

# Tyler C. Coverdale

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## EDUCATION

<b>PhD</b>	Ecology and Evolutionary Biology, Princeton University, Princeton NJ	<b>2013-Present</b>
<b>MA</b>	Ecology and Evolutionary Biology, Princeton University, Princeton NJ	<b>2015</b>
<b>ScB</b>	Biology, Brown University, Providence RI	<b>2010</b>

## ACADEMIC HONORS AND AWARDS

Ecological Society of America Graduate Student Policy Award	<b>2017</b>
National Science Foundation Graduate Research Fellowship Program Award	<b>2014-2017</b>
Princeton University Centennial Fellowship	<b>2013-2018</b>
Honors in Biology, Brown University	<b>2010</b>
Magna Cum Laude, Brown University	<b>2010</b>
Senior Prize in Biology, Brown University	<b>2010</b>
Sigma Xi Society	<b>2009</b>

## RESEARCH FUNDING

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

## ACADEMIC POSITIONS

Graduate Student, Pringle Lab, Princeton University	<b>2013-Present</b>
Lab Manager and Researcher, Bertness Lab, Brown University	<b>2012-2013</b>
Research Assistant, Bertness Lab, Brown University	<b>2010-2012</b>
Undergraduate Researcher, Bertness Lab, Brown University	<b>2009-2010</b>
Undergraduate Researcher, Swartz Lab, Brown University	<b>2006-2008</b>

## INVITED LECTURES AND SEMINARS

Brown University (Departmental Seminar)	2017
Brown University (Coastal Ecology and Conservation Course)	2017
Wheaton College (Freshwater and Marine Botany Course)	2013

## PUBLICATIONS

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

15. **Coverdale, TC**, AH Altieri, and MD Bertness. 2012. Belowground herbivory increases vulnerability of New England salt marshes to die-off. *Ecology* **93**(9): 2085-2094. ([link](#))

## SELECTED PRESENTATIONS

- 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 Presentation, Savannah GA.
- T. Coverdale**, N. Herrmann, A. Altieri and M. Bertness. *Synergistic, delayed effects of multiple human impacts on ecosystems*. 2011 Benthic Ecology Meeting Presentation, 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**, A. Altieri, M. Bertness, N. Herrmann, and C. Holdredge. *Recreational fishing triggers salt marsh die-off on Cape Cod, MA*. 2011 Atlantic Research Center Science in the Seashore Research Symposium, Truro MA.
- T. Coverdale** and M. Bertness. *Overfishing triggers runaway herbivory and salt marsh die-off in New England*. Narragansett Bay National Estuarine Research Reserve. 2011.
- T. Coverdale** and N. Herrmann. *Is overfishing triggering marsh die-off in Cape Cod salt marshes?* Atlantic Research Center, Cape Cod National Seashore, 2011. ([link](#))
- 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 Presentation, 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](#))

## TEACHING, OUTREACH, AND MENTORSHIP

Member, Ecological Society of America	2016-present
Reviewer, <i>Estuaries and Coasts</i> , <i>Journal of Experimental Marine Biology and Ecology</i> , <i>Ecosystems</i> , <i>Nature Climate Change</i> , <i>Journal of Vector Ecology</i> , <i>Marine Community Ecology and Conservation</i> , <i>Annals of Botany</i> , <i>Oikos</i> , <i>Journal of Arid Environments</i> , <i>Ecology and Evolution</i>	2011-2017
Judge, Hopewell Elementary School Science Fair	2017
Mentor, Princeton University ReMatch Program	2015-2016
Mentor, Princeton Environmental Institute Internship Program in Kenya (5 students)	2014-2017
Advisor, Princeton University Honors Thesis Program in Kenya (2 students; 1 winner of Cannon Memorial Senior Thesis Prize)	2014-2016
Guest speaker, The Ratner School (African Ecology for Pre-K and Kindergarten classes)	2015-2016
Mentor, Princeton University Undergraduate Mentoring Program	2015-2016
Co-organizer, Princeton University Scientific Communication Workshop	2014
Trip Leader, Daraja Academy for Girls at Mpala Research Centre	2014
Teaching Assistant, Ecology and Conservation of African Landscapes (in Kenya), 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, Brown University	2010-2012
Teaching Assistant and University Tutor, Principles of Ecology, Brown University	2009

## PROFESSIONAL REFERENCES

**Dr. Robert M. Pringle**, Assistant Professor  
Dept. of Ecology & Evolutionary Biology,  
Princeton University  
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**Dr. Andrew H. Altieri**, Staff Scientist  
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**Dr. Mark D. Bertness**, Professor  
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