

Matthew H. Koski

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EDUCATION

2015	PhD Ecology & Evolution	University of Pittsburgh, Pittsburgh, PA
2009	B.S. Honors	University of Michigan, Ann Arbor, MI

PROFESSIONAL EXPERIENCE

Starting Aug 2019	Assistant Professor, Dept. of Biological Sciences, Clemson University
July 2018-present	Research Assistant Professor, University of Virginia
2015-2018	Postdoctoral Research Associate, University of Virginia
2010	Research Intern, Institute for Tropical Ecosystem Studies
2009	Botanist, Chicago Botanic Gardens & Bureau of Land Management
2008-2009	Museum Assistant, University of Michigan Herbarium

PUBLICATIONS

18. J. L. Ison, E. S. L. Tuan[^], **M. H. Koski**, J. S. Whalen[^], and L. F. Galloway. 2018. The role of pollinator preference in the maintenance of pollen color variation. *Annals of Botany*. DOI: 10.1093/aob/mcy211
17. **Koski, M. H.**, A. Padilla[^], A. Pham[^], J. L. Ison, and L. F. Galloway. 2018. Linking pollinator effectiveness to patterns of pollen limitation: small bees exploit the plant-pollinator mutualism. *Proceedings of the Royal Society B* 285: 20180635.

Featured in: Science Daily, UVa Today, Phys.org, Bionieuws, Treehugger.com
16. Leibman, L.[^], A. Rowe[^], **M. H. Koski**, and L. F. Galloway. 2018. Populations with greater flexibility in floral traits modify mating system in response to the pollination environment. *Functional Ecology* 32: 1457-1466.
15. Brittingham, H. A.[^], **M. H. Koski**^{*}, and T.-L. Ashman^{*}. 2018. Higher ploidy is associated with reduced range breadth in the Potentilleae tribe. *American Journal of Botany* 105: 700-710
14. **Koski, M. H.**, L. Kuo, K. Neidermaier[^], and L. F. Galloway. 2018. Timing is everything: dichogamy and pollen germinability underlie variation in autonomous selfing among populations. *American Journal of Botany* 105: 241-248.

13. **Koski, M. H.**, and L. F. Galloway. 2018. Geographic variation in pollen color is associated with temperature stress. New Phytologist 218: 370-379.

Featured in: New Phyt Blog, Phys.org

12. **Koski, M. H.**¹, D. Grossenbacher¹, J. Busch, and L. F. Galloway. 2017. A geographic cline in the ability to self-fertilize is unassociated with the pollination environment. Ecology 98: 2930-2939.

11. **Koski, M. H.**, and T.-L. Ashman. 2016. Reproductive character displacement and environmental filtering shape floral variation between sympatric sister taxa. Evolution 70: 2616-2622.

10. **Koski, M. H.**, and T.-L. Ashman. 2016. Macroevolutionary patterns of ultraviolet floral pigmentation explained by geography and associated abiotic factors. New Phytologist 211: 708-718.

9. Ashman, T.-L., J. Tennessen, R. Dalton[^], R. Govindarajulu, **M. H. Koski**, and A. Liston. 2015. Multilocus sex determination revealed in two populations of gynodioecious wild strawberry, *Fragaria vesca* subsp. *bracteata*. G3: Genes, Genome, Genetics 5: 2759-273.

8. **Koski, M. H.**, and T.-L. Ashman. 2015. An altitudinal cline in UV floral pattern corresponds with a behavioral change of a generalist pollinator assemblage. Ecology 12: 3343-3353.

7. **Koski, M. H.**, and T.-L. Ashman. 2015. Patterns of floral pigmentation provide example of Gloger's rule in plants. Nature Plants 1: 14007.

Featured in: Scientific American, Nature News and Views, NPR 90.5 WESA Pittsburgh, Science Daily, Science 2.0, ZME Science, Futurity

6. **Koski, M. H.**¹, G. A. Meindl¹, G. Arceo-Gomez, M. Wolowski, K.A. Lecroy, T.-L. Ashman. 2015 Plant-flower visitor networks in a serpentine metacommunity: Assessing traits associated with keystone plant species. Arthropod-Plant Interactions 9: 9-21.

5. **Koski, M. H.**, and T.-L. Ashman. 2014. Dissecting pollinator responses to a ubiquitous ultraviolet floral pattern in the wild. Functional Ecology 28: 868-877.

4. **Koski, M. H.**, and T.-L. Ashman 2013. Quantitative variation, heritability, and trait correlations for ultraviolet floral traits in *Argentina anserina* (Rosaceae): Implications for floral evolution. International Journal of Plant Sciences 174: 1109-1120.

3. Dalton, R.[^], **M. H. Koski**, and Ashman, T.-L. 2013. Maternal sex effects and Inbreeding depression under varied environmental conditions in gynodioecious *Fragaria vesca* subsp. *bracteata*. Annals of Botany 112: 613-621.

2. Li, J., **M. H. Koski.**, and T.-L. Ashman. 2012. Functional characterization of gynodioecy in *Fragaria vesca* ssp. *bracteata*. Annals of Botany 109: 545-552.

1. Griffin, E. A., R. J. Bendis, N. Brouwer, J. Hua, **M. H. Koski**, G. A. Meindl, and W. P. Carson. 2011. Review of: Tropical Rain Forest Ecology, Diversity, and Conservation. Ghazoul, J., and D. Sheil. Plant Sciences Bulletin 57: 71-73.

Forthcoming

van der Kooi, C. J., P. G. Kevan and **M. H. Koski**. The thermal ecology of flowers. Accepted pending minor revisions. Annals of Botany.

Koski, M. H., L. F. Galloway, and J. W. Busch. Pollen limitation and autonomous selfing ability interact to shape variation in outcrossing rate across a species range. In preparation.

Koski, M. H., C. J. Prior, N. C. Layman, J. W. Busch and L. F. Galloway. Enhanced self-fertilization evolves with range expansion. In preparation.

¹equal contribution, *co-corresponding authors, ^undergraduate author advised by Koski

GRANTS and FELLOWSHIPS

Grants

2019	PENDING. NSF DEB Collaborative Research: The impact of mating system on colonization and geographic distributions. Role: PI. Co-PIs Laura Galloway and Adam Smith.
2018	NSF DEB 1754590 Collaborative Research: SG Exploring the effects of UV light on floral pigmentation. \$145,960 of \$200,000 to UVa. Role: CO-PI.
2017	Botanical Society of America Travel Grant, \$2400
2017	NSF ROA supplement for 'Collaborative Research: does genetic load drive mating system evolution? Tests in an explicit historical context'. \$24,778. Authored. <i>PI: Laura Galloway</i>
2016	NSF REU supplement for 'Collaborative Research: does genetic load drive mating system evolution? Tests in an explicit historical context'. \$7,000. Authored. <i>PI: Laura Galloway</i>
2013	NSF Doctoral Dissertation Improvement Grant, \$19,825
2012	National Geographic Young Explorer Grant, \$3,900
2012	Rocky Mountain Biological Laboratory Research Scholarship, \$150
2012	Pymatuning Lab of Ecology, Pape Endowment Award, \$800
2012	Pymatuning Lab of Ecology, G. Murray McKinley Research Award, \$600
2012	Sigma Xi Grant in Aid of Research, \$997
2011	Society for the Study of Evolution, Rosemary Grant Award, \$2,500
2011	Botanical Society of America, J.S. Karling Graduate Research, \$500
2009	University of Michigan Honors Thesis Grant, \$500

Fellowships

2014 Andrew Mellon Predoctoral Fellowship, \$21150
2011-2014 **NSF Graduate Research Fellowship, \$90000**
2010 Univ. Pittsburgh First Year Graduate Fellowship

AWARDS

2015 Best Postdoctoral Research Talk. Runner Up. Southeastern Population Ecology and Evolutionary Genetics (SEPEEG) 2015.
2015 Mary P. Edmonds Award Outstanding Research Publication Award, Univ. Pittsburgh, Biological Sciences
2011, 2012 Arts & Sciences Grad Expo Outstanding Poster Award, Univ. Pittsburgh
2011 Ivy McManus Outstanding First Year Graduate Student Award, Univ. Pittsburgh, Biological Sciences

INVITED SEMINARS

2019 College of William and Mary, Dept. of Biology, Williamsburg, VA.
2018 Ecological Society of America, Pollen Limitation Symposium, New Orleans, LA.
2018 Early Career Scientists Symposium, Evolution of Color, University of Michigan, Ann Arbor, MI
2018 University of Central Florida, Department of Biology, Orlando, FL.
2018 Murray State University, Dept. of Biology, Murray, KY.
2018 University of South Carolina, Department of Biology, Columbia, SC.
2017 Hubei University, School of Resources and Environmental Sciences. Wuhan, CN.
2017 East Tennessee State University, Dept. of Biology, Johnson City, TN.
2017 Duke Population Biology Seminar. Durham, NC.
2016 Washington State University, School of Biological Sciences, Pullman, WA.
2016 Mountain Lake Biological Station, Pembroke, VA.
2016 Smithsonian Botanical Symposium, Washington, D.C.
2016 San Diego State University, Biology Dept., San Diego, CA.
2015 Rancho Santa Ana Botanic Garden, Claremont, CA.

CONTRIBUTED PRESENTATIONS

oral presentation unless noted otherwise

- 2018 Southeastern Population Ecology and Evolutionary Genetics.
2018 Joint Congress on Evolutionary Biology (ESEB & SSE). *Limited plasticity constrains the mating system.*
- 2018 University of Virginia Postdoctoral Research Symposium. *Postglacial range expansion and the evolution of the mating system.*
- 2017 International Botanic Congress. *Abiotic contributions to clinal variation in pollen color.*
- 2017 Evolution. *Range-wide associations between drift load, inbreeding depression, and autonomous selfing.*
- 2016 Univ. Virginia Ecology and Evolutionary Biology Seminar. *Do pollinators drive geographic variation in autonomous selfing?*
- 2015 Southeastern Population Ecology and Evolutionary Genetics
Macroevolutionary patterns of UV floral pigmentation in Potentilleae.
- 2015 Botanical Society of America. *Abiotic contributions to floral pigmentation diversity in Potentilleae.*
- 2014 Evolution. *Clinal variation in a floral ultraviolet trait is associated with changes in selection and pollination context.*
- 2013 Evolution. *Floral pattern in the ultraviolet: variation, heritability and functional significance.*
- 2012 Joint Congress on Evolutionary Biology (ESEB & SSE). *Variation in the ultraviolet 'nectar guide' in silverweed cinquefoil.*
- 2011 Univ. Pittsburgh. *Flowers seen in a different light: Ultraviolet floral variation of silverweed cinquefoil revealed.* Poster.
- 2011 NSF MICROMorph Research Coordination Network. *Phenotypic selection on ultraviolet floral traits.*
- 2011 Univ. Pittsburgh. *Functional and population genetic characterization of gynodioecy in *Fragaria vesca* subsp. *bracteata*.* Poster.
- 2009 Univ. Michigan. *Climbing through changing forests: Is liana diversity or morphology affected by forest age or precipitation?*
- 2009 Soc. for Integrative and Comparative Biology. *Genetic & morphological analysis of hanging garden endemic, *Anticlea vaginata* and widespread sister *A. elegans*.*

TEACHING AND OUTREACH

- 2015-present Mountain Lake Biological Station and Western Albemarle High School. Field ecology research.
- 2016, 2017 Univ. Virginia. Plant-Animal Interactions. Guest Lecturer.
- 2015 Univ. Pittsburgh, Foundations of Biology Lab II. Two sections.
- 2014 Univ. Pittsburgh. Taylor Alderdice High School. laboratory tour and primary literature discussions.
- 2014 Cleveland Metroparks. Featured scientist presentation at Backyard

	Biodiversity Bash.
2011-2014	Univ. Pittsburgh. Plant Biology. Guest Lecturer.
2012-2015	Falk Elementary School. Pollination Biology Lessons.
2012	Univ. Pittsburgh. Middle School Biology Outreach and Education. Teacher training and in-class lessons.

UNDERGRADUATE RESEARCH MENTORING

*Undergraduate mentees with published papers or papers in review are underlined.

2018-2019	Amanda Murray, Parinita Kumar, Momna Zainab. Impacts of global change on floral phenotypes.
2017-2018	<u>Kerstin Niedermaier</u> , Amanda Murray, Claire Waterhouse. <i>F₂ Hybrid Breakdown in a glacial refugium and at the leading range edge.</i>
2017 Summer	Co-advised four independent research students at College of Wooster supported by NSF ROA. Sara Garcia, <u>Elizabeth Tuan</u> , <u>Jack Whalen</u> , <u>Ashley Padilla</u>
2016 Summer	Three NSF REU students; Cierra Sullivan, <u>Angela Pham</u> , <u>Lia Leibman</u> . <i>Various projects on mating system in American bellflower.</i>
2016-present	<u>Anne Rowe</u> , Joseph Franco, <i>Microsatellite development in American bellflower</i> ; Kerstin Neidermaier, <i>Fixed and segregating genetic load in American bellflower.</i>
2015	Kathy Nguyen, Anudeep Gupta, Jacqueline O'Brien. <i>Pollen limitation and reproductive assurance in American bellflower.</i>
2014-2017	<u>Hayley Brittingham</u> . <i>Contributions of ploidy diversity to range size variation in Potentilla.</i>
2013-2014	Heidi Wipf, <u>Rebecca Dalton</u> , Courtney Kutsek. <i>Genetics of sex determination in woodland strawberry.</i>
2013	Rebecca Dalton. <i>Pollinator contribution to clinal variation in UV floral pattern.</i>
2012	Tracey Kim. <i>Effect of UV floral variation on pollinator visitation.</i>
2012	Byron Chuan. <i>Heritability of UV floral pattern.</i> Univ. Pittsburgh First Experiences in Research Program.
2011	<u>Rebecca Dalton</u> . <i>Maternal sex differences in fecundity in woodland strawberry.</i> Univ. Pittsburgh First Experiences in Research Program.

SERVICE

2019	Ad Hoc reviewer for University of Pittsburgh Ecology and Evolution Postdoc Fellows
2018-Present	Review Editor on Editorial Board of Plant Systematics and Evolution, Frontiers in Plant Science
2016-Present	Rocky Mountain Biological Station Review Committee for Grad Student

	Fellowship
2012-Present	Reviewer for Evolution, New Phytologist, Molecular Ecology, Functional Ecology, Journal of Biogeography, Global Biology & Biogeography, Journal of Ecology, Ecology, Annals of Botany, Oecologia, PLOS One, Heredity, Journal of Heredity, Biological Journal of the Linnaean Society, American Journal of Botany, International Journal of Plant Sciences, Plant Ecology, AoB Plants, Plant Biology, Arthropod-Plant Interactions
2011-2013	Botanical Society of America's PlantingScience Program
2011-2012	University of Pittsburgh Ecology & Evolution Seminar Series Coordinator
2011-2012	University of Pittsburgh Biological Sciences Graduate Course Committee

PROFESSIONAL TRAINING

2012	National Evolutionary Synthesis Center, Evolutionary Quantitative Genetics Workshop.
2011	NSF Micromorph Research Coordination Network, Microevolution of Floral Function.

PROFESSIONAL AFFILIATIONS

2010-present	Society for The Study of Evolution
2010-present	Botanical Society of America
2012-2015	American Society of Naturalists
2008-2009	Society for Integrative and Comparative Biology
2008-2009	Graham Environmental Sustainability Institute