

The Natural Inquirer

FORT HAYS STATE UNIVERSITY DEPARTMENT OF BIOLOGICAL SCIENCES



Volume 13, Issue 1

Fall Semester, 2014

Congratulations to Dr. Brian Maricle for winning the Dr. John Heinrichs outstanding undergraduate research mentor award for 2014!



Dr. Maricle and his wife, Janel

Four members of the Department of Biological Sciences at Fort Hays State University attended the 2014 **Botanical Society of America meeting** in Boise, ID, on July 27-30.

FHSU attendees included Dr. Brian Maricle and undergraduate students Keri Caudle, Cera Smart, and Christina Hilt.

Presentations included the following:

Caudle, K.L., C. Brown, and J. Kaldy. Comparing photophysiology of seagrasses in the Pacific Northwest: Potential implications for species interactions.

Caudle, K.L., C.M. Smart, C.J. Hilt, and B.R. Maricle. The role of root aerenchyma in oil tolerance of wetland plants.

Galliard, M., L. Johnson, S. Sabates, H. Tetreault, A. DeLaCruz, J. Bryant, T.J. Morgan, M. Knapp, N.M. Bello, S.G. Baer, D. Gibson, L. Wilson, K.L. Caudle, and B.R. Maricle. Adaptive potential and trait variation of a widespread grass *Andropogon gerardii* across Great Plains climate gradient: Implications for climate change.

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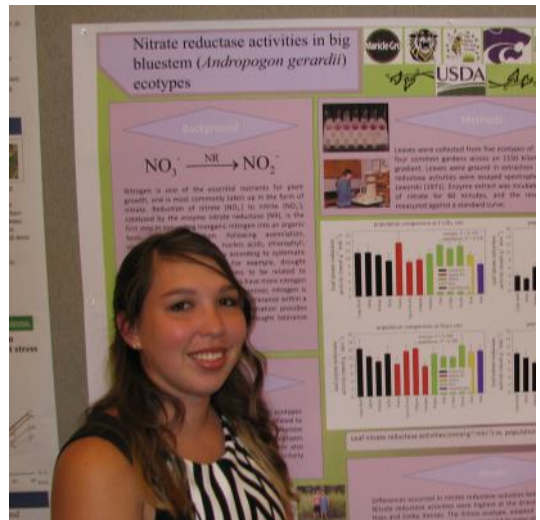
BSA meeting presentations, continued:

Maricle, B.R., K.L. Caudle, J.T. Olsen, J. Bryant, A. de la Cruz, A. Jensen, S.G. Baer, N.M. Bello, and L.C. Johnson. A possible mechanism for increased performance of a xeric adapted big bluestem (*Andropogon gerardii*) ecotype: Photosynthesis, nitrogen, and chlorophyll concentration of leaves in reciprocal gardens across the Great Plains.

Smart, C.M., D.L. Kramer, K.L. Caudle, C.J. Hilt, S.G. Cheema, L.C. Johnson, S.G. Baer, and B.R. Maricle. Nitrate reductase activities in big bluestem (*Andropogon gerardii*) ecotypes. (Poster presentation).

Gaffney, J., M. Galliert, S. Sabates, S. Baer, B. Maricle, E. McCrea, N.M. Bello, and L. Johnson. Variations in polyploidy in Big Bluestem (*Andropogon gerardii*) ecotypes across the Great Plains. (Poster presentation).

Caudle, K.L., C.J. Hilt, C.M. Smart, D.L. Kramer, S.G. Cheema, L.C. Johnson, S.G. Baer, and B.R. Maricle. Pigment variation among ecotypes of big



bluestem (*Andropogon gerardii*) across a precipitation gradient. (Poster presentation; **best student poster in the Physiological section**)



Hilt, C.J. and B.R. Maricle. Physiological responses of grasses to drought and flooding treatments. (Poster presentation; **Li-Cor prize for student poster in the Physiological section**).

Congratulations to Keri Caudle and Christina Hilt, who won their awards as undergraduates competing against M.S. and Ph.D. students from other institutions!!



The FHSU group at the Boise Botanical Garden, Botanical Society of America meeting, July 27-30, 2014 (l-r: Dr. Brian Maricle, Keri Caudle, Christina Hilt, Cera Smart)

Six graduate students and seven undergraduates, along with Dr. Elmer J. Finck, attended the 26th annual **Central Plains Society of Mammalogists** meeting at Missouri State University, Bull Shoals Field Station, on October 10th and 11th, 2014. The following students gave presentations at the meeting:

Taylor W. Rasmussen and Elmer J. Finck. Status of the Franklin's ground squirrel (*Poliocitellus franklinii*) in Kansas.

Samantha Pounds, Michael J. Shaughnessy and Elmer J. Finck. A survey of small mammals in south western North Dakota.

Elizabeth G. Bainbridge, Melissa D. Wagner, Elmer J. Finck and David Koch. Gender differences in space-use patterns of southern flying squirrel (*Glaucomys volans*) throughout northeastern Iowa.

Mitchell Meyer and Victoria Jackson. Black-footed ferret (*Mustela nigripes*) dispersion in western Kansas (poster presentation, **graduate student poster award**)

Mitchell Meyer was also elected Student Representative to the CPSM Board of Governors. Betsy Bainbridge was re-elected as the CPSM Webmaster.

FHSU students and faculty attended the 66th annual meeting of the **Kansas Ornithological Society**, October 3-5, at Kansas Wesleyan University in Salina. Dr. Elmer Finck and Dr. Greg Farley were joined by several undergraduate and graduate students, two of whom presented original research as part of a particularly outstanding paper session.

KOS meeting presentations:

Jeffrey J. Carter, Greg H. Farley, Eric T. Gillock. Ciprofloxacin-resistant bacteria in bird species exposed to varying levels of human disturbance.

Nina M. Luna and Greg H. Farley. Possible effects of black-tailed prairie dogs on abundance and diversity of raptors in mixed and shortgrass prairie of western Kansas.



Message from the new Departmental Chair Dr. Greg Farley:

Happy New Year from FHSU Biology, and I hope this edition of our department newsletter finds you well, and recovering from your holiday torpor!

To quote our new University President, Dr. Mirta Martin, it is "time for new beginnings", and my hope is students, alumni, and faculty all contribute to this vision. A priority of our evolving administration is to identify several "Programs of Distinction" across campus. The contents of this issue illustrate FHSU Biological Sciences' excellence in our state, and across the region and nation. We continue to expand our presence globally, and have a new graduate student from Nepal working with Dr. Brian Maricle.

The recent awards at the BSA meeting (see pg. 2) to undergraduate researchers indicate our Botany program is flourishing. The same pattern of success continues for our excellent student researchers supported by the NIH-funded KINBRE program. The program's goals are to identify and recruit promising undergraduate science students into biomedical careers, and the productivity of our current students is indicative of potential accomplishments. As you will see in these pages, there are also several interesting projects in mammalogy, fisheries, entomology, herpetology, and landscape ecology.

We welcome a new faculty member, Dr. Mitch Greer, who has joined us from Oklahoma State University with expertise in rangeland ecology and contemporary teaching methods. He will be featured in the next issue of *The Inquirer*, so stay tuned to "meet Mitch" ...

Your interest and ongoing generosity allow us to support many of the adventures you may recall from your time as students. Donations to the FHSU Foundation for departmental scholarships support student travel to professional meetings, off-campus field trips, undergraduate and graduate student research, and reward student excellence in and out of the classroom and lab.

Graduate Student News:

Scott Brack has accepted a position as Fish Culturist with the New Mexico Department of Game and Fish. He is located at the Los Ojos Fish Hatchery in Los Ojos, NM.

Brian Serpan completed his M.S. thesis this semester. The title of his thesis was “Age, Growth, and Simulation Modeling to Characterize Fish Populations at Two Reservoirs in South-Central Kansas.” Future plans include continuing reports, presentations, and publications related to his graduate research, searching for biologist jobs within the state, and marrying Abigail Pflughoeft on December 27th!



Ryan Shofner (M.S. '14) writes:

“I have accepted a position as a Ph.D. student at the University of New South Wales in Sydney, Australia and am the recipient of their competitive Tuition Waiver Scholarship (TWS) for international students. I will be starting in February 2015 studying the systematics of lace bug (Tingidae) species that are major pests of Macadamias. This is part of a larger study that is looking for an integrated approach to controlling these pests. My advisor (supervisor in Australia) is Dr. Gerry Casis and co-supervisor is Dr. Malte Ebach. This is an exciting opportunity for Sara and me, and we're both looking forward to the adventure of moving to Australia! Thanks to everyone at Fort Hays that helped make this possible!”

Congratulations to **Patrice Betz** and **Samuel Smith** for completing their oral exams this semester!

In July, Mark Eberle led the 2014 **Pacific Northwest field trip**. Pictured left to right are: Michael Christman, Mark Eberle, Joanna Fay, Andrew Karlin, Jenna Shepherd, Arrielle Nieves, and Diedre Kramer.



The class hiking along the John Dellenkback Dunes Trail, Oregon Dunes National Recreation Area.

Photos by Andrew Karlin

Students observing a fire-hollowed giant sequoia which had fallen prior to discovery of the grove.
Calaveras Big Trees State Park, California.



Pacific Northwest field trip, continued:

Photos by Joanna Fay



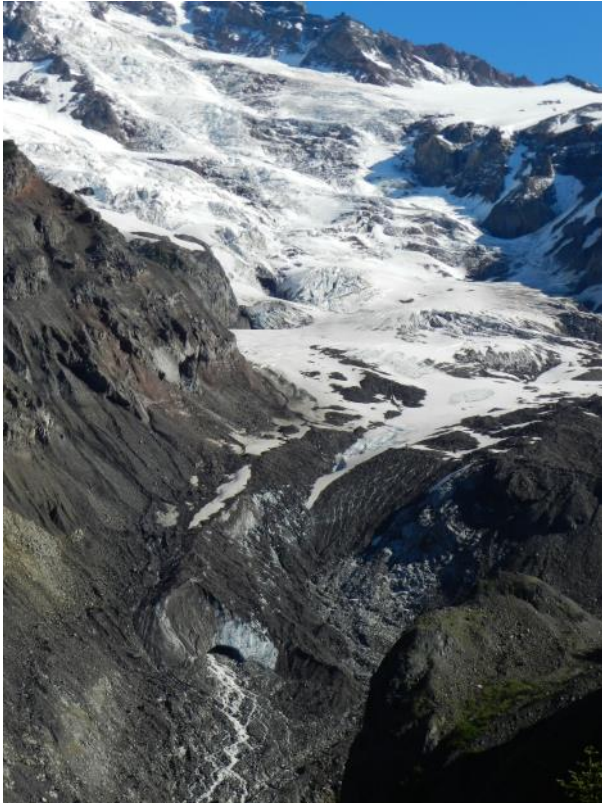
L-R: Diedre Kramer, Jenna Shepherd, and Arrielle Nieves



Class at Sunset Bay State Park tidepools, Oregon. Photos by Mark Eberle (left) and Andrew Karlin (below).



Pacific Northwest field trip, continued:



Nisqually Glacier and glacial meltwater (origin of the Nisqually River) on Mount Rainier. Mount Rainier National Park, Washington.



Bristlecone pine near 10,000 feet elevation. Great Basin National Park, Nevada.

Photos by Andrew Karlin



KWEC news

(Info and photos courtesy of wetlandscenter.fhsu.edu and www.facebook.com/wetlandscenter)

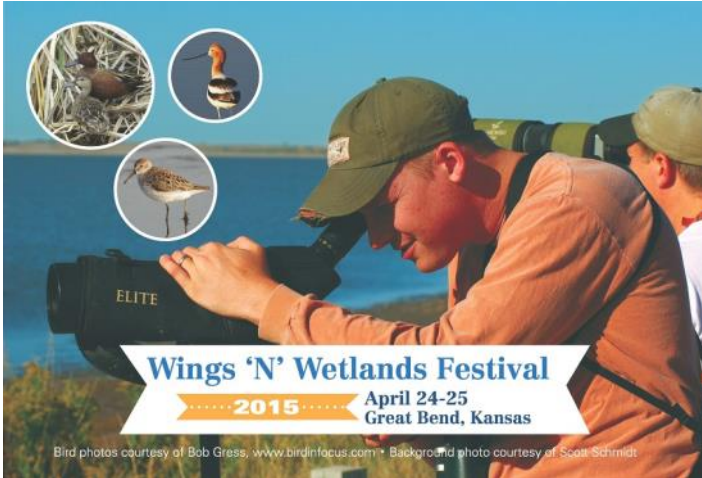
The Kansas Wetlands Education Center hosted their annual Butterfly Festival on September 13, 2014, from 9 a.m. to noon. Activities included a monarch photo board, crafts, making seed "bombs" and lobbing them into the prairie with large slingshots, and tagging monarch butterflies.

A total of twelve monarchs (five captured on the 13th, and the other seven captured previously) were tagged and released. Female monarchs were observed on tropical and swamp milkweed, laying eggs for the generation that will make the migration to Mexico.

(KWEC news continues on next page)



KWEC news, continued:



The Wetlands Center is getting ready for the 2015 Wings 'N' Wetlands Festival on April 24-25, 2015, in Great Bend, KS. The festival will include guided tours of Cheyenne Bottoms and Quivera National Wildlife Refuge at the height of spring migration. Registration information can be found at:

kansasbirdingfestival.org

New FHSU president **Dr. Mirta Martin** visited the Department of Biological Sciences on Tuesday, December 9. Dr. Martin ate lunch with KINBRE students and faculty, then toured the microbiology research lab, the plant physiology lab, the fish research lab, and the computer lab.



Dr. Martin with KINBRE students. L-R: Paige Evans, Alexyss Leiker, Claire Nash, Dr. Martin, Jenna Ball, and Melissa Vides

600 Park Street
Hays, KS 67601
Phone: 785-628-4214

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