

## Dylan T Simpson

Graduate Program in Ecology & Evolution  
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### EDUCATION

- (candidate) PhD in Ecology & Evolution, Rutgers University, New Brunswick, NJ  
*advisor: Rachael Winfree*
- 2016-2018 MS in Biology, College of William & Mary, Williamsburg, VA  
*advisor: Matthias Leu*
- 2012-2016 BS in Environmental Science, Western Washington University, Bellingham, WA  
*magna cum laude*  
*advisor: Rebecca Bunn*

### PUBLICATIONS (\*undergrad co-authors)

- 2022 **Simpson, DT**, L Weinman, M Genung, M Roswell, M Teague, and R Winfree. Many bee species, including rare species, are important for function of entire plant-pollinator networks. *Proceedings of the Royal Society B* 289: 20212689. doi.org/10.1098/rspb.2021.2689
- 2019 **Simpson, DT**, MS Teague\*, JK Weeks\*, BZ Kaup, O Kerscher, and M Leu. Habitat amount, quality, and fragmentation associated with prevalence of the tick-borne pathogen *Ehrlichia chaffeensis* and occupancy dynamics of its vector, *Amblyomma americanum*. *Landscape Ecology* 34: 2435-2449. doi.org/10.1007/s10980-019-00898-5
- 2019 Bunn, RA, **DT Simpson**, LS Bullington, Y Lekberg, and DP Janos. Revisiting the ‘direct mineral cycling’ hypothesis: Arbuscular mycorrhizal fungi colonize leaf litter, but why? *ISME* 13: 1891-1898. doi.org/10.1038/s41396-019-0403-2
- 2019 **Simpson, DT**, MS Teague\*, JK Weeks\*, AD Lewis\*, PM D’Addio\*, JD Moore\*, JA Thompson\*, RT Canella\*, AC Harris\*, BZ Kaup, O Kerscher, and M Leu. Broad, multi-year sampling effort highlights complex dynamics of the tick-borne pathogen *Ehrlichia chaffeensis*. *Journal of Medical Entomology* 56(1): 162-168. doi.org/10.1093/jme/tjy171

### ORAL PRESENTATIONS

- 2020 Winfree, R, **DT Simpson**, J Reilly. *Mutualist networks and biodiversity-ecosystem function research*. Ecological Society of America, invited presentation
- 2019 **Simpson, DT**, LR Weinman, MA Genung, M MacLeod, R Winfree. *More pollinators are important to function in communities, relative to monocultures*. Ecological Society of America

- 2018 **Simpson, DT** and M Leu. *Investigating the spatiotemporal distribution of a tick-borne pathogen*. Virginia Master Naturalists; invited presentation
- 2017 **Simpson, DT**, M Leu, et al. *Investigating heterogeneity of Ehrlichia chaffeensis prevalence*. Ecological Society of America; Virginia Academy of Sciences

### AWARDS AND HONORS

- 2018 *Distinguished Thesis*; William & Mary
- 2017 *Outstanding Teaching Assistant*; William & Mary
- 2017 *Best Student Presentation*; Entomology Section, Virginia Academy of Sciences
- 2016 *Presidential Scholar*; Western Washington University

### GRANTS AND SCHOLARSHIPS

- 2021 \$2000 *Charlie Kontos Memorial Grant*; Rutgers University
- 2021 \$5000 – *Core Facilities Utilization Grant* (co-PI); Rutgers University
- 2020 \$1300 – *Theodore Roosevelt Memorial Fund*; American Museum of Natural History
- 2019 \$32,204 – *Graduate Fellowship*; Rutgers EOAS Institute
- 2018 \$26,500 – *Excellence Fellowship*; Rutgers School of Env. and Bio. Sciences
- 2017 \$350 – *Arts & Sciences Graduate Research Grant*; College of William & Mary
- 2017 \$200 – *Student Travel Grant*; Ecological Society of America
- 2017 \$500 – *Graduate Research Grant*; College of William & Mary
- 2016 \$350 – *Graduate Research Grant*; College of William & Mary
- 2016 \$4000 – *Recruitment Fellowship*; College of William & Mary
- 2015 \$2000 – *Thomas Graham Memorial Scholarship*; Huxley College of the Environment

### TEACHING

Fundamentals of Ecological and Environmental Modeling – teaching assistant 2021 - present

- Upper-level undergraduate course at Rutgers University
- Covers basics of mathematical modeling in ecology, with an emphasis on mapping ecological concepts and principles to mathematical models
- Provide personalized feedback and one-on-one support to students

Plant Diversity and Evolution – teaching assistant 2020 - present

- Upper-level undergraduate course at Rutgers University
- Covers macroevolutionary patterns of global plant diversity, with a lab emphasizing the identification and description of major plant families and their member species
- Designed and led remote lab activities, provide student support

Advanced Ecological Data Analysis – guest instructor and teaching assistant 2020, 2021

- Graduate-level course at Rutgers University
- Covers the use of many statistical methods common in ecology, building on the basics learned in undergraduate biostats
- Wrote and presented lectures, and designed accompanying exercises, on maximum likelihood, model selection, and Bayesian methods

Conservation Ecology – guest instructor 2019

- Upper-level undergraduate course at Rutgers University
- Selected readings and led discussions

General biology – teaching assistant 2016-2018

- Undergraduate course at William & Mary
- Led laboratory exercises in topics ranging from field ecology to zebra fish ontogeny

Statistics – workshops and lectures

- Introduction to frequentist stats (for undergraduates)
- Introduction to Bayesian modeling (for graduate students)
- Introduction to R (for beginners)
- Occupancy Modeling: Theory and Application (for mixed undergrad/grad)
- Spatial autocorrelation and spatially explicit linear models (for mixed undergrad/grad)

**MENTORSHIP**

Mentor for Aaron Scheiner, at Rutgers University 2019-2020

- Aaron collaborated with me on a project for the Xerces Society, modeling firefly species distributions
- Together we performed preliminary analyses focused on identifying firefly diversity hotspots and identifying biases in large, amalgamated datasets
- I trained Aaron in fundamentals of species distribution modeling and intermediate coding in R
- Aaron is poised to begin a PhD in applied mathematics

Honors thesis committee member for Olivia Spencer, William & Mary 2018-2020

- Provided training in study design and field techniques
- Assisted with successful summer research fellowship application
- After working with me, Olivia continued the project for her honors thesis, including supervising her own field team
- Olivia is now a PhD student with Dr. Erica Smithwick at Penn State

**OUTREACH**

- Guest lesson on pollination for 3rd graders at Princeton Academy of the Sacred Heart
- Guest instructor on pollination and community ecology for the Environmental Stewards program, a continuing education course through Rutgers University and Duke Farms
- Led workshop on tick ecology and safety for the York County Park Service, in York County VA

**SERVICE**

- Served as referee for...
  - o Ecology
  - o Ecology Letters
  - o Journal of Animal Ecology

- Functional Ecology
- Rutgers' Ecology & Evolution Diversity, Equity & Inclusion committee (2020-2021)
  - Collaborated in amendments to the Rutgers Grad Program in Ecology & Evolution's admissions process, to increase transparency and accessibility
  - Helped to organize and host outreach events to demystify the grad-student experience, with the aim of reducing barriers to entry and ultimately to diversify the pool of grad school applicants and ultimately the field of ecology
- Rutgers' Ecology & Evolution Graduate Student Association
  - President (2021 – present)
  - Treasurer (2019 – 2021)
- Rutgers AAUP-AFT
  - Executive Council Member (2021 – present)
  - Department representative (2019 – present)