Tad Dallas

about

Postdoctoral researcher
U California @ Davis

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taddallas.github.io
taddallas

programming

Proficient
R
SQL
Matlab/Octave

Familiar
Julia
Python
C++

Markup
LaTeX
Markdown
HTML/XML/XPath

Version control
Git

experience

2018 -	Postdoctoral fellow *Centre for Ecological Change*	University of Helsinki
2016 - 2018	Postdoctoral fellow *Advised by Alan Hastings*	University of California–Davis
2015	Distributed *R* Analytics Intern *Software development for analysis of large data*	HP Vertica - Big Data Platform Dev Team
2010-2011	Biological Science Technician *Subtropical Plant Pathology Lab*	USDA - Agricultural Research Service
2008	Mathematical Biology Program *Mathematical estimation of host range using mark-recapture data*	NSF Research Experience for Undergraduates (REU)

education

2011 - 2016	Ph.D. Ecology *Advised by John Drake*	U Georgia - Odum School of Ecology
2009 - 2010	M.S. Biology *Ecology of small mammal-tick interactions* advised by Stephanie Foré	Truman State University
2005 - 2009	B.S. Biology Majoring in Biology *Minor in Mathematical Biology*	Truman State University

publications

in review

- Dallas, T and JM Drake. The dimensionality of the global environment. (in review at *Nature Ecology & Evolution*)
- Carlson, C, O Muellerklein, A Phillips, K Burgio, G Castaldo, C Cizauskas, G Cumming, Dallas, T, J Doña, N Harris, R Jovani, Z Miao, H Proctor, H Seok Yoon, W Getz. The Parasite Extinction Assessment & Red List: an open-source, online biodiversity database for neglected symbionts. (in review at *eLife*)
- Dallas, T, JM Drake, and M Krkosek. Pathogen invasion thresholds in a *Daphnia*-microparasite system. (in revision at *Royal Society Open Science*)
- Dallas, T, BA Han, CL Nunn, AW Park, PR Stephens, and JM Drake. Trait-based prediction of host species roles in parasite sharing networks. (in revision at *Journal of the Royal Society Interface*)
- Dallas, T and T Poisot. Compositional turnover in host and parasite communities does not change network structure. (in press at *Ecography*)

published

2017

- Dallas, T, R Decker, AM Hastings. 2017. Species are not most abundant in the center of their geographic range or climatic niche. *Ecology Letters* doi: 10.1111/ele.12860
- 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. (*forthcoming*)
- 🔓 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. *Science Advances*
- Dallas, T, S Huang, C Nunn, AW Park, JM Drake. 2017. Estimating parasite host range. *Proceedings of the Royal Society B.* 284:1861. doi:10.1098/rspb.2017.1250.
- 🔓 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
- 🔓 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

2016

- 🔓 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 </>

2015

- 🔓 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. </>

2014 and prior

- 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:

- American Naturalist
- Biological Conservation
- Ecography
- Ecology
- Ecology and Evolution
- Ecology Letters
- Ecological Complexity
- Functional Ecology
- Freshwater Biology
- 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

2017	Undergraduate thesis project	Ivan Beas
2014	Population Biology of Infectious Disease REU	Trianna Humphries
2013	Young Dawgs Program	Mathieu Holtackers

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