

Dylan T Simpson

Chicago Botanic Garden
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ACADEMIC APPOINTMENTS

- 2024 - now Postdoctoral Scholar
Chicago Botanic Garden, Glencoe, IL
advisor: Amy Iler
- 2023 - 2023 Instructor
Rutgers University, New Brunswick, NJ
Department of Ecology, Evolution & Natural Resources

EDUCATION

- 2018- 2024 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)

- 2024 Reilly, J, I Bartomeus, **DT Simpson**, A Allen-Perkins, L Garibaldi, R Winfree. Wild insects and honey bees are equally important to crop yields in a global analysis. *Global Ecology and Biogeography*. doi.org/10.1111/geb.13843
- 2024 Smith, C, J Bonachela, **DT Simpson**, N. Lemanski, R Winfree. Geometric effects of fragmentation are likely to mitigate diversity loss following habitat destruction in real-world landscapes. *Global Ecology and Biogeography*. doi.org/10.1111/geb.13826
- 2022 Aldercotte, AH, **DT Simpson**, R Winfree. Crop visitation by wild bees declines over an eight-year time series - a dramatic trend, or just dramatic between-year variation? *Insect Conservation and Diversity*. doi.org/10.1111/icad.12589.
- 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

GRANTS AND SCHOLARSHIPS

- 2024 (waitlisted) - \$243,000 – *Stengl-Wyer Postdoctoral Fellowship*; University of Texas
- 2023 \$25,000 – *Louis Bevier Fellowship*; Rutgers University
- 2023 \$1000 – *Env. Data Science Innovation and Inclusion Summit*; University of Colorado
- 2022 \$700 – *School of Graduate Studies Travel Award*; Rutgers University
- 2021 \$2000 – *Charlie Kontos Memorial Grant*; Rutgers University
- 2021 \$5000 – *Core Facilities Utilization Grant*; 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
- 2015 \$500 – *Undergraduate research grant*; Western Washington University

AWARDS AND HONORS

- 2023 *Outstanding Student Presentation, 2nd place*; Entomological Society of America
- 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
- 2016 *Outstanding Poster Award*; Western Washington University

PRESENTATIONS

- 2023 **DT Simpson**, C Smith and R Winfree. *Wild bees have distinct habitat associations and idiosyncratic scales of response*. Oral presentation; Entomological Society of America
- 2023 **DT Simpson**, C Smith and R Winfree. *Wild bees have distinct habitat associations and idiosyncratic scales of response*. Oral presentation; Ecological Society of America
- 2022 **DT Simpson**, C Smith and R Winfree. *Wild bees respond to different habitats at different and unpredictable scales*. Oral presentation; Drongos Conservation Plenary, Princeton University
- 2022 **DT Simpson** and R Winfree. *Isolation-by-distance suggests low effective population density in bumble bees*. Oral presentation; Ecological Society of America
- 2020 Winfree, R, **DT Simpson**, J Reilly. *Mutualist networks and biodiversity-ecosystem function research*. Invited oral presentation; Ecological Society of America
- 2019 **Simpson, DT**, LR Weinman, MA Genung, M MacLeod, R Winfree. *More pollinators are important to function in communities, relative to monocultures*. Oral presentation; Ecological Society of America
- 2018 **Simpson, DT** and M Leu. *Investigating the spatiotemporal distribution of a tick-borne pathogen*. Invited oral presentation; Virginia Master Naturalists
- 2017 **Simpson, DT**, M Leu, et al. *Investigating heterogeneity of Ehrlichia chaffeensis prevalence*. Oral presentation; Ecological Society of America; Virginia Academy of Sciences
- 2017 **Simpson, DT**, M Leu, et al. *Investigating heterogeneity of Ehrlichia chaffeensis prevalence*. Oral presentation; Virginia Academy of Sciences
- 2016 **Simpson, DT** and R Bunn. *Colonization of leaf litter by arbuscular mycorrhizal fungi in a temperate, lowland forest*. Poster; Scholars Week Research Symposium, Western Washington University

TEACHING

Instructor (i.e., adjunct professor)

2023

Analytical Methods (11:216:369)

Rutgers University, Dept of Ecology, Evolution & Natural Resources

- Developed and presented all course material, including lectures, in-class activities and discussions, and take-home assignments
- Activities and assignments included readings, written critical thinking exercises, and introductory workshops in Excel and R

Teaching assistant **2021-2023**

Fundamentals of Ecological and Environmental Modeling (11:216:416)

Rutgers University, Dept of Ecology, Evolution & Natural Resources

- Graded assignments and provided direct, written feedback to individuals and general feedback as supplemental lectures
- Provided one-on-one tutoring support

Teaching assistant **2020-2022**

Plant Diversity and Evolution Lab (11:216:412) & Plant Systematics Lab (11:215:508)

Rutgers University, Dept of Ecology, Evolution & Natural Resources

- Led in-person lab activities, graded assignments and provided feedback and student support
- Developed and led remote lab activities to run the course during the COVID-19 pandemic

Guest instructor **2020-2021**

Advanced Ecological Data Analysis (16:215:599)

Rutgers University, Dept of Ecology, Evolution & Natural Resources

- Developed and presented materials for classes on maximum likelihood, model selection, and Bayesian methods, including lectures and R exercises, in a “flipped classroom” design

Guest instructor **2019**

Conservation Ecology (11:216:317)

Rutgers University, Dept of Ecology, Evolution & Natural Resources

- Selected readings and led discussions connecting human population growth, resource and energy use, conservation, and environmental justice

Teaching assistant **2017-2018**

Introduction to molecules, cells and development (BIOL 225, BIOL 226)

College of William & Mary, Dept of Biology

- Led laboratory exercises
- Developed accompanying lectures and quizzes

Teaching assistant **2016-2017**

Introduction to organisms, ecology, and evolution (BIOL 220, BIOL 221)

College of William & Mary, Dept of Biology

- Led laboratory exercises
- Developed accompanying lectures and quizzes

Workshop instructor **(various times)**

I have led a number of informal workshops for graduate and undergraduate students at Rutgers University and the College of William & Mary

- Introduction to frequentist stats (for undergraduates)
- Introduction to Bayesian modeling (for graduate students)
- Introduction to R (for undergraduates)
- 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

2020-2021

- Aaron and I collaborated 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 now a PhD student in applied mathematics at Northwestern University

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

SERVICE

- Served as a referee for the journals Ecology, Ecology Letters, Functional Ecology, Global Ecology and Biogeography, Journal of Animal Ecology, Restoration Ecology
- Rutgers' Ecology & Evolution Diversity, Equity & Inclusion committee (2020-2021)
 - o Collaborated in amendments to the Rutgers Grad Program in Ecology & Evolution's admissions process, to increase transparency and accessibility
 - o Helped to organize and host informational outreach events, with the aim of reducing informal barriers to entry to grad school and ultimately to diversify the pool of grad school applicants and the field of ecology
- Rutgers' Ecology & Evolution Graduate Student Association
 - o President (2021 – 2023)
 - o Treasurer (2019 – 2021)
- Rutgers AAUP-AFT
 - o Executive Council Member (2021 – 2023)
 - o Department representative (2019 – 2023)

OUTREACH

- Guest lesson on pollination for 3rd graders at Princeton Academy of the Sacred Heart (2019)
- Guest instructor on pollination and community ecology for the Environmental Stewards program, a continuing education course through Rutgers University and Duke Farms (2019)
- Led workshop on tick ecology and safety for the York County Park Service, in York County VA (2017)