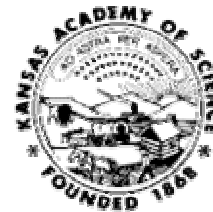


KAS BULLETIN



NEWSLETTER OF THE KANSAS ACADEMY OF SCIENCE

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NOVEMBER, 2006



139th ANNUAL MEETING OF THE KANSAS ACADEMY OF SCIENCE

April 13 and 14, 2007
(FRIDAY AND SATURDAY)

Salina Holiday Inn
1616 W. Crawford St.
Salina, KS 67401



MEETING ANNOUNCEMENT

The 139th Annual Meeting of the Kansas Academy of Science is scheduled for April 13 and 14, 2007, at the Salina Holiday Inn. This meeting will be held jointly with the **Kansas College Chemistry Teachers Conference**. (Friday and Saturday)

Events will include the following:

- Friday afternoon free tours of the Land Institute (2 to 4 PM) and Philips Lighting (2 to 4 PM)
- Friday evening banquet (6:30 PM)
- Friday night guest speaker: Wes Jackson, Ph.D., President of the Land Institute, Salina, Kansas. This talk is open to the public (7:30 PM).
- Saturday Eighth Annual Paleontology Symposium (8 AM to 2 PM).
- Saturday other special symposia (8 AM to 2 PM)
- Saturday numerous oral and poster sessions on a variety of topics including biology, geology, chemistry, engineering, and applied sciences (final times, including when poster authors need to be present for questions and answers, will be posted on the KAS website) (8 AM to 3 PM)
- Saturday lunch (12 noon)
- Saturday student competition cash awards presentation (2 PM)

The registration form, abstract submission guidelines, lodging information, map, directions, and entertainment opportunities can be found on the KAS website. Additional detailed information, including abstracts and session times, will be added regularly to the website.

Participants presenting papers must register at the same time that they submit their abstracts. The deadline for submitting abstracts and registration forms is **February 13, 2007**.

Participants not presenting papers can register through the mail or electronically. The deadline for on-time registration is **March 13, 2007**.

KAS PARTICIPANTS ARE STRONGLY ENCOURAGED TO REGISTER IN ADVANCE

Late registration begins March 14, 2007, and continues through Saturday morning, April 14. Only late registration fees can be paid on the days of the conference—April 13 and 14—meals may not be purchased after April 9.

WE LOOK FORWARD TO SEEING YOU IN SALINA

Eric Trump, President-Elect and Meeting Co-organizer (etrump@emporia.edu)
Dorothy Hanna, Meeting Co-organizer (dahanna@kwu.edu)

KANSAS ACADEMY OF SCIENCE STUDENT RESEARCH GRANT PROGRAM

The Kansas Academy of Science (KAS) Student Grant Program has been established to foster the scientific research of student members of the KAS or students whose major advisors are members of the KAS. Grants up to \$500 for Ph.D. and M.S. students and up to \$250 for undergraduates will be awarded to support investigation in any scientific field and in any locality.

The submission deadline for student research grant applications is December 1, 2006.

Funding is to be used by students to pay for research expenses such as the purchase of supplies and equipment, travel to and from research sites, and the purchase or collection of data. Grants are not to be used for: tuition, room and board, textbooks, curriculum development, salaries or stipends for applicants or assistants, manuscript preparation, or publication costs.

For application materials and instructions follow the link from the KAS home page:

<http://www.washburn.edu/kas>

RESEARCH PROGRESS OF STUDENT GRANT RECIPIENTS

Last year, five students from around the state received KAS grants to facilitate their research activities. Their ongoing investigations explore a wide range of interesting topics including:

- sensory physiology of defensive spitting behavior in spitting cobras,
- biology and distribution of the spotted skunk in Kansas,
- life histories of two species of unionid mussels in the Neosho and Verdigris rivers in southeastern Kansas,
- distribution and extent of hybridization between two species of short-tailed shrew in northeastern Kansas, northwestern Missouri and southwestern Iowa, and,

- a study of the population genetics of the Indian meal moth in the United States and selected foreign countries.

Melissa A. Boetig, a student at Washburn University, assisted Dr. Bruce Young in an investigation of the spitting behavior of spitting cobras (*Naja siamensis*, *N. nigricollis*, and *N. pallida*) this summer in the laboratory of a colleague at the University of Bonn in Germany. The study, which involved surgically implanting small, integrated circuit chips onto the snakes' heads, was designed to elucidate: what triggers the cobra to spit, whether it targets the eyes of a potential predator, and exactly how sensory input is coordinated with motor responses, which ultimately includes the directed ejection of venom from the fangs. Both Melissa and Dr. Young are currently in the process of analyzing the large amounts of data obtained during the three-week study in Germany. Melissa also observed the spitting behavior of baby cobras that hatched in the laboratory while they were in Germany.

Shannan K. Nilz of Fort Hays State University is conducting fieldwork with Dr. Elmer Finck to determine the current status and distribution of the spotted skunk (*Spilogale putorius*) in southeastern Kansas. This species has been in decline throughout most of its range for the past 4 decades and is listed as a protected or threatened species in many states. Using live trapping to detect the skunk's presence, the team found this species in Cherokee County during November 2005, but failed to find it elsewhere in southeastern Kansas. Other methods, such as using track plate stations, are currently being used to increase the probability of finding this elusive species. The team will formulate recommendations related to the conservation status of the spotted skunk in the Recovery Plan which will be submitted to the Kansas Department of Wildlife and Parks in the spring of 2007.

Travis Robb of Pittsburg State University, under the guidance of Dr. James Triplett and in close association with Ed Miller of the Kansas

Department of Wildlife and Parks, is collecting basic life history information on the monkey-face (*Quadrula metanerva*) and the three-ridge mussel (*Amblema plicata*) in the Neosho and Verdigris rivers in southeastern Kansas. Until a recent moratorium went into effect, fresh water mussels had been commercially harvested in Kansas to the detriment of many species. Mussels of each species taken from both rivers are being aged by counting the growth rings in thin cross-sections of the shells. Important questions Travis hopes to answer include: how long do they live, how long do females reproduce, and how does size and age of populations in the Neosho compare with their size and age in the Verdigris river.

Cody W. Thompson of Fort Hays State University, under the guidance of Dr. Elmer Finck, is investigating the distribution and extent of hybridization between two closely related species of short-tailed shrews (*Blarina brevicauda* and *B. hylophaga*) in northeastern Kansas, southeastern Iowa and northwestern Missouri. Samples of both species have been collected, standard morphological measurements have been taken, and DNA analysis is underway. By determining their distributions, which appear to be related to recent glaciation events, and the extent of hybridization and gene flow between these closely related species, Cody hopes to see if speciation is still in progress.

Tony Grace of Kansas State University, under the guidance of Dr. Srinu Kambhampti, is exploring the population genetics and breeding structure of the Indian mealmoth (*Plodia interpunctella*), a major pest of raw and processed foods throughout the world. Samples have been collected from 27 Kansas counties, 17 states and 15 countries. So far, he has developed five polymorphic microsatellite loci and have tested these on field populations. The use of microsatellite markers is a powerful tool to determine gene flow among different populations, and hence may enable us to determine how this pest is spreading across the globe.

One major reason why I am proud to be part of the Kansas Academy of Science is its support of such interesting, important research in many diverse disciplines.

by *Hank Guarisco, editor*

Fossil of Dwarf Water Buffalo Found

Not all water buffaloes weigh a ton and grow to heights of six feet at the shoulders. Some are dwarfs. And one especially small extinct buffalo species, scientists say, sheds new light on the phenomenon of island dwarfism and the recent discovery of the “little people” who once lived on the Indonesian island Flores.

Remains of the extinct dwarf buffalo were found 50 years ago in a cave on Cebu, an island in the Philippines, but were not brought to the attention of scientists at the Field Museum in Chicago until recent years. They determined that the animal, which they named *Bubalus cebuensis*, weighed about 350 pounds and stood only two and a half feet at the shoulders. The researchers were unable to date the fossils but thought it unlikely that they were more than a few tens of thousands of years old. A different species of dwarf buffalo lives today on Mindoro Island in the Philippines. But at 500 pounds, it is large compared to the extinct Cebu dwarf.

The discovery is being reported in *The Journal of Mammology*. The researchers said this was the first well-supported fossil example of “island dwarfing” among cattle and their relatives and could provide insights into other small-bodied species, including the proposed new fossil hominid *Homo floresiensis* in Indonesia.

by *John Noble Wilford, The New York Times, Tuesday, October 17, 2006*

New Biography of Raymond Cecil Moore, the Kansas “Geo-Giant”

A monumental work on the life and scientific contributions of probably the most outstanding Kansas geologist, Raymond Cecil Moore, is being written by Dan Merriam, Senior Scientist Emeritus of the Kansas Geological Survey (KGS) and former editor of the Transactions of the Kansas Academy of Science. Moore’s living legacy is the *Treatise on Invertebrate Paleontology*, a series of many volumes, the first published in 1954, which is the major, ongoing synthesis of knowledge in this area. Moore founded and funded the Paleo Institute at KU to tackle this enormous task. In addition to writing many parts himself, Moore engaged paleontologists the world over to contribute to the *Treatise*.

As a former doctoral student of Moore’s, Dan Merriam is in a uniquely qualified position to portray the life, times, and contributions of a man he has characterized as a great synthesizer and the most influential stratigrapher of the 20th century in America. According to Dan, Moore was the original “multitasker.” He would even take a book with him to KU basketball games, and was able to accomplish in one week more than most people could accomplish in a month. Moore was an avid field-man but was a notoriously bad driver, so Dan drove the vehicle on student field trips and research excursions. This enabled him to spend a lot of time with Moore. He was a demanding instructor, well verse in the classics and particularly adept with languages, impatient with carelessness and disorganization, and expected his students to perform to high standards.

It will be a pleasure to read about many interesting aspects of the life and accomplishments of such a notable person as R.C. Moore. The biography will be completed in 2007 to coincide with the Geological Society of America Section Meeting.

by Hank Guarisco, editor

Funding for Prairie Research

Prairie Biotic Research (PBR) is a Wisconsin nonprofit established in 2000 to foster biotic research in prairies. One way we do this is through a Small Grants Program that funds grants up to \$1,000 for the study of any grassland taxon in the United States. We are especially eager to support independent researchers (individuals lacking institutional support), but anyone may apply. Since 2002, we’ve awarded 34 grants worth nearly \$31,000 to researchers in 13 states to study insects, plants, mammals, reptiles, slime molds, mycorrhizal fungi, spiders, and invasive species. Many of these grants supported graduate student research.

TO APPLY FOR A GRANT: Contact Michael Anderson at Prairie Biotic Research, Inc., P.O. Box 5424, Madison, WI 53705, or by email at pbr-grants@tds.net for a 2007 Grant Application Form and instructions. Applications must be postmarked on or before January 8, 2007 to receive consideration.

TO BECOME A SUPPORTER: Please make a donation to our Small Grants Program. Any amount is welcome. PBR is volunteer-run and we maintain no offices so our overhead is very low. You may specify that your entire tax-deductible donation be given to researchers through our Small Grants Program. You may also specify the state where the research is to be done; research in one of three taxa (plants, invertebrates or vertebrates); graduate student research; or our Small Grants endowment fund.

STERNBERG MUSEUM DIRECTOR GETS GRANT TO STUDY DISTRIBUTION OF KANSAS MAMMALS

Dr. Jerry Choate, director of the Sternberg Museum of Natural History at Fort Hays State University, received a \$337,665 grant from the Kansas Department of Wildlife and Parks to assess the distribution and status of selected

Kansas mammals. A portion of the funding for the 2-year project will be provided by the US Fish and Wildlife Service. The project goals include mapping the current distributions of mammals in Kansas that are in need of conservation and possibly discovering species not yet known from the state.

In addition to saving tissue samples from these species for future genetic studies, the grant will enable Choate to develop two online database

systems. The first one will record the current distributions of mammals in GIS format and the second database will record information on caves and cave-like structures in Kansas that are occupied by bats. The project will also evaluate existing prairie dog survey data in Kansas. This research will update information on Kansas mammals and provide data in Web-based format for use by other scientists, conservation personnel and the general public.

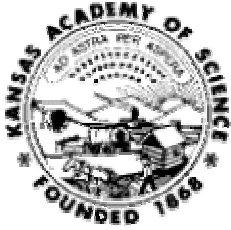
IT'S ELECTION TIME!!!

ELMER FINCK: Candidate For Vice President

Dr. Elmer J. Finck is professor and chair of the Department of Biological Sciences at Fort Hays State University. His research interest is the ecology of birds and mammals on the Great Plains. Elmer has been a member of KAS since his graduate school days at Kansas State University in 1977, where he finished his PhD on behavioral ecology of the dickcissel (*Spiza americana*). Prior to coming to Kansas, Elmer received his BS and MS degrees from the University of North Dakota where he majored in wildlife and fisheries management and did his MS on plant ecology of western wheatgrass (*Pascopyrum smithii*) in the strip mines of western North Dakota. He received is AS in math from the College of Lake County in northeastern Illinois. Elmer has worked as a post-doc on Konza Prairie Biological Station near Manhattan, KS and was a professor and manager of the Natural Areas at Emporia State University for 12 years. He and his 30 graduate students have given numerous papers at the KAS meetings over the years

LARRY SKELTON: Candidate For Treasurer

Lawrence "Larry" Skelton earned the B.A. degree in geology at Indiana University, an M.B.A. at Trinity University in San Antonio, Texas and an M.S. in geology at Wichita State University. He completed the Economics of National Defense program with honors through the Industrial College of the Armed Forces and received certification in Advanced Logistics Management from the University of Dayton and Air Force Institute of Technology. He retired from the USAF with 21 years service in 1981. Most of his service career was spent in petroleum logistics management. He next spent 25 years with the Kansas Geological Survey and retired in July, 2006, in the position of Assistant Director for Wichita Operations. Larry served the Kansas Academy of Science as field trip chair, president-elect, president and for ten years as editor of the KAS Bulletin. He has published more than 40 papers on topics of geology and history.



KANSAS ACADEMY OF SCIENCE
ATTN: Pieter Berendsen
Kansas Geological Survey,
University of Kansas,
Lawrence, KS 66047



Kansas Academy of Science Election Ballot 2006

Place an X in the box beside your chosen candidate.
Space for write-ins provided.

Vice President	Elmer Finck	<input type="checkbox"/>
		<input type="checkbox"/>

Treasurer	Larry Skelton	<input type="checkbox"/>
		<input type="checkbox"/>

Please return ballot to:

Pieter Berendsen
Kansas Geological Survey,
University of Kansas,
Lawrence, KS 66047