

Dr. Tyler Clarke Coverdale

Assistant Professor • The University of Notre Dame

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EDUCATION

PhD	Ecology & Evolutionary Biology, Princeton University	2018
ScB	Biology, Brown University	2010

ACADEMIC APPOINTMENTS

<i>Assistant Professor</i> , Department of Biological Sciences, University of Notre Dame	2023-present
<i>Postdoctoral Fellow</i> , Harvard University	2021-2023
<i>Presidential Postdoctoral Fellow</i> , Cornell University	2018-2021

FELLOWSHIPS, HONORS, AND AWARDS

Atkinson Center Research Fellow, Cornell University	2019-2021
Society of Fellows, Cornell University	2018-present
Ecological Society of America Graduate Student Policy Award	2017
National Science Foundation Graduate Research Fellowship Program (GRFP) Award	2014-2017
Centennial Fellowship, Princeton University	2013-2018
Magna Cum Laude, Honors, and Senior Prize in Biology, Brown University	2010
Sigma Xi Society	2009

RESEARCH FUNDING

Harvard University Star-Friedman Challenge Fund (\$78,155)	2021
Cornell Atkinson Center Sustainable Biodiversity Fund (\$7,500)	2019
Cornell University Presidential Fellowship (\$15,000)	2018-2021
National Science Foundation Doctoral Dissertation Improvement Grant (\$16,380)	2016-2018
Garden Club of America Caroline Thorn Kissel Scholarship (\$3,000)	2017
Princeton Institute for International and Regional Studies Research Grant (\$1,400)	2017
Lewis and Clark Fund for Exploration and Field Research Grant (\$5,000)	2015
National Geographic Young Explorers Grant (\$5,000)	2014
Princeton University Field Research Grant (\$2,840)	2014
The Nature Conservancy Sander Buchman Memorial Long Island Sound Grant (\$30,000)	2012
Harold Ward Undergraduate Teaching and Research Fellowship (\$3,000)	2009-2010

PEER-REVIEWED PUBLICATIONS

In print or in press

(Click journal names for links to PDFs)

25. Pringle, RM, JO Abraham, TM Anderson, [TC Coverdale](#), AB Davies, CL Dutton, A Gaylard, JR Goheen, RM Holdo, MC Hutchinsohn, DM Kimuyu, RA Long, AL Subalusky, MP Veldhuis. Impacts of large herbivores on terrestrial ecosystems. 2023. **Current Biology** 33: R584–R610.
24. [Coverdale, TC](#) and AB Davies. Unraveling the relationship between plant diversity and vegetation structural complexity: a review and theoretical framework. 2023. **Journal of Ecology** 111: 1378-1395.
23. [Coverdale, TC](#) and AA Agrawal. 2022. Experimental insect suppression causes loss of induced, but not constitutive, resistance in *Solanum carolinense*. **Ecology** e3789.
22. Alston, JM, CG Reed, L Khasoha, BRP Brown, G Busienei, NJ Carlson, [TC Coverdale](#), MO Dudenhoffer, M Dyck, J Ekeno, AA Hassan, R Hohbein, RP Jakopak, B Kimiti, S Kurukura, P Lokeny, AM Louthan, S Musila, PM Musili, T Tindall, S Weiner, TR Kartzinel, TM Palmer, RM Pringle, and JR Goheen. Ecological consequences of large herbivore exclusion in an African savanna: 12 years of data from the UHURU experiment. 2022. **Ecology** e3649.
21. [Coverdale, TC](#), RD O'Connell, MC Hutchinson, A Savagian, TR Kartzinel, TM Palmer, JR Goheen, DJ Augustine, M Sankaran, CE Tarnita, and RM Pringle. Megaherbivores prevent harmful liana infestation in an African savanna. 2021. **Proceedings of the National Academy of Sciences** 118: e2101676118.
20. [Coverdale, TC](#) and AA Agrawal. Evolution of shade tolerance is associated with attenuation of shade avoidance and reduced phenotypic plasticity in North American milkweeds. 2021. **American Journal of Botany** 108:1705–1715.
19. Guyton, JA, J Pansu, MC Hutchinson, TR Kartzinel, AB Potter, [TC Coverdale](#), JH Daskin, AG da Conceição, MJS Peel, ME Stalmans, and RM Pringle. 2020. Trophic rewilding revives biotic resistance to shrub invasion. **Nature Ecology and Evolution** 4:712-724.
18. [Coverdale, TC](#), IJ McGeary, RD O'Connell, TM Palmer, JR Goheen, M Sankaran, DJ Augustine, AT Ford, RM Pringle, and CE Tarnita. 2019. Strong but opposing effects of associational resistance and susceptibility on defense phenotype in an African savanna plant. **Oikos** 128:1772-1782.
17. Pringle, RM, TR Kartzinel, TM Palmer, TJ Thurman, K Fox-Dobbs, CCY Xu, MC Hutchinson, [TC Coverdale](#), JH Daskin, D Evangelista, K Gotanda, N Man in 't Veld, H Wegener, JJ Kolbe, TW Schoener, DA Spiller, JB Losos, and RDH Barrett. 2019. Predator-induced collapse of niche structure and species coexistence. **Nature** 570:58-63.
16. [Coverdale, TC](#), JR Goheen, TM Palmer, and RM Pringle. Good neighbors make good defenses: associational refuges reduce defense investment in African savanna plants. 2018. **Ecology** 99: 1724-1736.

15. Tarnita, CE, JA Bonachela, E Sheffer, JA Guyton, TC Coverdale, RA Long and RM Pringle. A theoretical foundation for multi-scale regular vegetation patterns. 2017. **Nature** 541: 398-401.
14. Coverdale, TC, TR Kartzinel, K Grabowski, RK Shriver, AA Hassan, JR Goheen, TM Palmer and RM Pringle. Elephants in the understory: opposing direct and indirect effects of consumption and ecosystem engineering. 2016. **Ecology** 97: 3219-3230.
13. Kartzinel, TR, PA Chen, TC Coverdale, DL Erickson, WJ Kress, ML Kuzmina, DI Rubenstein, W Wang and RM Pringle. DNA metabarcoding illuminates dietary niche partitioning by large African herbivores. 2015. **Proceedings of the National Academy of Sciences** 112: 8019-8024.
12. Bonachela, JA, RM Pringle, E Sheffer, TC Coverdale, JA Guyton, KK Caylor, SA Levin and CE Tarnita. Termite mounds can increase the robustness of dryland ecosystems to climatic change. 2015. **Science** 347: 651-655.
11. Coverdale, TC, EW Young, CP Brisson and MD Bertness. Indirect human impacts reverse centuries of carbon sequestration and marsh accretion. 2014. **PLoS One** 3: e93296.
10. Bertness, MD, CP Brisson, TC Coverdale, MC Bevil, SM Crotty and ER Suglia. Experimental predator removal rapidly generates salt marsh die-off. 2014. **Ecology Letters** 17: 830-835.
9. He, Q, MD Bertness, J Bruno, B Li, G Chen, TC Coverdale, AH Altieri, J Bai, T Sun, S Pennings, J Liu, P Ehrlich and B Cui. Economic development and coastal ecosystem change in China. 2014. **Scientific Reports** 4: 5995.
8. Brisson, CP, TC Coverdale and MD Bertness. Salt marsh die-off and recovery reveal disparity between the recovery of ecosystem structure and service provision. 2014. **Biological Conservation** 197: 1-5.
7. Coverdale, TC, MD Bertness and AH Altieri. Regional ontogeny of New England salt marsh die-off. 2013. **Conservation Biology** 27: 1041-1048.
6. Coverdale, TC, EE Axelman, CP Brisson, EW Young, AH Altieri and MD Bertness. New England salt marsh recovery: opportunistic colonization of an invasive species and its non-consumptive effects. 2013. **PLoS One** 8: e73823.
5. Altieri, AH, MD Bertness, TC Coverdale, EE Axelman, NC Herrmann and PL Szathmary. Feedbacks underlie the resilience of salt marshes and rapid reversal of consumer-driven die-off. 2013. **Ecology** 94: 1647-1657.
4. Bertness, MD and TC Coverdale. An invasive species facilitates the recovery of salt marsh ecosystems on Cape Cod. 2013. **Ecology** 94: 1937-1943.
3. Coverdale, TC, NC Herrmann, AH Altieri and MD Bertness. Latent impacts: the role of historical human impacts in coastal habitat loss. 2013. **Frontiers in Ecology and the Environment** 11: 69-74.
2. Altieri, AH, MD Bertness, TC Coverdale, NC Herrmann and C Holdredge. A trophic cascade triggers collapse of a salt-marsh ecosystem with intensive recreational fishing. 2012. **Ecology** 93: 1402-1410.

1. Coverdale, TC, AH Altieri and MD Bertness. Belowground herbivory increases vulnerability of New England salt marshes to die-off. 2012. **Ecology** 93: 2085-2094.

Submitted, in review/revision, or in prep
(all manuscripts below are available upon request)

26. Coverdale, TC, PB Boucher, J Singh, TM Palmer, JR Goheen, RM Pringle, and AB Davies. Disaggregating direct and indirect impacts of large herbivores on African savanna tree and herbaceous structure. (*Submitted*)
27. Boucher, PB*, TC Coverdale*, and AB Davies. A novel method for estimating grass biomass in African savannas with UAV-borne LiDAR. (*In prep*)
*Authors contributed equally to this work

INVITED COMMENTARIES

- i. Coverdale, TC. 2019. Defense emergence during early ontogeny reveals important differences between spines, thorns, and prickles. *A commentary on: Developmental constraints and resource environment shape early emergence and investment in spines in saplings*. Armani, M *et al.* **Annals of Botany** 124: iii-iv.

TEACHING AND PEDAGOGICAL TRAINING

Guest Lecturer (four lectures) , Conservation Biology (Harvard University)	2021-2022
Teaching and Learning in the Diverse Classroom Certificate (Cornell University)	2019
Guest Lecturer , Coastal Ecology and Conservation (Brown University)	2017
Guest Lecturer , Ecology & Conservation of African Landscapes (Princeton University)	2014
Guest Lecturer , Freshwater and Marine Botany (Wheaton College)	2013
Teaching Assistant , Ecology & Conservation of African Landscapes (Princeton University)	2014
Teaching Assistant , Ecology: Species Interactions, Biodiversity & Society (Princeton Univ.)	2013
Teaching Assistant , Marine Biology (Brown University)	2012
Teaching Assistant , Coastal Ecology and Conservation (Brown University)	2010, 2011, 2012
Teaching Assistant & University Tutor , Principles of Ecology (Brown University)	2009

MENTORSHIP

Graduate students (#number of student-awarded funding sources):

Max Scheel ¹	2023-present
Evan Foster ¹	2023-present

Undergraduate Mentoring Workshop (Harvard University)	2020
Postdoc Leadership Certificate (Cornell University)	2019
Co-creator , Princeton EEB Graduate-Undergraduate Mentoring Program	2017

DIVERSITY, EQUITY, INCLUSION AND OTHER PROFESSIONAL SERVICE

Certified Trainer , Preventing Sexual Harassment & Assault in Field Settings (UCSC CAMINO)	2021
Member , Working Group on DEIJB in Fieldwork, Cornell University EEB	2020-2021
Ad hoc reviewer , Cornell Atkinson Center Sustainable Biodiversity Fund	2020
Participant , Building Allyship Series	2020
Member , Botanical Society of America	2020-present
Ad hoc reviewer , NSF DEB	2019, 2021
Judge , Buell and Braun Awards, ESA Annual Meeting	2019
Graduate student representative , ESA Congressional Visits Day	2017
Member , American Society of Naturalists	2017-present
Ad hoc reviewer	2011-present
<i>American Journal of Botany, Annals of Botany, Austral Ecology, Biological Invasions, Ecology and Evolution, Ecology, Ecology Letters, Ecosystems, Estuaries and Coasts, Functional Ecology, Journal of Arid Environments, Journal of Ecology, Journal of Experimental Marine Biology and Ecology, Journal of Tropical Ecology, Journal of Vector Ecology, Journal of Vegetation Science, Nature Climate Change, Oecologia, Oikos, Plant Biology, Plant Ecology, PNAS</i>	
Member , Ecological Society of America	2016-present

SELECTED CONFERENCE TALKS AND INVITED SEMINARS

Savanna Science Network Meeting (Kruger National Park, South Africa)	2023
University of Notre Dame (Departmental Seminar)	2022
Syracuse University (Departmental Seminar)	2022
University of Guelph (Departmental Seminar)	2021
Kennesaw State University (Departmental Seminar)	2021
Ecological Society of America	2019
Cornell EEB Research Symposium	2018
Ecological Society of Australia	2017
Brown University (Departmental Seminar)	2017
Princeton, Penn, Rutgers, Columbia Research Symposium	2016
Benthic Ecology Meeting	2010, 2011, 2013