

SUSAN VILLARREAL

Curriculum Vitae

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Education

- 2006-2013 **Ph.D., Entomology, Cornell University**, Ithaca, NY
- 2002-2006 **B.S. with Honors, Biology, Truman State University**, Kirksville, MO

Professional/Teaching Experience

- 2019-Present **Assistant Professor**, Denison University, Biology
- 2016-2019 **Visiting Assistant Professor**, Grinnell College, Biology
- 2013-2016 **Postdoctoral Associate/Fellow**, Cornell University, Entomology
- 2015 **Instructor, *Insects in Science Fiction & Pop Culture***, Cornell University, Biology
- 2013-2014 **Grant Project Coordinator**, Faculty Institute on Community Engaged Learning & Teaching, Cornell University
- 2006-2013 **Graduate Research Assistant**, Laboratory of Dr. Cole Gilbert, Cornell University, Entomology

Publications (Peer-Reviewed)

Villarreal, S.M. Senior, A. & Price, M. 2025. The effect of size on mate selection, fecundity and survival in *Culex pipiens* mosquitoes, *Physiological entomology*, 1: 1-12.

Villarreal, S.M., Pitcher, S., Helinski, M.E.H., Johnson, L., Wolfner, M.F., Harrington, L.C. 2018. Male contributions during mating increase female survival in the disease vector *Aedes aegypti*. *Journal of Insect Physiology*. 108: 1-9.

Villarreal, S.M., Winokur, O., Harrington, L.C. 2017. The impact of temperature and body size on fundamental flight tone variation in the mosquito vector *Aedes aegypti* (Diptera: Culicidae): Implications for acoustic lures. *Journal of Medical Entomology*. tjx079. doi:<http://dx.doi.org/10.1093/jme/tjx079>

Alfonso-Parra, C., Ahmed-Braimah, Y.H., Degner, E.C., Avila, F.W., **Villarreal, S.M.**, Pleiss, J.A., Wolfner, M.F., & Harrington, L.C. 2016. Mating-induced transcriptome changes in the reproductive tract of female *Aedes aegypti*. *PLOS Neglected Tropical Diseases*. 10: e0004451.

Publications (Peer-Reviewed) Cont.

Villarreal, S.M. & Gilbert, C. 2014. Male *Scudderia pistillata* katydid defend their acoustic duet against eavesdroppers. *Behavioral Ecology & Sociobiology*. 68: 1669-1675.

Villarreal, S.M. & Gilbert, C. 2013. Female acoustic reply to variation in the male call in a duetting katydid, *Scudderia pistillata*. *Behaviour*. 150: 525-546.

Villarreal, S.M. & Gilbert, C. 2011. The unique counting call of a katydid, *Scudderia pistillata*. *Annals of the Entomological Society of America*. 104: 945-951.

Fielden, L.J., Knolhoff, L.M., **Villarreal, S.M.**, & Ryan, P. 2011. Underwater survival in the dog tick *Dermacentor variabilis* (Acari: Ixodidae). *Journal of Insect Physiology*. 57: 21-6.

Publications (Not Peer-Reviewed)

Villarreal, S.M. 2023. Review of 'Mosquitoes of the World' Volumes 1 and 2. *The Quarterly Review*. 98(2): 91-92.

Invited Presentations

2023 Studying mosquito mating behavior at a small liberal arts college, Penn State University, University Park, PA, February.
Culex pipiens mating behavior, Cornell University, Ithaca, NY, October.

Select Professional Presentations

2025 **Matthew Price**, National Conference of Undergraduate Research, Pittsburgh, PA, April.

2024 **Cameron Ziegenfus**, Molecular identification of a disease vector: investigating new molecular techniques to identify mosquitoes of the Licking County, OH metropolitan parks to species, Virtual Meeting of the International Society of Entomology, Poster Presentation, April
The effect of mate size on mate selection and post-mating behaviors in the West Nile virus vector *Culex pipiens*, Animal Behavior Society Conference, Virtual presentation, June.

2023 How the mosquito community of urban parks changes from forest edge to forest interior, Annual Meeting of the Entomological Society of America, Washington, D.C., November.

2021 The influence of habitat structure on mosquito diversity, Annual Meeting of the Entomological Society of America, Denver, CO, November.
The mating behavior and behavioral ecology of *Culex* mosquitoes, Animal Behavior Society Virtual Conference, August.

Select Professional Presentations (Cont.)

- 2019 The Impact of Prairie Restoration on Insect Communities, Day of Insects, Iowa State University, Ames, IA, March.
- 2018 Let's get it on: The study of the sexual behavior of insects. Iowa State University Entomology Seminar, Ames, IA, January.
- 2017 The impact of management practice on insect community structure and diversity in tallgrass prairies (student poster). Annual Meeting of the Entomological Society of America, Denver, CO, November.
- 2015 Identifying seminal proteins that induce refractory behavior in mated *Aedes aegypti* females. Annual meeting of the American Society of Tropical Medicine and Hygiene, Philadelphia, PA, October.
- 2014 The role of male seminal fluid proteins on female post-mating behavior in the mosquito *Aedes aegypti*. Annual meeting of the Animal Behavior Society, Princeton, NJ, August.
- Seminal fluid protein and female post-mating responses in the dengue vector mosquito, *Aedes aegypti*. International Conference on Insect Reproductive Molecules, Cornell University, Ithaca, NY, July.
- 2012 Dynamic Duet: Acoustic and behavioral dynamics of the katydid *Scudderia pistillata*. Annual meeting of the Animal Behavior Society, Albuquerque, NM, June.
- 2011 Acoustic duetting in insects with special emphasis on *Scudderia pistillata*, a counting katydid. Acoustic Communication by Animals: Third International Symposium, Ithaca, NY, August.
- 1 pulse, 2 pulse, 3 pulse, 4: Acoustic communication in a duetting katydid, *Scudderia pistillata*. International Meeting of Invertebrate Sound and Vibration, Columbia, MO, June.
- 2010 The male counting call and female acoustic response of a katydid, *Scudderia pistillata*. Annual Meeting of the Animal Behavior Society, Williamsburg, VA, July.
- 2008 The Counting Katydid: analysis of male call and female acoustic response. International Meeting of Invertebrate Sound and Vibration, Tours, France, October.
- Male chorusing and female choice in a bush katydid, *Scudderia pistillata* (Orthoptera: Tettigoniidae: Phaneropterinae). International Society for Behavioral Ecology Conference, Ithaca, NY, August.

Select Professional Service

Reviewer	Journal Articles: Animal Behaviour, Journal of Tropical Medicine & Hygiene, Proceedings of the Royal Society B, Annals of the Entomological Society of America, Medical and Veterinary Entomology, Grants: Animal Behaviour Society Student Research Grant, Animal Behaviour Society Outreach Grant
Committee Work	Student Enrollment and Retention Committee, Denison University Co-Principle Investigator, Raise II: Readiness and Inclusion in Science Education S-Stem Grant, NSF, Denison University Honorary Degrees Committee Member, Denison University Denison University Biological Reserve Committee Member, Biology Department, Denison University Search Committee Member, Biology Department, Denison University Outreach Grant Committee Member, Animal Behavior Society Education Committee Member, Entomological Society of America
Advising	Advising Circles, Co-taught with Dr. Jessica Rettig, Fall 2022, Co-taught with Dr. Heather Rhodes, Fall 2021 June Orientation, Summers 2021 – 2023 Panelist, “Lab Tested” Admissions Panel, Spring 2022 Animal Behavior Society Annual Meeting’s Mentorship Program (2020 & 2021), Entomological Society Mentorship Program (2023 & 2024)

Student Projects

2024 – 2025	Senior Research: Matthew Price (Biology Senior Fellow and Senior Thesis with Distinction) Directed Study: Carlia Lopez
2023 – 2024	Senior Research: Cameron Ziegenfus, Nick Olidis Summer Research: Carlia Lopez, Emilio Schwier, Cassidy Orange, Biana Qiu, Matthew Price Directed Study: Carlia Lopez, Young Zhao, Amber Croonquist, Matthew Price
2022 – 2023	Summer Research: Matthew Ryu, Carlia Lopez, Matthew Price, Amelia Senior Directed Study: Daniel Kasprovic, John Mendez, Matthew Price, Cameron Ziegenfus
2021 – 2022	Senior Research: Yanni Guo (Senior Thesis with Distinction), Emily Ji (Biology Senior Fellow and Senior Thesis with Distinction) Summer Research: Gabe Springer, Patricia Ashun Directed Study: Valeria Benitez, Luzhu Yan, Max Milone
2020 – 2021	Summer Research: Emily Ji, Yanni Guo, Amy Chiero Directed Study: Joey Muncie

Outreach Experience

Media	Educational Website: www.insectinterviews.com , to introduce children to insects through one-on-one interviews with the animals themselves Educational Video: "Insect Sounds: Nature's Orchestra" with Mariah Slone as part of the Naturalist Outreach Program; https://goo.gl/1lqoFy
Presentations	"How Do Bugs Talk?" Busy Bee Camp, The Works, Newark, OH "The Creepy Crawlies of Hollywood." Science Cabaret, Ithaca, NY "Insects in Hollywood." Alice Cook House, Cornell University, Ithaca, NY "The Technology of Sound." Dryden Central School, Ithaca, NY "The Sounds of Insects." K-12 presentations to local schools, Ithaca, NY
Events	Insectapalooza: Department of Entomology's annual insect fair, Cornell University, Ithaca, NY: created posters, signage, maps, illustrations, initiated and created custom volunteer t-shirts each year, as well as created materials for multiple exhibits and served as an event volunteer

Outreach Experience (Cont.)

"What Is Out Here?" Dawes Arboretum, Newark, OH: led a guided tour of the insects in the wetlands, with live collecting and a curated collection of preserved specimens

"Singing Insects Night Hike" Dawes Arboretum, Newark, OH: led a guided tour of insects attracted to light traps and a curated collection of preserved specimens

"A night at the Bioreserve" Denison University Biological Reserve, Granville, OH: led a guided tour of insects attracted to light traps

Media Experience

BBC Radio 4: Served as guest expert to discuss cockroaches and their representation in media for the series *Natural Histories* (air date Nov. 3, 2015; <http://goo.gl/Tep0yX>)

The Ithaca Voice: "How Ithaca website pulls kids into the 'fascinating world of insects'" by Jeff Stein, (January 9, 2015; <http://goo.gl/0KyAZI>)

The Ithaca Journal: "In search of 'counting katydid'" by Linda Stout, (July 4, 2008; pp. 1B-2B)

Society Memberships

Animal Behavior Society
Entomological Society of America
International Society of Behavioral Ecology