on 17 July 1984. Also a U. S. record length for the subspecies.

Western Painted Turtle (*Chrysemys picta belli*)

Kansas: Barton Co: Upper shell length = 207 mm (8 1/8 in.); sex undetermined (KU 211375). Collected by William Knighton & Natalie Fayman on 24 June 1989.

Red-eared Slider (*Trachemys scripta elegans*)

Kansas: Douglas Co: Upper shell length = 290 mm (11 3/8 in.); Weight (wild caught) = 9 lbs., 3 oz.; female (KU 189281). Collected by Rob Ladner on 23 June 1981. Also a U. S. record length for the subspecies.

Midland Smooth Softshell (*Apalone m. mutica*)

Kansas: Ellsworth Co: Upper shell length = 267 mm (10 1/2 in.); female (KU 206036). Collected by Wayne Dickerson on 8 June 1986.

Western Spiny Softshell (*Apalone spinifera hartwegi*)

Kansas: Kingman Co: Upper shell length = 523 mm (20 1/2 in.); weight (wild caught) = 35 lbs.; female (KU 197330). Collected by Richard Keller & Ralph

Massoth, Jr. on 10 September 1984. Also a U. S. record length for the subspecies.

LIZARDS

Eastern Collared Lizard (*Crotaphytus c. collaris*)

Kansas: Chase Co: SVL = 110 mm; total length = 302 mm (12 in.); male (KU 84623). Collected by Charles J. Cole on 27 August 1963.

Lesser Earless lizard (*Holbrookia maculata*)

Kansas: Elk Co: SVL = 61 mm; total length = 112 mm (4 1/2 in.); female (KU 212). Collected by University of Kansas Biological Survey staff on 11 July 1912.

Eastern Fence Lizard (*Sceloporus undulatus*)

Kansas: Cherokee Co: SVL = 67 mm; total length = 165 mm (6 5/8 in.); female (KU 28772). Collected by Lyle Deardon on 22 April 1950.

Texas Horned Lizard (*Phrynosoma cornutum*)

Kansas: Douglas Co: SVL = 84 mm; total length = 129 mm (5 1/8 in.); male (KU 338). Collected by Theodore Rocklan in Fall of 1916.

Ground Skink (*Scincella lateralis*)

Kansas: Miami Co: SVL = 57 mm; total length = 145 mm (5 3/4 in.); female (KU 28795). Collected by I. M. Claiborne on 30 April 1950. Also a U. S. record length for the species.

**Southern Coal Skink (*Eumeces anthracinus pluvi-
alis*)**

Kansas: Miami Co: SVL = 59 mm; total length = 176 mm (7 in.); female (KU 88527). Collected by Jack E. Joy in May 1949.

Five-lined Skink (*Eumeces fasciatus*)

Kansas: Franklin Co: SVL = 76 mm; total length = 203 mm (8 in.); female (KU 206198). Collected by Errol D. Hooper, Jr. on 20 April 1986.

Broadhead Skink (*Eumeces laticeps*)

Kansas: Crawford Co: SVL = 110 mm; total length = 263 mm (10 3/16 in.); male (KU 211377). Collected by Robert Friggeri on 8 April 1987.

Great Plains Skink (*Eumeces obsoletus*)

Kansas: Cheyenne Co: SVL = 133 mm; total length = 350 mm (13 3/4 in.); female (KU 189186). Collected by Brad Anderson & John Fraser on 2 May 1981. Also U. S. record length for the species, and the largest member of the genus *Eumeces* ever found in the U.S.

Prairie Skink (*Eumeces septentrionalis*)

Kansas: Jackson Co: SVL = 87 mm; total length = 224 mm (8 3/4 in.); female (KU 206280). Collected by Al Kamb & Steve Kamb on 26 May 1986. Also U. S. record length for the subspecies.

Prairie Racerunner (*Cnemidophorus sexlineatus viridis*)

Kansas: Douglas Co: SVL = 76 mm; total length = 228 mm (9 in.); male (KU 181012). Collected by Al Smits on 5 May 1979.

Western Slender Glass Lizard (*Ophisaurus a. attenuatus*)

Kansas: Douglas Co: SVL = 240 mm; total length = 762 mm (30 in.); male (KU 207280). Collected by Lance Good & John Kitterman on 13 May 1987.

SNAKES

New Mexico Blind Snake (*Leptotyphlops dulcis dissectus*)

Kansas: Clark Co: Total length = 270 mm (10 5/8 in.); female (KU 206223). Collected by Larry Miller on 7 June 1986.

Western Hognose Snake (*Heterodon nasicus*)

Kansas: Logan Co: Total length = 864 mm (34 in.); female (KU 206172). Collected by Stanley Roth & Janet Roth on 20 June 1984.

Eastern Hognose Snake (*Heterodon platirhinos*)

Kansas: Reno Co: Total length = 1067 mm (42 in.); female (KU 204174). Collected by Harry Gregory on 5 June 1983.

Western Worm Snake (*Carphophis vermis*)

Kansas: Doniphan Co: Total length = 366 mm (14 3/8 in.); female (KU 206169). Collected by Robert Powell on 2 May 1986.

Prairie Ringneck Snake (*Diadophis punctatus arnyi*)

Kansas: Shawnee Co: Total length = 456 mm (17 7/8 in.); female (KU 216516). Collected by Mark Ellis on 3 July 1990. Also a U. S. record length for the subspecies.

Flathead Snake (*Tantilla gracilis*)

Kansas: Cowley Co: Total length = 244 mm (9 5/8 in.); female (KU 83480). Collected by Charles E. Burt between 1938 and 1941.

Plains Blackhead Snake (*Tantilla nigriceps*)

Kansas: Phillips Co: Total length = 375 mm (14 3/4 in.); female (KU 203313). Collected by Larry Miller on 18 May 1985.

Texas Night Snake (*Hypsiglena torquata jani*)

Kansas: Clark Co: Total length = 412 mm (16 3/16 in.); female (KU 193259). Collected by John Tollefson, Martin Capron, & Chris Stammier on 29 May 1983.

Rough Green Snake (*Opheodrys aestivus*)

Kansas: Elk Co: Total length = 877 mm (34 1/2 in.); female (KU 45334). Collected by Henry S. Fitch on 8 July 1957.

Eastern Yellowbelly Racer (*Coluber constrictor flaviventris*)

Kansas: Jefferson Co: Total length = 1413 mm (55 1/2 in.); female (KU 192239). Collected by Rick Strawn on 31 May 1982.

Coachwhip (*Masticophis flagellum*)

Kansas: Cowley Co: Total length = 1790 mm (70 1/2 in.); male (KU 158542). Collected by Martin Capron & Steve Starlin on 28 September 1975.

Great Plains Rat Snake (*Elaphe guttata emoryi*)

Kansas: Lyon Co: Total length = 1343 mm (52 3/4 in.); male (KU 192376). Collected by H. A. "Steve" Stephens on 15 May 1982.

Rat Snake (*Elaphe obsoleta*)

Kansas: Jefferson Co: Total length = 1912 mm (75 1/8 in.); Weight = 3 pounds, 13 ounces; male (KU 216168). Collected by Roger Christie on 9 July 1990.

Kansas Glossy Snake (*Arizona e. elegans*)

Kansas: Sumner Co: Total length = 1170 mm (46 in.); male (KU 199733). Collected by Martin Capron on 17 June 1984.

Bullsnake (*Pituophis catenifer sayi*)

Kansas: Harper Co: Total length = 2260 mm (88 3/4 in.); female (KU 189258). Collected by M. Kane on 21 May 1981. This is the largest snake ever verified (i.e. backed by a voucher specimen) from the state of Kansas.

Prairie Kingsnake (*Lampropeltis c. calligaster*)

Kansas: Miami Co: Total length = 1324 mm (52 in.); male (KU 192452). Collected by R. B. Hager on 23 September 1982.

Common Kingsnake (*Lampropeltis getula*)

Kansas: Ford Co: Total length = 1264 mm (49 3/4 in.); male (KU 182290). Collected by Jeffrey T. Burkhart, T. Lucier, & D. Tolliver on 28 October 1978.

Milk Snake (*Lampropeltis triangulum*)

Kansas: Anderson Co: Total length = 858 mm (33 3/4 in.); male (KU 193235). Collected by Harold A. Dundee on 9 May 1982.

Texas Longnose Snake (*Rhinocheilus lecontei tessellatus*)

Kansas: Clark Co: Total length = 735 mm (29 in.); male (KU 2334). Collected by Francis H. Snow, date unknown.

Ground Snake (*Sonora semiannulata*)

Kansas: Cowley Co: Total length = 370 mm (14 5/8 in.); female (KU 83179). Collected by Charles E. Burt between 1938 and 1941.

Checkered Garter Snake (*Thamnophis m. marci-anus*)

Kansas: Comanche Co: Total length = 846 mm (33 1/4 in.); female (KU 158493). Collected by Stanley Roth, William Bradley, & Ray E. Ashton on 10 May 1975.

Western Ribbon Snake (*Thamnophis proximus*)

Kansas: Greenwood Co: Total length = 897 mm (35 1/4 in.); female (KU 21855). Collected by G. C. Rinker in September 1939.

Western Plains Garter Snake (*Thamnophis radix haydenii*)

Kansas: Barton Co: Total length = 933 mm (36 3/4 in.); female (KU 55307). Collected by Howard K. Gloyd on 17 July 1921.

Red-sided Garter Snake (*Thamnophis sirtalis parietalis*)

Kansas: Reno Co: Total length = 1130 mm (44 1/2 in.); female (KU 189179). Collected by George Ratzlaff on 5 March 1981.

Lined Snake (*Tropidoclonion lineatum*)

Kansas: Sedgwick Co: Total length = 446 mm (17 1/2 in.); female (KU 208123). Collected by Jack Shumard on 15 June 1987.

Rough Earth Snake (*Virginia striatula*)

Kansas: Cherokee Co: Total length = 290 mm (11 3/8 in.); female (KU 192191). Collected by Kelly J. Irwin, Larry Miller, & Joseph T. Collins on 10 April 1982.

Western Earth Snake (*Virginia valeriae elegans*)

Kansas: Jefferson Co: Total length = 305 mm (12 in.); female (KU 177023). Collected by Jill Krebs in April 1978.

Texas Brown Snake (*Storeria dekayi texana*)

Kansas: Douglas Co: Total length = 405 mm (16 in.); female (KU 154516). Collected by Joseph T. Collins on 6 March 1974.

Northern Redbelly Snake (*Storeria o. occipito-maculata*)

Kansas: Miami Co: Total length = 305 mm (12 in.); female (KU 28750). Collected by A. Byron Leonard in 1950.

Graham's Crayfish Snake (*Regina grahamii*)

Kansas: Lyon Co: Total length = 1029 mm (40 5/8 in.); female (KU 188175). Collected by Robert F. Clarke on 11 June 1960.

Blotched Water Snake (*Nerodia erythrogaster transversa*)

Kansas: Pratt Co: Total length = 1415 mm (55 1/2 in.); female (KU 203662). Collected by Tom Dillenbeck on 9 March 1985.

Diamondback Water Snake (*Nerodia r. rhombifer*)

Kansas: Douglas Co: Total length = 1415 mm (55 1/2 in.); female (KU 204483). Collected by Gregory Beilfuss on 25 March 1986.

Northern Water Snake (*Nerodia s. sipedon*)

Kansas: Miami Co: Total length = 1148 mm (45 in.); female (KU 207306). Collected by George Jackson in May 1987.

Osage Copperhead (*Agkistrodon contortrix phaeogaster*)

Kansas: Jefferson Co: Total length = 1020 mm (40 in.); male (KU 196643). Collected by Henry S. Fitch on 13 July 1984. Also a U. S. record length for the subspecies.

Massasauga (*Sistrurus catenatus*)

Kansas: Coffey Co: Total length = 850 mm (33 1/2 in.); male (KU 197200). Collected by G. Lairson on 14 June 1984.

Timber Rattlesnake (*Crotalus horridus*)

Kansas: Douglas Co: Total length = 1613 mm (63 1/2 in.); female (KU 1645). Collected by Charles D. Bunker & G. I. Adams in June 1899.

Prairie Rattlesnake (*Crotalus v. viridis*)

Kansas: Cheyenne Co: Total length = 1227 mm (48 3/8 in.); male (KU 55638). Collected by Howard K. Gloyd on 22 May 1926.

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