KANSAS HERPETOLOGICAL SOCIETY

NEWSLETTER NO. 124

JUNE 2001

ANNOUNCEMENTS

RICHARD M. RUNDQUIST (1922–2001)
IN MEMORIAM

Richard M. Rundquist, former director of the University of Kansas Counseling Center, died on Friday, April 20th, at his home in Lawrence, Kansas.

Dr. Rundquist was born on January 8th, 1922, in Peoria, Illinois. He earned two undergraduate degrees from the University of Missouri, Columbia, where he also earned a doctoral degree in educational psychology in 1952. Richard Rundquist came to the University of Kansas in 1953. He became director of the KU Counseling Center and chairperson of the department in 1975, positions he held until his retirement in 1985.

Dr. Rundquist was the father of Eric M. Rundquist, former KHS Newsletter editor, recipient of the KHS *Bronze Salamander Award for Distinguished Service*, and one of the co-founders of the Kansas Herpetological Society. The entire KHS membership and its officers extend their heartfelt sympathies to Eric and his family for their loss.

SIMMONS RECOGNIZED BY THE AMERICAN ASSOCIATION OF MUSEUMS

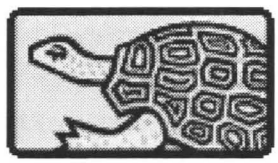
Longtime KHS member and current Society Historian John E. Simmons, collection manager of herpetology at the Natural History Museum, University of Kansas, was the recipient of the *Superior Voluntary Service Award of the American Association of Museums* at its annual meeting in May 2000. The award honors John for his professional dedication and service to the museum field as one of the premier peer reviewers in the AAM Museum Assessment and Accreditation Program. The KHS membership and officers congratulate John Simmons on this richly-deserved honor.

COLLINS & REBER HONORED BY THE KANSAS WILDLIFE FEDERATION

The *Kansas Wildlife Federation* Conservation Achievement Awards for 2000 were announced at its 37th annual meeting in Salina, which concluded on Saturday evening, 17 February 2001. Three Lawrence residents were recipients. KWF president Tommie Berger recognized Suzanne L. Collins, nationally-acclaimed wildlife photographer, KHS president-elect, and an executive officer of *The Center for North American Herpetology*, as the 2000 Conservation Communicator of the Year, Alison Reber, a well-known Lawrence environmentalist, long-time KHS member, and education coordinator for the *Kaw Valley Heritage Alliance*, as the 2000 Conservation Educator of the Year, and Joyce Wolf, longtime Lawrence environmentalist and executive director of the *Kaw Valley Heritage Alliance*, as the 2000 Wildlife Conservationist of the Year. In addition, Western Resources's *Green Team* was celebrated as the 2000 Conservation Organization of the Year. Each honoree was presented with a National Wildlife Federation statue at the Saturday evening banquet.

Featured speaker at the KWF banquet was Garold Sneegas, a Lawrence aquatic photographer. Sneegas presented his multimedia presentation "Underwater Life in Kansas" to the delight of a crowd of over 100 dinner guests. Prior to the banquet, Joseph T. Collins, *Kansas Biological Survey*, conducted the annual benefit auction and raised nearly $1700.00 for KWF.

The *Kansas Wildlife Federation* is the largest conservation organization in the state.



KHS BUSINESS

THE COLLINS AWARD PHOTOGRAPHY COMPETITION

The 28th Annual Meeting of the Kansas Herpetological Society, at Topeka Collegiate School on 2–4 November 2001, will feature *The Collins Award* photography competition. This competition, restricted to images of native Kansas amphibians, turtles, and reptiles, will be assembled for viewing from 9:00 am to 4:00 pm on Saturday, 3 November 2001. Photographers planning to exhibit their works must be KHS members, may exhibit no more than five images, and should set up their photographs between 8:00 am and noon on the same date. Judges selected by the KHS Executive Council will view the photographs, and one of them will be selected for *The Collins Award* for 2001. *The Collins Award* will be presented later that evening, just before the KHS auction in Wakarusa, Kansas. All KHS members are encouraged to compete. Members of the *KHS Awards Committee* and all members of the Board of Directors of *The Center for North American Herpetology* are ineligible for this competition.

KHS ANNUAL MEETING CALL FOR PAPERS

Paper titles and abstracts (50 words or less) for the *28th Annual Meeting of the Kansas Herpetological Society* are being accepted for posting on the KHS web site. The web site is the basis for the official meeting program, which will be downloaded just prior to the meeting, and then printed and distributed at the registration table. Individuals wishing to present a paper at the meeting should send their titles and abstracts (either by U.S. mail or as an email text or attachment) to Joseph T. Collins, KHS Program Coordinator (see address on the inside back cover). All individuals wishing for their paper to be eligible for *The Collins Award* (to be given in 2002), should indicate in their title and abstract that specimens from Kansas were used in their research, or that observations on amphibians, turtles, and reptiles native to Kansas were used in their studies. In addition, individuals must be KHS members to be eligible for the award. Papers are scheduled on a first-come, first-serve basis. None will be accepted after 10 October 2001.

NOMINATIONS OPEN FOR *KAMB GRANT* FOR RESEARCH ON KANSAS SNAKES

At the November annual meeting, the KHS will make its first yearly grant in honor and memory of Alan H. Kamb, longtime supporter and member of the Kansas Herpetological Society.

KHS members are eligible to apply for the *The Alan H. Kamb Grant for Research on Kansas Snakes*. The winner will be announced at the annual meeting in November. If no qualified proposals are submitted, no award will be made for that year.

The KHS Awards Committee will entertain proposals for research on Kansas snakes. The proposal must be limited to ten typed pages, and should include, but not be limited to the following: title, name of researcher, contact information, abstract, introduction and justification, objectives or hypotheses, materials and methods, significance of research and possible results, literature cited, timetable, and proposed budget. The research must be conducted on one or more native Kansas snake species. Additionally, a majority of the field work or observations must be proposed to occur in Kansas, or the data must be proposed to be collected, at least in part, on Kansas specimens.

Proposals for this grant should be sent to the KHS Awards Committee Chairperson (see inside front cover), and must be postmarked by 1 August. The grant recipient will be announced at the KHS annual meeting in November. New applications will be accepted after 1 January of the following year.

NOMINATIONS OPEN FOR *THE GLOYD-TAYLOR SCHOLARSHIP*

The KHS annually grants a scholarship named for Howard K. Gloyd and Edward H. Taylor, two distinguished Kansas herpetologists. Nominations for this award are open to any KHS member enrolled in an accredited educational institution. The scholarship is awarded on the basis of potential for contributing to the science of herpetology. Students from high school through university are eligible.

Nominations should include typewritten details of the nominee's qualifications, plus name and address of the nominee and nominator. Self-nomination is encouraged. If self-nominated, a letter of reference from an academician is required.

Nominations should include, but are not limited to, academic record, herpetological activities, and future plans in herpetology. Academic record should address schools attended and an indication of academic performance in each (e.g., grade point average, teacher evaluations, courses completed, etc.). Herpetological activities should include a brief narrative that details experiences and activities that demonstrate a long-term interest in herpetology, and documents accomplishments in herpetological study. Future plans in herpetology should include a statement, not to

exceed one-page, written by the student about his/her future interests and plans.

Applicants may include an optional appendix with photographs, awards, newspaper articles, reports written by the student, or other documents relevant to herpetological activities.

Nominations should be sent to the KHS Awards Committee Chairperson (see inside front cover), and must be postmarked by 1 August. The scholarship winner will be announced at the KHS annual meeting in November. New applications will be accepted after 1 January of the following year.

KHS EXECUTIVE COUNCIL HOLDS FIRST 2001 MEETING

The first KHS Executive Council Meeting of 2001 was held in the Conference Room of the Kansas Biological Survey in Lawrence, Kansas, on 20 May. Officers attending were Mary Kate Baldwin, Suzanne Collins, Mark Ellis (presiding), Eric Kessler, and John Simmons. Officers not present were David Edds, Larry Miller, Robin Oldham, Bob Powell, and Travis Taggart. Non-voting KHS members present were Lucia Baldwin, Joseph T. Collins, and Kathy Shidler. President Mark Ellis called the meeting to order at noon.

The following motions were passed by the KHS Executive Council:

1. The *Alan H. Kamb Grant* will be awarded for the first time at the 2001 annual meeting. It was moved and seconded (Collins/Baldwin) that the *Kamb Grant* be funded as follows: for years in which an award is made, 75% of the interest shall be used toward the award and 25% of the interest shall be reinvested. If no award is made, all the interest shall accrue for another year. For the 2001 award, should the interest be less than $100.00, additional funds will be taken from the KHS treasury to bring the balance to $100.00 for the recipient. Motion approved unanimously.

2. It was moved and seconded (Collins/Ellis) to have KHS Historian John Simmons submit KHS archival material for permanent storage to the *University of Kansas Archives*. Motion approved unanimously.

3. It was moved and seconded (Simmons/Ellis) that *The Collins Award* for 2001 (for photography in odd-numbered years) shall be limited to five submissions per person. *The Collins Award* (for scientific research in even-numbered years), if given for an oral presentation, shall be awarded to the individual making the presentation; if given for a publication shall be awarded to the first author listed. These changes will be added to the website and announced in the newsletter. Motion approved unanimously.

4. It was moved and seconded (Ellis/Collins) to take $100.00 from the KHS treasury for the 2001 *Gloyd/Taylor Scholarship*. Motion approved unanimously.

5. It was moved and seconded (Collins/Ellis) to approve a tentative KHS budget for 2001 of ca. $2800.00. Motion approved unanimously.

Other actions taken by the KHS Executive Council were as follows:

The Council decided that the registration fee for the 2001 meeting would be $10.00 for adults and $5.00 for middle level and elementary students (grades K-8).

The Council gave Eric Kessler permission to complete and return any tax forms he may receive.

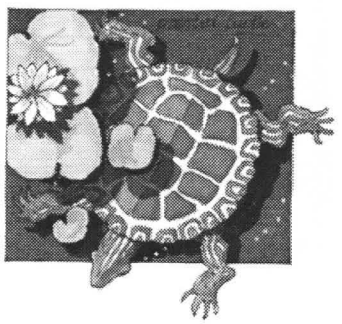
The Council approved the dedication of up to one page of the newsletter for paid advertisements at the rate of $25.00 per quarter page. These rates are to appear in the KHS Newsletter with the stipulation that advertisements for living animals or parts thereof are prohibited.

The Council agreed to launch the new KHS website designed by Travis W. Taggart.

President Ellis named current members of the KHS Awards Committee as continuing appointments.

KHS FALL FIELD TRIP ANNOUNCED

KHS Field Trip Chairperson Larry L. Miller (Kansas Heritage Photography) announces that the Society's Annual Fall Field Trip will be held on 6–7 October 2001 in the Chautauqua Hills region of southeastern Kansas. Individuals wishing to participate should meet at the Howard City Lake (located about a mile east of Howard, Kansas) at 9:00 am on the mornings of Saturday, 6 October 2001, and Sunday, 7 October 2001. Signs will be up to guide participants to the meeting area. FRS channel 4 will once again be monitored for those that have FRS radios. Primitive camping is available at the lake. The *Silver Bell Motel* is located in Longton, Kansas, about 20 miles southeast of Howard. The Silver Bell (620 329-4425) is clean and reasonably priced (rooms start at about $30.00), but there are no non-smoking rooms. There are places to eat in Howard, Elk Falls, and Longton. Fuel is available in all areas. More details will be posted on the KHS web site and in the September issue of the *KHS Newsletter*. For additional information, contact Larry L. Miller (see inside front cover).



CARA UPDATE FROM THE 107th U.S. CONGRESS

In February 2001, The Conservation and Reinvestment Act (CARA) was reintroduced into Congress, again as H.R. 701. It closely resembles last year's version—assuring predictable, state-based, cost-effective conservation funding.

CARA is historic legislation. CARA would guarantee $3.1 billion per year for 15 years for federal, state and local conservation programs such as wildlife conservation, parks, outdoor recreations coastal restoration and historic preservation.

CARA would annually bring $350 million for vitally-needed state fish and wildlife programs. These new funds would be aimed at saving species before they become endangered, through the funding of state fish and wildlife related conservation, recreation, and education programs.

KHS members in support of this landmark wildlife legislation are urged to contact members of congress, thank them if they are already co-sponsors, educate any new members of congress, and spread an awareness of the opportunities CARA represents for Kansas amphibians, turtles, and reptiles.

AUCTION ITEMS NEEDED FOR KHS ANNUAL MEETING

KHS members planning to attend the 28th Annual Meeting of the Society on 2–4 November 2001 in Wakarusa are urged to bring items for the auction. Items related to herpetology are preferred, both by the auctioneer and the bidders. Books, reprints, journals, cages, photographs, artwork, snake sacks, and other such objects are much needed. Proceeds from the KHS auction play an important part in permitting the Society to promote its goals. Your donations and spirited bidding are gratefully appreciated. There will be beer to heighten your spirits, and spirits to heighten your bid. Please bring auction items with you to the meeting; do not mail them to the KHS in advance.

BOOKMARK THESE KHS WEB SITES—NOW

For everything about the KHS, go to

http://eagle.cc.ukans.edu/~cnaar/khs/khsmain.html

For information about the KHS Annual Meeting go to

http://eagle.cc.ukans.edu/~cnaar/khs/AnnualMeetingInfo.html

For information about the KHS Spring Field Trip East go to

http://eagle.cc.ukans.edu/~cnaar/khs/FieldTripSpring1Info.html

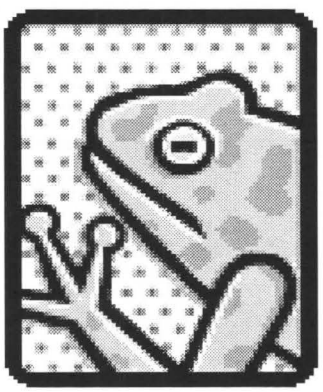
For information about the KHS Spring field Trip West go to

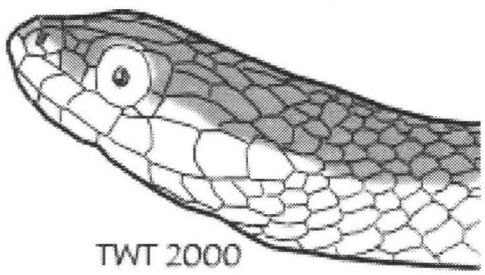
http://eagle.cc.ukans.edu/~cnaar/khs/FieldTripSpring2Info.html

For information about the KHS Fall Field Trip go to

http://eagle.cc.ukans.edu/~cnaar/khs/FieldTripInfoFall.html

Remember: Not all of these web sites are fully prepared at any given time; they are always works-in-progress to keep you informed of upcoming KHS activities. Bookmark them, and check them regularly. You will find out faster at these websites about where and when the KHS is planning an activity than you will waiting for a KHS Newsletter to arrive in the mail.





COMMEMORATIVE KHS T-SHIRT

Marty Capron, renowned wildlife artist and long time KHS member, has designed a special T-Shirt for the 2001 KHS annual meeting. It depicts the Wakarusa Bridge, a Gray Treefrog, and a Copperhead. In the name of progress, this beautiful old bridge was destroyed last year and, although it no longer exists, the history and memory remain. The shirts will be printed with black lettering on stone-colored cotton.

Only $10.00 each

These T-Shirts will be available at the KHS 28th Annual Meeting
3-4 November 2001
Topeka Collegiate School

All proceeds will be donated to KHS

FEATURE ARTICLES

NEW RECORDS OF AMPHIBIANS, TURTLES, AND REPTILES IN KANSAS FOR 2000

JOSEPH T. COLLINS

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The sixteen new county records listed below are those accumulated or brought to my attention since the publication of records for 1999 (Collins, 2000). 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 of these creatures in Kansas, and thus gives us a better understanding of their biology. This report is my 26th 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 (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 standardized for North America, as compiled by Collins (1997), and are given at the species level only.

The records listed below are deposited in the herpetological collection 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 and the Kansas Biological Survey, 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, 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 most indebted.

NEW COUNTY RECORDS

SPRING PEEPER (*Pseudacris crucifer*)
CRAWFORD CO: NW 1/4 Sec. 35, T28S, R25E. 25 March 2000. Keith Coleman. KU 289723; E 1/2 Sec. 24, T28S, R25E. 25 March 2000. Keith Coleman. KU 289724.

BULLFROG (*Rana catesbeiana*)
CLOUD CO: Sec. 16, T8S, R1W. 14 August 2000. James Gubanyi & Keith Coleman. KU 289725.

SOUTHERN LEOPARD FROG (*Rana sphenocephala*)
JOHNSON CO: SE 1/4 SE 1/4 Sec. 15, T15S, R25E. 6 March 2000. Keith Coleman. KU 289726.

GREAT PLAINS NARROWMOUTH TOAD (*Gastrophryne olivacea*)
MCPHERSON CO: within Inman city limits. 23 July 2000. Keith Coleman. KU 289728. **RENO CO**: Sec. 29, T24S, R6W. 23 July 2000. Keith Coleman. KU 289729.

COMMON MUSK TURTLE (*Sternotherus odoratus*)
LEAVENWORTH CO: backwater 0.5 mi NE RR crossing on Leavenworth County Road 1, 2.75 mi N & 0.25 mi E Eudora, NW 1/4 Sec. 28, T12S, R21E, N38.9775, W95.0874. 12 June 2000. John Tollefson, David Edds & Kyle Edds. KU Color Slides 11775–776.

PAINTED TURTLE *(Chrysemys picta)*
BROWN CO: Hiawatha Country Club, Sec. 32, T2S, R17E. 5 July 1994. Chris Vitt. KU Color Slide 11777.

SMOOTH SOFTSHELL *(Apalone mutica)*
LEAVENWORTH CO: Stranger Creek, 1.5 mi N & 0.25 mi W Linwood, NE 1/4 Sec. 11, T12S, R21E. 25 June 2000. John Tollefson. KU 289738.

SPINY SOFTSHELL *(Apalone spinifera)*
BROWN CO: 1.5 mi S & 3 mi E Robinson, Sec. 14, T3S, R18E. 22 June 1994. Chris Vitt. KU Color Slide 11778.

NORTHERN PRAIRIE SKINK (*Eumeces septentrionalis*)
GREENWOOD CO: Sec. 23, T23S, R8E. 29 April 2000. Timothy Wray, Curtis Schmidt & Jonathan Storm. KU 289730.

GROUND SKINK (*Scincella lateralis*)
OSAGE CO: dam at E end Osage County State Lake. 2 May 2000. Larry L. Miller & Topeka Collegiate School students. KU 289732.

EASTERN RAT SNAKE (*Elaphe obsoleta*)
CLOUD CO: Sec. 11, T8S, R1W. 14 August 2000. James Gubanyi & Keith Coleman. KU 289733; SE 1/4 Sec. 11, T8S, R1W. 14 August 2000. James Gubanyi & Keith Coleman. KU 289734.

COMMON KINGSNAKE (*Lampropeltis getula*)
GOVE CO: SW 1/4 Sec. 8, T15S, R26W, 7 mi S & 4 mi W Castle Rock. 20 June 2000. Stanley Roth. KU 289739.

ROUGH GREEN SNAKE (*Opheodrys aestivus*)
SUMNER CO: 2.5 mi S Oxford on Oxford Road. 30 July 2000. Jill Capron & Martin B. Capron. KU 289735.

BROWN SNAKE (*Storeria dekayi*)
CLOUD CO: Sec. 1, T8S, R1W. 14 August 2000. James Gubanyi & Keith Coleman. KU 289737.
LABETTE CO: Sec. 12, T35S, R19E. 30 September 2000. Mark R. Ellis. KU 289740.

NEW MAXIMUM SIZE RECORDS

No new maximum size records were reported to me during calendar 2000.

LITERATURE CITED

Collins, Joseph T. 2000. New Records of Amphibians and Reptiles in Kansas for 1999. Kansas Herpetol. Soc. Newsl. 119: 7–9.

Collins, Joseph T. 1993. *Amphibians and Reptiles in Kansas. Third Edition*. Univ. Press of Kansas, Lawrence. xx + 397 pp.

Collins, Joseph T. 1997. Standard Common and Current Scientific Names for North American Amphibians and Reptiles. Fourth Edition. SSAR Herpetol. Circ. 25: iv + 40 pp.

BIBLIOGRAPHY

The publications listed below are those with direct references to amphibians and reptiles in Kansas that have been published or brought to my attention since the up-date of county records by Collins (2000).

Anonymous. 2000. KHS Spring Field Trip Sets Record for Attendance. Kansas Herpetol. Soc. Newsl. 120: 4–5.

Bellows-Blakely, Sarah. 2000. Observations on the Snakes of the Red Hills, Kansas. Abstract. Missouri Herpetol. Assn. Newsl. 13: 3.

Burbrink, Frank T., Robin Lawson and Joseph B. Slowinski. 2000. Mitochondrial DNA Phylogeography of the Polytypic North American Rat Snake (*Elaphe obsoleta*): A Critique of the Subspecies Concept. Evolution 54(6): 2107–2118.

Brunson, Ken. 2000. Heartland Hoppers. Kansas Wildlife and Parks 57(2): 2–7.

Brunson, Ken. 2000. What's Buggin' the Frogs? Kansas Wildlife and Parks 57(4): 41.

Cavitt, John F. 2000. Fire and a Tallgrass Prairie Reptile Community: Effects on Relative Abundance and Seasonal Activity. Journ. Herpetol. 34(1): 12–20.

Cavitt, John F. 2000. Tallgrass Prairie Snake Assemblage. Food Habits. Herpetol. Rev. 31(1): 47–48.

Coleman, Keith. 2000. Geographic Distribution. *Pseudacris crucifer* (Spring Peeper). Herpetol. Rev. 31(1): 50.

Collins, Joseph T. 2000. A Checklist of the Amphibians, Turtles, and Reptiles of the Flint Hills Tallgrass Prairie Preserve in Butler and Greenwood Counties, Kansas. Report to the Kansas Chapter of The Nature Conservancy, Topeka. 14 pp.

Deichsel, Guntram and Larry L. Miller. 2000. Change of Specific Status for the Green Lacerta, An Alien Lizard Introduced in Topeka. Kansas Herpetol. Soc. Newsl. 119: 10–11.

Fitch, Henry S. 2000. Population Structure and Biomass of Some Common Snakes in Central North America. Univ. Kansas Nat. Hist. Mus. Sci. Pap. 17: 1–7.

Fitch, Henry S. 2000. Female Copperhead Aggregations in Northeastern Kansas. Abstract. Missouri Herpetol. Assn. Newsl. 13: 5.

Gerlanc, Nicole M. 1999. Effects of Breeding Pool Permanence on Developmental Rate of Western Chorus Frogs, *Pseudacris triseriata*, in Tallgrass Prairie. Masters Thesis, Kansas State University, Manhattan. ix + 102 pp.

Gerlanc, Nicole M. 2000. The Kansas-Gap Project: Implications for Kansas Herpetology. Abstract. Missouri Herpetol. Assn. Newsl. 13: 5–6.

Goldberg, Steven R., Charles R. Bursey and James E. Platz. 2000. Helminths of the Plains Leopard Frog, *Rana blairi* (Ranidae). Southwestern Naturalist 45(3): 362–366.

Gubanyi, James E. 2000. Update on *Lacerta* in Topeka, Kansas. Kansas Herpetol. Soc. Newsl. 118: 13–14.

Gubanyi, James E. 2000. A Breeding Colony of Western Green Lacertas (*Lacerta bilineata*) Confirmed in Southwestern Topeka (Kansas). Trans. Kansas Acad. Sci. 103(3–4): 191–192.

Irwin, Kelly J. and Joseph T. Collins. 2000. Geographic Distribution. *Thamnophis radix* (Plains Garter Snake). Herpetol. Rev. 31(1): 58.

Kearney, Meagan and Lynnette Sievert. 2000. Digestive Parameters of Great Plains Skinks (*Eumeces obsoletus*) in Kansas. Abstract. Missouri Herpetol. Assn. Newsl. 13: 8.

Kessler, Eric M. 1998. Retreat-Site Selection by *Diadophis punctatus* and *Carphophis vermis* in Eastern Kansas. Masters Thesis, Emporia State University, Kansas. iii + 31 pp.

Kirk, Jay. 2000. Reintroduction of the Pickerel Frog in Cherokee County, Kansas. Abstract. Missouri Herpetol. Assn. Newsl. 13: 8.

Miller, Larry L. 2000. A Winter Snake in Shawnee County. Kansas Herpetol. Soc. Newsl. 119: 11.

Miller, Larry L. 2000. February Amphibian and Turtle Observations in Shawnee County, Kansas. Kansas Herpetol. Soc. Newsl. 119: 11.

Miller, Larry L. 2000. Amphibians, Turtles, and Reptiles of the Smoky Hill Ranch and Surrounding Areas of Western Kansas. Abstract. Missouri Herpetol. Assn. Newsl. 13: 10.

Moeller, Derek, Allie Kossoy, Whitney Hamilton and Larry L. Miller. 2000. Geographic Distribution. *Leptotyphlops dulcis* (Texas Blind Snake). Herpetol. Rev. 31(1): 56.

Platt, Dwight R. 2000. Food Habits of Snakes on a Sand Prairie in South-Central Kansas. Abstract. Missouri Herpetol. Assn. Newsl. 13: 10.

Rundquist, Eric M. 2000. Garter Snake Hybridization. Kansas Herpetol. Soc. Newsl. 118: 15.

Rundquist, Eric M. 2000. Results of the Eleventh and Twelfth Annual KHS Herpetofaunal Counts for 1999–2000, Held 1 April–31 May. Kansas Herpetol. Soc. Newsl. 122: 11–16.

Schmidt, Curtis J. 2000. Observations on Reptilian Predation. Kansas Herpetol. Soc. Newsl. 120: 18.

Sievert, Lynnette M. and Janet K. Bailey. 2000. Specific Dynamic Action in the Toad, *Bufo woodhousii*. Copeia 2000(4): 1076–1078.

Taggart, Travis W. 2000. Biogeographic Analysis of the Reptiles (Squamata), in Ellis County, Kansas. Kansas Herpetol. Soc. Newsl. 121: 7–16.

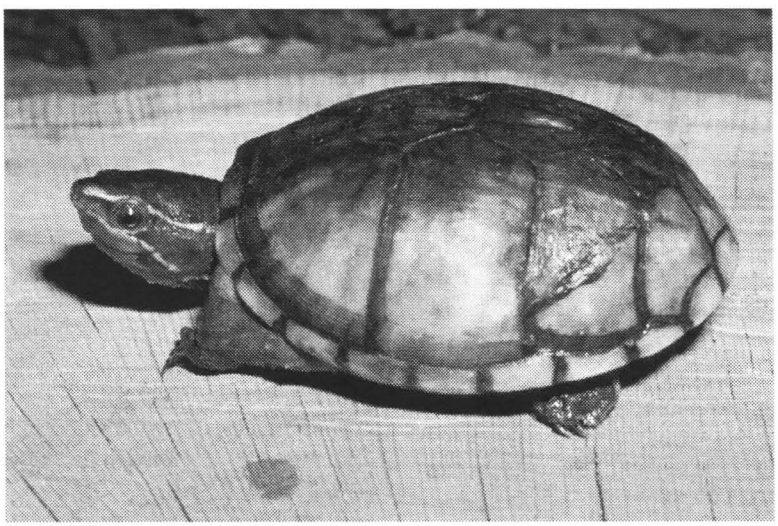
Taggart, Travis W. (editor) 2000. Results of the KHS 2000 Fall Field Trip. Kansas Herpetol. Soc. Newsl. 122: 6–8.

Taggart, Travis W. and Joseph T. Collins. 2000. Geographic Distribution. *Eumeces laticeps* (Broadhead Skink). Herpetol. Rev. 31(1): 52.

Tollefson, John. 2000. Preliminary Observations on Turtle Assemblages in the Kansas River Drainage. Abstract. Missouri Herpetol. Assn. Newsl. 13: 12.

Van Doren, Mark and Curtis J. Schmidt. 2000. A Herpetological Survey of the Fort Larned National Historic Site, Pawnee County, Kansas. Kansas Herpetol. Soc. Newsl. 120: 8–11.

Vitt, Christopher G. 2000. New Records for Aquatic Turtles in Brown County, Kansas. Kansas Herpetol. Soc. Newsl. 121: 17–18.



A Common Musk Turtle (*Sternotherus odoratus*), one of many species for which new county records were acquired in calendar 2000. Photograph by Suzanne L. Collins.

THE AMPHIBIANS, REPTILES, AND TURTLES OF THE SMOKY VALLEY RANCH, LOGAN COUNTY, KANSAS

CURTIS SCHMIDT
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Hays Kansas 67601

In June of 2000, my field assistants and I began a two-year survey of the amphibians, reptiles, and turtles of the Smoky Valley Ranch in southeastern Logan County, Kansas. The Smoky Valley Ranch is a large shortgrass prairie reserve that was recently purchased by The Nature Conservancy. The ranch covers approximately 16,000 acres. Aside from being a wildlife sanctuary, the ranch is used for a variety of things, mainly bison and cattle grazing. A small portion of the ranch is leased for oil as well. The ranch is continuous except for a patch of cultivated, private land that is located in the center of the property, just north of the ranch house. This house is home to Randy and Michelle Martin, the ranch managers.

The Smoky Valley Ranch is made up primarily of short grass prairie, but also contains several areas of differing habitat types. The Smoky Hill River runs through the ranch, but only provides ephemeral pools at this location. A few of these pools retain water for most of the year. The floodplain of the river is characterized by extremely sandy soils, creating areas of sand sage prairie. The topography of the ranch is relatively uniform; however, there are several small Cretaceous, Niobrara outcroppings throughout the ranch. Prairie Dog towns are also scattered throughout the ranch within the short grass prairie. Many of these towns are substantial in size. The Prairie Dog burrows create a habitat for many different species. In the center of the ranch, there is an abandoned limestone quarry that provides much cover for many species. The quarry areas consist of several large piles of limestone, with a substrate made up almost entirely of limestone.

The field team consisted of myself and several other students, both graduate and undergraduate, from Fort Hays State University (FHSU). For the majority of the season, Matt Bain, an undergraduate, assisted me with my graduate research on the ranch, studying the Western Rattlesnake *(Crotalus viridis)*. On the occasions when Matt was not available to help, other students took his place. These other students included Curtis Wolf, Mark Van Scoyoc, Travis Trendel, and Jonathan Storm. The large amount of time spent on the ranch working on my research allowed us to observe several species and many individuals.

Our searching techniques include flipping rocks, which were mainly at the quarry and scattered outcrops, driving the maintained roads that bordered the ranch and which led to the ranch house, driving interior trails and Prairie Dog towns, and searching by foot. Searching by foot included walking the habitat, searching burrows, searching vegetation, and simply watching for movements. I divided all of the effort into two main categories: searching by foot and searching by vehicle. Searching by vehicle meant anytime spent driving, and searching by foot included all other searching methods.

In eighteen days and twelve nights, we spent a total of 129 hours searching for amphibians, reptiles, and turtles. This broke down into 63.5 hours searching on foot, and 65.5 hours searching by vehicle. The time spent searching by foot equaled 137 person-hours. During this time, we observed seventeen species of amphibians, reptiles, and turtles. We collected voucher specimens for all species except the Painted Turtle *(Chrysemys picta)* and the Coachwhip *(Masticophis flagellum)*. Voucher specimens were deposited in the Sternberg Museum of Natural History at FHSU.

We obtained locality information for all observations using a Garmin GPS unit. I also created a map using the GIS software program ArcView that displays an aerial photograph of the ranch. I plotted all the GPS coordinates and species information onto this map, allowing us to see exactly where each individual was found. Detailed field notes were also taken by Matt and myself to provide descriptions of when and where we found these individuals. The following paragraphs describe our herpetological observations.

The only salamander found was a single specimen of the Barred Tiger Salamander *(Ambystoma mavortium)*. The specimen was found crossing an interior trail in short grass prairie near a Prairie Dog town. It was early in the morning and the ground and vegetation were wet from a short rain the previous night.

We collected four species of anurans in the area. The most abundant species was the Woodhouse's Toad *(Bufo woodhousii)*. This toad was extremely common throughout the ranch in nearly every habitat. They were most commonly found on roads or trails at night, on chalky bluffs, or near the river. We also found them nearly every night around bison or cattle watering tanks.

The Great Plains Toad *(Bufo cognatus)* is not common in the area. Only a single individual was collected during the first field season. It was found on the sand road that leads to the ranch house. The specimen was found off of the

ranch, only one mile north of the boundary. I suspect that more individuals will be found in the spring of the second field season.

The frog species that we encountered were common around ephemeral pools, especially the more substantial ones. The Plains Leopard Frog *(Rana blairi)* and Northern Cricket Frog *(Acris crepitans)* were locally abundant in pools along the Smoky Hill River, as well as a few pools located just north of the river. We also observed one individual of *R. blairi* in the sand sage prairie, nearly 50 meters from water. It was early in the morning, and the frog was at the entrance of a rodent burrow, into which it retreated.

Ephemeral pools also provide the only habitat for aquatic and semi-aquatic turtles. We observed several Painted Turtles *(Chrysemys picta)* in many of the pools. The only evidence of other aquatic turtle species on the ranch was the discovery of a complete shell of a Yellow Mud Turtle *(Kinosternon flavescens)*, found nearly 200 meters south of the Smoky Hill River in sand sage prairie. The shell was discovered, along with the shell of an Ornate Box Turtle *(Terrepene ornata)*, underneath an overturned stock tank in the den of an Eastern Wood Rat *(Neotoma floridana)*.

The Ornate Box Turtle *(Terrepene ornata)* was one of the most common species on the ranch. The majority of these turtles were found in short grass prairie and Prairie Dog towns, where burrows are available for the turtles to escape from daytime heat. They were most commonly found during the morning, where they could be seen actively foraging or excavating burrows. It was also common to see these turtles crossing roads in the mornings. As the daytime temperature rose, the turtles could be found near the entrances of burrows. Although encountered less often, this was one of the few species that remained active during high temperatures. However, the continued long dry spell and heat wave eventually forced Ornate Box Turtles to become inactive. At the end of the summer, it was difficult to find any individuals of this species active at any time. This was probably due to the shortage of food and water caused by the extended period with no precipitation.

Only three species of lizard were found on the Smoky Valley Ranch; all were fairly common. The Prairie Lizard *(Sceloporus undulatus)* was found in large numbers anywhere there were rocky outcroppings. This species preferred a rocky substrate with little vegetation and numerous places to hide. The slopes and bases of the rock quarry seemed to be the area where the lizard reached its peak abundance on the ranch. At the quarry, *S. undulatus* competed with another common species, the Lesser Earless Lizard *(Holbrookia maculata)*. We found it interesting that these two lizard species rarely came in contact with one another. The Lesser Earless Lizard was found almost exclusively on the flat top of the rock quarry, where there was very little vegetation, few scattered rocks, and almost exclusively a limestone substrate. Such habitat allowed this agile species to utilize its speed to avoid predators. We found it almost impossible to chase these lizards out of their preferred area. This presented an excellent opportunity for a population study. The population was isolated and small, and made mark and recapture techniques simple. We currently have dozens of these individuals marked by toe clipping. We recaptured several of them at least once and found a few, additional unmarked individuals. As mentioned previously, *S. undulatus* was found only on the sides and bases of the quarry. We found no individuals at or near the top that was occupied by *H. maculata*. We did, however, find a few individuals of *H. maculata* at the base of the quarry.

The Prairie Lizard was also found near the river in a riparian zone. In these areas, it used trees in much the same way that it used rocks in other areas. The cover provided by fallen trees and bark made excellent hiding places for the lizards. Possessing excellent climbing capabilities, they often retreated up trees to avoid predators.

The sandy river floodplain and sand sage prairie provided excellent habitat for both the Lesser Earless Lizard and the Six-lined Racerunner *(Cnemidophorus sexlineatus)*. Both species were common in these areas. Although it was also found in rocky areas, the Six-lined Racerunner reached its peak abundance here. *Holbrookia maculata* was less common, especially in areas where the vegetation became dense. Both of these species were capable of tolerating extremely high temperatures, and were the most commonly observed species during the heat of the day. It was not uncommon to find these species active with temperatures near 100°F.

Seven snake species were encountered during the first season. Aside from the Western Rattlesnake *(Crotalus viridis)*, which I will discuss in more detail later, the most common serpent was the Plains Garter Snake *(Thamnophis radix)*. This species was found in nearly every habitat on the ranch. The majority of the twelve individuals captured were found in or near the pools of the river at various times of the day. One individual was found in the bison pasture in a small pool created by an evening rain. The pool was near a chalk bluff with an extremely limey substrate and no vegetation. We also encountered a single *T. radix* crossing an interior trail through short grass prairie at night. Driving the maintained roads during the morning also yielded individuals of this species. This species seemed to prefer areas containing water or areas near rock outcrops.

Another extremely common species was the Eastern Racer *(Coluber constrictor)*. This species was also encountered in areas of short grass prairie, rock outcrops, and on roads on a fairly consistent basis. Eastern Racers were found mainly in the morning or early afternoon. They seemed to tolerate high temperatures fairly well. This species also seemed to prefer a habitat with taller, denser grasses. These areas were generally in the valleys created

by the small hills on the ranch. Walking these patches of taller grass yielded many of these snakes.

While driving the roads in the morning, when temperatures were still relatively cool, we also observed two other species of snakes. Four Gopher Snakes *(Pituophis catenifer)*, and one dead Eastern Hognose Snake *(Heterodon platirhinos)* were found on the maintained sand roads that border the ranch. These two species were found nowhere else on the ranch. Coachwhips *(Masticophis flagellum)* and Western Hognose Snakes *(Heterodon nasicus)* were also found occasionally. I observed one large Coachwhip active among the piles of rock at the quarry. This individual was active in the early afternoon on a cooler, overcast day. The snake immediately retreated into the rocks. I suspect that these species are abundant throughout the ranch property, but are much more secretive during hot, dry periods.

We found fifteen Western Rattlesnakes *(Crotalus viridis)* on or very near the ranch. The fifteen specimens were found spread out across the ranch. We found three at the rock quarry, one in the sandsage prairie near the river, one on an interior trail in the eastern part of the ranch, one on the road near the ranch house, one near the Prairie Dog town in the northeastern section of the ranch, and the rest on maintained roads surrounding the ranch. The most successful technique for finding snakes is driving the roads and trails. This allowed one to cover much more territory than by foot. During the heat of the summer, it was often difficult to find snakes. The mornings and evenings were the most productive. We found the majority of the snakes from 8:00 to 11:00 and 20:00 to 23:00. However, we did find five individuals in a two-day period when the temperature never got above 90°F and there was significant cloud cover. Searching by foot was difficult with a small number of people. This technique should be productive when the snakes become more active in spring.

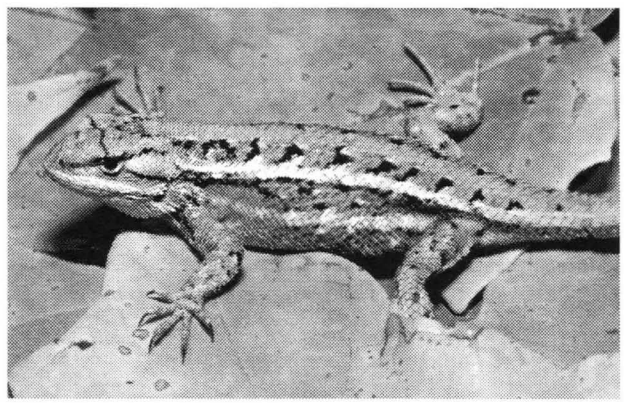
The large amount of time that we spent at the ranch allowed us to observe many interesting phenomena. We saw a few rare non-herpetological species, such as two Peregrine Falcons *(Falco peregrinus)* and several Swift Foxes *(Vulpes velox)*. We also observed a Woodhouse's Toad *(Bufo woodhousii)* moving with the posterior third of its body eaten off. There was a splatter of blood nearby where an avian predator probably dropped it or attacked it.

This study provided us with much information about the distribution, abundance, and behavior of the amphibians, reptiles, and turtles of the Smoky Valley Ranch.

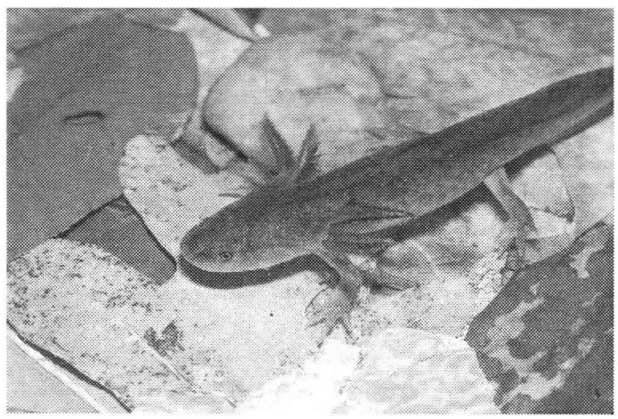
APPENDIX

Comparative abundance of amphibians, reptiles, and turtles found on the Smoky Valley Ranch, as of October, 2000. A = Abundant, U = Uncommon, C = Common, R = Rare.

Barred Tiger Salamander (*Ambystoma mavortium*)	U
Woodhouse's Toad (*Bufo woodhousii*)	A
Northern Cricket Frog (*Acris crepitans*)	C
Plains Leopard Frog (*Rana blairi*)	C
Ornate Box Turtle (*Terrepene ornata*)	A
Painted Turtle (*Chrysemys picta*)	C
Yellow Mud Turtle (*Kinosternon flavescens*)	R
Lesser Earless Lizard (*Holbrookia maculata*)	A
Prairie Lizard (*Sceloporus undulatus*)	A
Six-lined Racerunner (*Cnemidophorus sexlineatus*)	A
Gopher Snake (*Pituophis catenifer*)	C
Plains Garter Snake (*Thamnophis radix*)	A
Western Hognose Snake (*Heterodon nasicus*)	U
Eastern Hognose Snake (*Heterodon platirhinos*)	U
Coachwhip (*Masticophis flagellum*)	U
Eastern Racer (*Coluber constrictor*)	A
Western Rattlesnake (*Crotalus viridis*)	A



On the Smoky Hill Ranch, the Prairie Lizard (*Sceloporus undulatus*) was found on rocky outcrops in large numbers. Photograph by Suzanne L. Collins.



The Barred Tiger Salamander (*Ambystoma mavortium*), was the only salamander found on the Smoky Hill Ranch. Photograph by Suzanne L. Collins.

SHORT COMMUNICATIONS

THE KHS 2001 SPRING FIELD TRIP
A RAINY RENDEZVOUS

The 2001 Kansas Herpetological Society Spring Field Trip East was held from 4 to 6 May at the state and federal Marais des Cygnes Wildlife Refuges in Linn County near the small town of Trading Post. On Friday evening, KHS members, friends, and colleagues began to assemble at LaCygne Lake beneath the great towering smoke stacks of the nearby namesake power plant. The field site was chosen by KHS Field Trip Chairperson Larry L. Miller, but an unexpected conflict prevented him from attending. Nonetheless, KHS President Mark Ellis and his skillful guide, Kathy Shidler, arrived early and planted the infamous KHS sign in the ground as a territorial marker for all that might venture near. Participants set up camp, cooked dinner, told outlandish stories about past trips, and prepared for the weekend survey of amphibians, turtles, and reptiles.

After an overnight rain, on Saturday morning at about 9:00 am with the temperature pleasant and a partly cloudy sky, the 55 participants assembled at LaCygne Lake to begin the two-day count. Led by Joe and Suzanne Collins, who are conducting an official amphibian, turtle, and reptile survey of the two refuges for KDWP and USFWS, a 15-car caravan left the lake and proceeded to the first of four sites in Linn County. Over 200 specimens of 33 species were found or observed over two days, as follows:

Kansas: Linn Co: USFWS Marais des Cygnes National Wildlife Refuge (east of U.S. Rt. 69). 5 May 2001; 9:30 am to 1:00 pm.

Species	*Number Observed*
Northern Cricket Frog	±50
Bullfrog	1
Eastern Box Turtle	3
Ornate Box Turtle	2
River Cooter	1
Painted Turtle	1
Spiny Softshell	1
Five-lined Skink	1
Broadhead Skink	1
Ringneck Snake	21
Eastern Racer	1
Eastern Rat Snake	6
Prairie Kingsnake	5
Plainbelly Water Snake	2
Diamondback Water Snake	1
Northern Water Snake	1
Totals	
16 species	±98 specimens

Verifier: Mark Ellis.

Kansas: Linn Co: KDWP Marais des Cygnes Wildlife Area (west of U.S. Rt. 69). 5 May 2001; 2:00 pm to 3:30 pm.

Species	*Number Observed*
Smallmouth Salamander	1
Northern Cricket Frog	3
Bullfrog	±25
Common Snapping Turtle	5
Common Musk Turtle	4
Eastern Box Turtle	2
Ornate Box Turtle	1
Painted Turtle	1
Slider	1
Eastern Racer	1
Gopher Snake	1
Western Ribbon Snake	2
Common Garter Snake	1
Plainbelly Water Snake	1
Diamondback Water Snake	1
Graham's Crayfish Snake	1
Totals	
16 species	±51 specimens

Verifier: Eric Kessler.

Kansas: Linn Co: region around and between Cadmus and LaCygne. 5 May 2001; 4:00 pm to 6:30 pm.

Species	*Number Observed*
American Toad	1
Great Plains Narrowmouth Toad	1
Ornate Box Turtle	1
Five-lined Skink	1
Great Plains Skink	9
Six-lined Racerunner	2
Ringneck Snake	28
Western Worm Snake	3

Eastern Racer	1
Great Plains Rat Snake	6
Rough Green Snake	1
Milk Snake	1

Totals

12 species ..... 55 specimens

Verifier: Dan Murrow.

Kansas: Linn Co: Holmes Cemetery & vicinity on Vernon Road
6 May 2001; 11:00 am to noon

Species	*Number Observed*
Northern Cricket Frog	3
Bullfrog	1
Great Plains Narrowmouth Toad	2
Eastern Box Turtle	3
Six-lined Racerunner	7
Ringneck Snake	7
Eastern Racer	1
Eastern Rat Snake	4
Brown Snake	1
Common Garter Snake	1

Totals

10 species ..... 30 specimens

Verifier: John Lokke.

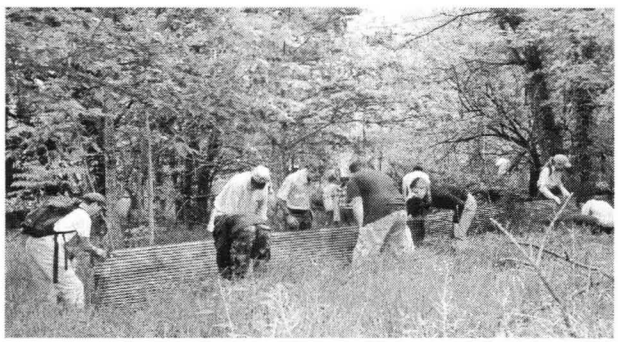
Grand Total
(all four sites)

33 species ..... ±234 specimens

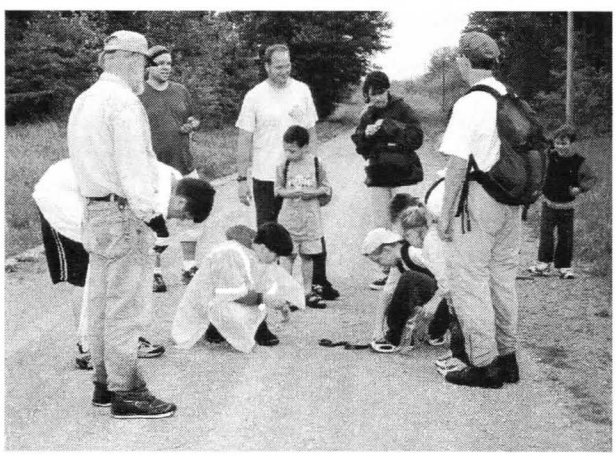
The fifty-one participants on this moist KHS field trip were: Cathy Acuff, Rob Acuff, Laura Acuff, Bruce Andersen, Paul Andersen, Neil Bass, Anjan Bhullar, Keith Coleman, Joseph T. Collins, Suzanne L. Collins, Cory Cowger, Mark Ellis, Brian Featherstone, James Gubanyi, Cindy Higgins, Levi Higgins, John Humerczuk, Dan Johnson, Dusty Johnson, Graceanne Johnson, Olin Karch, Karl Karrow, Eric Kessler, Maura Kessler, Justin Kimbrough, Mitzi Kimbrough, Brett Lemker, John Lokke, Tim Menard, Daniel Murrow, David Oldham, Jackson Oldham, Robin Oldham, Tag Oldham, Emily Reimer, James Reimer, Jill Reimer, Austin Schmidt, Bradley Schmidt, Cookie Schmidt, Colleen Riley, Kathy Shidler, Brad Taverner, John Tollefson, Steven Wahle, Chad Whitney, David Wickell, Jesse Wilkins, Trace Ulnicka, Mike Zerwekh, and Robert Zerwekh.

The KHS is particularly indebted to Cathy Acuff and her lovely family for their generous hospitality, and to Chad Whitney, for his unbridled enthusiasm. Through their efforts, this KHS field trip was made more memorable, more productive, and certainly more stimulating.

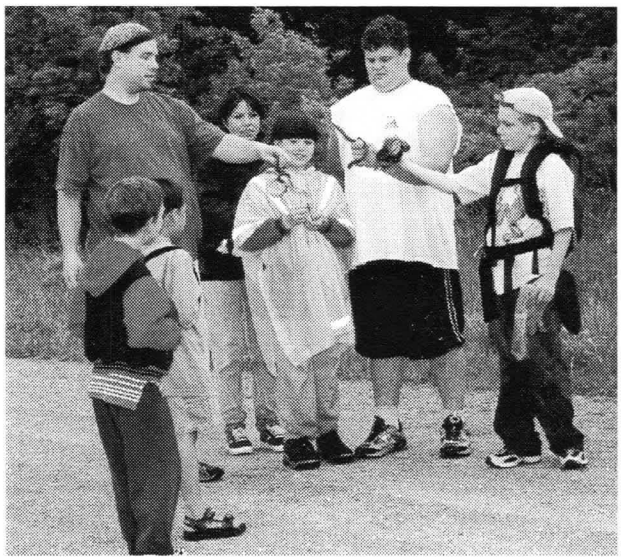
KHS members assembled at the LaCygne Lake Campground in Linn County for the first of two wet nights. Photograph by Olin Karch.



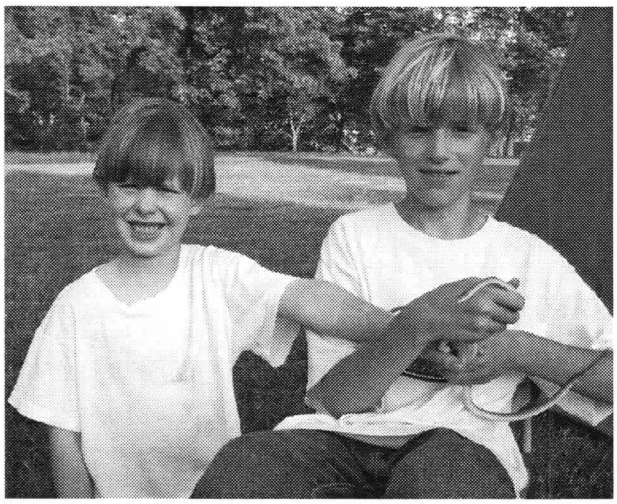
Participants visited a study site maintained by Joe Collins in the Marais des Cygnes National Wildlife Refuge in Linn County, and had an opportunity to observe numerous snakes and lizards under the many pieces of sheet metal. Photograph by Suzanne L. Collins.



Almost every member participating in the KHS Field Trip East found a live reptile at the Collins Study Site in the Marais des Cygnes National Wildlife Refuge, Linn County, Kansas. Counts were held at roadside, and the snakes and lizards released where found. Photograph by Suzanne L. Collins.

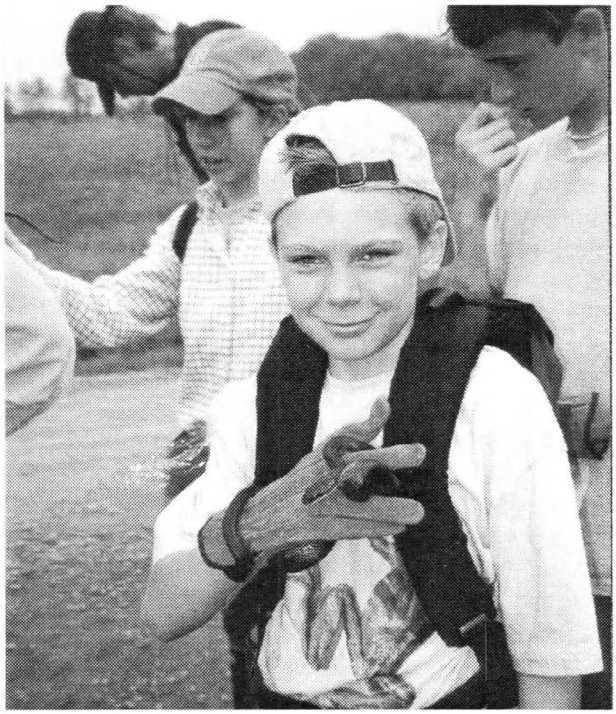


Dan Murrow and Chad Whitney explain about snakes to some of the 51 participants during the KHS visit to the Marais des Cygnes National Wildlife Refuge in Linn County. Photograph by Suzanne L. Collins.

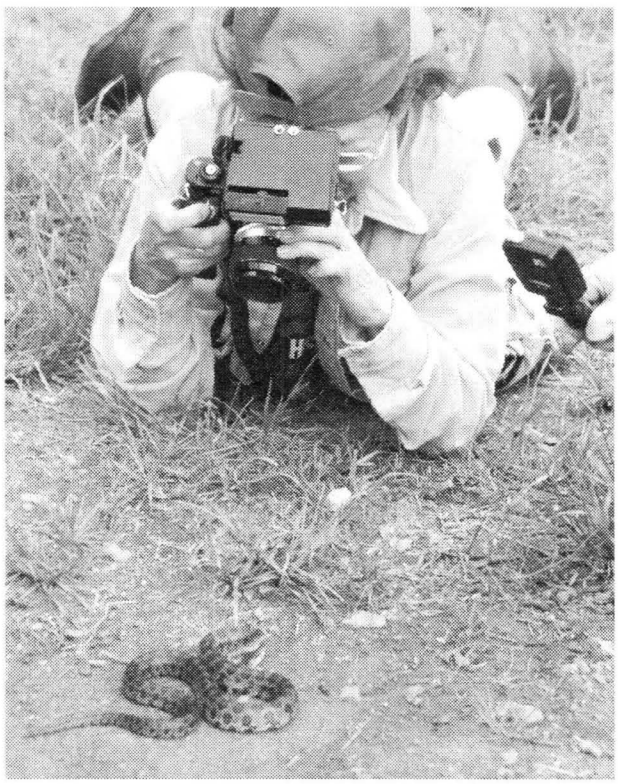


Tag Oldham (left) and Jackson Oldham proudly display the Rough Green Snake (*Opheodrys aestivus*) found by Suzanne L. Collins near Cadmus, Linn County, Kansas. The snake was released a while later. Photograph by Robin Oldham.

On Sunday morning, the remaining hardcore group of participants visited the region surrounding Holmes Cemetery in Linn County, and were successful in finding many Eastern Rat Snakes (*Elaphe obsoleta*). They gathered here for a final group photograph before heading home. Photograph by Suzanne L. Collins.



James Reimer found an Eastern Rat Snake (*Elaphe obsoleta*), and wisely used gloves to hold it for this portrait. Photograph by Jill Reimer.



Suzanne Collins photographs a Prairie Kingsnake (*Lampropeltis calligaster*) found at the Marais des Cygnes National Wildlife Refuge in Linn County. Photograph by Olin Karch.

FEMALE BROODING IN A NORTHERN PRAIRIE SKINK FROM KANSAS

ERROL D. HOOPER, JR.
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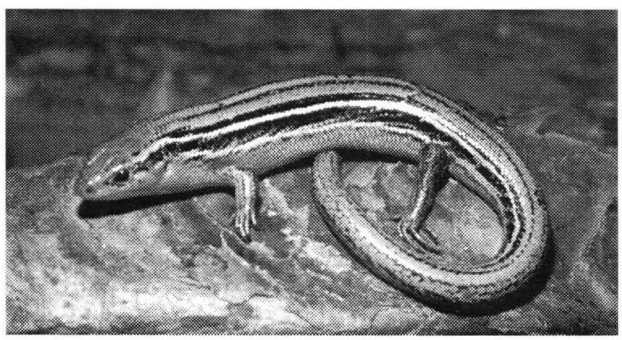
On 12 June 1994, Mike Pearce and the author, while engaged in field work in western Franklin County, Kansas, observed an adult female Northern Priarie Skink (*Eumeces septentrionalis*) engaged in brooding her clutch of eggs. The egg chamber, viewed from a western vantage point, was sheltered by a large stone wall set well in soil on the southwest-facing bank of a small pond in a large cattle pasture. The chamber and associated burrow was located on the low side of the sheltering stone and extended below ground past the southern edge of the stone.

The attending female (no records of males attending the clutch have been recorded, according to Somma, 1985) sat atop the clutch, making it difficult for an accurate count from the eastern observation point. Several eggs were beneath the female. From the western observation point, a view of the burrow extending past the edge of the stone was possible and additional eggs were seen.

The attending female and clutch were not additionally disturbed or manipulated, and the stone was carefully replaced.

LITERATURE CITED

Somma, Louis A. 1985. Brooding behavior of the Northern Prairie Skink, *Eumeces septentrionalis septentrionalis* (Baird), and its relationship to the hydric environment of the nest substrate. Master's Thesis, University of Nebraska at Omaha. 113 pp.



Females of Northern Prairie Skinks (*Eumeces septentrionalis*) are reported herein to brood their eggs. The above specimen is a male from Kansas. Photograph by Suzanne L. Collins.

MAKE A HIBERNATION HOTEL
by Jeff Jackson

One of my childhood pleasures on the first warm spring day in Michigan was to go looking for snakes. I had a mental list of likely places where wintering snakes would emerge from their refuge from the cold. Large, rotten logs and rock piles were good places to look. Best of all were old rock-filled postholes.

Once farmers in southern Michigan used to set corner posts of farm fences in big holes filled with glacial boulders. This rock support steadied the posts and kept them from rotting. These postholes were premium snake hibernating habitat.

One favorite spot was about 30 inches deep and 2 feet across. Sticking out of the ground was an old silvered post. On just the right spring day there would be two or three blue racers coiled in the sun at the edge of the hole. These snakes were almost un-catchable, zipping down among the rocks before I could approach.

There are many natural hibernating places where naturalist Tree Farmers can find snakes. But if you don't have such a place on your land, or want more, consider making one. This is a practical idea for Tree Farmers north of the Mason-Dixon Line; in the snow-less areas of the Deep South good hibernating sites are not essential for snake survival.

The first step is to pick a good site. A slope with southern exposure is best. Choose one with sandy soil, if you can, or mound the soil so that water won't drain into the hole and pool at the bottom.

Now start digging. I think a hole 2 feet wide and at least 3 feet deep is a good size. Throw in a bushel of dead leaves, small sticks, or other rotables. Then carefully position some stones. Arrange them so as to create little "rooms" for the snakes, with interconnecting passageways that communicate to the surface. Cement blocks or bricks may also be used for the lower levels. Put your prettiest stones on the surface so that your creation is also a work of art.

Give the snakes various basement levels to make it like an underground garage. You can make these levels with pieces of carpet or large, flat rocks. These levels will allow the snakes to choose sites with the most favorable temperatures.

Should you find snakes during the summer within a few hundred yards of your hibernation hotel, I think you can relocate them to this special place. This will help them to know where to go when winter approaches. However, do not bring in snakes from distant locations; leave them where they are.

Jeff Jackson practices wildlife management at home on his Tree Farm near the University of Georgia, where he is a professor of wildlife management.

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