

KANSAS HERPETOLOGICAL SOCIETY

NEWSLETTER NO. 103



MARCH 1996



ANNOUNCEMENTS

KHS TO CHEYENNE COUNTY FOR ANNUAL 1996 FIELD TRIP

Members of the Kansas Herpetological Society will hold their annual 1996 field trip in the northwesternmost county of Kansas from 25–27 May 1996. This will be the first time in KHS history that a field trip has been planned for the area.

Saint Francis, located about 13 miles east of the Colorado border, on Route 36 will be the meeting place for KHS members. Camping is available at a small park, and a 35 unit motel is also available. A restaurant and a convenience store are also located in Saint Francis. The convenience store is open 24 hours a day.

Those attending may meet at the Dusty Farmer Restaurant located next door to the Empire Motel at 8:00 am, Saturday, 25 May 1996. The Dusty Farmer and the Empire Motel will be our base during the three day adventure.

KHS members wishing to make motel reservations or desiring more information about Saint Francis may contact the manager of the Empire Motel by calling (913) 332-2231. More information about the field trip may be obtained by contacting Larry L. Miller, KHS Field Trip Chairperson at (913) 836-2119.

Saint Francis is the largest town in Cheyenne County. Its population is 1,461. The total population of the county is 3,189.

Mark your calendars now and plan to spend three exciting days with the KHS in Cheyenne County. This very possibly may be our only field trip to the area this century. Members attending with CB radios are asked to monitor Channel 4.

SNAKES NEEDED FOR NON-INVASIVE RESEARCH

A University of Kansas research scientist is looking for upwards of 15 Black Rat Snakes (*Elaphe o. obsoleta*). These animals will be used in long-term studies on the efficacy of various drug transport systems across skin membranes. Only shed skins from the snakes are used in this project. Past research in this program has led to the development of drug treatments like the nicotine patch which helps people quit smoking.

Dr. Howard Rytting of the Pharmaceutical Chemistry Department is willing to donate up to \$15 to KHS for each snake donated to his research program. These snakes must come from Kansas and be legally collected. This means that persons wishing to participate must possess a valid Kansas hunting license or a Kansas scientific collecting permit. Those persons wishing to take part in this effort and to help add to KHS coffers should contact Nancy Schwarting or Eric Rundquist, Animal Care Unit, B054 Malott, University of Kansas, Lawrence, Kansas 66045; phone 913-864-5587.

KHS MEMBERS INVITED TO FIELD TRIP

Members and friends of KHS are invited to attend a field trip to Montgomery County on 27-28 April 1996. Plans are to do an extensive herp count at Elk City Reservoir and Montgomery County State Lake. Possible trips to Chautauqua County are also planned. We will meet at 0900 hrs both mornings at the outlet channel campsite on the north side of the Elk City Reservoir dam. For more information, contact Daren Riedle at 1215 North 8th, Independence, Kansas 67301 or call (316) 331-7168.

CALDWELL TURTLE CELEBRATION

On April 13-14 1996 in Caldwell, Kansas there will be a 10th Anniversary Celebration of Kansas' State Reptile, the Ornate Box Turtle. Because KHS was a prime supporter of this effort, it would be nice to have a good turnout at this event so mark your calendars. For more information contact: Friends of the Ornate Box Turtle, c/o Caldwell Grade School, 1 North Osage Street, Caldwell, Kansas 67022.

NORTH AMERICAN AMPHIBIAN MONITORING PROGRAM

"The North American Amphibian Monitoring Program is being created to 'provide a statistically defensible program to monitor the distributions and relative abundance of amphibians in North America, with applicability at the state, provincial, ecoregional, and continental scales.'

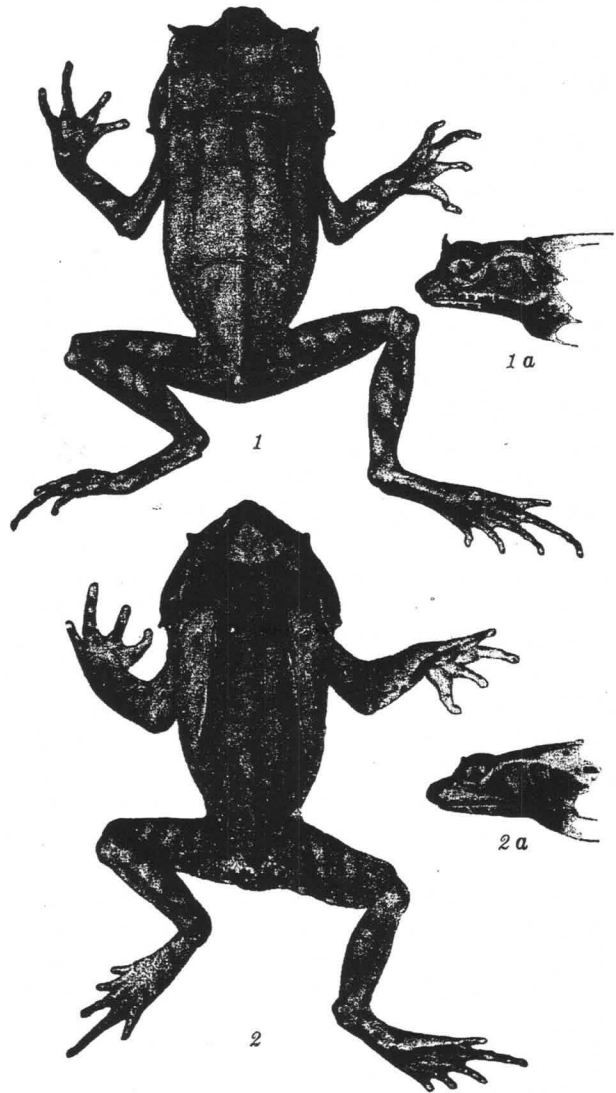
So states a recent issue of the *Froglog*, the official newsletter of the Declining Amphibian Populations Task

Force. After a series of meetings in 1994 and 1995, working drafts on Calling Surveys, Larval Surveys, Terrestrial Salamanders, Herp Atlases, and Western North America were crafted. These drafts included an appendix on statistical sampling and sampling frames and another appendix on a list of North American amphibians and indications of the applicability of proposed monitoring techniques to tracking trends in populations. Copies of the NAAMP are now available and can be obtained by contacting Sam Droege, NBS, 12100 Beech Forest Drive, Laurel, Maryland 20708, telephone: (301) 497-5840, fax: (301) 497-5784, email: frog@nbs.gov or the Web site "http://www.im.nbs.gov/amphib/naampintro.html".

Those already participating in the Kansas amphibian monitoring program of KHS should consider acquiring this material.

YOUR SUPPORT IS NEEDED NOW

The Declining Amphibian Populations Task Force is asking for your financial support to help fund the various activities of this important group. They have lost major foundation funding and are working on obtaining corporate funding at this time, but it is difficult to assess whether or not this effort will be successful. A number of major herpetological societies throughout the world responded to an emergency task force appeal last year, which has allowed the task force to function through this spring. However, more funding is needed to continue further task force activities for the rest of this year. Contributions can be made in the amounts of \$25, \$50, \$100, \$500 or above. Make your checks out to "Declining Amphibian Populations Task Force" and send to W. Ronald Heyer, Chairperson, DAPTF, NHB mail stop 180, Smithsonian Institution, Washington, D. C. 20560.



KHS BUSINESS

ANNUAL HERP COUNTS

Well, it's nearly time again for the annual KHS Herp Counts. We are entering our seventh year of this unique program and although last year's numbers and counts were down a little bit from the previous counts (I know of at least two people who didn't manage to get their sizable and informative counts in), the program continues to grow. As always, the period for the Herp Counts is 1 April through May 31. Send the results of your counts to me no later than 7 June of this year, as we would like to include them in the June Newsletter to be able to pass out at the SSAR meeting in July. Forms for the Kansas Amphibian Survey can be sent to me at any time, as this is an ongoing, year-round project.

I missed the boat last year by not sending out forms for the KHS Herp Counts and Kansas Amphibian Survey. Enclosed in this Newsletter are copies of both forms for your use.

— EMR

RESULTS OF THE KHS 1995 FALL FIELD TRIP

A specimen of the Western Diamondback Rattlesnake (*Crotalus atrox*) was among the 161 specimens of amphibians and reptiles collected or observed by KHS members during their fall field trip to Kanopolis Lake area of Ellsworth County, Kansas. The unusual snake was collected by KHS member Michael Moriarty of Lawrence while searching for snakes with his sister Emily and John Thoennes in the Horse Thief Canyon area of Ellsworth County the evening of 29 September 1995.

It is unclear how the non-native snake was transported to the area. However, park officials confirmed that at least three other specimens of the Western Diamondback Rattlesnake had been found in the same area since 1991. (**Ed. note:** Perhaps members of the National Crotalus Society would care to comment on this situation?)

During the weekend adventure, 163 specimens representing 24 different species of amphibians and reptiles were found by the 26 people attending the field trip. The good success rate was probably due to nearly perfect early fall collecting conditions. With the exception of a rather violent wind storm Friday night and fairly strong winds on Saturday, the temperature was ideal. Many of the animals seemed to be out looking for that final big meal before the long Kansas winter.

Those participating in the field trip included: Neil Bass, Erin Burtch, Dan Carpenter, Lori Carpenter, Keith Coleman, Joseph Collins, Suzanne Collins, Matt Combes, Mary Crouch, Danitra Cushinberry, Kurt Grimm, Jim Gubanyi,

Andrea Headrick, Kembra Howdeshell, Joy Jeffrey, Gail Leedy, Jonas Leedy, Larry Miller, Suzanne Miller, Emily Moriarty, Michael Moriarty, Jocelyn Nichols, Kerstin Nordstrom, Daren Riedle, John Thoennes, Sarah Twemlow.

Species encountered along with the total number of individuals for each species are listed below.

Woodhouse's Toad (<i>Bufo woodhousii</i>)	3
Plains Leopard Frog (<i>Rana blairi</i>)	6
Cricket Frog (<i>Acris crepitans</i>)	2
Bullfrog (<i>Rana catesbeiana</i>)	6
Ornate Box Turtle (<i>Terrapene ornata</i>)	7
Painted Turtle (<i>Chrysemys picta</i>)	2
Slider (<i>Trachemys scripta</i>)	2
Prairie Lizard (<i>Sceloporus undulatus</i>)	51
Texas Horned Lizard (<i>Phrynosoma cornutum</i>)	2
Six-lined Racerunner	
(<i>Cnemidoporus sexlineatus</i>)	35
Great Plains Skink (<i>Eumeces obsoletus</i>)	2
Collared Lizard (<i>Crotaphytus collaris</i>)	4
Ringneck Snake (<i>Diadophis punctatus</i>)	11
Gopher Snake (<i>Pituophis catenifer</i>)	4
Racer (<i>Coluber constrictor</i>)	1
Common Garter Snake (<i>Thamnophis sirtalis</i>)	4
Lined Snake (<i>Tropidoclonion lineatum</i>)	2
Great Plains Rat Snake (<i>Elaphe emoryi</i>)	1
Eastern Rat Snake (<i>Elaphe obsoletus</i>)	1
Prairie Kingsnake (<i>Lampropeltis calligaster</i>)	2
Milk Snake (<i>Lampropeltis triangulum</i>)	2
Ribbon Snake (<i>Thamnophis proximus</i>)	1
Massasauga (<i>Sistrurus catenatus</i>)	11
Western Diamondback Rattlesnake	
(<i>Crotalus atrox</i>)*	1

TOTAL

24 species 163 individuals

*Not native.

— Larry L. Miller
840 S.W. 97th Street
Wakarusa, Kansas 66546

LEGISLATIVE UPDATE

Once again, it seems that the forces of conservation evil are at work in the residence of our elected representatives for the state of Kansas. Although there is only one bill which has a direct connection to those concerned with amphibians and reptiles in Kansas, there are a number of issues which affect conservation issues in the state. A major

directive of the Constitution of the Kansas Herpetological Society is that we are a conservation-oriented group and therefore these issues concern us.

Two bills of major concern are Senate Bills 473 and 516. SB 473 proposes major changes in the state endangered and threatened species law. Among these are that the Secretary of Wildlife and Parks responsibility for developing information about T & E species would change from mandatory to optional, that the Secretary would be barred from listing additional species unless they are listed *federally*, that anyone proposing additions to or changes of status on the current list would be required to *fund personally* an economic impact statement, and would place a moratorium on listing new species effective 1 July 1996. This bill has the backing of the Kansas Farm Bureau, the Kansas Livestock Association, the Kansas Association of Conservation Districts, and various watershed districts and would effectively gut our most effective means of protecting declining species in Kansas. This is a powerful coalition of mostly anti-conservation and anti-environmental groups. SB 516 proposes a moratorium on placing additional species on the state list retroactive to 1 January of this year and is also supported by the forenamed groups. Although it appears at this time that SB 473 will be tabled for further study by a task force, you should contact your local legislators immediately and let them know you strongly oppose passage of either bill if you value continued protection of our dwindling natural resources.

There are also two bills in the House of Representatives of interest to KHS members. HB 2574 would prohibit the Department of Wildlife and Parks from obtaining new land unless it also disposed of land it currently held on an acre-for-an-acre basis. This bill has the backing of the Kansas Farm Bureau and the Kansas Taxpayers Network. Considering that 98% of the land in Kansas is already privately held and that Wildlife and Parks holds a minor portion of the remaining 2%, this is obviously another attempt in the continuing assault by the so-called wise use movement. If you enjoy camping, hiking, fishing, hunting, birding, or herping, should this bill pass, it means that what little public land we already have is all we are ever going to have. Again, if you value our public lands, contact your local legislators and let them know of your strong opposition to this bill. Remember, folks, this is an election year and your words are much more likely to count than in a non-election year.

The final bill of interest to KHS members is HB 2642 which would prohibit importation of live venomous lizards or snakes into Kansas except for colleges, universities, zoos, and museums. This should be a no-brainer, especially in light of numerous instances of dangerous non-native venomous snakes which have been found in Kansas over the past twenty years. However, as expected the folks from Sharon Springs and the Crotalus Society have voiced their

strenuous objections to the bill and it appears to be in trouble. If you are concerned about that cobra or rattlesnake that you have been hearing about in someone's home, let your legislators know that you support passage of this bill.

The consensus of veteran State house watchers is that this is probably going to be the most depressing legislative session in memory for conservation and environmental issues in Kansas. As this issue goes to press, there are rumors of other negative and damaging bills being presented. Conservationists in this state and many others (see News of the World for federal problems) are in for the fight of their lives in trying to protect our precious and vital natural resources. Let your concerns be known and your voices be heard or we stand to lose most, if not all, the gains we have fought so hard for these past 30 years.

— EMR

HERE IS THE NUMBER

As a service to its members, the Kansas Herpetological Society publishes the legislative hotline number for the Kansas Legislature so that individuals may contact their local representatives and senators regarding any pending environmental legislation that might adversely affect reptiles and amphibians in particular, and wildlife in general.

The legislative hotline number is

1-800-432-3924

THE OFFICIAL KHS LOGO

As many of you no doubt noticed in the last KHS Newsletter, some new artwork appeared on the title page of that issue. After much wrangling, debate, handwringing, and waiting, KHS now has an official logo. This logo, prepared by a professional artist in Hays, Kansas, was voted on and approved by the general membership at the 1995 Annual Meeting of the Society. If you have any comments or suggestions, please drop me a line.

— EMR

KHS BRINGS YOU GREAT NEWS OF THE WORLD

SNAKES SHED LIGHT ON SKIN RESEARCH

About 40 snakes living at Kansas University are literally giving the skins off their back in the name of science.

Their contribution isn't a flaky deal.

Without the help of ... Black Rat Snakes (*Elaphe o. obsoleta*), Howard Rytting would have a harder time getting a grip on his research.

"Our goal is to develop chemical entities that enhance the penetration of drugs through skin," said Rytting, professor of pharmaceutical chemistry.

Human skin salvaged from surgical procedures is ideal for delicate tests of "penetration enhancers." but it's expensive, hard to obtain, and deteriorates quickly.

Skin still attached to person isn't a good option.

"People don't like you poking their skin to find out what has gone through — so we try to develop a model membrane to measure the amount of drug passing through the skin barrier," said Rytting.

Animal skin is too permeable to be an effective substitute.

However, Rytting said the outermost layer of snake skin is similar to human skin in terms of thickness, lipid content, water permeation, and drug absorption.

Solution: round up a bunch of wild Black Rat Snakes. Give them free room and board at KU's Animal Care Unit. Collect all skins shed by the snakes. Store the skins until Rytting is ready to run tests.

After a couple of years in the service of scientific inquiry, the KU snakes are set free to resume their outdoor life. (Ed. note: Actually the snakes are maintained as a permanent collection.)

Rytting said he's fairly certain KU researchers at the Higuchi Biosciences Center for Drug Delivery Research were the first to use snake sheds in this way. He came up with idea about 10 years ago.

The practical result of this kind of research can be found at the pharmacy.

Rytting said this kind of pharmaceutical exploration has led to the development of medicines that help people suffering from inflammation of the joints. Application of medicine through the skin allows people with arthritis to avoid large oral doses of medicine to achieve the same result, Rytting said.

Transdermal patches on the market introduce a limited amount of nicotine into the body over time to help smokers kick the habit.

Fortunately, Rytting doesn't have an aversion to snakes. "They don't bother me," he said.

— Lawrence Journal-World, 27 December 1995
(submitted by G. Noble Kingly, Studley)

RATTLESNAKE CASE OF MISIDENTIFICATION

In the Oct. 11 issue of the Seward County Independent, an article with an accompanying photograph mentioned that a rattlesnake was found in Seward on Wednesday, Sept. 27.

I was very interested in the article, because as a professor of biology at Concordia College, my areas of interest are reptiles, birds, and mammals.

I was aware that there are no official records of rattlesnakes ever being found in Seward County, so I was interested in saving the specimen for the State Museum.

I contacted the Seward Police Department to determine the whereabouts of the snake to verify its identity, (I was unable to do so from the photograph in the Independent) and possibly salvage it for the State Museum.

Fortunately, the Seward Police had additional photographs that enabled me to positively identify this snake as a Bullsnake (*Pituophis catenifer*), not a rattlesnake (I now have these photographs in my possession).

One reason the snake was thought to be a rattlesnake was because it rattled its tail. The rattlesnake's rattle is well known in nature. Many snakes mimic the rattle of a rattlesnake to bluff their way out of dangerous encounters. I have witnessed this behavior numerous times and am sure this is what was observed with the Bullsnake.

I would like to clear up any misconceptions about rattlesnakes in particular, and snakes in general, in Seward County and Nebraska.

Only three species of rattlesnakes can be found in Nebraska. The Prairie Rattlesnake (*Crotalus viridis*) is by far the most common, occurring in the western half of the state. Its nearest known location is near Kearney. They are found wherever short and midgrass prairies still abound, especially areas with numerous rock outcroppings.

Timber Rattlesnakes (*Crotalus horridus*) are found only in extreme southeastern Nebraska (two or three counties). As their name implies, they prefer wooded areas, especially areas with numerous rock outcroppings. Their numbers have declined in recent years.

The only other rattlesnake known to occur in Nebraska is the Massasauga rattlesnake (*Sistrurus catenatus*), a small rattlesnake reaching a maximum length of only a little over two feet. Historically, this rattlesnake probably occurred in the bottom half of Nebraska, although it presently occurs only in a few sites along Elkhorn, Lower Platte, Nemaha, and Little Nemaha drainage systems. Massasauga rattlesnakes prefer wet and dry prairies of the region. Their populations have declined considerably due

to the conversion of native prairie for agricultural use.

This would be the most likely rattlesnake species to naturally occur in Seward County, although its nearest known localities are over 50 miles away. The likelihood that a snake could and would travel over 50 miles through inhospitable habitat is remote, at best.

Of the 29 species of snakes known to occur in Nebraska, only seven have been found in Seward County. These include two species of Garter Snake, Bullsnake, Racer, Fox Snake, Prairie Kingsnake, and Common Watersnake.

All of these snakes are non-poisonous and essentially harmless. In most cases, these snakes, as do many species of snakes, eat rodents that generally create problems for us.

In any regard, snakes, while not appreciated by many (my wife included), have a place in nature and should be accepted as long as they are not endangering humans.

My purpose for writing this letter has been twofold.

First, I want to correct the reported misidentification of the rattlesnake found in Seward County.

Second, I hope to reduce any possible human attacks on snakes by clarifying where rattlesnakes are found in the state and informing the public of the snakes that do occur here.

(KHS member) Joseph Gubanyi
Concordia College

— Seward County Independent, date unknown
(submitted by Jim Gubanyi, Topeka)

PROTECTION EFFORTS WORK, CROCODILES RETURN

How do you share your space with crocodiles?

Very Carefully, as South Floridians are learning.

Until recently the great reptiles, far rarer and more reclusive than their alligator kin, stuck closely to their last habitat in North America, a maze of brackish streams and mangrove thickets near the point where the Florida Keys meet the mainland.

But efforts to protect the rare creatures have been so successful that their numbers have risen, from about 200 when the American crocodile was placed on the endangered species list in 1975 to somewhere between 300 and 500 today. Now the saltwater-loving crocs have begun to wander up Florida's eastern and Western shores.

Some are even setting up new homes within crawling distance of popular tourist haunts such as Fort Lauderdale's neon-lighted oceanfront strip and the sea shell hunters' meccas at Sanibel Island.

"The crocodiles are dispersing because they're doing so well in the areas that were set aside for them," said University of Florida biologist Frank Mazzotti. "It's extremely interesting and encouraging that this is happening with an endangered species in Florida, which has so many people and is growing so fast. It shows that people can co-exist quite well with endangered wildlife."

At least three crocodiles have traveled 50 miles up the Intracoastal Waterway to take up residence in the parks of the Fort Lauderdale area. Others have nested along canals amid the farms and subdivisions around Homestead, on Cape Sable at the state's southwestern end, and in the front yard of a Sanibel subdivision on Florida's west coast.

One crocodile trio frequently stops at a Key Largo restaurant where patrons toss day-old garlic rolls off the dock, fattening up tasty schools of catfish for the crocs' dining pleasure.

Experts say the crocs pose no threat to people so long as nobody pesters them. And so far, nobody has. Indeed, most of the animals have found human benefactors who protect their love of privacy.

"It's kind of hard to hide an 11-foot crocodile, but we did a pretty good job of it," said Janie Westall of Sanibel. When a big croc, the largest female ever spotted in Florida, laid 47 eggs in a subdivision garden last May, Westall and her neighbors joined in a quiet conspiracy to protect the mother and her nest.

To discourage gawkers, neighborhood residents swore local reporters to secrecy. They barricaded the street every night so the big croc could cross it safely. The eggs failed to hatch at summer's end. But the Westalls are dumping a big pile of sand in their yard, in hopes of encouraging the would-be mother, now named "Wilma," to dig another nest this spring.

"It is a little inconvenient when you have a crocodile basically living under your house and strolling up and down your driveway a couple of times a night," Westall said. "But it's such a treat to be able to observe this rare, wild creature at close hand that it's worth the trouble."

Though the American crocodile is fairly common in Central and South America, its only U.S. population has spent most of the 20th century removed from human view.

The crocodiles are about the same size as their alligator cousins – a mature male of either species can easily reach 15 feet. But crocs have a narrower snout, a snaggletooth that juts out even when their mouths are closed, a higher tolerance for saltwater, and a much more timid disposition.

— Kansas City Star, January 1996
(submitted by Suzanne L. Collins, Lawrence)

SNAKES! BREEDING DESIGNER SERPENTS CAN BRING BIG MONEY THESE DAYS

Next week will be Mark Miles' last as a Northland auto mechanic. He's quitting his job to breed snakes. Burmese pythons, boa constrictors, milk snakes, and king snakes.

There's money in snakes. Lots of money.

One of Miles' green patternless Burmese Pythons will bring \$300. An albino green sells for \$600.

In the last few years Miles has bred so many snakes and made so much money that he went out and bought an entire pet store with what he calls his "snake money". Now he can do snakes full time.

Miles and his store, Miles of Exotics on Barry Road, is part of what has become a huge industry in the United States in just the last decade or so.

Designer snakes.

That's what University of Kansas herpetologist Joseph T. Collins calls the industry and snakes like the ones Miles breeds.

"They're designed for the pet trade," said Collins, author of the *Peterson Field Guide to Reptiles and Amphibians of North America*.

"They're making them in all kinds of colors and patterns. You'd be amazed," he said.

There're tangerine milk snakes and blood red corn snakes. There're motley corns, snow corns, blizzard corns and zigzag/zipper corns. There're snakes with stripes and snakes with no stripes at all. You can buy a ruby-eyed king snake or a bubblegum rat snake.

In Kansas City, Randy Bradshaw is breeding a Texas Rat Snake that is solid white — with blue eyes.

"I've got close to 20, 25 eggs getting ready to hatch," said Bradshaw, a member of the Kansas City Herpetological Society. He expects to sell his snakes for \$150 apiece. A normal Texas rat snake would go for about \$10.

"These are animals you'd never find in nature. They only exist in captivity," said [KHS member] John Simmons, collection manager at the Natural History Museum at the University of Kansas in Lawrence.

"Here's a new one on me," he said, reading from an exotic-pet store brochure. "They bred a butterscotch albino and came up with a Creamsicle corn snake. . . You have new animals coming out of this."

Designer snakes are all about genetic mutations, as any herpetoculturist (reptile breeder) can tell you. The word "herpetoculturist" is as new as the industry — and the animals being created.

It was an albino mutation of the Burmese python that caught Mark Miles' eye a few years ago and really got him excited about breeding snakes.

"I'll show you what I'm talking about," he said and walked into the back room of his store. A sign, "Reptile Room," hung over the entrance. Miles has loved snakes

since the third grade, when he first went snake hinting with his friends in south Kansas City. They'd turn over rocks and find little Ringneck Snakes. They'd catch Garter Snakes and Prairie Kingsnakes, and once in awhile they'd find a rattler crouched in the rocky cliffs along Blue River Road.

Miles, 30, stood by a big wire cage in his reptile room and pointed to a Burmese Python curled in a ball. Its skin was dark, a greenish-brown in a block pattern.

"Every Burmese Python looked just like that," Miles said.

Miles pointed to another cage where a similar snake lay, only it was lemon-orange: an albino Burmese.

"And it's *wow!*" Miles said and snapped his fingers. "That just took off! Everyone just went bananas!"

Miles has about 100 snakes in his personal collection now, and so far this year has produced about 500 pythons alone. One is a rare species called the Bismarck ringed python, which sells for \$750.

There's money in snakes.

According to a 1994 pet industry survey, 7.3 million reptiles (snakes and lizards) and amphibians (frogs) are kept as pets in more than 3 million U.S. households. That's up from about 400,000 10 years ago, according to Eric Rundquist, editor of *Captive Breeding*. The magazine, published in Lawrence, is one of four devoted to the industry.

"Snakes are quiet and clean," Rundquist said of their popularity. "They don't take up a lot of space. They don't eat a lot."

People have always kept snakes, Simmons said, but the recent popularity started roughly 20 years ago and has boomed in the last 10 years.

The Kansas City Herpetological Society, formed about four years ago with eight members, now has 300 members, Bradshaw said. A "breeders expo" will be held Oct. 1 at Park Place Hotel at Interstate 435 and Front Street.

Bradshaw expects 1,000 snakes to be displayed and about that many people passing through the doors.

Although friction historically has existed between people who study reptiles and people who capture and keep them, Collins said he thinks "designer snakes" are a great idea.

It is his hope that once people have seen, say, a colorful tangerine milk snake in captivity, they might think twice before killing a snake at first sight in the wild.

"People will look at snakes in the wild in a whole different light," he said. "They might not like snakes, but they'll have to admit (the tangerine milk snake) is beautiful in its color."

But what of ethics? Is it right to breed so many mutations of snakes?

"I don't know the answer to give you," Simmons said. "Is it right or moral to do it with dogs?"

Through breeding, he said, you get small dogs with crowded teeth and big dogs that have chronic hip problems.

People long have domesticated dogs and cats and horses, Simmons said. They have domesticated sheep, goats and cows.

"What you have are domesticated snakes. All species are domesticated to live with people for various reasons," he said. "This is the same thing."

Bradshaw noted, "It's decreasing the market for wild animals. With the rain forest being destroyed, some day we won't have to worry about them being extinct."

But Karen Toepfer of the Society for the Study of Amphibians and Reptiles ... said ethical questions remain, especially involving large snakes.

Simmons said he draws the line at venomous snakes and discourages anyone from releasing any snake bred in captivity into the wild because it won't survive. Many have lost their camouflage and others wouldn't know how to catch their own dinner.

Miles said he preferred not to get into the politics of snakes.

He just loves to breed them.

He pulled a basket full of snake eggs down from atop a cage.

"That's a California Kingsnake," he said. One snake will average six to 15 eggs. A python will produce anywhere from 30 to 70 eggs.

Miles' block-patterned Burmese had 68 babies.

There's money in snakes.

— Kansas City Star
(submitted by Patricia Rundquist, Lawrence)

AN END TO EVOLUTION

As the first atomic bomb exploded in the New Mexico desert on July 16, 1945, physicist J. Robert Oppenheimer recalled the words of Krishna from the *Bhagavad Gita*: "I am become Death, the destroyer of worlds." Worlds can be destroyed, we have since learned, without nuclear weaponry or divine wrath. By hunting, logging, mining, grazing, draining swamps, and building homes and businesses, we 5.7 billion humans have the power to bring about the wholesale extinction of life on this planet.

Terrestrial evolution has been punctuated by five cataclysmic mass extinctions, the last of which, 65 million years ago, came in the form of a comet or asteroid that smashed into the Gulf of Mexico, wiping out two-thirds of all species, ending the age of the dinosaurs, and leaving a small evolutionary opening for hairy little creatures with warm blood that suckled their young.

Today, more numerous and dominating than any dinosaur, *Homo sapiens* is carrying out the sixth great planetary

extinction. We started the job by dispatching the megafauna of the Pleistocene: the giant deer, the great flightless birds, the auroch or European bison. By 1889, the latter's New World cousin was reduced from the millions that once shook the plains to 541. (The number is known with precision because there was a competition among hunters to kill the last one, so each animal was carefully tracked.) We continued with the passenger pigeon, the great auk, the California grizzly, the dusky seaside sparrow (the last of which died in a cage at Disney World in 1987). Since Columbus arrived, one North American vertebrate has been extirpated each year, with the pace accelerating greatly in this century. Harvard University biologist E. O. Wilson estimates that, worldwide, more than 50,000 species die out each year, and that 10 percent of all species now alive will be gone within 25 years. With each extinction, an evolutionary path billions of years old comes to an abrupt dead end, a treasure of genetic information is lost, and the future becomes a poorer, shrunken place.

In 1973, the United States called a halt to this evolutionary vandalism when President Richard Nixon signed the Endangered Species Act. For the first time in history, humans undertook a concrete, systematic effort to save the world from ourselves. The ESA mandated federal agencies to use the best scientific evidence to list all species in danger of extinction as either "threatened" or "endangered," and to develop and carry out plans for their recovery.

And it has worked. Imperfectly, slowly, and clunkily, to be sure, but many species alive today would be only illustrations in the textbook where it not for the act. Species pulled back from the brink thus far include the gray whale, the California sea otter, the brown pelican, the peregrine falcon, Peter's mountain mallow, the red wolf, and, last July, our nation's symbol: from a perilous low of 417 nesting pairs in the 1970s, the Endangered Species Act lifted the bald eagle out of the "endangered" category altogether, its population having increased tenfold.

The ESA is visionary and far-reaching—so much so, in fact, that some erstwhile supporters now claim never to have intended to do anything so important. House Resources Committee Chair Don Young (R-Alaska), who originally voted for the act but now champions its overthrow, says that at the time, he thought it was about saving "leopards and lions. We never in my wildest imagination were thinking about rats, cockroaches, blue lupine, snail darters, and spotted owls."

Luckily, the ESA has been guided by a grander vision than Don Young's imagination. Since its passage, it has been strengthened three times, in 1978, 1982, and 1988. Opposition has increased over the years—especially as it was learned that ecosystems need the small and ugly as much as the grand and beautiful, and that saving them sometimes means financial loss for parties unaccustomed

to sharing their land. Still, there has always been a solid consensus in Congress in favor of the act.

Until now.

With their party firmly in control of both houses of Congress, many leading Republicans are now taking aim at the grizzlies and salmon as well as the desert pupfish and kangaroo rats. California Governor Pete Wilson labels the ESA "a blunt weapon that costs us jobs." California Representative Sonny Bono jokes that the best way to deal with endangered species is to "give them all a designated area and then blow it up." Washington Senator Slade Gorton suggests removing endangered species from the wild altogether and breeding them in zoos as "a way to preserve animals without blocking economic development." And Senator Larry Craig of Idaho wishes that people in the East would butt out of endangered-species issues in the West. "It isn't a New York City problem," said Craig. "The only endangered species in New York City is probably a free white human being."

These and other extremists make up the Extinction Lobby in Congress, pushing for radical "reform" of the Endangered Species Act ("reform" being understood in the same sense that lobotomy is "reform" for a headache). Last year they paraded around rural America, holding sham public hearings in search of heartrending (if not necessarily true) anecdotes to justify their legislation. Autumn saw Republicans falling over each other in attempts to gut the act—and simultaneously tickle the well-healed industries that impatiently await the go-ahead to resume their destruction of endangered species habitat. Realizing the unpopularity of their enterprise, these industries hide behind false fronts like the Endangered Species Coordinating Council and the Endangered Species Act Reform Coalition. The latter's members include Kaiser Aluminum, Chevron, Boise Cascade, Newmont Mining, Western States Petroleum, and 140 others. All told, Coalition members contributed a total of \$34,000 to Gorton's 1994 re-election campaign, winning in return the opportunity to gut the ESA themselves. "The coalitions delivered your ESA bill to me on Friday," a Gordon aide wrote her boss in a leaked memo. "It is important that we have a better than adequate understanding of the bill prior to introduction....It takes some getting used to."

In typical bully fashion, Extinction Lobbyists pick on the humble and unpopular. The American Farm Bureau federation, for example, claims it is being victimized by "toads, owls, chubs, suckers, rats and bats, bugs and weeds," whose extinction it is perfectly willing to countenance. As satisfying as squashing bugs may be to some, it has its consequences: any biologist will tell you that it is the glamorless fungi, insects, and other microorganisms that keep an ecosystem alive.

Yet even adorable species are not safe from the Extermination Squad. Last year the *Washington Post* reported on a

memo from Myron Ebell of the American Land Rights Association to Daniel Val Kish, staff director of the House Resources Committee, in which he worried that House Speaker Newt Gingrich (R-Ga.) was too supportive of endangered species. "His soft feelings for cuddly little critters [are] still going to be a big problem," Ebell warned. True to Ebell's fears, the Speaker has been trying to rein in the extremists in his party—as of the time of this writing, without visible success.

The most cynical of the Extinction Lobbyists like to affect a concern for charismatic critters, claiming that since the act is failing to protect them it needs radical surgery. Their evidence is that there are still so many endangered species. Of the 962 plants and animals listed as endangered or threatened, they like to point out, only 11 have been fully removed from the list, while 7 are known to have become extinct and 14 more are feared to be so. Recovery plans have not been made for a third of the listed species, and 101 have only draft plans. Ergo, they argue, the act is not working.

The fact that many species are still imperiled, however, argues for strengthening the ESA, not weakening it. Much of the backlog in recovery plans dates from the Reagan-Bush years, whose administrations were less than enthusiastic about enforcing the ESA. Even so, the same data reveal that 10 percent of listed species are improving, and 28 percent have stabilized.

Even before it started amending the act, Congress imposed a six-month moratorium on new ESA listings, which it is trying to extend through the end of this year. This is, undoubtedly, the cheapest solution to the endangered species problem: simply to ignore its existence. Meanwhile, fading species are forced to queue up for recognition: the lynx, the black-tailed prairie dog, the Atlantic salmon, the bull trout, the fisher, the red-legged frog. Many could easily "wink out" before ever being listed.

The problem with this country's plants and wildlife is that they are unable to distinguish between private and public land. As is, only half of the endangered species in the United States are found on public land. The ESA protects all equally, requiring owners of private property to protect "critical habitat" and to get permits if their use of the land might cause the "incidental take" of a protected species.

The extinctionists don't want to be bothered. They like to quote a woman who spoke at an anti-ESA meeting in Fresno, California, organized by the Farm Bureau: If the critters can't live on that 50 percent of the land, she said, "then God is calling them home."

The timber industry has been calling too, fighting hard to remove the protections the ESA offers endangered species on private land, especially after the listing of the northern spotted owl put much of the Pacific Northwest off-limits to logging. Last year a coalition of Oregon timber interests and property owners known as the Sweet Home

Chapter of Communities argued before the U.S. Supreme Court that ESA prohibitions on the “take” of endangered creatures did not apply to the destruction of their habitat. “When we think of ‘thou shalt not kill,’” argued Sweet Home’s attorney John Macleod, “we think of that as ‘thou shalt not murder.’ We don’t think of applying it to accidental death.”

In a critical ruling in the case last June, the high court voted six to three that death by habitat destruction is as sure as death by shotgun. Here the court agreed with the National Academy of Sciences, whose report last year on the ESA stressed the importance of protecting habitat, both public and private: “There is no scientific reason,” said Michael Clegg, chair of the committee drafting the report, “that standards relating to protecting habitat and species should differ on public and private lands.” There are, however, plenty of political reasons to exempt your campaign contributors, which is why the ESA revision authored by representatives Young and Richard Pombo (R-Calif.)—as of this writing, the leading legislative vehicle for eviscerating the act—made protection of endangered species on private land strictly voluntary.

The ESA-detractors have made their famous formulation of “owls vs. jobs” an article of faith. They need faith because they don’t have the numbers. In the five years since spotted-owl protection went into effect in Oregon, 15,000 forest-products jobs were lost, but 100,000 new jobs were created elsewhere in the state’s economy. Last year Massachusetts Institute of Technology political science professor Stephen Meyer compared economic growth in states to their number of endangered species. To his own surprise, Meyer found no correlation, even at the county level. “The evidence is just not there,” he wrote.

Last May, Meyer was invited to explain his remarkable findings before one of Pombo’s hearings on the Endangered Species Act (see “Eco-Thug,” page 16). At the last minute, however, when Pombo’s staffers could not find a way to counter his testimony, he was summarily uninvited. Also dropped from the list was E. O. Wilson, who was prepared to give strong testimony in favor of the act. The Affair did little to bolster the Extinction Lobby’s much-trumpeted concern with “science,” which they generally agree the ESA doesn’t have enough of. Slade Gorton, for instance, promised to “bring balance” to the ESA by “strengthening the role of science in determining the listing of species,” and Representative Dick Armey (R-Texas) maintained that what the country needs is a “scientific, disciplined, and rigorous” approach to species protection—unlike, presumably, the one that it has at present.

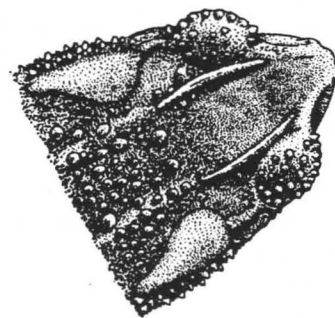
Trouble is, science is firmly on the side of the Endangered Species Act. In its review of the act last year, the National Academy of Sciences unequivocally endorsed those aspects the Extinction Lobbyists find so vexing: the importance of protecting habitat on private as well as

public land, and of listing endangered subspecies. Where the Academy quibbled with the act was with its implementation, finding it too slow in preserving emergency “survival habitat” for newly listed species and in developing timely recovery plans.

“The Endangered Species Act was not designed to carry out all of our country’s conservation policies,” Clegg warned. “More approaches need to be developed and implemented as complements to the act to prevent the continued, accelerated loss of species and to reduce economic and social disruption and uncertainty. The Endangered Species Act by itself cannot prevent the loss of all species and their habitats, but should be viewed as one essential part of a comprehensive set of tools for protecting them.”

Sadly, we humans are slow in coming to grips with our omnipotence. As you read these words, Congress and President Clinton are weighing whether to keep that essential tool for protecting our fellow travelers on this planet, or to consign them to oblivion. It is up to us now to join our scientific knowledge with that generosity of spirit we call humanity, and be the guardians and guarantors of a continuing process of wonder and creation. This is the hour before the comet strikes, but this one we can do something about.

— Sierra, January/February 1996
(submitted by L. M. Klobber, Paradise)



FEATURE ARTICLES

A PROCEDURE FOR DRAWING SNAKE SCALES

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Drawing is a useful skill for scientists. Sadly, our education system has failed at providing opportunities for developing such skills. As a result, students rationalize that they have not inherited artistic abilities. To address those false conclusions, I have often wondered how the drawing processes could be proceduralized, so that students could be led to produce successful and scientifically meaningful drawings. Throughout the process, students would gain confidence in their abilities and learn a method for approaching other drawings in the future. A preliminary procedure for drawing snake scales evolved as I learned to draw the scale pattern of a preserved Common Garter Snake (*Thamnophis sirtalis*) whose mother I had collected this past summer.

To gain some understanding of how scale patterns have been represented, drawings from *A Field Guide to Western Reptiles and Amphibians* (Stebbins 1985) were studied. After learning to reproduce those patterns, I developed a procedure for drawing hexagonal scales. Scales from other species of snake may have a different geometry, which would require adjustments to this basic procedure.

I hope the following for drawing snake scales and patterns can provide a teachable method that will ultimately enhance observation skills. Additionally, such an activity will integrate knowledge from science, art, and mathematics. As this is a preliminary phase of this technique, I request comments and suggestions.

There are alternate methods for following the procedure. For those with little experience in drawing, I suggest reading the step-by-step instructions with reference to the accompanying illustrations. Those with artistic abilities may skip the reading and examine the drawings.

Procedure

1. With a snake specimen in hand, count the number of dorsal scale rows (this, of course, excludes the ventral scute).
2. Divide the number of scale rows by two, to determine the number of scale rows that would be viewed in profile.

3. Draw one light, horizontal line to represent the dorsal aspect of the snake (you may wish to determine how to draw a scale drawing for this and the following steps).

4. Draw a number of light, parallel, and evenly spaced lines at a 45° angle below the existing horizontal line (use a triangle or estimate freehand).

5. Draw a number of light, parallel, and evenly spaced lines at a 135° angle below the existing horizontal line. These lines should be spaced the same distance apart as the 45° angle lines. A framework of scales should now be complete, as in Figure 1a.

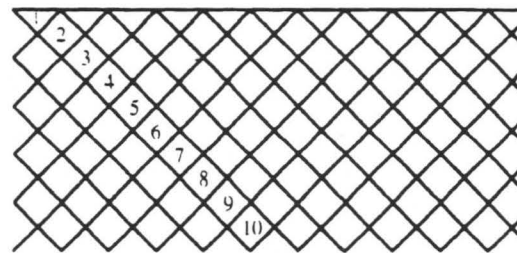


Figure 1a

6. Count down from the horizontal line the number of scale rows viewed in profile (Step 2), and erase or ignore the remaining scale framework. Next, imagine two of the framework scales as the squares ABED and BCFE which share the line BE (Fig. 1b).

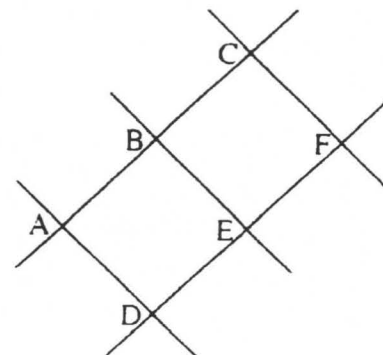


Figure 1b

7. Draw ascending lines ab_1 , b_2c , de_1 , and e_2f , as in Figure 2a. For example, point a should begin at a position just above point A , proceed through the midpoint of line AB and terminate slightly below point B .

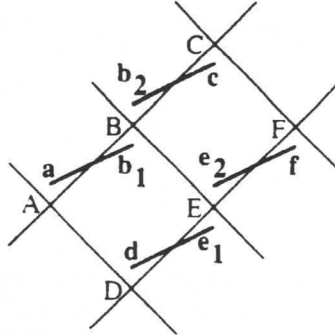


Figure 2a

Repeat this step throughout the framework of scales, making sure each line is drawn at the same angle (Fig. 2b).

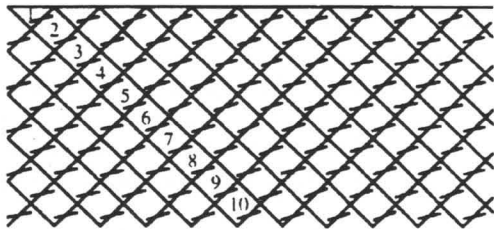


Figure 2b

8. Draw vertical lines b_1b_2 and e_1e_2 , as in Figure 3a.

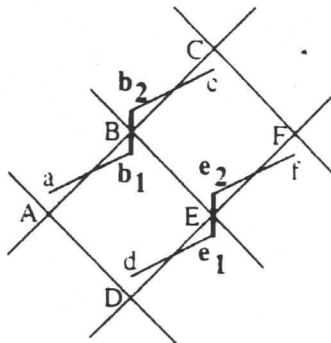


Figure 3a

Repeat this step throughout the framework of scales. The resulting drawing should acquire a stairstep appearance (Fig. 3b).

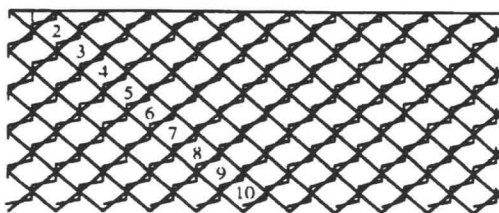


Figure 3b

9. Draw the line b_1e_2 , as in Figure 4a. Repeat this step throughout the framework of scales. The resulting drawing

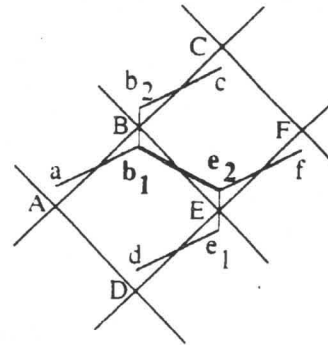


Figure 4a

should be a framework of hexagons (Figure 4b).

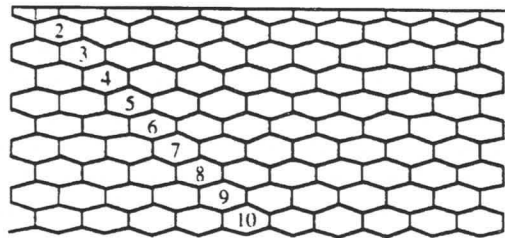


Figure 4b

10. Draw in the ventral scales, as well as the scale pattern of the specimen in hand. A sketch of the Common Garter Snake scale pattern appears in Figure 5. Patterns within scale rows are quite apparent, thus, when complete, observations of the pattern can be discussed, qualified, and possibly quantified. Intraspecies comparisons would be interesting to study, as well as the inheritance of such patterns. Similarly, a temporal study of individual specimens' scale patterns would be informative.

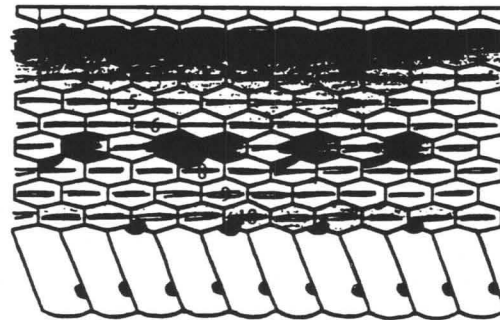


Figure 5

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NEW RECORDS OF AMPHIBIAN AND REPTILE IN KANSAS FOR 1995

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The thirteen new county records and three maximum size records listed below are those accumulated or brought to my attention since the publication of records for 1994 (Collins, 1995). Publication of these new records permits me to give credit and express my appreciation to the many individuals who collected or obtained specimens and donated them to me for deposition in an institutional collection. Further, recipients of this list are permitted an opportunity to update the range maps and size maxima sections in *Amphibians and Reptiles in Kansas Third Edition* (Collins, 1993). Finally, these new records represent information that greatly increases our knowledge of the distribution and physical proportions of these creatures in Kansas, and thus gives us a better understanding of their biology. This report is my 21st in a series that has appeared annually since 1976, and the data contained herein eventually will be incorporated into the fourth (revised) edition of my book.

The Kansas specimens listed below represent the first records for the given county based on a preserved, cataloged voucher specimen in an institutional collection, or represent size maxima larger than those listed in Collins (1993). Any information of this nature not backed by a voucher specimen is an unverifiable observation. All new records listed here are presented in the following standardized format: standard common and current scientific name, county, specific locality, date of collection, collector(s), and place of deposition and catalog number. New size maxima are presented with the size limits expressed in both metric and English units. Common names are those now standardized for North America, as compiled by Collins (1990), and are given at the species level only.

The records listed below are deposited in the herpetological collections of the Natural History Museum, The University of Kansas, Lawrence (KU). I am most grateful to the members of the Kansas Herpetological Society, and to the staff of the Kansas Department of Wildlife and Parks, who spent many hours in search of some of the specimens reported herein. Some of the records contained herein

resulted from field studies sponsored by funds from the Kansas Department of Wildlife and Parks' Chickadee Checkoff Program. John E. Simmons, highly esteemed Collection Manager for the Division of Herpetology, Natural History Museum, The University of Kansas, diligently assigned catalog numbers to the specimens listed below, and to him I am indebted. Thanks are due also to Leonard Krishtalka, Director, and William E. Duellman, Curator of Herpetology, of the Natural History Museum, The University of Kansas.

NEW COUNTY RECORDS

PLAINS SPADEFOOT (*Spea bombifrons*)

DICKINSON Co: Sec. 35, T13S, R1E. 8 May 1995. Jeffrey Hubbard (KU 222415). **OTTAWA Co:** Sec. 7, T12S, R1W. 13 May 1995. Jeffrey Hubbard & Keith Coleman (KU 222416). **SALINE Co:** Sec. 2, T14S, R1W. 13 May 1995. Jeffrey Hubbard & Keith Coleman (KU 222417).

GREAT PLAINS TOAD (*Bufo cognatus*)

CLOUD Co: Sec. 27, T5S, R1W. 13 May 1995. Jeffrey Hubbard & Keith Coleman (KU 222414). **DICKINSON Co:** Sec. 35, T13S, R1E. 8 May 1995. Jeffrey Hubbard (KU 222413).

SPRING PEEPER (*Pseudacris crucifer*)

BOURBON Co: Sec. 24, T26S, R23E. 16 March 1995. Lewis R. Anderson (KU 222418); Sec. 18, T26S, R24E. 18 April 1995. Keith Coleman (KU 222419).

WESTERN CHORUS FROG (*Pseudacris triseriata*)

DICKINSON Co: Sec. 12, T13S, R2E. 16 April 1995. Keith Coleman & Jeffrey Hubbard (KU 222422).

CRAWFISH FROG (*Rana areolata*)

BOURBON Co: Sec. 24, T26S, R23E. 21 April 1995. Lewis R. Anderson (KU 222423).

EASTERN BOX TURTLE (*Terrapene carolina*)

LYON Co: Emporia, N of Emporia State University campus in woods along Neosho River. 23 June 1995. Kyle Edds & Corinne Edds (KU Color Slide 11219). Unless and until evidence of a breeding population is discovered in this area, I treat this record as an introduction or escaped pet.

SLIDER (*Trachemys scripta*)

ELLSWORTH Co: Kanopolis Reservoir, Horsethief Canyon area. 20 September 1995. Daren Riedle, Kurt Grimm & Matt Combes (KU Color Slide 11220).

EASTERN RAT SNAKE (*Elaphe obsoleta*)

PRATT Co: within southern part of the city limits of Pratt. 3 June 1995. Keith Becker (KU Color Slide 11228); Pratt Fish Hatchery. 30 August 1995. Mark Kumberg (KU Color Slide 11229).

PRAIRIE KINGSNAKE (*Lampropeltis calligaster*)

WYANDOTTE Co: Kansas City on Ks. Rt. 32 between 79th Street & 81st Street. 6 April 1995. Jeffrey W. Curtis (KU 222424).

MASSASAUGA (*Sistrurus catenatus*)

JACKSON Co: Sec. 22, T8S, R14E. 24 June 1995. Suzanne L. Collins & Joseph T. Collins (KU 222430).

NEW MAXIMUM SIZE RECORDS

TIGER SALAMANDER (*Ambystoma tigrinum*)

MORTON Co: Rolla Public Swimming Pool & Park. 21 June 1995. Jonathan Berry, Dawn Eiland, Austin DeGarmo, Zac Plummer & Jackson Sheets (KU 222412). SVL = 170 mm (6 5/8 inches); Total length = 310 mm (12 1/8 inches). Male.

COMMON SNAPPING TURTLE (*Chelydra serpentina*)

JEWELL Co: Sec. 8, T3S, R10W. June 1995. Larry Wyman (KU Color Slide 11218). Upper shell length = 410 mm (16 1/8 inches). Sex unknown.

COMMON GARTER SNAKE (*Thamnophis sirtalis*)

ELLIS Co: Sec. 27, T11S, R16W. 8 June 1995. John Denison & William Denison (KU 222427). Total length = 1139 mm (44 3/4 inches). Female.

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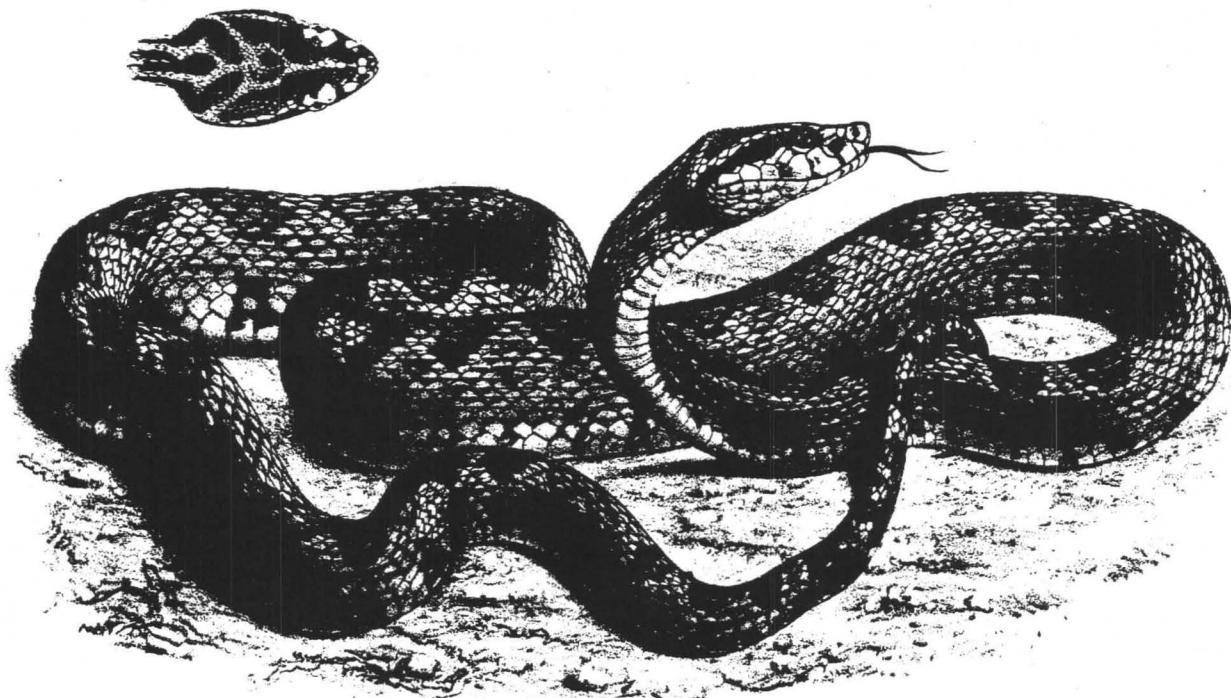
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New Titles

Fishes in Kansas Second Revised Edition

BY FRANK B. CROSS & JOSEPH T. COLLINS

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