Tad Dallas

Ecologist

about

Postdoctoral researcher
U California @ Davis

tdallas@ucdavis.edu
taddallas.github.io
taddallas

programming

Proficient
R
SQL
Matlab/Octave

Familiar
Julia
Python
C++

Markup
LaTeX
Markdown
HTML/XML/XPath

Version control
Git

experience

2016 - Postdoctoral fellow — University of California–Davis
Advised by Alan Hastings

2015 Distributed *R* Analytics Intern — HP Vertica - Big Data Platform Dev Team
Software development for analysis of large data

2010-2011 Biological Science Technician — USDA - Agricultural Research Service
Subtropical Plant Pathology Lab

2008 Mathematical Biology Program — NSF Research Experience for Undergraduates (REU)
Mathematical estimation of host range using mark-recapture data

education

2011 - 2016 Ph.D. Ecology — U Georgia - Odum School of Ecology
Advised by John Drake

2009 - 2010 M.S. Biology — Truman State University
Ecology of small mammal-tick interactions
advised by Stephanie Foré

2005 - 2009 B.S. Biology — Truman State University
Majoring in Biology
Minor in Mathematical Biology

publications

in review

- Dallas, T, R Decker, AM Hastings. Species are not most abundant in the center of their geographic range or climatic niche. (in revision at *Ecology Letters*)
- Cleveland, CA, T Dallas, S Vigil, DG Mead, JL Corn, and AW Park. Metacommunity ecology links environmental drivers to *Culicoides* communities and hemorrhagic disease reports in the southeastern United States. (in revision at *Parasites and Vectors*)
- Cornelius-Ruhs, E, D Borden, S Altizer, T Dallas, E Pittman, AK Davis. Can traits of feathers grown during the breeding season still convey information about bird health during fall migration? *Avian Research*
- Carlson, CJ, KR Burgio, T Dallas, and WM Getz. The Mathematics of Extinction Across Scales: From Populations to the Biosphere. In *Mathematics of Planet Earth: Quantitative Approaches to Issues of Current Interest.* (Eds: HG Kaper and FS Roberts) Springer.

published

- Carlson,CJ, KR Burgio, ER Dougherty, AJ Phillips, VM Bueno, CF Clements, G Castaldo, T Dallas, CA Cizauska, GS Cumming, J Doña, NC Harris, R Jovani, S Mironov, O Muellerklein, HC Proctor, WM Getz. 2017. Parasite biodiversity faces extinction and redistribution in a changing climate. (in press) *Science Advances*

- Dallas, T, S Huang, C Nunn, AW Park, JM Drake. 2017. Estimating parasite host range. (in press *Proceedings of the Royal Society B*)
- 🔓 Dallas, T, AW Park, and JM Drake. 2017. Predicting cryptic links in host-parasite networks. *PLoS Computational Biology*. 13(5): e1005557 doi:10.1371/journal.pcbi.1005557 E
- 🔓 Evans, MV, T Dallas, BA Han, CC Murdock, JM Drake. 2017. Data-driven identification of potential Zika virus vectors. *eLife*. e22053. doi:10.7554/eLife.22053
- 🔓 Dallas, T, A Kramer, M Zokan, and JM Drake. 2016. Ordination obscures the influence of environment on plankton metacommunity structure. *Limnology and Oceanography Letters*. 54-61. doi:10.1002/lol2.10028
- Dallas, T, AW Park, and JM Drake. 2016. Predictability of helminth parasite host range using information on geography, host traits and parasite community structure. *Parasitology*. doi:10.1017/S0031182016001608
- 🔓 Dallas, T and JM Drake. 2016. Fluctuating temperatures alter environmental pathogen transmission in a *Daphnia*-pathogen system. *Ecology and Evolution* 00: 1-8. doi:10.1002/ece3.2539
- 🔓 Stephens, P, Altizer, S, Smith, K, Aguirre, A, Brown, J, Budischak, S, Byers, J, Dallas, T, Davies, J, Drake, J, Ezenwa, V, Farrell, M, Gittleman, J, Han, B, Huang, S, Hutchinson, R, Johnson, P, Nunn, C, Onstad, D, Park, A, Vazquez-Prokopec, G, Schmidt, J, and Poulin, R. 2016. The Macroecology of Infectious Diseases: A New Perspective on Global-scale Drivers of Pathogen Distributions and Impacts. *Ecology Letters* 19(9): 1159-1171. doi: 10.1111/ele.12644
- 🔓 Dallas, T 2016. *helminthR*: An R interface to the London Natural History Museum's Host-Parasite Database. *Ecography* 39(4): 391-393. doi: 10.1111/ecog.02131 </>
- Dallas, T, R Hall, and J Drake. 2016. Competition-mediated feedbacks in experimental multispecies epizootics. *Ecology* 97(3):661-670. doi:10.1890/15-0305.1 </>
- 🔓 Dallas, T, M Holtackers, and J Drake. 2016. Costs of resistance and infection by a generalist pathogen. *Ecology and Evolution* 6(6): 1737-1744. doi: 10.1002/ece3.1889 </>
- 🔓 Dallas, T and E Cornelius. 2015. Co-extinction in a host-parasite network: identifying key hosts for network stability. *Nature Scientific Reports* doi: 10.1038/srep13185
- Park, AW, C Cleveland, T Dallas, and J Corn. 2015. Vector species richness increases hemorrhagic disease prevalence through functional diversity modulating the duration of seasonal transmission. *Parasitology* 10: 1-6. doi: 10.1017/S0031182015000578
- Presley SJ, Dallas, T, Klingbeil, BT, Willig, MR. 2015. Phylogenetic signals in host-parasite associations for Neotropical bats and Nearctic desert rodents. *Biological Journal of the Linnean Society* 116(2): 312-327. </>
- 🔓 Dallas, T and JM Drake 2014. Relative importance of environmental, geographic, and spatial variables on zooplankton metacommunities. *Ecosphere* 5(9): art104 doi:10.1890/ES14-00071.1.
- 🔓 Dallas, T 2014. *metacom*: an R package for the analysis of metacommunity structure. *Ecography* 37(4):402-405. doi:10.1111/j.1600-0587.2013.00695.x
- Dallas, T and SJ Presley. 2014. Relative importance of host environment, transmission potential, and host phylogeny to the structure of parasite metacommunities. *Oikos* 123: 866–874. doi:10.1111/oik.00707
- 🔓 Dallas, T and JM Drake 2014. Nitrate enrichment alters a Daphnia-microparasite interaction through multiple pathways. *Ecology and Evolution* 4(3):243-250. doi: 10.1002/ece3.925
- Kim, HJ, Cavanaugh, JE, Dallas, T, and S Foré. 2013. Model selection criteria for overdispersed data and their application to the characterization of a host-parasite relationship. *Environmental and Ecological Statistics* doi:10.1007/s10651-013-0257-0

- Dallas, T 2013. *metacom*: Analysis of the 'Elements of Metacommunity Structure'. R package version 1.2. http://CRAN.R-project.org/package=metacom
- Dallas, T and S Foré. 2013. Chemical attraction of *Dermacentor variabilis* ticks parasitic to *Peromyscus leucopus* based on host body mass and sex. *Experimental and Applied Acarology* 61(2): 243-250. doi:10.1007/s10493-013-9690-x
- Dallas, T, S Foré, and HJ Kim. 2012. Modeling the influence of *Peromyscus leucopus* body mass, sex and habitat on immature *Dermacentor variabilis* burdens. *Journal of Vector Ecology*. 37(2):338-341.doi:10.1111/j.1948-7134.2012.00236.x
- Dallas, T, S Foré and HJ Kim. 2010. Factors influencing immature *Dermacentor variabilis* load on the white-footed mouse (*Peromyscus leucopus*). *Technical Report, Truman State University*.

</> software

metacom	Analysis of metacommunity structure	CRAN and	R package
helminthR	Portal to London Natural History Museum host-helminth database		R package
NHMpredict	Programmatically access the PREDICTS database		R package

selected presentations

- T Dallas, B Melbourne, G Legault, A Hastings. Initial abundance and stochasticity influence species coexistence *Society for Mathematical Biology*, July 19, 2017.
- T Dallas and JM Drake. Using niche modeling to detect unobserved interactions in host-parasite networks. *Ecological Society of America*, August 11, 2015.
- JE Byers, P Pappalardo, JP Schmidt, PR Stephens, S Haas, C Nunn, JM Drake, and T Dallas. What parasite and host traits best explain the geographic range of mammal parasites and diseases? *Ecological Society of America*, August 11, 2015.
- T Dallas and JM Drake. Costs of resistance and infection in *Daphnia* species exposed to a generalist microparasite. *Ecology and Evolution of Infectious Disease Conference*. Fort Collins, CO. June 2014
- T Dallas, JM Drake, M Krkosek. Thresholds to pathogen invasion: theory + experiment. *Ecological Society of America*. Sacramento, California. August 11, 2014
- T Dallas and JM Drake. The Influence of Nitrate on Fungal Parasitism of *Daphnia*. *98th annual American Society for Microbiology (Southeastern Branch)*. October 2012.
- T Dallas. Effects of competition and selective predation in a two-host system. *Odum School of Ecology Graduate Student Symposium*. Athens GA. January 2011.
- T Dallas. Thesis defense: An examination of variation in *Dermacentor variabilis* burdens within and between host species. *Truman State University*. August 2010.

professional service

For information on my service as a reviewer, see my Publons page. I have served as a reviewer for the following journals:

- Biological Conservation
- Ecography
- Ecology
- Ecology and Evolution
- Ecology Letters
- Ecological Complexity
- Functional Ecology
- Global Ecology and Biogeography
- Journal of Animal Ecology
- Journal of Biogeography
- Journal of Vector Ecology
- Landscape Ecology
- Methods in Ecology and Evolution
- Oecologia
- Oikos
- Philosophical Transactions B
- PLoS One
- Proceedings of the Royal Society B

Further, I have served as webmaster for the following organizations:

- Ecological Society of America - Disease Ecology section
- Macroecology of Infectious Disease - NSF Research Coordination Network
- Computational Ecology and Epidemiology Study Group - UGA
- Graduate Student Association - Odum School of Ecology

mentoring

2013	Young Dawgs Program	Mathieu Holtackers
2014	Population Biology of Infectious Disease REU	Trianna Humphries

awards

2014	Best student paper award - Odum School of Ecology	Applied category
2014	Best student paper award - Odum School of Ecology	Theoretical category
2014	Presentation award ($4th$ place)	Odum School Graduate Student Symposium
2012 - 2014	Odum School small grant recipient	Fully funded for 3 years
2011	Love of Learning award	Phi Kappa Phi

professional affiliations

2017 -	Society for Mathematical Biology	
2016 -	Association for the Sciences of Limnology and Oceanography	
2014 -	Society for Conservation Biology member	Georgia chapter
2012 -	Ecological Society of America member	Aquatic Ecology and Disease Ecology sections
2010 -	Phi Kappa Phi member	Academic honor fraternity