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HEXAPOD HERALD

Vol. 29, No. 5

Entomology Department, University of Nebraska-Lincoln

November 2017

Welcome

Priscila Colombo da Luz, a research scholar from Caxias do Sul, RS, Brazil, has been working in **Dr. Julie Peterson's** lab since June. Priscila is a biologist with a M.S. in zoology from the Universidade de Brasília. At the WCREC, she is working on maintaining the western bean cutworm colony in the laboratory and assisting in research developed by UNL graduate students. After leaving in December, Priscila hopes to work with education in environmental sustainability and start some research related with taxonomy of parasitoids and natural and applied biological control.

Thiago Luis Martins Fanela joined **Dr. Tom Hunt's** laboratory in June and will be at UNL through the end of this month. Thiago is from the laboratory of **Dr. Edson Baldin**, UNESP, Botucatu, Brazil on a FAPESP postdoctoral fellowship. Thiago conducted several soybean Lepidoptera behavioral field studies at the UNL Haskell Agricultural Lab, and is now at East Campus in Lincoln continuing his soybean Lepidoptera behavioral work in **Dr. Ana Vélez's** lab.

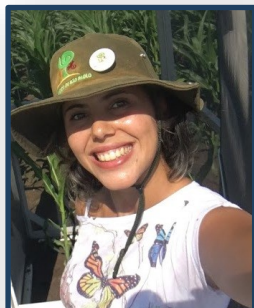
Dr. Katharine Swoboda Bhattarai joined the lab of **Dr. Julie Peterson** as a postdoctoral research associate this past June. Katie received her Ph.D. degree in entomology from North Carolina State University where she studied patterns of host use by the invasive vinegar fly *Drosophila suzukii* to determine how landscape characteristics, crop phenology, and fly behavior contribute to infestation in crop fields. At the WCREC, Katie will build on her experience in IPM to determine how the behavior and ecology of the western bean cutworm affects the efficacy of resistance management strategies in Bt corn systems. Katie earned her B.S. degree in biology at UNL where she completed an honors thesis with **Drs. Brett Ratcliffe** and Mary Liz Jameson. Katie studied native bee pollinators of legume seed crops during her M.S. degree at Utah State University, and worked as a technician in Dr. Eileen Hebets' lab at UNL and Dr. Robert Gegear's lab at Worcester Polytechnic Institute, MA, before returning to school for her Ph.D.

Additional insect science majors for this fall include: **Annelyn Bateman**, Omaha, NE; **Nick Coghill**, Anaheim, CA; **Samantha Emory**, Lincoln, NE; **Taylor Pitzer**, Omaha, NE; and **Nathan Wolfe**, Columbus, NE.

Online M.S. students for Spring 2018 are: **Jeffrey Coco**, Winter Park, FL; **Paula Courtney**, Godley, TX; **Patrick Mathe**, Rocky Point, NY; **Sarah Parker**, Brooklyn, NY; **Daniel Seckman**, Wentzville, MO

My expectations with the UNL have been exceeded. I have had the opportunity to live many new experiences and build many new professional relationships. All the studies that I participated in this year have broadened my knowledge and supported new ideas to be put into practice in the future."

Priscila Colombo da Luz



Colombo da Luz



Martins Fanela



Swoboda Bhattarai

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Congratulations

Dr. Gary Brewer was re-elected as the North Central Branch representative to the ESA Governing Board.

Chancellor Ronnie Green delivered his annual State of the University address September 19 at the Lied Center. The University continued the tradition of honoring employee service at the address for employees reaching 45- and 50-year milestones. In lieu of a pre-ceremony honoring other service award winners, the university will join with colleges, departments and units in recognizing their honorees at various events during the fall semester. The following employees received a service award for 2017: **Nataliya Divizinskaya**-5 yrs., **Sarah Hansen**-10 yrs., **Marissa Kemp**-10 yrs., and **Sheryl May**-5 yrs.

ESA National Annual Meeting News, November 5–8, 2017, Denver, CO

Dr. Jeff Bradshaw - named Vice President-Elect of the Plant-Insect Ecosystems (P-IE) section.

Ellis Johnson - the P-IE Undergraduate Student Achievement Award

Blessing Ademokoya - 1st Place - Graduate Student Poster Competition - P-IE: Behavior

Débora Goulart Montezano - 1st Place - Graduate Student Poster Competition - P-IE: IPM-Field Crops 2

Sajjan Grover - 2nd Place - Graduate Student Poster Competition - P-IE: Host Plant Resistance

Elliot Knoell - 2nd Place - Graduate Ten Minute Paper Competition - P-IE: Vectors of Plant Diseases

Mariana Sanchez - 2nd Place - Graduate Ten Minute Paper Competition - PBT: General Physiology 1

Dariane Souza - 2nd Place - Graduate Ten Minute Paper Competition - PBT: Pests and Resistance

Suresh Varsani - 1st Place - Graduate Student Poster Competition - P-IE: Host Plant Resistance

Carter Westerhold - 1st Place - Graduate Student Poster Competition - Horticulture and Pollination

Student News

Kait Chapman, Débora Goulart Montezano, Sajjan Grover, Surabhi Gupta Vakil, Elliot Knoell, Dariane Souza, Suresh Varsani, and Matt Welter were awarded travel support from the Myron H. Swenk Memorial Fund to attend the National ESA Meeting held in Denver, CO, November 5–8, 2017.

Surabhi Gupta Vakil has received one of four 2018 Foundation for the Preservation of Honey Bees Scholarship awards in the amount of \$3,000. Surabhi will receive the scholarship award at the 2018 American Beekeeping Federation Conference & Tradeshow to be held in January in Reno, NV.

Débora Goulart Montezano was selected to receive a Warren F. and Edith R. Day Dissertation Travel Award in the amount of \$500 to partially support travel for her dissertation research.

Margarita Lopez, a PhD student from the Institute of Ecology in Xalapa, Mexico, conducted taxonomic research on scarab beetles in the Museum's (**Dr. Brett Ratcliffe**) collections during the month of October courtesy of a grant from The Coleopterists Society.

Faculty News

Dr. Bob Wright attended the National IPM Coordinating Committee annual meeting in Washington D.C., in October, representing NCERA 222, the USDA Multistate Committee on IPM.

Drs. Justin McMechan (far right in picture) and **Bob Wright** made presentations about corn insects at the UNL Corn Production Clinic this fall at the Eastern Nebraska Research and Extension Center near Ithaca, NE.



Publications

Arshad, Muhammad, Rashad Rasool Khan, **Muhammad Irfan Ullah**, Muhammad Afzal, **Bamphitli Tiroesele**, Irfan Mustafa, and **John Foster**. 2016. Evaluation of different insecticide formulations against *Lipaphis erysimi* (Hemiptera: Aphididae), a pest on oil seed crop, *Camelina sativa* in Pakistan. *Pakistan J. Zool.* 48(6), 1623-1626.

Camargo C.G., **T.E. Hunt**, L.J. Giesler, **B.D. Siegfried**. 2017. Thiamethoxam toxicity and effects on consumption behavior in *Orius insidiosus* (Hemiptera: Anthocoridae) on soybean. *Environ. Entomol.* 46(3): 693-699. doi.org/10.1093/ee/nvx050

Figueroa, L., **Ratcliffe, B.** 2016. A new species of *Ancognatha* Erichson from Peru (Coleoptera: Scarabaeidae: Dynastinae: Cyclocephalini) from Peru, with distributions of Peruvian *Ancognatha* species. *The Coleopterists Bulletin*, 70, 65-72. DOI: <http://dx.doi.org/10.1649/072.070.0107>

Marchi-Werle, Lia, Edson L.L. Baldin, Hillary D. Fischer, Tiffany M. Heng-Moss, and Thomas E. Hunt. 2017. Economic Injury Levels for *Aphis glycines* Matsumura (Hemiptera: Aphididae) on the Soybean Aphid Tolerant KS4202 Soybean. *Journal of Economic Entomology*, 110(5): 2100-2108.

O'Neal, Scott, T., Carlyle C. Brewster, Jeffrey R. Bloomquist, and **Troy D. Anderson**. 2017. Amitraz and its metabolite modulate honey bee cardiac function and tolerance to viral infection. *Journal of Invertebrate Pathology*. 149: 119-126.

Pereira, Adriano E., Ana M. Vélez, Lance J. Meinke, and Blair D. Siegfried. 2017. Sublethal effects of vATPase-A and Snf7 dsRNAs on biology of southern corn rootworm, *Diabrotica undecimpunctata howardi* Barber. *Journal of Economic Entomology* doi: 10.1093/jee/tox263

Pretorius, Rudolph J., Gary L. Hein, and Jeffrey D. Bradshaw. 2016. Ecology and Management of *Pemphigus betae* (Hemiptera: Aphididae) in Sugar Beet. *J. Integra. Pest Mgmt.* 7(1): 10; 1-9. Doi:10.1093/jipm/pmw008

Scully, Erin, **Kristina Friesen**, Brian Wienhold, and Lisa M. Durso. 2017. Microbial communities associated with stable fly (Diptera: Muscidae) larvae and their developmental substrates. *Annu. Entomol. Soc. Am.* 110: 61-72. Doi: 10.1093.aesa/saw087

Vélez, A.M., J. Jurzenski, N. Matz, X. Zhou, H. Wang, M. Ellis, B.D. Siegfried. 2016. Developing an *in vivo* toxicity assay for RNAi risk assessment in honey bees, *Apis mellifera* L. *Chemosphere* 144: 1083-1090.

Wang, Haichuan, Chi Zhang, Yongchao Dou, Bin Yu, Yunfeng Liu, **Tiffany M. Heng-Moss**, Guoqing Lu, Michael Wachholtz, **Jeffery D. Bradshaw**, Paul Twigg, Erin Scully, Nathan Palmer, and **Gautam Sarath**. 2017. Insect and plant-derived miRNAs in greenbug (*Schizaphis graminum*) and yellow sugarcane aphid (*Sipha flava*) revealed by deep sequencing. *Gene* 599: 68-77. <http://dx.doi.org/10.1016/j.gene.2016.11.014>

Wangila, David S., Arnubio Valencia, Haichuan Wang, Blair D. Siegfried, and Lance Meinke. 2017. Influence of calcareous soil on Cry3Bb1 expression and efficacy in the field. *Transgenic Research* 26, 419-428. doi 10.1007/s11248-017-0014-5

Blast from the Past

Steve Robertson, (M.S. 2005) on the left, and Chris Hohnholt (M.S. 2013) are chowing down at the Naval Facilities Engineering Command Atlantic's 3rd Annual National Chocolate Covered Insect Day Celebration in Norfolk, VA. In addition to the chocolate, there were Chirps Chips (made with cricket flour), and crickets and beetle larvae in barbeque, salt and vinegar, bacon and cheese, and sour cream and onion.

Steve and Chris are Professional Pest Management Consultants for the Navy and Marine Corps providing service to installations in the United States and some overseas regions where they promote the use of integrated pest management (IPM) to prevent or control disease vectors and pests that adversely impact readiness or military operations. Steve also teaches our online course, ENTO 415/815, Medical Entomology.



Notice the Nebraska Bugeaters shirt and Huskers poster—Big Red is everywhere!

Meet an Online Student

Glynnys Pentecoste

A lifelong fascination with wildlife, nature, and ecosystem processes, inspired in large part by many childhood summers filled with seemingly endless levels of exploration and discovery, led me to pursue and earn my undergraduate degree in Natural Resources with an emphasis in Fish and Wildlife Conservation from Oregon State University. Working for the U.S. Fish and Wildlife Service at DeSoto and Boyer Chute National Wildlife Refuges on the Nebraska-Iowa border afforded me an amazing opportunity to continue to observe, and educate others about numerous species within the context of managed wetland, woodland, and prairie biomes.



Selecting an area of emphasis for graduate study from a diverse array of scientific interests has proven especially challenging for me; however, much reflection revealed a surprising affinity for insects and their individual and collective roles within and among multiple food webs and trophic cascades. Explorations of Frank Shoemaker Marsh and Nebraska’s saline wetlands – inspired in large part by a personal desire to learn more about the critically endangered Salt Creek Tiger Beetle – proved to be an absolutely unforgettable highlight of my undergraduate fieldwork. A burgeoning love of waterfowl, grown through hands-on participation in refuge activities and environmental education programs, bolstered an increased interest in the wealth of aquatic vertebrates found throughout a variety of different wetland areas. The fact that UNL offers a scientific illustration course as part of its entomology program cemented the decision for me – not only does creatively linking concepts as both a naturalist and scientific illustrator hold tremendous appeal for me, but it makes my heart happy on an intrinsically personal level.

My future professional goals remain largely undecided – 20 years in the Air Force provided a wealth of job experience in management, supervision, human relations, adult education, training, and instructional systems design; however, some of the more creative aspects of nature photography, graphic design, and scientific writing and illustration now beckon. Regardless, I am certain that the things I’ve learned as an online student at UNL will serve me well in whatever path(s) I choose to pursue next!

Grants

G. Brewer, D. Boxler, K. Hanford, M. Stockton

U.S. Department of Agriculture \$325,000
“A Multi-tactic Push-pull Strategy for Controlling Stable Flies on Pasture Cattle in Nebraska and Florida”

Robert Wright

Valent USA Corporation. \$7,000

Department Meetings - Spring 2018
Friday, January 19 - 10 a.m.
Friday, February 23 - 10 a.m.
Friday, March 30 - 10 a.m.
Friday, April 27 - 10 a.m.
Friday, May 18 - 10 a.m.
All meetings will be in 110 Entomology Hall

BugFest 2017

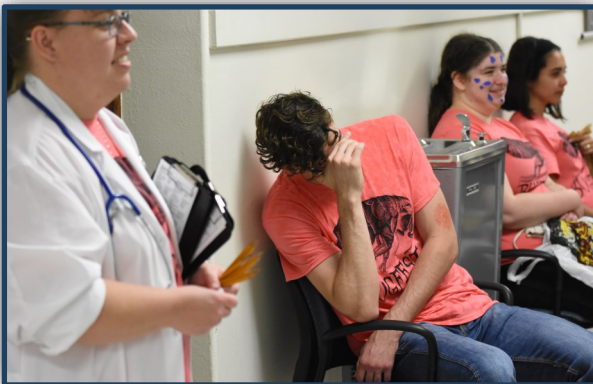
Wow! BugFest 2017 broke the current attendance record by more than 250 people! Despite a rainy day, many bug enthusiasts came to learn more about, handle, and eat their favorite things. In addition to perennial favorites like the Insect Zoo, Insects of Nebraska, and Bronco Bugs, new activities this year included Face Painting, Spiders!, Dung Beetles, Bed Bug Road Show, Edible Insects, What is a GMO?, Getting to the Root of the Matter, Escape!, Insect Open Heart Surgery, and Insect Microbes. In addition we had two teams of live tweeters from an Education Media class join us – check out their work on [@Streaming Sci](#) and [@UNLEntomology](#) on Twitter back on September 24th. Many thanks to the faculty, staff, and students who helped make it happen. And of course all of the bug-loving public who came to share the day with us!



Dr. Jonathan Larson and Jody Green are ready for the Bed Bug Road Show.



Did the fly go by? Only Dr. Dave Taylor (back left) knows for sure.



Dr. Bug has some very sick patients. It doesn't look good for Ellis Johnson (head down).



Katie Lamke, Jen Williams, and Matt Welter are really into the Bronco Bug thing.



What better to do after butterfly face painting than to unlock some prizes in Escape!



Suresh Varsani shows corn pests with a Dino Lite microscope in "What's for Breakfast?"



Jordy Reinders shows some Nebraska insects that are here in September.