

DECEMBER, 1985

ANNOUNCEMENTS

12th Annual KHS Meeting Successful

The 12th annual meeting of the Kansas Herpetological Society was held on 16-17 November 1985 on the campus of Washburn University in Topeka, Kansas. A total of 50 people signed in at the registration table. The always successful auction brought in a record-breaking \$405.43 for the treasury, thanks to some very fine items donated by KHS members and friends. During the business meeting, it was proposed to give \$50.00 to the Caldwell Elementary School Sixth Grade Class to assist them in their drive to have the Ornate Box Turtle (Terrapene ornata ornata) declared the State Reptile of Kansas.

In other KHS business, tentative plans were made for a field trip the weekend before Memorial Day to Cheyenne Bottoms to celebrate the 10th anniversary of KHS field trips. Plans for a summer social/field trip in Oxford, Kansas was also discussed. Watch the June KHS Newsletter for details.

Thanks go to Kelly Irwin, Program Chairperson, and KHS President Martin Capron for arranging a fine annual meeting.

1985 Inventory and Breeding Report Available

The 1985 "Inventory of Live Reptiles and Amphibians in Captivity, Current January 1, 1985", compiled by Frank L. Slavens, contains a combined inventory of 260 collections from 16 countries. Information is current as of January 1st, 1985, with 446 genera, 1,211 species, and 1,691 forms represented.

This multi-use reference allows one to search any of the 1,691 forms of reptiles or amphibians reported by the 260 responding collections and find the number of male, female, or unknown sex held by each collection. If a species was bred during 1984 the reported dates of copulation, egg laying, hatching, etc. are included. Longevity records are included for the first time in this edition and the breeding bibliography has been expanded to 977 titles pertaining to husbandry, diet, temperature, light cycle, etc. It runs 342 pages, \$32.50 hardbound, \$25.00 paperbound, plus \$2.50 postage, \$3.50 overseas. Back issues of the report for 1983 and 1984 also available for \$20.00 each, softbound only.

This report is published by the author, Frank L. Slavens, and is available from P.O. Box 30744, Seattle, Washington 98103.

### What's Up Down Under?

KHS member Robert Sprackland has recently come across a unique service in North America, the Australian Book Source. From this company, one can obtain current literature from Australia at reasonable prices. Though by no means restricted to herpetology or even natural history, a partial list of herp titles they can obtain and the prices in U.S. dollars are as follows:

<u>Australia's Dangerous Snakes</u> , Gow	\$10.95
<u>Lizards of Australia</u> , Swanson	\$11.95
<u>Snakes of Australia</u> , Gow	\$11.95
<u>Lizards of Western Australia</u> , 1. Skinks. 2. <u>Dragons and Monitors</u> , Storr et al.	\$25.00 per volume
<u>Reptiles of Australia</u> , Cogger	\$ 3.95
<u>Australian Reptiles in Colour</u> , Cogger	\$11.95
<u>Reptiles and Amphibians of Australia</u> , third edition, Cogger	\$55.00
<u>Dangerous Snakes of Australia</u> , Mirtschin & Davis	\$15.50

For more information on these and ANY other Australian books, contact: Susan Curry, The Australian Book Source, 1309 Redwood Lane, Davis, California 95616.

### Dinosaur Days A Hit

The exhibit of scale-size and life-size moving, roaring dinosaurs at the Museum of Natural History of the University of Kansas concluded 29 October with attendance figures in excess of 43,000 visitors. This included 13,704 visitors from 334 schools and community groups.

The five creatures on display were a Brontosaurus, a Triceratops, a Saber-toothed Cat, an Edaphosaurus and a Diatryma. Along with the exhibit were family day activities, film festivals, and workshops for children. A total of 284 volunteers from the Lawrence campus and community donated their time to make the exhibit a success.

It's about time reptiles got some good press...

### 10th International Herpetological Symposium On Captive Propagation and Husbandry

All amateur and professional herpetologists are invited to submit for consideration the titles of papers they wish to present at the 10th Annual International Symposium on Captive Propagation and Husbandry, to be held at the El Tropicano Hotel along the River in San Antonio, Texas, from 25-26 June 1986. Time allotted for papers is 30 minutes. A preliminary program will be established by 25 January 1986, so a 100-150 word abstract of the presentation should be submitted by the contributors prior to 11 January 1986. Final manuscripts should be submitted prior to 12 June 1986. Submit all program information to: Mike Bumgardner, Department of Wildlife and Fisheries Biology, University of California, Davis, California 95616, telephone (916) 752-8934. The symposium coordinator is Randall Gray, P.O. Box 1850, Chinle, Arizona, 86503; (602) 674-5269.

### Special Subscription Rate for Herpetological Review

In recognition of the fact that many members of regional herpetological societies are interested in receiving Herpetological Review but do not care to pay the full price of membership and also receive Journal of Herpetology, the Society for the Study of Amphibians and Reptiles is offering subscription rate of just \$10.00 per year for Herpetological Review. Herpetological Review contains news and business of interest to the herpetological community at large, feature articles, book reviews, news of meetings of interest to herpetologists, techniques, and regular columns covering reports of geographic distribution and life history notes. Make checks payable to SSAR, Dr. Henri Seibert, Treasurer, Department of Zoology, Ohio University, Athens, Ohio, 45701.

### Spaces Still Available on San Esteban Island Expedition

A few positions are still open on the 10 January 1986 research expedition to San Esteban Island in the Sea of Cortez, Baja California, Mexico, to study the giant Chuckwalla. If you are interested, call 1-800-633-4734 for more information. The trip is just \$1595, all inclusive, from Tucson, Arizona.

### Guide to Turtles and Crocodylians Available

Stackpole Books announces the availability of its well-known The Amateur Zoologist's Guide to Turtles and Crocodylians. This work lists the more than 50 species in the United States, and includes "professional advice on field study methods and care of captives, a glossary of herpetological terms, and a full bibliography and list of 'herp' societies for further reference." Written by Robert Zappalorti of Herpetological Associates, Staten Island, New York, the book costs \$12.95 INCLUDING postage (hey, what class!). Order from Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105.

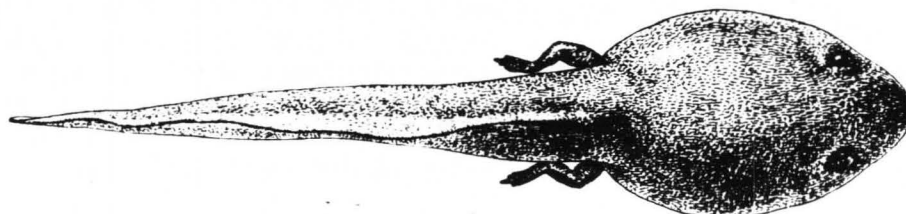
### Reptile Curator Position

According to the November issue of the AAZPA Newsletter, there is a position open for a reptile curator that "requires BS in zoology or related field, three years' experience in all aspects of herpetological husbandry. Responsible for design and development of a major new reptile exhibit. Salary \$22,779." Send resume to Palmer Krantz, Director, Riverbanks Zoo, 500 Wildlife Parkway, Columbia, SC 29210.

### New Edition of the Manual of Federal Wildlife Regulations Available

The original AAZPA Manual of Federal Wildlife Regulations, published in 1979, has been completely revised. The new edition is published as a two-volume set. Volume I lists all species of federally protected wildlife and was prepared by Alan Shoemaker. Volume II, compiled by Kris Vehrs, contains all federal wildlife laws and applicable regulations. The revised materials are current to 1 August

1985 and cause the data in the original publication to become obsolete. One set, together with a \$50 invoice, has been mailed to all Institution, Related Organization and Registered Animal Supplier members. Others are encouraged to order the two-volume set at the following prices: \$50 Members, \$75 Schools and Libraries, \$100 Nonmembers (pre-paid). Order from the AAZPA Executive Office, Oglebay Park, Wheeling, West Virginia, 26003.



KHS BRINGS YOU NEWS OF WAY WAY BEYOND THE BEYOND...AND MORE

Cooperative Breeding Program for the San Francisco Garter Snake Underway

A cooperative breeding program for the endangered San Francisco Garter Snake (Thamnophis sirtalis tetrataenia) is underway between the U.S. Fish & Wildlife Service and American zoos, and will soon include the Jersey Wildlife Preservation Trust. Early in 1983, sixteen specimens were confiscated by the F&WS and placed on loan to the Fort Worth, Dallas, Los Angeles and Fresno zoos. The majority were juvenile siblings, which soon reached sexual maturity. The first litter was born at the Fort Worth Zoo in June 1984, the majority of which were sent to the Abilene Zoo or retained for breeding purposes. This year, two broods totaling 28 offspring were produced by the Dallas and Fort Worth zoos and are presently being disbursed to other participating institutions, each receiving males and females from the two different litters. Thus far, groups have been sent to the San Diego, Houston, Memphis and Knoxville zoos and the Jersey Wildlife Preservation Trust. In addition, another confiscated male was located at the Pittsburgh Zoo and has been placed on breeding loan to Fort Worth to expand the genetic potential of the existing group. Zoos wishing to participate should contact Ken McCloud, Lead Wildlife Inspector, U.S. Fish & Wildlife Service, Division of Law Enforcement, 1290 Howard Avenue, Room 109, Burlingame, CA 94010, or Dave Blody, Supervisor, Reptile Department, Fort Worth Zoo, 2727 Zoological Park Drive, Fort Worth, TX 76110.

--AAZPA Newsletter 26(11):24, November 1985.  
(submitted by Ruth Gennrich, Lawrence)

Mongolian Frog-eyed Sand Gecko Hatched

On 16 September, the Reptile Breeding Foundation, Picton, Ontario, Canada successfully reproduced the Mongolian frog-eyed sand gecko (Teratoscincus przewalskii). The RBF presently maintains 2/4 animals,



all of which have been in captivity for over a year. Two eggs were found on 27 July with 1/2 adults. It was not ascertained whether both were laid at the same time, but observations of the closely related Teratoscincus scincus would tend to support this assumption. One egg was broken, but contained a well-formed embryo. The surviving egg was placed in a human incubator at 30 C and hatched 51 days later. This is believed to be the first captive breeding of this species of eublepharine gecko.

--AAZPA Newsletter 26(11):27, November 1985  
(submitted by Ruth Gennrich, Lawrence)

#### Madagascar Ground Boas Captive Bred

Four Madagascar ground boas (Acrantophis madagascariensis) were born on 17 August 1985 at the Fresno Zoo, after a gestation period of 223 and 230 days. This is the first time this snake has been captive bred in the Northern Hemisphere. According to the International Zoo Yearbook, only 21 exist in seven collections. The original pair and an additional male were received on breeding loan from the San Diego and Gladys Porter Zoos. All three were wild caught as adults in 1973.

Each snake was hibernated separately between 29 November - 27 December 1984. The temperature in the display enclosure housing the female was dropped to 15-15.6 C, lower than in previous years. The snakes were brought out of hibernation on 27 December, and both males were introduced into the female's enclosure. Elaborate courtship and successful copulation by both males were observed daily in the early morning between 28 December and 3 January 1985. The female began fasting during the last week of January and continued until after parturition. The four (1/3) offspring are thick-bodied and healthy, feeding on adult mice. Two infertile ova were also passed. At birth the neonates were 61-71 cm. long and weighed 226-380 grams.

--AAZPA Newsletter 26(11):29, November 1985  
(submitted by Ruth Gennrich, Lawrence)

#### Trio Logs 6,000 Miles in Search of "Critters"

This summer, [KHS Members] Joe Collins, Larry Miller, and Kelly Irwin packed a Chevrolet pickup and began a 6,000-mile drive across 13 states.

They weren't, said Collins, looking for the great vacation playground envisioned by so many tourists on the highways. They did not want beaches, sunshine or to listen to the sounds of the sea.

They wanted darkness, swamps and the sounds of tree frogs croaking in the dark. They wanted "critters," Collins said. Lots of them.

The three-week trip they took was dreamed up by Collins, a zoologist and editor at Kansas University's Museum of Natural History. The 6,000-mile jaunt, he said, was necessary for several reasons.

One was that he needed color photographs of certain reptiles and

amphibians for the Peterson Field Guide to Reptiles and Amphibians of Eastern and Central North America, which he is co-authoring with Roger Conant.

Another was that several researchers at the museum wanted live animals and dead specimens for their research. Also, both Collins and Miller, a grade school teacher from Caldwell, are professional photographers and wanted to add to their collection.

Irwin, a 26-year-old carpenter from Wakarusa, has been interested in biology and herpetology for years and went along to collect many of the specimens.

The men drove through Kansas, Missouri, Illinois, Tennessee, Kentucky, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi and Arkansas.

Collins said the museum paid part of the cost of attending an August meeting of the Society for the Study of Amphibians and Reptiles in Tampa, Fla. The men paid for the rest of the trip themselves.

The weather, Miller said, was perfect for collecting. "We had rain almost every day." Because of the cool weather, the animals were on the move more than usual.

The men brought back 200 live animals, mostly snakes and frogs, and about 50 prepared specimens. "We would have never been able to get this many if it had been as hot as it usually is," Miller said.

The pickup had a fiberglass topper and was filled with ice chests. After the men captured the small animals, they were identified, placed in individual perforated plastic cartons and put on ice.

"Amphibians are fairly easy to keep if you keep the temperature down," Miller said.

A few frogs and one mudsnake didn't survive the trip, Miller said. The men returned to Lawrence Aug. 11, and Collins said most of the live animals they brought along have already given their lives for science.

The men have less-than-fond memories of a night in a motel near Reelfoot Lake in northwest Tennessee. They were getting ready for bed when Miller found a brown recluse spider, known for its painful bite. The men found another. Then another. They began to count and kill brown recluse spiders.

"By three o'clock in the morning, we had killed 38 big brown recluse spiders in the motel room," Collins said.

Another memorable stop was at the Savannah River Plant in South Carolina. The 310-square-mile area houses four nuclear plants operated by the U.S. Department of Energy. Much of the area is wilderness, Collins said.

States usually require people who collect animals to have permits, which the men acquired. They did not collect endangered species. When they collected specimens on "river plant land," they were always accompanied by one of the plant's ecologists, Collins said. Security, he said, was tight.

"We never were taken near any of the nuclear reactors, of course," he said.

The men did not get into any of the streams on the plant. Because the reactors release 180-degree water into the streams, the water steams but is not hot enough to burn anyone, Collins said.

The men also spent time in Miami collecting "introduced specimens," animals not native to the United States. Most of the introduced specimens in Florida come from the Caribbean, Collins said.

He said Irwin found seven or eight different kinds of alien amphib-

ians by a swimming pool in a friend's yard. The men collected marine toads and Cuban tree frogs and chased lizards through suburban Miami neighborhoods--"some of the finest neighborhoods of Miami, I might add," Collins said.

Irwin enjoyed a trip to the Everglades, where he was able to capture an alligator so Collins and Miller could photograph it. A park ranger gave them permission to pull the reptile out of the water.

"There was about four feet of water and there was this little gator sitting on a clump of sawgrass..." Irwin said. He got into the water and began to walk toward it, not realizing the bottom dropped off sharply.

"I was kind of falling toward it, so I made a lunge for it," he said. Irwin grabbed the 2 1/2-foot alligator around the midsection and was able to heave it behind a retaining wall so Collins could photograph it. The alligator was then returned to the wild.

"One of the truly admirable qualities of Kelly is that he's fearless," Collins said. "He knows his wildlife very well."

Irwin described it differently. "I'm just a big kid at heart," he said.

--Lawrence Journal-World, 18 August 1985  
(submitted by Irving Street, Lawrence)

#### A Real Rattler of a Weekend, Way Down in Waynoka, the Snake Hunt's On

WAYNOKA, OKLA.--Let us lift a long-necked Bud to the manly boys of the Waynoka Snake Hunt.

To Dennis Cunningham, who keeps his 6-month-old son in one room of his house in Freedom, Okla., his 6-foot-long rattlesnake in another, and says of the boy, "He'll be a bull rider and a snake hunter."

To former Waynoka mayor Larry Hutchinson, who punctuates every fourth line of any snake tale with, "Now this is still a true story."

To Howard Dannar, who sits in the Y'all Come Back Saloon waiting to sucker novices with his sure-fire snake whistle.

Yes, to all the folks who have kept the rattlers running and the tourists coming in Waynoka on the first weekend after Easter for 39 years.

They're a part of Oklahoma.

Especially that part about 150 miles southwest of Wichita. There, on yonder side of the Cimarron River between Freedom and Fairview, the red mesas and buttes of gypson rock grow scrubby sagebrush.

And rattlesnakes.

Rattlesnakes that come out of their dens to sun about this time of year when the days are warm and nights cool.

Waynoka sits on the edge of that hostile country, a town of 1,377 with a lot of boarded-up shop fronts but with at least two things going for it: the nearby sand dunes of the Little Sahara Recreation Area and the annual snake hunt sponsored by the Waynoka Saddle Club.

The snake hunt, started by ranchers tired of losing stock to rattlers, is the biggest thing that happens here all year. Only the dune buggy races come close. Most of the time, confides Neil Darr from behind the bar at the Y'all Come Back Saloon, Waynoka's "deader'n hell."

But this weekend it'll swell with 10,000 thrill seekers, some from

as far away as Michigan, and hundreds of snakes, some from as far away as Texas. The people will probably live to tell about it, but the snakes will lose their lives today at the Waynoka City Hall butcher shop and have their still-wiggling carcasses dropped into deep-fat fryers that turn out crispy snake nuggets. Their skins will be made into hatbands and billfolds, their heads into paperweights and their rattles into earrings and lapel pins.

"It's just like people in Kansas during pheasant hunting," said Cunningham, who claims to be the region's premier snake hunter.

"You just can't wait for the season. When it's about here, you're getting everything oiled up and getting the fever. I get two weeks of vacation a year. One I go snake hunting, and the other I go to Kansas fishing."

The men and women of the Saddle Club began work toward today's climax events months ago, and the rooms at Waynoka's two motels have been booked a year. The \$4,000-\$5,000 raised from souvenirs, sale of snake meat (\$6 a pound), and admission to the snake pit (billed as the "Den of Death") will go for civic projects.

A new ambulance, for example, was an appropriate purchase.

Experienced snake handlers rarely get bitten, but the possibility, nay, the promise, that a few people will get nipped over the course of the weekend is part of the hunt's allure.

"It don't matter how much beer you drink, you're still spooky about one of those sinking his teeth into you," said Geroge Hallowell of Osage City. "You catch one and you don't know if you're happy or scared."

Bite victims are usually folks mixing alcohol and snake-handling, said Saddle Club president Leo Sutherland from nearby Cleo Springs. The hospitals stocked with antivenin, and no one's ever died of snake bite during the hunt. A fellow was killed one year, however, from falling off a cliff.

"I work part time with the ambulance," said Kathy Foust, who was selling souvenirs Saturday from a sidewalk stand. "The one's who get bit are usually wearing tennis shoes or vinyl boots--dimestore cowboys. You need a good, bull-leather boot. Fangs'll go right through that vinyl."

Waynoka mayor Jerry Marshall recalled the time a snake hunter hid a small rattler on the counter of a local bar. An unsuspecting patron got it on the finger.

"We got an ambulance call on that one, but it wasn't the guy who got snake bit," Marshall said. "He beat the stuffing out of the one who brought the snake."

A lot of folks actually do spent the weekend combing the rocks for rattlers with long-handled snake catchers, but, really, all the spectacle--and the party--is the attraction, especially for the people who bring their dune buggies and three-wheelers to Little Sahara. The snake pit stock is all caught over the two weeks before the snake hunt weekend, and serious snake hunters vying to win prizes for longest snake and most snakes always start early.

"I just have a good time. All my friends are down here," said Mike Beard, a farmer from Udall who's been to every hunt since his first trip eight years ago.

Yeah, but you should have seen him that first time, said Larry Hutchinson.

"Now don't tell 'em about that time," Beard protested. "It makes me sound like a chicken."

What happened was that Beard and his buddies had been hunting all day, in hole after likely hole, and hadn't seen the first snake. So Beard climbed up a high butte ("It took a real man to climb that hill") and looked a big rattler square in the face.

"He done about four double backflips down that hill," Hutchinson said.

"Then I's so mad I threw my catchers down, caught him with my bare hands and bit his head right off," Beard said, exaggerating the surge of adrenalin that did get him back up the hill to get that snake in a gunny sack.

Swapping snake stories is about as traditional as Saturday's free ham and bean dinner. Monte Simmons of Waynoka had his moment of glory four years ago when he won longest snake with a 68-incher he caught in a rat trap.

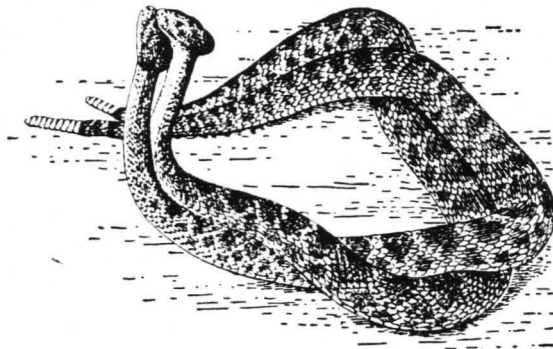
Simmons had seen the snake and knew where he stayed. But that big boy didn't come far enough out of his den to be caught in the usual way. So Simmons got a big rat trap, baited it with bugs, weighted it with rocks and waited. And he got that snake. "He laid around for a couple of days with a headache," he said.

This year Dennis Cunningham is working toward his own legendary story. He got a big rattler, over six feet, almost a year ago "down south of the river," as in way south, say south Texas. He's been keeping it in his front room ever since and has named it Lulubelle.

Lulubelle won't eat in captivity, so every other week Cunningham has been blending up a pound of lean hamburger, two eggs and a half-cup of milk and forcing it down her throat with a syringe.

--The Wichita Eagle-Beacon, 14 April 1985

(submitted by Robert G. Sprackland, Lawrence)



#### FEATURE ARTICLES

#### Herp Happenings on the High Plains

Having lived in Amarillo for nine months now, we no longer consider ourselves "new residents." In fact, we are not only quite comfortable in our new state of Texas, but just plain thrilled with the herping opportunities in these parts! We have had more herpetological adventures in the brief time here than in the eight years we lived in San Jose, California. What follows in this article is the recounting of these adventures, to date.

Our first herp event was my husband Gary's trip to the rattlesnake roundup in Sweetwater [see KHS Newsletter No. 60, June 1985, pages 11-13]. He took great slides, and I can tell you that I do not regret



staying home. It is not to the credit or pride of the small Texas towns (and those of other states which participate in this barbarism) that their civic groups continue to make this their big event of the year. I found the slides disgusting enough. I'm sure I would've caused a riot if I'd been there.

Almost simultaneously, we had another event right here. John Simmons (and family) and Steve Reilly arrived for a three-day visit. John and Steve, both professional herpetologists, are old friends of ours. We all had a great time talking herps and looking at each other's slides. We went on a herp field trip to Palo Duro Canyon, 25 miles south of us, but didn't see a single herp.

A week later we had the company of a couple of herper friends from Missouri for three days. On a field trip with them we did find one tiny snake--about the size of a large earthworm--which we're still not positive about. It was either a Blackhead snake (Tantilla) or a Ground Snake (Sonora).

The following week, Gary found the first snake in our yard, while planting a tree. It was a Lined snake (Tropidoclonion lineatum), which according to the field guides, isn't even supposed to occur here! He held on to it while I ran to get the camera and field guide--standard procedure! We captured it on film, admired it for a few minutes, and then released it into our woodpile.

The next two finds, in early May, were mine. I just missed stepping on a Woodhouse's toad (Bufo woodhousei woodhousei) in our garden. Again, we followed our standard procedure, photographing it and letting it loose in the yard.

One afternoon, while tending to the rats and mice, I noticed something out of the corner of my eye. When I examined the questionable mouse cage, I found an obviously satiated Great Plains rat snake (Elaphe guttata emoryi) coiled contentedly in the corner of the cage. I couldn't tell how many mouse furries he'd consumed, but it was too many for him to get back out again, or to even have a desire to. I left him there, and when Gary got home from work, we took several pictures and then set him up in a clean cage for a little close-hand observation. He took to captivity right away, and apparently thought he'd found heaven with the constant flow of easy food.

In late June, just as Gary was driving into the garage, he spotted a second Great Plains rat snake crawling onto the shelves. I caught it, and set him up in the same cage with the first. When we finished photographing them both, we turned them loose in the yard.

Lizards are here, too. I spotted a Northern Prairie lizard (Sceloporus undulatus garmani) in the garden (a dandy male!), but he was too fast for me. In early July, a hatchling Great Plains skink (Eumeces obsoletus) crawled into the garage. I spotted it and Gary caught it, and standard procedure followed. We've also found and photographed Texas horned lizards (Phrynosoma cornutum) in the yard. They are great little lizards, and beautifully marked, with lots of bright yellow along their shoulders.

Bullsnakes (Pituophis melanoleucus sayi) seem to be "plaguing" the neighbors. One neighbor is terrified of any snake, and had her husband kill a big bullsnake that unfortunately chose her courtyard to take shelter in. Another neighbor thinks snakes are beautiful and interesting (a rare attitude among Texans!), but feared for the life of her new puppy when a big bullsnake crawled into her yard! She didn't kill it,



though. A third neighbor called me over to observe a big one sauntering through his yard. A lot of squawking for a few gopher snakes!

For all of you turtle lovers out there, we have those, too. On our way home one evening, we had only driven about half a block when Gary slammed on the brakes and shouted, "Get out!" Not taking it personally, I looked out my side of the van to see what must be there in reptile form, and sure enough it was--an Ornate box turtle (Terrapene ornata ornata), female, with about a four-inch long shell. Naturally, we whisked her out of the street (and harm's way). She now resides with a Three-toed and two Easterns in a specially fenced corner of the backyard.

Finally, we've also acquired a Speckled-Desert kingsnake (Lampropelis getulus holbrooki x splendida) from a local kid. But, that's another story, and a long one, so it will be another article...

In five months time (it was much too cold our first four months here), I'd say we've had a great sampling of the herpetofauna that awaits us. This is especially true since we haven't gone looking for 'em. They just turned up, naturally! Is it any wonder that our standing joke is, "Well, what crawled in today?"

--Karen Schroeder  
Amarillo, Texas

#### A Copperhead from Sumner County, Kansas

Near 6 p.m. on the evening of 18 September 1985, I was summoned to the Riverview Manor nursing home in Oxford, Kansas, by the staff who had discovered a snake on the grounds and were demanding its prompt removal.

There was nothing unusual about that, calls come in about three to seven times a week in warm weather from people imperiled by innocuous reptiles in their yards, homes, and gardens. Oxford, by many standards, is thick with snakes. Resident populations of black rat snakes, racers, ringnecks, bull snakes and prairie king snakes keep local hoes well-sharpened and my phone constantly ringing. Fortunately, I am usually summoned in time to save the unfortunate serpent in question. This year it was Eastern Hognose snakes that took top billing with nearly two score being safely spirited away to the country before they met with disaster. Black rat snakes are always high on the list, too. Prairie king snakes, in particular, seem to thrive within the immediate environs of Oxford.

The shaken voice on the phone declared that the snake was a "copperhead!" Funny, I thought, I haven't seen more than three or four prairie king snakes this summer. Usually totals by late September were much higher. You see, people in Oxford seem constantly threatened by beautiful, shiny snakes with tiny heads and a blotched pattern...the inoffensive king snake. However, the reddish blotches and brown ground color exhibited by prairie king snakes locally are more than enough to convince local folks to believe that they have just discovered a deadly

pit viper on their lawn.

By the time I arrived at the rest home, several family members and collecting companions had arrived also, believing I was out of town. I grabbed a sack and got out of the truck, making toward a cluster of uniformed nursing staff members on the asphalt parking lot. I had barely gotten the question "Where?" past my lips when the excited group pointed to the reptile, coiled unconcernedly on the warm pavement twenty feet away. I could hardly believe my eyes! A healthy two-foot copperhead sat in classic Agkistrodon form before the terrified onlookers.

A copperhead? West of the Arkansas River? In Sumner County? My country? Over twenty years of scouring the river and the county had failed to show even a suitable habitat for copperheads...much less a living example. When I told people hereabouts that there just weren't any poisonous snakes in the immediate area I was staking a reputation on the words.

The snake remained smug and motionless while a relative went to my house two blocks away to fetch a hook (an attempt at catching a copperhead with an ordinary stick back in 1979 led to tragic and expensive results!). With the snake in the bag later that evening, I considered the possibilities.

The nearest suitable habitat that has produced copperheads is over 10 miles away to the east in Cowley County where the Flint Hills fail on the banks of the Walnut River. Westward from there the land is flat, unbroken agricultural land, wheat and milo fields that stretch clear to the Arkansas River flood plain. As inhospitable as farmland seems to the woodland loving Agkistrodon, the flood plain of the mighty Ark is even more so. It is sandy, not infrequently inundated ground growing little more than sand burrs and cottonwoods. Glossy snakes occur here and hognose snakes seem more abundant here than anywhere else in the state. But copperheads are the last thing you'd imagine to find.

In the late 1950's a girl was bitten by a snake on this flood plain, two miles east of Oxford and just into Cowley County. The snake was identified by a veterinarian as a copperhead, and the bite caused swelling, intense pain, sloughing of the skin, nausea, etc. Classic mild pit viper envenomation. I always wondered about that incident. So far removed from copperhead habitat. Coiled as it was beneath a mail box at roadside. In any event, not a single true copperhead showed up this far west until the evening when I caught the snake now under consideration.

My conclusions then, based on field experience in the area, a careful evaluation of habitat and other factors, are these: The snake was not a resident copperhead from Sumner County, Kansas. As the reptile showed pattern and coloration similar to those from eastern Cowley County (quite different from typical Kansas Osage copperheads) and since it was discovered in town in less than suitable habitat so late in the season, I believe it represents a waif introduced here by accident. I strongly suspect that a load of firewood brought from Cowley County contained the reptile and that it departed from this wood upon being unloaded at a house in Oxford near the rest home.

I do not consider it possible that a lone example of this species could have survived the long and danger-fraught journey from either the copperhead-yielding bluffs to the east nor suitable habitat that exists along the Arkansas further south towards Oklahoma (nearly twenty miles distant). Also, I am usually the first to hear from folks who have captured any snakes and brought them into town. Oxford's a small place

and word travels fast about such matters. I do not believe it was captured by someone elsewhere and brought here to be released or to escape. Its introduction must surely have been accidental.

Introductions such as this are not only possible but rather frequent. KHS Newsletter No. 59 (Capron, 1985) cites a western diamondback rattlesnake found near Bell Plaine, Kansas. Collins (1982) cites a Mojave rattler found in Leavenworth County, Kansas, in 1980. More recently, Brad Anderson (pers. comm.) reported that a Newton man who owned property in southeastern Kansas along the Verdigris River had been working there for a weekend and returned home to Harvey County. Shortly after his return home, the man opened his tool box that had been set outside, open on the ground during his work along the Verdigris River, only to find a timber rattlesnake coiled inside!

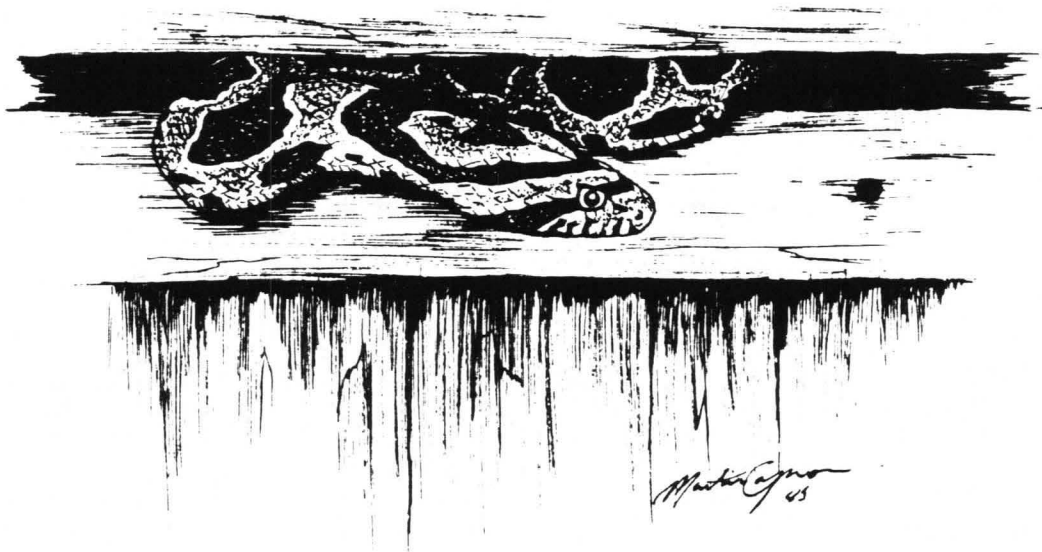
Such introductions are not infrequent and many other instances are likely to be reported in the future. While copperheads are abundant a scant 10 miles to the east of Oxford, I do not believe they have ever existed this far west in Kansas as a natural population. The habitat changes too drastically in those short ten miles and a lack of rocky outcroppings or wooded uplands precludes any of these pit vipers from occurring hereabouts naturally.

#### Literature Cited

Capron, Martin. 1985. A western diamondback rattlesnake released in Sumner County, Kansas. Kansas Herpetological Society Newsletter No. 59:5-6 (March, 1985).

Collins, Joseph T. 1982. Amphibians and reptiles in Kansas. Second edition. University of Kansas Museum of Natural History Public Education Series 8:1-356.

--Martin Capron  
Box 542  
Oxford, Kansas 67119



BOOK REVIEWS

Hammerson, G.A. 1982. Amphibians and Reptiles in Colorado. Colorado Division of Wildlife. Publication no. DOW-M-I-27-82, 131 pages. Price: \$8.00 softcover. Available from: Colorado Division of Wildlife, 6060 Broadway, Denver, Colorado 80216.

This relatively new book should prove of interest to both amateur and professional herpetologists. It is aimed at anyone who either has the most superficial interest in amphibians and reptiles, or who has the most serious and scientific intent. The focus is on the 64 species of amphibians and reptiles currently known to inhabit Colorado.

Its format is different in that it is not divided into chapters. Organization is logical and quite clear, but not as formal and "stuffy" as most such books.

After the introduction and acknowledgements (which are interesting in themselves) comes "Environmental Relationships." This includes habitats, elevational relationships, climatic correlations and geographic patterns.

Next, the author covers "Relationship to Humans," "How to Observe Amphibians and Reptiles," and "Photographing Amphibians and Reptiles." All of this information is useful and/or thought provoking.

"Explanation of Species Accounts," and "Quick Guide to Colorado's Amphibians and Reptiles," follow. The latter is a group of line drawings with simple explanations (e.g., "Lizards: 4 limbs; 5 clawed toes on forefoot; long tail") which provide instant identifications for even the most ignorant of novice observers.

The sections on "Amphibians" and "Reptiles" each begin with line drawings and the appropriate terminology. "Amphibians" is subdivided into salamanders, frogs and toads, true toads, treefrogs, and true frogs. "Reptiles" is broken down into turtles, lizards and snakes. For each species included, the author describes recognition, distribution, habitats and habits, breeding, food, and subspecies in Colorado, if any. Also for each animal is an excellent color photograph, and a black and white distribution map.

Final segments of the book include "Species of Possible Occurrence in Colorado," "Legal Status," "Glossary," "Derivation of Scientific Names," "Literature Cited," and indexes to common and scientific names.

In short, this is an excellent reference book and field guide. It's scientifically accurate, but also easy to read, and very interesting. It's well worth its modest price.

--Karen Schroeder  
Amarillo, Texas

Grzimek, Bernhard (editor). Grzimek's Animal Life Encyclopedia. Volume 6. Reptiles. Van Nostrand Reinhold Co., New York. 589 pages, profusely illustrated. \$39.50 hardbound, \$24.95 paperbound.

This is a true herpetological anthology. Though directed in the final editing by Dr. Grzimek, each chapter (and many subchapters) is written by an expert in the particular area. These authors represent,

for the most part, a veritable "Who's Who" of European zoologists, and both their style and subjects read with lucidity and enjoyability.

On the one hand this book looks like a slick, coffee table tome, like so many of the expensive bird books you can find in most stores. Don't let the slick appearance and color illustrations fool you; this is a master text, a thoughtful and accurate book that belongs in the library of any serious herpetologist. In many ways, Grzimek has prepared a greatly expanded version of Schmidt and Inger's classic Living Reptiles of the World. In Grzimek, however, all of the photographs and paintings are in full color. The margins are full of supplementary information, such as close-up drawings of unusual species, endangered species status, range maps, display behavior, and other tidbits.

With 589 pages to fill, this volume covers an incredible amount of ground, including separate chapters on reptilian biology and ancient reptiles. Then, each subsequent chapter focuses in on reptiles by family or larger related groups. These in turn are supported by color photographs that are all very good to excellent. The paintings, however, are much more varied, ranging from poor (Draco, page 237) to good (Lanthanotus, page 341) to excellent (chamaeleons, page 238; monitors, etc., page 317).

Much of the text tackles the reptiles from the perspective of their natural history, and there is much to be gleaned by reptile keepers from the diverse information in the book. Many species are discussed here that are not elsewhere represented in the literature except in systematic accounts, and many of the species illustrated are equally rare on the printed page, adding further to the book's value: you're not buying yet another volume of photos of the same old beasts.

There are, of course, some drawbacks, stemming largely from the book's 1971 copyright date. Much information has been added to the herpetological storehouse in these past 14 years. For example, Varanus grayi is no longer known from a single specimen, nor is Ophidiocephalus. Also, the family Pygopodidae is unrecognizable in light of Kluge's work from the mid-1970's.

Then, too, the bibliography is unwarrantedly short for such a work. Half of the three-page book list is given to "German Books and Articles." and the seven journals cited had no addresses, or even society affiliations, listed.

We lizard fanciers scored well, with 44 color plates, but snakes only got 25, while turtles received 10. Conversely, the spine lists the contents as "Turtles, Crocodilians, Tuataras, Iguanas, Snakes," but this we can live with.

I'd recommend parting with the extra money to buy the hardback edition, as large paperbacks tend to become deformed in a few years, and this is a large (3 inches thick) book. Either way, it would make a perfect gift book, and it is a book that will remain valuable for many years to come.

--Robert George Sprackland  
P.O. Box 202  
Lawrence, Kansas 66044



Collins, Joseph T. (editor). 1985. Natural Kansas. University of Kansas Press, Lawrence. 224 pp, 107 color plates. Price: \$25.00 (+\$1.25 handling and 3.5% sales tax for Kansas residents). Available from: University Press of Kansas, 329 Carruth, University of Kansas, Lawrence, Kansas 66045.

I have awaited the publication of Natural Kansas with some anticipation for a couple of years now, and with receipt of the book, have not been disappointed in the least. Having spent the vast majority of my life in this state, and having logged over 200,000 miles of travel throughout it, I have a deep and abiding interest in and affection for this chunk of what has been called "The Great American Desert." Although Kansas cannot claim the vistas of the Rocky Mountains, the colors and textures of the Mojave Desert, the depths and richness of the Appalachian forest, or the haunting moods of great southeastern swamps, I have always felt that our vast seas of prairie and unending reaches of sky more than equal those sights. I'm here to tell you that I have been to all those places and they have their charms, but Kansas is home and I would not trade a single one of those views for an April sunset on the High Plains with a chorus of coyotes singing on a ridge, a great anvil-domed thunderhead building in the distance, and the twinkling of chorus frogs in the background. There are no mountains in the way here, folks, no trees to hide my view. Kansas smells and looks of freedom and Collins has done a dandy job of getting that point across.

Natural Kansas is divided into 10 chapters written by 13 authors. The topics range from "The Land" to "Mammals," all covering a discrete section of what comprises this state as a natural entity. The quality of writing is generally very good and the editing of such a diverse group of writers is outstanding. I found only one misspelling and one error of hyphenation (ironically, in chapters written by the editor himself). "Propagate" is spelled "propogate" and "prairie-lined" is a wrong use. Racerunners are not lined with prairies as the hyphen suggests.\*

Collins' introduction is excellent. His quotation from Walt Whitman about "that vast Something" that constitutes our prairies is more than apt and defines my own personal feelings about these grassy seas. I have a bit of a problem with his statements about mountain lions, but I'll get to that later.

Wilson and Bennet's chapter on the land is very effective. One gets a true feeling for the awesome forces that have shaped, molded, and changed the physical features of Kansas. There are some surprising facts presented, such as the largest area of sand dunes (albeit covered sand dunes) in the world includes our state, not northern Africa. I was a little disappointed to learn that buffalo wallows may not have been formed by large, hairy creatures rolling in the dust but rather by the dissolution of underlying minerals. Such is the nature of science, I suppose. As in other areas of the book, the only errors I could find were basically those of omission, not commission. For instance, the gypsum caves of the Red Hills are a dominant feature there and have a great impact on certain types of animals. The loss of the great natural bridge south of Sun City should have been mentioned as an example of some people's incredible stupidity. Ring-tailed cat is a more familiar term to Kansans than bassarisk.

The chapter on Rivers is the weakest one in the book and I had a great deal of trouble with its florid, anthropomorphic style. Although



one does gain a fair impression of the importance of water to this state and its inhabitants, I found distracting errors of omission and commission. For instance, it is stated on page 41 that red-bellied dace are found only in southeastern Kansas but on page 48 we find that they also occur relictually in central Kansas. The chalk pyramids and Castle Rock of Trego County are not notorious. Criminals are notorious, politicians are notorious, but these formations are famous. Empire Lake of Cherokee County is not south of Galena. It is more west than anything. There are no "Sunflower streams" in Kansas that I know of. Sunflower State streams are here, perhaps. The description of the Missouri River is much too anthropomorphic and much too long for a stream that really does not have that great an impact on this state. Madsen also indicates that it is unfortunate that aquarium addicts here do not have the good taste to stock their aquaria with orange-throated darters from local waters instead of exotic fish. Having seen the unfortunate fate of far too many exotic fish, I think perhaps it is good that these people don't have such good taste.

Eagleman and Simmons' chapter on Weather is excellent. For most Kansans, just what is happening weatherwise is almost as important as eating. We never know what is going to occur from day-to-day or hour-to-hour, and these authors thoroughly explain why we don't know whether it is going to be below freezing or hotter than Hell from one day to the next. Their use of folk sayings in relation to weather events is particularly effective. I have only one small quibble: temperature is not the only cue for trees to drop their leaves. Light/dark periods are also an important trigger.

Brooks' chapter on plant life is generally very good. I know more about grasses now than I ever wanted to know, but since that is the dominant aspect of plant life in Kansas, the emphasis is to be expected. Once again, the only errors are those of omission. Sand sage and yucca are characteristic plants in south-central and southwest Kansas but one wouldn't know it from this chapter. In addition, cholla cactus is very rare in Kansas, in my experience. Mammillaria cactus are much more common and characteristic. I also found myself wishing that more on threatened and endangered plants in this state had been included.

Huggins' chapter on Insects and Their Relatives is excellent. His opening paragraph describing his childrens' interaction with a cricket is priceless. I only have two small objections: one gets the impression that the "jayhopper" is found only on the University of Kansas campus. It isn't. The statement about dragonflies "stitching up the ethical fabric of contemporary society," although well-intended, is awkward and obscure.

Cross' chapter on Fishes is well-done. His quote from Koster on plains killifish behavior and spawning is elegant. I'm still wondering about "emitting sex products," though. Sounds like an adult bookstore. In addition, I know from personal (and painful) experience that the sting of a madtom is significantly more potent than the bite of a red ant. The author should not assume that his pain tolerance is the same as that of the general population. Last, "terminal mouth" should be explained. This sounds like a disease to the unlearned.

Collins' chapters on Amphibians and Reptiles are crisp, accurate, and entertaining. His accentuation of the positive aspects of these creatures is pleasing and should help dispel people's fears and prejudices. The quote from Carr about the evolution of turtles is outstanding and has long been one of my favorites: in part, "they just kept on

watching as Eohippus begat Man o'War and a mob of irresponsible and shifty-eyed little shrews swarmed down out of trees to chip at stones and fidget around fires and build atom bombs." Good stuff. The only problems I had in these chapters were (1) wishing that the author had also included information about the carnivorous morph of the neotenic tiger salamanders, and (2) almost every county in Kansas has venomous snakes. No native venomous snakes have ever been taken in Sedgwick County, our most populous county.

Ely's Birds chapter is another well-written effort. His description of a prairie falcon/marsh hawk interaction is charming. His personal anecdotes are very effective. I was a little confused about prairie chickens needing 20-40% native grass, though. As what? Food? Cover? I also wished that Ely had emphasized the negative impact that starlings have had on native woodpeckers, particularly flickers.

Bennet, Hoffmann, and Koepl's final chapter on Mammals is straightforward and informative. One gets a good feel for the various creatures, both large and small, that occur here. However, there are more than two kinds of creatures that feed on moles and pocket gophers, "rare and endangered" is a redundant phrase, and the simile about pronghorns and a World Series player is inaccurate. Although I am a fan of both pronghorns and baseball, I see little resemblance between a pronghorn slipping under the fence and Willie Wilson barreling toward second base.

All in all, my objections are very minor. Natural Kansas is a quality piece of work and anyone with an interest in this state should acquire a copy. Although you may balk at the \$25 purchase price, this book is worth it for the 107 full-color photos contained herein. Miller's shot of a lightning strike and Spomer's ethereal pictures of the Ninnescah River are worth that price alone. The line drawings are generally good, although some of the mammal drawings are a bit crude. Oh, yes, mountain lions. Almost forgot. Mountain lions are not extirpated in Kansas. I have seen them, heard them, and tracked them in this state. So, the secret is out, finally. I'm not going to tell you where they are, though. That's a mystery of natural Kansas that you will just have to work out on your own.

--Eric M. Rundquist  
Sedgwick County Zoo  
Wichita, Kansas 67212

\* EDITOR'S NOTE: The name "prairie-lined racerunner" is the correct form of the common name for Cnemidophorus sexlineatus viridis according to the Society for the Study of Amphibians and Reptiles Committee on Common and Scientific Names in their 1982 publication, Standard Common and Current Scientific Names for North American Amphibians and Reptiles. The Committee members responsible for this report were Joseph T. Collins, Roger Conant, James E. Huheey, James L. Knight, Eric M. Rundquist, and Hobart M. Smith.

## A FINAL WORD FROM YOUR EDITOR

Actually, this time the final word will be from another editor. As mentioned elsewhere in the newsletter, the Sixth Grade Class of Caldwell Elementary School in Caldwell, Kansas, has taken on the ambitious task of having the Ornate Box Turtle declared the State Reptile of Kansas. I urge all KHS members to do whatever they can, especially by writing to the governor and their particular state representatives, to urge that this move be made.

The following excellent editorial appeared in The Wichita Eagle-Beacon (George Neavoll, editor) on 10 November 1985. I think it is well worth reprinting here:

### Ornate Box Turtle for State Reptile

"We the students in the sixth-grade class in Caldwell, Kansas, feel that Kansas should have a state reptile," the letter began. "We also feel that the ornate box turtle would be a good choice for such an animal." The 18 students who signed the letter obviously had done their research. They make a convincing case for this latest addition to the list of state symbols.

"The ornate box turtle is found in all parts of Kansas," they noted. "It is often observed by Kansans, and liked by most. It is native to our state. It is a harmless animal."

The youngsters not only have their facts right, they have a sense of history. "We will soon celebrate the 125th birthday of Kansas," they wrote. "Let's make the ornate box turtle the official state reptile as part of that celebration. What a present!"

What a present, indeed. The ornate box turtle is the distinctive turtle of the plains and prairies, and is as much a part of this great land as the bison (the state mammal), the western meadowlark (the state bird) and the sunflower (the state flower). It is as widely admired as the eastern cottonwood (the state tree) and the honey bee (the state insect). It is Kansas, through and through, and deserves recognition as such.

Though some states have state reptiles, none has the ornate box turtle. It would be uniquely Kansan, then, and an intriguing representative of the state. When the red man arrived in Kansas, centuries ago, the ornate box turtle was here, and when the first white settlers came, the ornate box turtle greeted them. It's as likely to be encountered tromping across the beautiful Flint Hills region as the sandhills country of the Arkansas River lowlands; to be munching grasshoppers on the High Plains as gobbling wild berries in the Smoky Valley.

Every Kansan knows and loves the ornate box turtle. That's why it's such a good idea to make it our state reptile. And when that happens--as we trust it will, without legislative debate devolving into the asinine silliness that so often marks such matters--future Kansas can thank: Aaron Lowe, Tammy Wittum, Misty Thompson, Mandy

Struble, Kirt Bocox, Mark Kolarik, Julia Shoffner, Andrea Stetz, Julie Shellhammer, Stacy Volavka, Amy Green, Kristy Goodman, Mary Morris, Shane Schmidt, Jeff Wolff, Scot Wickery, Tim Ward and Jeff Hicks.

They and their teacher, Larry Miller, have put together a serious proposal, and deserve to have it considered as such. Anybody who agrees should contact his or her legislator today.

Well, there you have it. A fine idea, and one being well carried out by the people involved. The Sixth Grade Class of Caldwell Elementary School should be an inspiration to us all. They have been giving up recess, working during lunch, and have written to every state legislator and other official they could find in Kansas. When was the last time you bothered to write an official about something important to you?

Just in case there is still someone out there not convinced about the idea of having the Ornate Box Turtle as the Kansas state reptile, the class has issued an information sheet with the following reasons in support of their nomination:

1. The Ornate Box Turtle is a native animal to Kansas
2. The Ornate Box Turtle can be found in all parts of the state.
3. The Ornate Box Turtle is a yellow and brown animal the same colors as the other state symbols.
4. The Ornate Box Turtle lives many years. Some may live to over 100 years.
5. The Ornate Box Turtle has the support of professional educators, school children, adults, and legislators from across the state.
6. Kansas does not have a state reptile.
7. The Ornate Box Turtle is a friend to the Kansas farmer.
8. The Ornate Box Turtle is a harmless animal.
9. The Ornate Box Turtle is known and liked by most Kansans.
10. The Ornate Box Turtle is a cautious and conservative animal.
11. The Ornate Box Turtle carries its home on its back just like many early pioneers did as they traveled to Kansas from the east.
12. The Ornate Box Turtle is a very attractive animal just like most charming Kansans. Ornate means decorated.
13. The Ornate Box Turtle can survive the extremes of the Kansas environment just like good hardy Kansans.
14. The Ornate Box Turtle would make a lasting 125th birthday gift for Kansas.

With this issue of the newsletter, you once again will find your dues envelope enclosed. PLEASE pay your dues promptly. Now that we are using first class mail, it is more important than ever to keep the KHS treasury where it should be.

Thanks for help with the assembly, addressing, stamping and mailing the last KHS Newsletter go to volunteers Sofia Ana Simmons and Ligia Simmons.

# The glory of Natural Kansas awaits you

"It makes one proud to be a Kansan."—GARY K. CLARKE

## Natural Kansas

Edited by Joseph T. Collins

This first book devoted to the state's natural environment and native life forms boasts more than 180 illustrations—over half glorious color photographs. Intended for the lay reader, the nontechnical text introduces the rich and diverse natural heritage of Kansas: its land, waterways, weather, and plant and animal life. A handsome, oversized volume, *Natural Kansas* is as beautiful as it is educational. It will be the rare reader who does not come away from an enlarged understanding of Kansas and with a keener appreciation of its ecological needs.

"*Natural Kansas* should be in every Kansas home. Its appearance will grace any coffee table, but it is also readable, informative, witty, and provocative."—William W. Hambleton, Director, Kansas Geological Survey.

"What a beautiful book! It is a tribute to the environment, climate, plant, and animal life of our great state."—Gary K. Clarke, Director, Topeka Zoo.

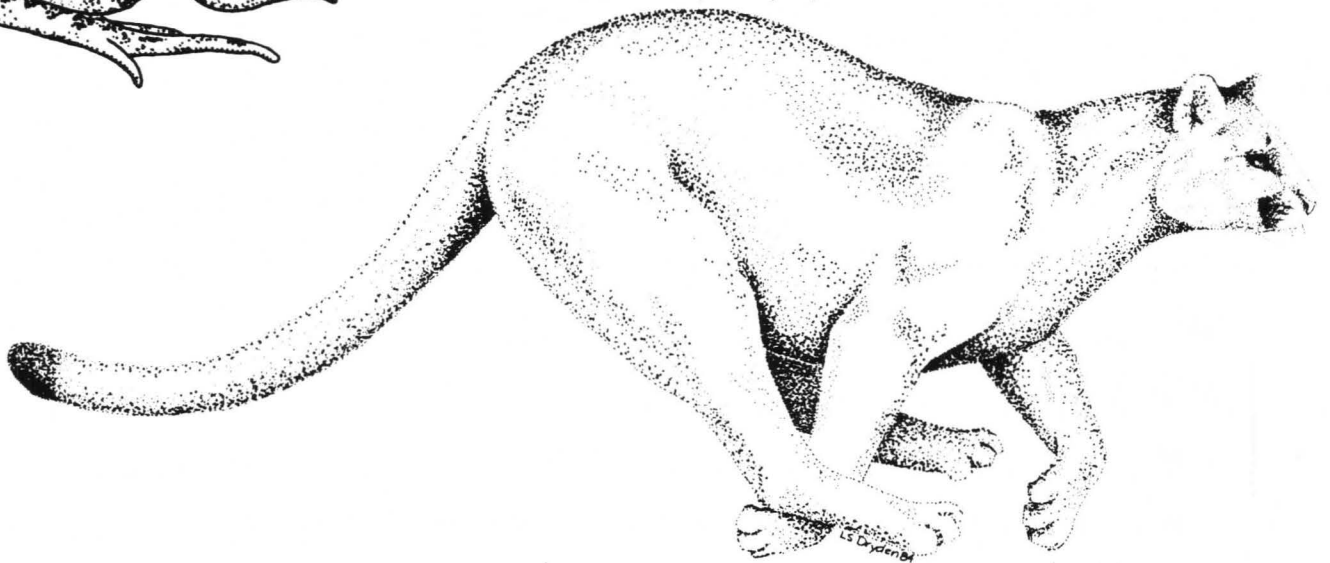
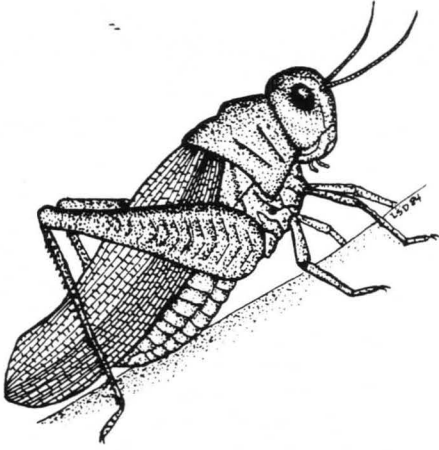
"An excellent work on an oft-overlooked aspect of our state."—Bob Dole, United States Senate.

"This fine book is as stunning as the natural phenomena of Kansas that it is dedicated to. A joy to read."—*Oxford (Kansas) Register*.

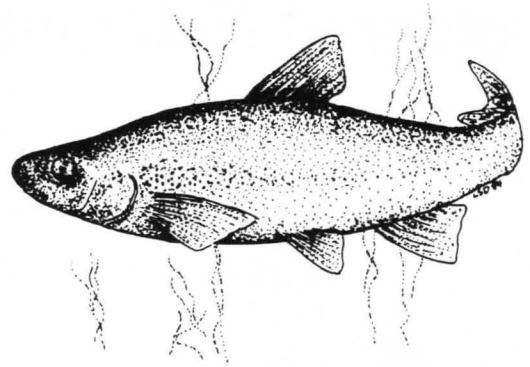
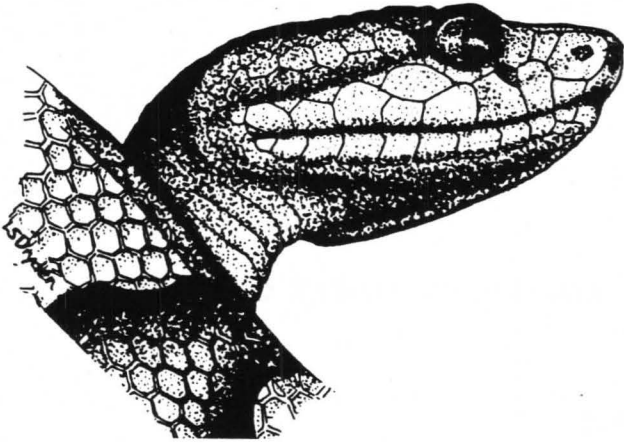
"The color photos are often as rare as they are beautiful."—Byron Leonard, Director, Kansas Academy of Science.

Joseph T. Collins is a vertebrate zoologist and editor for the Museum of Natural History at the University of Kansas.

304 pages, 188 illustrations, 107 in full color, 8½ × 11, LC 85-7542, ISBN 0-7006-0258-5, \$25.00







**Amphibians and Reptiles in Kansas**

Revised Edition

*Joseph T. Collins*

Kansas boasts 92 different kinds of snakes, lizards, turtles, frogs, toads, and salamanders. This useful handbook identifies them and gives fascinating information about their habits. (Do you know which Kansas snakes are dangerous?) A completely updated edition, generously illustrated with 229 photographs and line drawings and 91 maps. A 28-page illustrated companion guide is available free of charge, upon request, with order.

372 pages, illus., 6x9

Cloth ISBN 0-89338-013-X, \$17.95

Paper ISBN 0-89338-012-1, \$12.95 (t)

**Mammals in Kansas**

*James W. Bee, Gregory Glass, Robert S. Hoffmann, and Robert R. Patterson*

Among the 86 species covered are prairie dogs, gophers, cottontails, jackrabbits, skunks, badgers, and ground squirrels. Useful for the wildlife enthusiast—as well as for the farmer seeking to learn what type of critter is eating the corn and wheat. Of particular interest are tables showing how to identify animal tracks and skulls that are commonly found throughout the state. Includes over 100 photographs and 80 maps.

312 pages, illus., 6x9

Cloth ISBN 0-89338-015-6, \$17.95

Paper ISBN 0-89338-014-8, \$12.95 (t)

**Fishes in Kansas**

*Frank B. Cross and Joseph T. Collins*

A handy reference for sportsmen who want to identify the fish they catch. There are 123 different kinds of fishes in Kansas, and every one is described—and pictured—in this volume. From flathead catfish, green sunfish, and buffalofish to white bass and crappie, they vary greatly in size, appearance, and habitat. Range maps are included. A 24-page illustrated companion guide is available free of charge, upon request, with order.

197 pages, illus., 6x9

Paper ISBN 0-89338-004-0, \$9.95 (t)

UNIVERSITY PRESS OF KANSAS 329 Carruth Lawrence KS 66045

Please send me the following titles:

___	copies of NATURAL KANSAS (list \$25.00) at \$20.00	_____
___	copies of AMPHIBIANS & REPTILES, cloth (list \$17.95) at \$14.36	_____
___	copies of AMPHIBIANS & REPTILES, paper (list \$12.95) at \$10.36	_____
___	copies of MAMMALS IN KANSAS, cloth (list \$17.95) at \$14.36	_____
___	copies of MAMMALS IN KANSAS, paper (list \$12.95) at \$10.36	_____
___	copies of FISHES IN KANSAS, paper (list \$9.95) at \$7.96	_____
	postage & handling	1.50
	3.5% sales tax	_____
	TOTAL	_____

Note: Payment must accompany order.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Please make checks payable to the University Press of Kansas.

Please charge my books to \_\_\_\_\_ VISA \_\_\_\_\_ MasterCard Expires \_\_\_\_\_

Card no. \_\_\_\_\_ Signature \_\_\_\_\_