

# MICHAEL T. J. HAGUE

Phone: 603-491-8384

Email: michael.hague@mso.umt.edu

Website: [www.michaeltjhague.com](http://www.michaeltjhague.com)

Division of Biological Sciences  
University of Montana  
32 Campus Dr.  
Missoula, MT 59812

## PROFESSIONAL APPOINTMENTS

- 2019– Postdoctoral Researcher, University of Montana, MT  
*Principal Investigator:* Brandon S. Cooper
- 2018 Distinguished Teaching Fellow, University of Virginia, VA
- 2011 Adjunct Instructor, Everest College, UT

## EDUCATION

- 2018 Ph.D. in Biology  
University of Virginia, Charlottesville, VA  
*Advisor:* Edmund D. Brodie III
- 2013 M.S. in Ecology, Evolution, and Conservation Biology  
San Francisco State University, San Francisco, CA  
*Advisor:* Eric J. Routman
- 2009 B.A. in Biology and Environmental Studies  
Whitman College, Walla Walla, WA

## PUBLICATIONS

- Hague, MTJ**, JD Shropshire, CN Caldwell\*, JP Statz, KA Stanek, WR Conner, BS Cooper. 2022. Temperature effects of cellular host-microbe interactions explain continent-wide endosymbiont prevalence. *Current Biology*, 32: 878-888.
- Profiled in *Current Biology* Dispatch: Stuckert, AMM, DR Matute. 2022. Evolution: Environmental conditions determine how *Wolbachia* interacts with hosts. *Current Biology*, 32: R178–R180.
- Gendreau, KL, AD Hornsby, **MTJ Hague**, JW McGlothlin. 2021. Gene conversion facilitates the adaptive evolution of self-resistance in highly toxic newts. *Molecular Biology and Evolution*, 38: 4077-4094.
- Hague, MTJ**, HA Woods, BS Cooper. 2021. Pervasive effects of *Wolbachia* on host activity. *Biology Letters*, 17: 20210052.
- Hague, MTJ**, CN Caldwell\*, BS Cooper. 2020. Pervasive effects of *Wolbachia* on host temperature preference. *mBio*, 11: e01768-20.
- Hague, MTJ**, H Mavengere, DR Matute, BS Cooper. 2020. Environmental and genetic contributions to imperfect *wMel*-like *Wolbachia* transmission and frequency variation. *GENETICS*, 215: 1117-1132.

(\*denotes undergraduate coauthor)

- Hague, MTJ**, AN Stokes, CR Feldman, ED Brodie, Jr., ED Brodie III. 2020. The geographic mosaic of arms race coevolution is closely matched to prey population structure. *Evolution Letters*, 4: 317-332.
- Gendreau, KL, **MTJ Hague**, CR Feldman, ED Brodie, Jr., ED Brodie III, JW McGlothlin. 2020. Sex linkage of the skeletal muscle sodium channel gene (*SCN4A*) explains apparent deviations from Hardy-Weinberg equilibrium of tetrodotoxin-resistance alleles in garter snakes (*Thamnophis sirtalis*). *Heredity*, 124: 647-657.
- Featured on the *Heredity* podcast: “Resistance is female” (June 10, 2020).
- Hague, MTJ**, G Toledo, SL Geffeney, CT Hanifin, ED Brodie, Jr., ED Brodie III. 2018. Large-effect mutations generate trade-off between predatory and locomotor ability during arms race coevolution with deadly prey. *Evolution Letters*, 2: 406-416.
- Profiled in *Evolution Letters* Editor's Blog: “Trading off resistance and speed in a deadly arms race” (July 30, 2018).
- Hague, MTJ**, CR Feldman, ED Brodie, Jr., ED Brodie III. 2017. Convergent adaptation to dangerous prey proceeds through the same first-step mutation in the garter snake *Thamnophis sirtalis*. *Evolution*, 71: 1504-1518.
- Profiled in *Evolution* Digest: Davies, KTJ. 2017. Know your poison: Predictable molecular changes confer toxin resistance in snakes? *Evolution*, 71: 1728-1729.
- Hague, MTJ**, LA Avila, CT Hanifin, WA Snedden, AN Stokes, ED Brodie, Jr., ED Brodie III. 2016. Toxicity and population structure of the Rough-Skinned Newt (*Taricha granulosa*) outside the range of an arms race with resistant predators. *Ecology & Evolution*, 6: 2714-2724.
- Hague, MTJ**, EJ Routman. 2015. Does population size affect genetic diversity? A test with sympatric lizard species. *Heredity*, 116: 92-98.
- Research highlighted in *Mojave National Preserve Science Newsletter*: “Morphological and genetic diversity in reptiles at the Mojave National Preserve” (April, 2015).
- Eads, DA, **MTJ Hague**, CG Zoubek. 2012. American badger (*Taxidea taxus*) uses covert reconnaissance from tire-ruts to ambush a black-tailed prairie dog (*Cynomys ludovicianus*). *Southwestern Naturalist*, 57: 463-464.

## TEACHING EXPERIENCE

- 2021      Guest Lecturer, *Host-Microbe Interactions* (BIOM 420, University of Montana)
- 2020      Journal Club Leader, *Advanced Topics in Evolution* (BIOB 596, University of Montana)
- 2018      Instructor, *Is Evolution Predictable?* (BIOL 4585, University of Virginia)
- Received a Distinguished Teaching Fellowship award.
  - Completed an intensive week-long course design institute at the UVA Center for Teaching Excellence.
  - Designed and taught this discussion-based seminar debating the predictability of evolution (class website: [https://wordpress.its.virginia.edu/18F\\_BIOL4585\\_PREDICT/](https://wordpress.its.virginia.edu/18F_BIOL4585_PREDICT/)).
- 2016      Enrolled Student, *Teaching Science in Higher Education* (BIOL 7110, University of Virginia)
- Learned to integrate learning theory and student engagement strategies into college STEM classes.
  - Developed an undergraduate biology lab focused on inquiry-driven learning.
  - Received in-classroom teaching assessments from undergraduates, peers, and a faculty supervisor. Assessment data were statistically analyzed and synthesized in a final report.

- 2016, 13 Teaching Assistant, *Introduction to Biology: Cell Biology & Genetics* (BIOL 2030, University of Virginia)
- 2015, 14 Teaching Assistant, *Introduction to Biology: Organismal and Evolutionary Biology* (BIOL 2040, University of Virginia)
- 2015, 14 Teaching Assistant, *Human Anatomy & Physiology* (BIOL 3410, University of Virginia)
- 2012 Teaching Assistant, *Introduction to Biology* (BIO 230, San Francisco State University)
- 2012, 11 Teaching Assistant, *Human Biology* (BIO 101, San Francisco State University)
- 2011 Instructor, *Environmental Science* (EVS 1001, Everest College)

## STUDENTS MENTORED

- 2021– Liz Heaton
- 2020–21 John Statz (graduate rotation student), Erin Markham
- 2019–20 Chelsey Caldwell
- 2019 Liz Jurado, Paighton Noel
- 2018–19 Lauren Miller
- Graduated in the UVA Distinguished Major Program. Senior thesis: “Resistant predator turned toxic prey: do garter snakes that eat toxic newts exhibit aposematic coloration?”
- 2017–18 Josh Eiland
- 2016 Simone Stratton, Priyanka Aytoda

## FUNDING & FELLOWSHIPS

- 2017–18 Jefferson Dissertation Year Fellowship, Jefferson Scholars Foundation, University of Virginia, \$21,500
- 2017 Summer Research Grant, Society of Fellows, University of Virginia, \$2,000
- 2016 Doctoral Dissertation Improvement Grant, National Science Foundation, \$19,979
- 2015 Rosemary Grant Award, Society for the Study of Evolution, \$2,450
- Theodore Roosevelt Memorial Grant, American Museum of Natural History, \$3,484
- Grant-in-Aid of Research, Society for Integrative and Comparative Biology, \$950
- 2012 Biology Arthur Nelson Graduate Scholarship, San Francisco State University, \$1,500
- 2011 IRA Student Research Grant, San Francisco State University, \$350

## HONORS & AWARDS

- 2020 JF Crow Institute for the Study of Evolution Early Career Scientist Seminar Award, University of Wisconsin, Madison
- 2019 Andrew Fleming Prize for Outstanding Dissertation in Biology, University of Virginia
- 2018 Best Oral Presentation, Southeastern Population Ecology and Evolutionary Genetics (SEPEEG) meeting

- 2018 2<sup>nd</sup> Place Oral Presentation, Huskey Graduate Research Exhibition, University of Virginia  
 2016–17 Junior Fellow, The Society of Fellows, University of Virginia

## INVITED SEMINARS

- 2021 University of Wisconsin, Madison, WI  
 2020 University of Montana, Missoula, MT  
 2019 University of North Carolina, Chapel Hill, NC  
 2018 James Madison University, Harrisonburg, VA  
 2017 Hopland Research & Extension Center, Hopland, CA

## CONFERENCE PRESENTATIONS (*\*denotes undergraduate primary presenter*)

- 2021 **Hague, MTJ**, JD Shropshire, CN Caldwell, JP Statz, BS Cooper (talk). Evolution, virtual.  
 Gendreau, KL, AG Hornsby, **MTJ Hague**, JW McGlothlin (talk). Evolution, virtual.  
 Markham E\*, JD Shropshire, **MTJ Hague**, BS Cooper (talk). University of Montana Conference for Undergraduate Research, Missoula, MT  
**Hague, MTJH**, CN Caldwell, JD Shropshire, JP Statz, WR Conner, BS Cooper (poster). Drosophila Research Conference, virtual.  
 Shropshire, JD, R Rosenberg, E Markham, **MTJ Hague**, BS Cooper, SR Bordenstein (talk). Drosophila Research Conference, virtual.
- 2020 Caldwell, CN\*, **MTJ Hague**, BS Cooper (poster). University of Montana Conference for Undergraduate Research, Missoula, MT  
**Hague, MTJ**, BS Cooper (talk). Big Sur *Wolbachia* Meeting, Big Sur, CA
- 2019 **Hague, MTJ**, BS Cooper (talk). UNVEIL, Lincoln, NE  
**Hague, MTJ**, AN Stokes, CR Feldman, ED Brodie, Jr., ED Brodie III (talk). Evolution, Providence, RI  
**Hague, MTJ**, BS Cooper (talk). Big Sur *Wolbachia* Meeting, Big Sur, CA
- 2018 **Hague, MTJ**, AN Stokes, CR Feldman, ED Brodie, Jr., ED Brodie III (talk). SEPEEG, Mountain Lake Biological Station, VA  
**Hague, MTJ**, ED Brodie, Jr., ED Brodie III (talk). SICB, San Francisco, CA  
**Hague, MTJ**, CR Feldman, ED Brodie, Jr., ED Brodie III (talk). JMIH, Rochester, NY  
 del Carlo, RE, JS Reimche, **MTJ Hague**, ED Brodie, Jr., N Leblanc, CR Feldman (poster). JMIH, Rochester, NY  
**Hague, MTJ** (talk). Huskey Graduate Research Exhibition, Charlottesville, VA
- 2016 **Hague, MTJ**, CR Feldman, ED Brodie, Jr., ED Brodie III (talk). Evolution, Austin, TX  
**Hague, MTJ**, ED Brodie, Jr., ED Brodie III (talk). SICB, San Francisco, CA

- 2014 **Hague, MTJ**, EJ Routman (talk). Evolution, Raleigh, NC  
**Hague, MTJ**, T Ren, M Wu (poster). Huskey Graduate Research Exhibition,  
Charlottesville, VA
- 2013 **Hague, MTJ**, EJ Routman (poster). SEPEEG, Mountain Lake Biological Station, VA  
**Hague, MTJ**, EJ Routman (poster). Graduate Research and Creative Works Showcase,  
San Francisco, CA

## **ACADEMIC SERVICE**

- 2021 Member of the Community of Support for Native students, University of Montana
- 2017–18 Volunteer Science Judge, Virginia Regional Science Fairs
- 2017 After School Program Volunteer, Boys & Girls Club of Central Virginia  
Guest on *The Ecology Hour*, KZYX Mendocino County Public Radio, CA
- 2016 Career Day Presenter, William Monroe High School, Stanardsville, VA
- 2015 Vice President of Communications, Graduate School of Arts and Sciences Student  
Council, University of Virginia  
Publicity Chair, Robert Huskey Graduate Research Exhibition, University of Virginia

## **REFEREE FOR PROFESSIONAL PUBLICATIONS**

Biological Journal of the Linnean Society, Current Biology, Ecology and Evolution,  
Evolution, G3, ISME, PLoS Neglected Tropical Diseases, PLoS Pathogens

## **PROFESSIONAL MEMBERSHIPS**

AAAS, American Society for Microbiology, Genetics Society of America,  
Society for Integrative and Comparative Biology, Society for the Study of Evolution