

NATURAL INQUIRER

FORT HAYS STATE UNIVERSITY
Department of Biological Sciences

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FACULTY HAPPENINGS

Dr. Jerry Choate received the President's Distinguished Scholar for 2005. This is the highest award offered by Fort Hays State University. More on Jerry's recognition will appear in a future edition of the *Natural Inquirer*.

Dr. Elmer J. Finck was elected to the Board of Directors at the June 2005 annual meeting of the American Society of Mammalogists.

Dr. Eric A. Strauss joined the faculty of the Department of Biological Sciences in August 2005. Dr. Strauss received dual BS majors in Fisheries Biology and Chemical Science at Kansas State University, a MS at Kansas State University, and a PhD at University of Norte Dame. He comes to us from a post-doc with the US Geological Survey in La Crosse, Wisconsin. Dr. Strauss is a microbial ecologist who specializes in ecosystem analysis.

GRADUATE STUDENTS

In November 2004 graduate student Shauna Marquardt visited Mrs. Marlene Davidson's 1st grade class at Roosevelt Elementary in Hays, KS to talk to the students about bats. First-graders learned about the diversity of bats, where they live, and what they eat. The students were especially impressed by the museum specimens of a fishing and fruit bat that Shauna brought with her.

Graduate students successfully completing their oral exams since November 2004 include Erik Bartholomew, A. J. Thomas, Scott Thomasson, Lance Thurlow and Curtis Wolf.

MEETINGS & WORKSHOPS

Fort Hays State University's Department of Biological Sciences hosted the annual meeting of the Central Plains Society of Mammalogists (CPSM) on October 15th, 16th, and 17th 2004. The following FHSU graduate students presented at the meeting: Shauna Marquardt presented the paper, "Differential energetic demands of chiropteran maternity roosts as determined by diet;" Brian Bartels presented the paper, "Identification and distribution of cinereus (*Sorex cinereus*) and prairie

shrews (*Sorex haydeni*) on the northern Great Plains;" Shannan Nilz presented a poster titled, "Sternberg Museum of Natural History: Ecotour in South Africa." FHSU alum Justin Hoffman, now pursuing his Ph.D. at University of Nebraska, Lincoln, presented a paper titled, "Species richness of three national parks in central New Mexico." Three students from Central Missouri State University and advisees of Dr. Victoria Jackson, an alumnus of FHSU, presented papers as well at the CPSM meeting.

The Kansas Herpetological Society (KHS) meeting was held on November 6th and 7th in Manhattan, Kansas. Curtis Schmidt, who just completed the M.S. degree in Biology at FHSU under the tutelage of Dr. William Stark, was elected President-Elect of the Kansas Herpetological Society. Curtis presently is employed as Associate Curator for the collection of Amphibians and Reptiles in the Sternberg Museum of Natural History. Travis Taggart (who earned his B.S. in Biology, at FHSU in 1995 and moved on to Southeastern Louisiana University for graduate studies) is serving as Local Committee Chairperson for the 2006 annual meeting of the Kansas Herpetological Society, which will be held at Fort Hays State University. Travis presently is employed as Associate Curator for the collection of Amphibians and Reptiles in the Sternberg Museum of Natural History. Erik Bartholomew, graduate student, presented the paper, "Fire effects on snakes at Quivira National Wildlife Refuge," and received the Alan H. Kamb award for research on Kansas snakes in 2004. Other FHSU students that attended the meeting included David Bender, Jessica Schmitt, Jason Wagner, and Steven Walters.

Graduate student Shauna Marquardt, along with Stan Roth and Dr. Jerry Choate, presented a paper at the annual meeting in April 2005 of the Southwestern Association of Naturalists titled "Differential energetic demands of chiropteran maternity roosts as determined by diet."

During the summer of 2005 graduate student Shauna Marquardt and Dr. Jerry Choate presented a paper at the annual meeting of the American Society of Mammalogists titled "Diet, energetics, and maternity roost selection of a cavernicolous bat, the cave myotis."

In September 2005 Dr. Chris Bennett attended the Fourth International Symposium of Lithographic Limestones and Plattenkalks in Eichsta, Germany and gave a paper entitled "Review of *Ctenochasma*: Taxonomy and ontogeny."

Mark Eberle attended the 135th Annual Meeting of the American Fisheries Society in Anchorage, Alaska, September 13-15. In addition to attending oral presentations and poster sessions during all three days, he gave a talk in a symposium on "Ecology and Management of North American Prairie Streams", which consisted of 20 oral presentations. It was titled "Homogenization of fish faunas and concurrent anthropogenic impacts on plains streams in western Kansas". It was based on research he has conducted during the last two years regarding changes that have occurred during the last 150 years in the fish communities of the Republican, Smoky Hill, Arkansas, and Cimarron river basins in Kansas.

On 1 October 2005, faculty, graduate, and undergraduate students attended the fall 2005 meeting of the Kansas Ornithological Society in Wichita, Kansas. The meeting consisted of a paper session including presentations from faculty member Dr. Greg Farley, who presented the thesis research of graduate student A.J. Thomas, and graduate students Shaun Dunn, Matthew Sexson, and Amy Zavala. Sexson was presented with the best student paper award for his presentation regarding the reproductive success and management for Snowy Plovers in Kansas.

News Release:

Several representatives of Fort Hays State University's Sternberg Museum of Natural History presented papers at the 64th annual meeting of the Society of Vertebrate Paleontology in Denver in November.

Bruce Schumacher, adjunct curator at the Sternberg Museum, Barbara Beasley, United States Department of Agriculture Forest Service, and Peter Ambrose, United States Department of Agriculture Forest Service, presented "Use of GIS in Managing Fossils on Federal Lands -- The USDA Forest Service Fossil Yield Potential Classification System."

Kenshu Shimada, adjunct curator of the Sternberg Museum, and Emily Beeson, United States Department of Agriculture Forest Service, presented "Vertebrates From A Unique Bonebed of the Upper Cretaceous Niobrara Chalk, Western Kansas."

Chris Bennett, associate curator of paleontology at the Sternberg Museum and assistant professor of biological sciences, presented "New Information On the Pterosaur

Scaphognathus Crassirostris and the Pterosaurian Cervical Series."

Mike Everhart, adjunct curator of the Sternberg Museum, presented "Conchoidal Fractures Preserved on Elasmosaur Gastroliths Are Evidence In Processing Food."

Takehito Ikejiri, Nagoya, Japan, graduate student, presented "Relative Growth and Timing of Ontogenetic Changes In Camarasaurus (Dinosauria, Sauropoda)." Schumacher and Greg Liggett, instructor of biological sciences, presented "The Dinosaurs of the Picket Wire Canyonlands: A Glimpse Into the Morrison Basin of Southeastern Colorado."

Shimada; Stephen Cumbaa of the Canadian Museum of Nature in Ottawa, and Deanne Van Rooyen, Carleton University, Ottawa, Ontario, Canada, presented "Caudal Fin of the Late Cretaceous shark: *Cretoxyrhina* Mantelli (Lamniforms: *Cretoxyrhinidae*)."

William Wahl, Thermopolis, WY, graduate student, presented "Juvenile Plesiosaur Fossil Assemblage and Paleocommunity of the Upper Redwater Shale (Oxfordian-Callovian) of the Sundance Formation, Natrona County, Wyoming."

Other students who attended the meeting were Reira Konuki, Ebetsu City, Hokkaido, Japan, graduate student; John Rebar, Franklinsville, NJ, graduate student; and Kyle Valerio, Butler, PA, graduate student.
- FHSU Office of University Relations

The 34th Annual North American Symposium on Bat Research was held in Salt Lake City, Utah the 27th through the 30th of October 2004. FHSU graduate student Shauna Marquardt presented a poster entitled, "Bats Along the Big Hole River, Montana: A Second Year of Inventory."

On November 17, 18, and 19, Dr Eric Gillock, Dr Mary Morgan and graduate students Lance Thurlow and Scott Thomasson attended a training workshop at Licor Biosciences in Lincoln, Nebraska. The topic of the workshop was using the Licor model 4300 sequencer for the analysis of AFLPs and microsatellites.

PUBLICATIONS

Dr. Jerry Choate co-authored the following papers with former graduate students and professional colleague:

- Marquardt, S. R., J. R. Choate, and S. D. Roth, Jr. 2005. Continued range expansion by the cave myotis. *Prairie Naturalist*, 37: 51-52.
- Pitts, R. M., J. R. Choate, and N. A. Hernandez. 2005. Reproduction of the plains pocket gopher (*Geomys bursarius*) and Baird's pocket gopher (*G. breviceps*) in Texas. *Southwestern Naturalist*, 50: 393-397.

Dr. Joe Thomasson published the following paper:

- Thomasson, J. R. *Berriochloa gabeli* and *Berriochloa huletti* (Gramineae:Stipeae), two new grass species from the Late Miocene Ash Hollow Formation of Nebraska and Kansas. *Journal of Paleontology*, 79: 185-199.

Graduate student Lance Thurlow and Dr Eric Gillock recently published a manuscript:

- Thurlow, L. R. and Gillock, E. T. 2005. Characterization of two environmental bacterial isolates by 16S rRNA sequence analysis, fatty acid methyl ester analysis, and scanning electron microscopy. *Transactions of the Kansas Academy of Science*, 108: 22-31.

GRANTS AND CONTRACTS

In May 2005, Dr. Elmer J. Finck and Cody W. Thompson (graduate student) received a Fort Hays State University Graduate School Small Research Grant, which totaled \$1,095. The funding has been used to purchase karyotyping and field supplies to support their short-tailed shrew research in southern Iowa and northern Missouri.

Dr. Elmer J. Finck and Shannan K. Nilz (graduate student) received a two-year State Wildlife Grant (\$74,383) from the Kansas Department of Wildlife and Parks to assess the status of the eastern spotted skunk (*Spilogale putorius*) in Kansas, and to write a state conservation plan for the species. Part of the funding was used to support a graduate research assistantship for Shannan, and to hire FHSU Biology graduate student, David Bender, and FHSU Biology undergraduate student, Mike Taylor, to assist with the field work associated with the project.

Dr. Jerry Choate and one of his graduate students (Shauna Marquardt) completed a contracted environmental impact assessment for bats at the proposed project area of the Munkers Creek Windfarm in the Flint Hills of Kansas.

FIELDTRIPS

Fall Agrostology Fieldtrip

In mid-September Dr. Thomasson and agrostology (grass taxonomy) students Sarah Carrow, Allen Casey, James Leiker, Nolan Rothe, Hector Serna, and Samantha Terhune traveled to the Sand Hills of Nebraska and the Black Hills of South Dakota as part of a class fieldtrip to study living and fossil grasses.

An early roadside stop the first day near Harlan County Reservoir in Nebraska to see gamma grass provided more excitement than anticipated when group members also found several 8-10 million year old (Miocene) vertebrate fossils. Among the fossils recovered was an excellently preserved horse hoof, clearly providing evidence of ancient grasslands in the region.

Later the same day the class stopped at Scout Canyon in central Nebraska near Ash Hollow State Historical Park, the locality where Dr. Thomasson collected two fossil grasses recently described as new species in the *Journal of Paleontology* (January 2005). Students spent several hours roaming around the site examining living grasses and digging for fossil plants, finding a number of different fossil grasses, sedges, borages, and hackberries. Sitting at the site near the end of the day everyone was treated to a beautiful sunset over the North Platte River within sight of the Oregon Trail.

Beginning day two, the class visited Clear Creek Wildlife Management Area along the North Platte River where Matt Welsh (B.S. 2005), a former botany advisee of Dr. Thomasson, was recently hired as a conservation technician for the Nebraska Game and Parks.

Matt showed the group how he worked with wetland areas to benefit waterfowl, and stressed to agrostology students how important it was for him to know the plants in the area, including the grasses, in order to effectively and efficiently complete his work tasks.



The remainder of the day was spent traveling through the Sand Hills, making several stops to learn about and collect living grasses for required class collections. Students who had never been through Nebraska's sea of grasses were impressed with grass covered dunes extending from horizon to horizon and with the variety of grasses encountered. As class members examined grasses next to the road in Crescent Lake National Wildlife Refuge, a somewhat zealous official spotted some grass specimens hanging from Nolan's notebook and stopped and began lecturing the group about collecting permits (they had none) and citations (they wanted none). Dr. Thomasson politely explained that the specimens had been collected outside the refuge, and after briefly wondering if Nolan might have to be left behind to do some hard labor, the class quickly beat a path north out of the refuge. It also need not be mentioned of course that Allen's notebook is lying along the road somewhere in Nebraska as evidence of the group's collecting activities. The day ended in Lead, South Dakota where class members stayed at a house owned by Dr. Daryl Mergen (M.S., FHSU, biology, 91) that serves as headquarters for botanical surveys on which Dr. Thomasson and several biology alumni and current students have participated since 2002.



During the third day the agrostology class, accompanied by Dr. Mergen in the morning, visited several sites in the Black Hills, including Annie Creek, Rough Lock Falls, and Iron Creek, where they had the opportunity to see and collect grasses with more montane habitat requirements. At Annie Creek Dr. Mergen's lab Sonny provided entertainment by demonstrating the proper technique for retrieving a log from a mudhole while it was still rooted to the bottom. The last site visited was a pine forest locality where Hector is studying *Calochortus apiculatus* (three spotted sego lily) for his masters's work, and where Sarah will shortly begin her study of the plant's pollination biology. In spite of diligent searching by everyone, no specimens of this plant could be found this late in the season. The day ended with a visit to the Silverado Casino in Deadwood, South Dakota where it just happened to be all of the crab legs and prime rib you could eat for \$12 - class members ate well!

Sunday was a quick dash back to Hays, but everyone agreed that the fieldtrip was a great experience and that everyone learned a lot.

EDITORIAL COMMENT

Stories or news items to be included in future issues of the *Natural Inquirer* should be sent both to Dr. Joe Thomasson (jthomass@fhsu.edu), editor, and Shaun Dunn (smdunn@scatcat.fhsu.edu). Submissions should be prepared in 10 pt Times New Roman Normal font and submitted as a dated Word (.doc) file (e.g., Dunn102905.doc). Photos should be included within the submission at the desired point, and should in a .jpg file format with a resampled width of 4 inches at 72 dpi resolution. Use the text of stories/items and sections (**BOLD**) in this issue as a guide for submissions. The editor welcomes suggestions for additional sections. With this issue we are initiating a new section, **CLOSING PICTURE**, and we invite you to provide a description and neat picture you might have of any biological creature such as the one below.

CLOSING PICTURE



HOLY PLOVER BATMAN!

During the past summer, Matt Sexson conducted research at Quivira National Wildlife Refuge and Cheyenne Bottoms Wildlife Management Area, Kansas, in support of his thesis entitled "Nest-site selection and reproductive success of the Snowy Plover in Kansas". In total, Sexson located 263 Snowy Plover nests between the two shorebird rich areas. In addition, Sexson captured and placed leg bands used for identification of individuals, on 80 adults and 81 chicks. Sexson has presented his preliminary data analysis from the summer at the fall meeting of the Kansas Ornithological Society in Wichita, KS and at the 29th annual meeting of The Waterbird Society in Jekyll Island, Georgia. The chick in this picture was banded and photographed only one day after hatching.