

# Dylan Tux Simpson

## Curriculum vitae

### Education

- (in progress) **Doctor of Philosophy**, *Rutgers University*, New Brunswick, NJ.  
Ecology & Evolution
- 2018 **Master of Science**, *College of William & Mary*, Williamsburg, VA.  
Biology
- 2016 **Bachelor of Science**, *Western Washington University*, Bellingham, WA.  
Environmental Science; *Magna cum laude*

### Publications

- in revision **Simpson, D.T.**, M.S. Teague, J.K. Weeks, B.Z. 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*.
- 2019 Bunn, R.A., **D.T. Simpson**, L.S. Bullington, Y. Lekberg, and D.P. Janos. 2019. Revisiting the 'direct mineral cycling' hypothesis: Arbuscular mycorrhizal fungi colonize leaf litter, but why? *The ISME Journal*. doi: 10.1038/s41396-019-0403-2
- 2019 **Simpson, D.T.**, M.S. Teague, J.K. Weeks, A.D. Lewis, P.M. D'Addio, J.D. Moore, J.A. Thompson, R.T. Canella, A.C. Harris, B.Z. Kaup, O. Kerscher, and M. Leu. 2019. Broad, multi-year sampling effort highlights complex dynamics of the tick-borne pathogen *Ehrlichia chaffeensis*. *Journal of Medical Entomology* 56(1): 162-168. doi: 10.1093/jme/tjy171

### Presentations

- 2018 **Simpson, D.T.** and M. Leu. *Investigating the spatiotemporal distribution of a tick-borne pathogen, Ehrlichia chaffeensis*.
  - o Invited oral presentation – Virginia Master Naturalists
- 2017 **Simpson, D.T.**, M. Leu, O. Kerscher, B. Kaup, M. Teague, J. Weeks, A. Lewis, P. D'Addio, A. Harris, R. Canella, J. Thompson, and J. Moore. *Investigating heterogeneity of Ehrlichia chaffeensis prevalence: multi-year dataset reveals influence of seasonal weather patterns*
  - o Oral presentation – Ecological Society of America
  - o Oral presentation – Virginia Academy of Sciences
- 2017 **Simpson, D.T.** *Global change and the exacerbation of zoonotic disease. Or: why is a conservation ecologist is studying ticks?*
  - o Oral presentation – William & Mary Journal Club
- 2016 **Simpson, D.T.**, *Quantifying colonization of leaf litter by arbuscular mycorrhizal fungi in a temperate lowland forest*
  - o Poster – WWU Scholar's Week

Graduate Program in Ecology & Evolution – Rutgers University  
New Brunswick, NJ

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📍 dylantuxsmpson

- 2016 Anderson, R., B. McCadum, and **D.T. Simpson**. *Patterns of home range and habitat use by an ectothermic desert myrmecophile*
- Poster – Society for Integrative and Comparative Biology

## Honors and Awards

- 2019 ○ Distinguished Thesis award; William & Mary
- 2017 ○ Outstanding Teaching Assistant award; William & Mary  
○ Best Student Presentation award; Entomology Section, Virginia Academy of Sciences
- 2016 ○ Presidential Scholar; Western Washington University  
○ Outstanding Poster award; Undergraduate Research Symposium, Western Washington University

## Grants and scholarships

- 2019 ○ \$29,600 – Graduate Fellowship, Rutgers University Institute of Earth, Ocean and Atmospheric Sciences
- 2018 ○ \$26,500 – Excellence Fellowship, Rutgers University School of Biological and Environmental Sciences
- 2017 ○ \$342 – Arts & Sciences Graduate Research Grant, College of William & Mary  
○ \$200 – Ecological Society of America Disease Ecology Section student travel grant  
○ \$500 – Arts & Sciences OGSR/Graduate Student Association Conference Funds, College of William & Mary  
○ \$350 – Arts & Sciences Graduate Research Grant, College of William & Mary
- 2016 ○ \$4000 – Recruitment Fellowship, College of William & Mary Dept. of Biology
- 2015 ○ \$500 – Research grant, Western Washington University Office of Research and Sponsored Programs  
○ \$2000 – Thomas Graham Memorial Scholarship, Huxley College of the Environment

## Relevant Experience

### Peer review.

- Acted as a referee for the following journals:
- Ecology

### Teaching.

- Guest lecture on ecology for Rutgers' Environmental Stewards program at Duke Farms
- Led laboratory exercises in topics ranging from field ecology to zebra fish ontology at William & Mary
- Acted as guest instructor for a discussion-based Conservation Ecology course, in which I selected readings, prepared an introductory lecture, and facilitated discussion
- Prepared and given lectures on a variety of topics in statistics:
  - Introduction to frequentist stats
  - Introduction to Bayesian stats
  - Introduction to R
  - Occupancy modeling
  - Spatial autocorrelation and spatially explicit linear models
- Supervised undergraduate research technicians, two of whom I assisted with successful research-grant applications

### Analytical experience.

- Statistical analysis and modeling using R and JAGS
- Processing and analysis of remotely sensed data using ENVI and ArcGIS
- Spatial analysis using ArcGIS, FRAGSTATS, and Geospatial Modeling Environment

### Field experience.

I have worked on a variety of field projects, including studies of:

- Intertidal species of the Salish Sea
- Lizards in the Great Basin desert
- Mycorrhizal fungus of the Pacific Northwest
- Ticks of southeastern US
- Forest bees of the Great Lakes

Some relevant skills and techniques:

- Insect netting
- Pitfall trapping
- Invertebrate ID
- Radio telemetry
- Fluorescent powder tracking

### Lab experience.

- DNA extraction and PCR
- Microscopy
- Developed protocols for nutrient analysis of soil and leaf tissue using colorimetry and mass spectrometry

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## Relevant Coursework

2018	Bayesian Hierarchical Modeling and Analysis	<i>University of Colorado Denver</i>
2017	Advanced Biostatistics	<i>William &amp; Mary</i>
2017	Occupancy Modeling	<i>William &amp; Mary and UC Denver</i>
2016	Population and Community Ecology	<i>William &amp; Mary</i>
2016	Introduction to Remote Sensing	<i>Western Washington University</i>
2016	Population Biology	<i>Western Washington University</i>
2015	Intro to GIS	<i>Western Washington University</i>
2015	Conservation Ecology	<i>Western Washington University</i>

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