

ECOLOGICAL GENOMICS

Symposium

Poster Abstracts

October 28-30, 2016 · Marriott Country Club Plaza · Kansas City, Missouri

Undergraduate Posters

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Bacterial Motility Experimentally Evolves in Response to Chemoattractant Selection and Phage Predation

Blazanin, Michael; Travisano, Michael

University of Minnesota—Twin Cities, Ecology, Evolution and Behavior (MB); University of Minnesota (MT)

2

Host cues establish selective conditions favoring the experimental evolution of avirulent agrobacterial cheaters

Blazanin, Michael; Parish, Spencer; Platt, Thomas

Kansas State University, Biological Research Experience for Undergraduates (MB); Yale University (SP); Kansas State University, Division of Biology (TP)

3

Genetic architecture of multi-trait adaptation to geothermal soils in yellow monkeyflowers of Yellowstone National Park

Breigenzer, Peter; Finseth, Findley; Fishman, Lila

University of Montana, Division of Biological Services (PB); University of Montana, Division of Biological Services (FF); University of Montana, Division of Biological Services (LF)

4

Polyploidy and diversity in Phlox: unusual patterns of genome size in *P. nana* Nutt. (*Polemoniaceae*)

Ladner, Jamie; Mayfield, Mark H.; Prather, Alan; Ferguson, Carolyn J.

Kansas State University, Herbarium and Division of Biology (JL); Kansas State University (MM); Michigan State University (AP); Kansas State University, Division of Biology (CF)

5

Differential enzyme and physiological response to heavy metal stress in mine and old field populations of *Andropogon virginicus*

Nielsen, Kara; Sharpe, Samantha; Johnson, Loretta

Grinnell College (KN); Kansas State University, Division of Biology (SS); Kansas State University, Division of Biology (LJ)

6

A comparison of the effects of continuous versus patchy geographic distributions on the structuring of genetic variation in two bat-pollinated, wind dispersed *Agave* species (*Agavaceae*)

Swift, Joel; Lindsay, Denise; Jung, Michael; Lance, Richard; Edwards, Christine

Missouri Botanical Garden, Center for Conservation and Sustainable Development (JS); U.S. Army Engineer Research and Development Center (DL); U.S. Army Engineer Research and Development Center (MJ); U.S. Army Engineer Research and Development Center (RL); Missouri Botanical Garden, Center for Conservation and Sustainable Development (CE)

All Other Posters

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The Effect of Entomophagous Pathogens *Beauveria bassiana* and *Metarhizium anisopliae* on *Helicoverpa zea* larval gene expression

Alenezi, Munirah; Tobias, Terri; Hum-Musser, Sue M.; Musser, Richard
Western Illinois University, Biological Science (MA); Western Illinois University (TT); Western Illinois University, Biological Science (SHM); Western Illinois University, Biological Science (RM)

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Differential Gene Expression of *Helicoverpa zea* (tomato fruitworm) in Response to Feeding on Different Types of Tomato (*Solanum lycopersicum*) Plant Tissues

Al-Furaiji, Ammar; Bath, Donald; Hum-Musser, Sue; Musser, Richard
Western Illinois University, Biological Sciences (AA); Western Illinois University, Biological Sciences (DB); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (RM)

9

Predicting Phenotypic and genotypic response to the dominant prairie grass *Andropogon gerardii* to climate change in the Central US grasslands

Alsdurf, Jacob; Galliard, Matt; Knapp, Mary; Baer, Sara; Smith, Adam; Johnson, Loretta
Kansas State University, Division of Biology (JA); Kansas State University, Division of Biology (MG); Kansas State University, Division of Biology (MK); Southern Illinois University (SB); Missouri Botanical Garden (AS); Kansas State University, Division of Biology (LJ)

10

Effect of Plant Defense Hormones Jasmonate and Salicylate on Caterpillar Gene Expression

Alsubaie, Faisal; Oluwabukola, Ajasa; Khalil, Imtiaz; Hum-Musser, Sue; Musser, Ricard
Western Illinois University, Biological Sciences (FA); Western Illinois University, Biological Sciences (AO); Western Illinois University, Biological Sciences (IK); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Services (RM)

11

What Perceptions and Contexts Underpin Ghana's BioEthical Challenges in the 21 Century?

Asamoah, Akwasi
Assart Rossy Co., Ltd., Kokote Innovations (AA)

12

Oxygen transport in hydrogen sulfide-rich environments: myoglobin and hemoglobin gene expression and evolution

Barts, Nicholas; Passow, Courtney; Greenway, Ryan; Kelley, Joanna; Tobler, Michi
Kansas State University, Division of Biology (NB); University of Minnesota (CP); Kansas State University, Division of Biology (RG); Washington State University (JK); Kansas State University, Division of Biology (MT)

13

Comparative analysis of generalist *Helicoverpa zea* expression and growth on diverse array of host plants

Bath, Donald; Diveley, Kayleigh; Al-Furaiji, Ammar; Hum-Musser, Sue M.; Musser, Richard O.
Western Illinois University, Biological Sciences (DB); Western Illinois University, Biological Sciences (KD); Western Illinois University, Biological Sciences (AA); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (RM)

14

Asymmetry matters: genomic assessment of directional bias in gene flow excludes the apparent influence of exogenous selection for the maintenance of a spruce hybrid zone

De Lafontaine, Guillaume; Bousquet, Jean
University of Illinois in Urbana-Champaign, Plant Biology (GD); Université Laval (JB)

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Gene Expression Observed from the interaction between Corn Earworm (*Helicoverpa zea*) caterpillars and Corn (*Zea mays*) tissues

Diveley, Kayleigh; Hum-Musser, Sue; Musser, Richard

Western Illinois University, Biological Sciences (KD); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (RM)

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Exploring Leaf Associated fungal Communities of Common Grassland Plants

Ryan Estes

Kansas State University, Division of Biology (RE)

17

Dynamic shifts in the genetic architecture with age and across traits: Implications for evolutionary theories of aging

Everman, Elizabeth R.; Delzeit, Jennifer; Morgan, Theodore J.

Kansas State University, Division of Biology (EE); Kansas State University (JD); Kansas State University, Division of Biology (TM)

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Experimental Natural Selection of Big Bluestem Ecotypes Across the Great Plains: Evaluating Local Adaptation Under Realistic Conditions

Galliard, Matt; St. Amand, Paul; Polland, Jesse; Bello, Nora; Knapp, Mary; Baer, Sara; Maricle, Brian; Johnson, Loretta
Kansas State University, Division of Biology (MG); Kansas State University (PSA); Kansas State University (JP); Kansas State University (NB); Kansas State University (MK); Southern Illinois University (SB); Fort Hays State University (BM); Kansas State University, Division of Biology (LJ)

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OXPHOS evolution and ecological speciation in toxic sulfide springs

Greenway, Ryan; Kelley, Joanna; Tobler, Michael

Kansas State University, Division of Biology (RG); Washington State University (JK); Kansas State University, Division of Biology (MT)

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Transcriptomic Expression in Tomato Plants in Response to Arbuscular Mycorrhizal Symbioses and Caterpillar Herbivory

Khalil, MD Imtiaz; Barber, Nicolas; Al-Furaiji, Ammar; Hum-Musser, Sue; Musser, Richard

Western Illinois University, Biological Sciences (MIK); Western Illinois University, Biological Sciences (NB); Western Illinois University, Biological Sciences (AA); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (RM)

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Range genetics of eastern black cherry (*Prunus serotina* Ehrh. *Subsp. Serotina*) and its relationship to the rare Alabama cherry (*Prunus alabamensis* Mohr.)

Konrade, Lauren; Beck, James; Shaw, Joey

Wichita State University, Biological Sciences (LK); Wichita State University (JB); University of Tennessee at Chattanooga (JS)

22

Species range limits, recombination rate variation, and chromosome inversions shape deleterious load in wild barley

Lei, Li; Liu, Chaochih; Morrell, Peter

University of Minnesota, Agronomy and Plant Genetics (LL); University of Minnesota, Agronomy and Plant Genetics (CL); University of Minnesota, Agronomy and Plant Genetics (PM)

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Genomic regulation of abiotic stress response in the soil nematode *Oscheius tipulae*

McGlynn, Riley; Darby, Brian

University of North Dakota, Biology (RM); University of North Dakota (BD)

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High-throughput screening of microbial interactions with microwell arrays

Platt, Tom; Hansen, Ryan

Kansas State University, Division of Biology (TP); Kansas State University, Department of Chemical Engineering (RH)

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Genome Size Evolution in the Wild Sunflower *Genus Helianthus*

Qiu, Fan; Weston, Anastasia; Tetreault, Hannah; Whitney, Kenneth; Baack, Eric; Ungerer, Mark

Kansas State University, Division of Biology (FQ); Kansas State University, Division of Biology (AW); Kansas State University, Division of Biology (HT); University of New Mexico (KW); Luther College (EB); Kansas State University, Division of Biology (MU)

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Gene expression of bacteria-inoculated soybean glycine max in response to heat stress

Sairafi, Noor; Musser, Richard; Hum-Musser, Sue; Al-Furaiji, Ammar

Western Illinois University, Biological Sciences (NS); Western Illinois University, Biological Sciences (RM); Western Illinois University, Biological Sciences (SHM); Western Illinois University (AA)

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Transcriptomic Expression in Tobacco Plants in response to Arbuscular Mycorrhizal Symbioses and Caterpillar Herbivory

Sharbagi, Shereen; Khalil, Imtiaz; Hum-Musser, Sue; Barber, Nicholas; Musser, Richard

Western Illinois University, Biological Sciences (SS); Western Illinois University, Biological Sciences (IK); Western Illinois University, Biological Sciences (SHM); Western Illinois University, Biological Sciences (NB); Western Illinois University, Biological Sciences (RM)

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Rapid adaptation in a contaminated environment: Evolutionary adaptive response of old field grass *Andropogon virginicus* to heavy metals in an abandoned lead and zinc mine

Sharpe, Samantha; Humphrey, Paige; Parrish, Olivia; Johnson, Loretta

Kansas State University, Division of Biology (SS); Kansas State University, Division of Biology (PH); Kansas State University, Division of Biology (OP); Kansas State University, Division of Biology (LJ)

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Identifying QTLs underlying phosphorus use in a resurrected *Daphnia* mapping population

Sherman, Ryan; Baker, Kristina; Couger, Brian; Weider, Lawrence; Jeyasingh, Punidan

Oklahoma State University, Integrative Biology (RS); Oklahoma State University, Integrative Biology (KB); Oklahoma State University, High Performance Computing Center (BC); University of Oklahoma, Department of Biology, Program in Ecology and Evolutionary Biology (LW); Oklahoma State University, Department of Integrative Biology (PJ)

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The genetics of visual attraction

Westerman, Erica; Kronforst, Marcus

University of Arkansas, Biological Sciences (EW); University of Chicago (MK)