

Tyler Clarke Coverdale

Presidential Postdoctoral Fellow

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EDUCATION AND TRAINING

	Cornell Presidential Postdoctoral Fellow, Agrawal Lab, Cornell University	2018-present
PhD	Ecology and Evolutionary Biology, Pringle Lab, Princeton University	2013-2018
MA	Ecology and Evolutionary Biology, Pringle Lab, Princeton University	2015
	Research Assistant and Lab Manager, Bertness Lab, Brown University	2010-2013
ScB	Biology, Brown University	2010

ACADEMIC HONORS AND AWARDS

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

RESEARCH FUNDING

	National Science Foundation Doctoral Dissertation Improvement Grant (DDIG)	2016-2018
	Garden Club of America Caroline Thorn Kissel Summer Environmental Studies Scholarship	2017
	Princeton Institute for International and Regional Studies Research Grant	2017
	Lewis and Clark Fund for Exploration and Field Research Grant	2015
	National Geographic Young Explorers Grant	2014
	Princeton University Field Research Grant	2014
	The Nature Conservancy Sander Buchman Memorial Long Island Sound Research Grant	2011-2012
	Harold Ward Undergraduate Teaching and Research Fellowship	2009-2010

PUBLICATIONS

- 2018 Coverdale, TC, JR Goheen, TM Palmer, and RM Pringle. Good neighbors make good defenses: associational refuges reduce defense investment in African savanna plants. **Ecology** (*In press*).
- Guyton, JA, J Pansu, TR Kartzinel, TC Coverdale, AB Potter, JH Daskin, and RM Pringle. Restoration of native African megafauna revives biotic resistance to plant invasion. *In review*.
- 2017 Tarnita, CE, JA Bonachela, E Sheffer, JA Guyton, TC Coverdale, RA Long and RM Pringle. A theoretical foundation for multi-scale regular vegetation patterns. **Nature** 541: 398-401 [[Cover Article](#)] ([link](#)).
- 2016 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. **Ecology** 97: 3219-3230 ([link](#)).
- 2015 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. **Proceedings of the National Academy of Science** 112: 8019-8024. [[Cover Article](#)] ([link](#))
- 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. **Science** 347: 651-655. [[Cover Article](#)] ([link](#))
- 2014 Coverdale, TC, [EW Young](#), [CP Brisson](#) and MD Bertness. Indirect human impacts reverse centuries of carbon sequestration and marsh accretion. **PLoS One** 9 e93296. ([link](#))
- Bertness, MD, [CP Brisson](#), TC Coverdale, [MC Bevil](#), [SM Crotty](#) and [ER Suglia](#). Experimental predator removal rapidly generates salt marsh die-off. **Ecology Letters** 17: 830-835. ([link](#))
- 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. **Scientific Reports** 4: 5995. ([link](#))
- [Brisson, CP](#), TC Coverdale and MD Bertness. Salt marsh die-off and recovery reveal disparity between the recovery of ecosystem structure and service provision. **Biological Conservation** 197: 1-5. ([link](#))
- 2013 Coverdale, TC, MD Bertness and AH Altieri. Regional ontogeny of New England salt marsh die-off. **Conservation Biology** 27: 1041-1048. ([link](#))
- 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. **PLoS One** 8: e73823. ([link](#))
- Altieri, AH, MD Bertness, TC Coverdale, [EE Axelman](#), NC Herrmann and PL Szathmary. Facilitation drives the resilience of salt marshes and rapid reversal of die-off. **Ecology** 94: 1647-1657. ([link](#))
- Bertness, MD and TC Coverdale. An invasive species facilitates the recovery of salt marsh ecosystems on Cape Cod. **Ecology** 94: 1937-1943. ([link](#))
- Coverdale, TC, NC Herrmann, AH Altieri and MD Bertness. Latent impacts: the role of historical human impacts in coastal habitat loss. **Frontiers in Ecology and the Environment** 11: 69-74. [[Cover Article](#)] ([link](#))
- 2012 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. **Ecology** 93: 1402-1410. ([link](#))
- Coverdale, TC, AH Altieri and MD Bertness. Belowground herbivory increases vulnerability of New England salt marshes to die-off. **Ecology** 93: 2085-2094. ([link](#))

In prep 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.

Coverdale, TC, RB Kartzinel, BM vonHoldt, and RM Pringle. Linking community ecology and epigenetics in *Barleria trispinosa*, a non-model African plant.

Underline denotes mentored undergraduate co-author

INVITED LECTURES AND SEMINARS

Brown University (Departmental Seminar)	2017
Brown University (Coastal Ecology and Conservation Course)	2017
Princeton University (Ecology and Conservation of African Landscapes Course)	2014
Wheaton College (Freshwater and Marine Botany Course)	2013

TEACHING AND MENTORSHIP

Co-creator, Princeton EEB Graduate-Undergraduate Mentoring Program	2017
Guest speaker, Skype a Scientist Program	2017
Mentor, Princeton Environmental Institute Summer Internship Program in Kenya (5 students)	2014-2017
Mentor, Princeton University Graduate/Undergraduate Mentoring Programs (5 students)	2015-2017
Advisor, Princeton University Honors Thesis Program in Kenya (2 students)	2014-2016
Mentor, Princeton University ReMatch Program	2015-2016
Guest speaker, The Ratner School (African Ecology for Pre-K and Kindergarten classes)	2015-2016
Group leader, Daraja Academy for Girls Discovery Day at Mpala Research Centre	2014
Teaching Assistant, Ecology and Conservation of African Landscapes, Princeton University	2014
Teaching Assistant, Ecology: Species Interactions, Biodiversity and Society, Princeton University	2013
Teaching Assistant, Marine Biology, Brown University	2012
Teaching Assistant, Coastal Ecology and Conservation (three semesters), Brown University	2010-2012
Teaching Assistant and University Tutor, Principles of Ecology, Brown University	2009

OUTREACH, INCLUSION, AND PROFESSIONAL ACTIVITY

Graduate student representative, ESA Congressional Visits Day	2017
Member, American Society of Naturalists	2017
Guest Lecturer, Skype a Scientist Program	2017
Judge, Hopewell Elementary School Science Fair	2017
Ad hoc reviewer, <i>Annals of Botany</i> , <i>Ecology and Evolution</i> , <i>Ecology</i> , <i>Ecosystems</i> , <i>Estuaries</i> <i>and Coasts</i> , <i>Journal of Arid Environments</i> , <i>Journal of Experimental Marine Biology and Ecology</i> , <i>Journal of Tropical Ecology</i> , <i>Journal of Vector Ecology</i> , <i>Marine Community Ecology and Conservation</i> , <i>Nature Climate Change</i> , <i>Oecologia</i> , <i>Oikos</i>	2011-2018

Member, Princeton University Women in Science Partnership	2016-2017
Member, Ecological Society of America	2016-2017
Co-organizer, Princeton University Scientific Communication Workshop	2014

SELECTED CONFERENCE TALKS

T. Coverdale, K. Grabowski, B. Culver, R. O'Connell, I. McGeary, R. Kartzinel, and R. Pringle. *Good defenses make good neighbors: exploring the broader implications of associational defenses in savannas*. 2017 Ecological Society of Australia Meeting, Hunter Valley, New South Wales.

T. Coverdale. *Ecosystem engineering by elephants: canopy damage benefits understory plants by creating associational refuges*. 2016 Princeton, Penn, Rutgers, Columbia Graduate Symposium, Philadelphia PA.

T. Coverdale, C. Brisson and M. Bertness. *Fear of being eaten drives salt marsh recovery from consumer-driven die-off*. 2013 Benthic Ecology Meeting, Savannah GA.

T. Coverdale, N. Herrmann, A. Altieri and M. Bertness. *Synergistic, delayed effects of multiple human impacts on ecosystems*. 2011 Benthic Ecology Meeting, Mobile AL.

T. Coverdale, A. Altieri, M. Bertness, N. Herrmann, and C. Holdredge. *Recreational fishing triggers salt marsh die-off on Cape Cod, MA*. 2011 NEERS Spring Meeting, Port Jefferson NY.

T. Coverdale and M. Bertness. *Overfishing triggers runaway herbivory and salt marsh die-off in New England*. 2011 Narragansett Bay National Estuarine Research Reserve Symposium.

T. Coverdale, N. Herrmann, A. Altieri and M. Bertness. *Historical development of Cape Cod salt marshes triggers current runaway herbivory and marsh die-off*. 2010 Benthic Ecology Meeting, Wilmington NC.

SELECTED PRESS AND MEDIA

"In Meetings on the Hill, GSPA Recipient Works to Put a Face on Science Funding". July, 2017. Ecological Society of America ([link](#))

"Fishing for Clues to Solve Namibia's Fairy Circle Mystery". January, 2017. The New York Times ([link](#))

"Fairy circles could be the handiwork of hungry termites and thirsty plants". January, 2017. Science ([link](#))

"African mammals, foodwebs, and coexistence". June, 2015. PNAS ([link](#))

"How do African grasslands support so many plant-eaters?". June, 2015. National Geographic ([link](#))

"Termites are Guardians of the Soil". March, 2015. The New York Times ([link](#))

"Return of the African elephant", January, 2015. Gorongosa National Park Documentary Video ([link](#))

"The many sides of Africa's elephants", January, 2015. E.O. Wilson Biodiversity Foundation ([link](#))

"When Predators Vanish, So Does the Ecosystem", May, 2014. The New York Times ([link](#))

"Walking in Tinley's footsteps", August, 2013. Gorongosa National Park Bush Diaries Blog ([link](#))

"Going back in time four decades" August, 2013. Gorongosa National Park Documentary Video ([link](#))

"Salt marsh equilibrium". March, 2013. *Sunday Journal*, Cape Cod Broadcasting ([link](#))

"Depression-era drainage ditches emerge as sleeping threat to Cape Cod salt marshes". January, 2013. Ecological Society of America ([link](#))

"Saving Cape Cod's salt marshes, one fish at a time". July, 2012. The Providence Journal Op-ed

"Pressures on predators lead to marshland die-offs". June, 2012. The New York Times. ([link](#))

"Crabs put the pinch on marshlands". September, 2011. NSF Science Nation ([link](#))

"Crabs may be killing Cape Cod's marshes". July, 2010. The Boston Globe ([link](#))

PROFESSIONAL REFERENCES

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