# Robert M. Pringle

Department of Ecology and Evolutionary Biology, Princeton University Email: rpringle@princeton.edu – Tel: (609) 258-8273 – Web: https://pringle.princeton.edu

## **EDUCATION**

2009	Ph.D.	Stanford University (Biology)
2004	M.Sc.	University of Oxford (Environmental Change and Management, with Distinction)
2003	M.Sc.	University of Oxford (Economic and Social History, with Distinction)
2001	B.A.	University of Pennsylvania (Phi Beta Kappa)

# ACADEMIC POSITIONS

2021-	Professor
	Princeton University Department of Ecology and Evolutionary Biology
2018-2021	Associate Professor
	Princeton University Department of Ecology and Evolutionary Biology
2012-2018	Assistant Professor
	Princeton University Department of Ecology and Evolutionary Biology
2009-2012	Junior Fellow
	Harvard University Society of Fellows

# **Fellowships**

2015	Visiting Fellow, École Normale Supérieure/CNRS-PSL Eco-Evo-Devo, Paris
2009-2011	NSF International Research Fellowship
2008-2009	Ward Wilson Woods, Jr., Fellowship, Stanford University
2005-2008	William R. and Sara Hart Kimball Stanford Graduate Fellowship, Stanford University
2002-2004	Thouron Fellowship, University of Oxford, UK
2002	Fulbright Fellowship, University of Sydney, Australia (Declined)

# US NATIONAL SCIENCE FOUNDATION RESEARCH AWARDS

NSF IOS-1656527. "Allometry of behavior in spatially patterned resource landscapes" NSF DEB-1457697. "Predation, competition, and establishment dynamics in an adaptive radiation"
NSF DEB-1601538. "Plant defenses in African savannas: testing the effects of induced and associational defenses on plant phenotype, fitness, and diversity" (Dissertation
Improvement Grant to co-PI Tyler Coverdale)
NSF DEB-1501306. "Testing the effects of large mammalian herbivores on savanna
dynamics and community structure with regional- and continent-scale natural experiments" (Dissertation Improvement Grant to co-PI Josh Daskin)
NSF DEB-1355122. "Causes and consequences of regular spatial patterning in foundation
species: theoretical development and experimental tests in an African savanna"
NSF OISE-0852961. "International Research Fellowship: Ecological consequences of
large-herbivore declines under different rainfall regimes"
NSF DEB-0709880. "Indirect regulation of aboveground ecological processes by a
belowground ecosystem engineer" (Dissertation Improvement Grant).

# OTHER RESEARCH FUNDING

2018-2024 Cameron Schrier Foundation. "Post-war socio-ecological rehabilitation in Gorongosa National Park, Mozambique" (PI)

2012-2022	Carr Foundation. "Dynamics of ecosystem recovery in Gorongosa National Park, Mozambique" (PI)
2019-2021	Grand Challenges Program, Princeton Environmental Institute. "Ecological Impacts of Extreme Weather Events: Effects of Tropical Cyclone Idai on a Recovering Ecosystem, Gorongosa National Park" (PI)
2019-2021	Grand Challenges Program, Princeton Environmental Institute. "Causes and Consequences of Water-Mediated Pattern Formation in Arid African Rangelands: Experimental and Theoretical Explorations" (co-PI, with Corina Tarnita)
2016-2018	Innovation Fund for New Ideas in the Natural Sciences, Office of the Dean of Research, Princeton University. "DNA-based characterization of diet and microbiome in African wildlife and livestock" (PI)
2016-2018	Grand Challenges Program, Princeton Environmental Institute. "Experimental tests of drought and deluge in African rangelands" (co-PI, with Corina Tarnita)
2017-2018	Parrot/Pix4D Climate Innovation Grant
2015-2017	The Nature Conservancy, NatureNet Science Fellows (PI; Post-doctoral fellowship and research support for Tyler R. Kartzinel)
2016-2017	Sherwood Foundation. Gift in support of research. (PI)
2013-2015	Grand Challenges Program, Princeton Environmental Institute. "Ecosystem spatial pattern and development opportunities in African rangelands" (PI)
2013-2014	National Geographic Society #9291-13, "How spatial patterning regulates behavior and energetics of large mammals in an under-studied ecosystem" (PI)
2010-2012	William F. Milton Fund, "Interactive effects of species loss and climate change: an experimental approach" (PI)
2006-2007	Sherwood Family Foundation (co-PI)
2003-2004	St. John's College Summer Travel Award, University of Oxford
2003-2004	African Studies Committee Research Grant, University of Oxford
2003-2004	Arnold Fund Research Grant, University of Oxford

# HONORS AND AWARDS

2015-2019	Early Career Fellow, Ecological Society of America
2016	'Rising Star in Ecology,' Atwood Colloquium in Ecology & Evolution, U. Toronto
2015	Holiday Lecturer, Howard Hughes Medical Institute, BioInteractive Program
2011	Young Investigator Prize, American Society of Naturalists
2007	Teresa Heinz Scholars for Environmental Research
2007	Elizabeth Reid Award, Phi Beta Kappa Northern California Association
2005	Stanford University Award for Excellence in Teaching
2004	Book Prize for Best MSc Thesis in Environmental Change and Management, Oxford
2003	Fellow, Royal Society for Encouragement of Arts, Manufactures, and Commerce
2002	Phi Beta Kappa
2001	Cochran Prize for Best Thesis in American History, University of Pennsylvania
2001	Rose Award, Outstanding Undergraduate Research, University of Pennsylvania
2000	Michael Lacovera Undergraduate Research Award, University of Pennsylvania
1999	Pi Gamma Mu Honor Society in the Social Sciences

# Editorships

2019–present Series co-editor, Monographs in Population Biology (MPB), Princeton University Press.

# **PUBLICATIONS**

1. Becker, JA, MC Hutchinson, AB Potter, S Park, JA Guyton, K Abernathy, VF Americo, AG da Conceiçao, TR Kartzinel, L Kuziel, NE Leonard, E Lorenzi, NC Martins, J Pansu, WL Scott, MK Stahl,

KR Torrens, ME Stalmans, RA Long, and **RM Pringle**. 2021. Ecological and behavioral mechanisms of density-dependent habitat expansion in a recovering African ungulate population. *Ecological Monographs*: in press.

- TJ Guy, MC Hutchinson, KCR Baldock, E Kayser, B Baiser, PPA Staniczenko, JR Goheen, RM Pringle, and TM Palmer. 2021. Large herbivores transform plant-pollinator networks in an African savanna. *Current Biology*: in press.
- 3. Daskin JH and **RM Pringle** 2021. Ecological effects of warfare on wildlife. Chapter 3 in A Peters, R Kolb, and J De Hemptinne (eds), *The Legal Protection of Animals in Wartime*. Cambridge University Press, Cambridge, UK.
- 4. **Pringle, RM** and MC Hutchinson. 2020. Resolving food-web structure. *Annual Review of Ecology, Evolution, and Systematics* 51:55-80.
- 5. Kartzinel, TR and **RM Pringle**. 2020. Multiple dimensions of dietary diversity in large mammalian herbivores. *Journal of Animal Ecology* 89:1482-1496.
- 6. Baker CCM, JAC Vardaro, DF Doak, J Pansu, J Puissant, **RM Pringle**, and CE Tarnita. 2020. Spatial patterning of soil microbial communities created by fungus-farming termites. *Molecular Ecology* 29:4487-4501.
- 7. **Pringle, RM.** 2020. Untangling food webs. Pp. 225-238 in A Dobson, RD Holt, and D Tilman (eds), *Unsolved Problems in Ecology*. Princeton University Press, Princeton, USA.
- 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 & Evolution* 4:712-724.
- 9. **Pringle, RM**. 2020. Paleoecology: the functional uniqueness of ancient megafauna. *Current Biology* 30:R32–R35.
- 10. Branco, PS, JA Merkle, **RM Pringle**, L King, T Tindall, M Stalmans, and RA Long. 2020. An experimental test of community-based strategies for mitigating human-wildlife conflict around protected areas. *Conservation Letters* 13:e12679.
- 11. Kartzinel, TR, JC Hsing, PM Musili, BRP Brown, and **RM Pringle**. 2019. Covariation of diet and gut microbiome in African megafauna. *Proceedings of the National Academy of Sciences USA* 116: 23588–23593.
  - Cover article
- 12. Reese, AT, TR Kartzinel, BL Petrone, PJ Turnbaugh, **RM Pringle**, and LA David. 2019. Using DNA metabarcoding to evaluate the plant component of human diets: a proof of concept. *mSystems* 4:e00458-19.
  - Commentary: "Molecular reconstruction of the diet in human stool samples" by F Maixner, *mSystems* (vol. 4, p. e00634-19).
- 13. Wegener, JE, KP Mulder, **RM Pringle**, JB Losos, and JJ Kolbe. 2019. Head size of male and female lizards increases with population density across island populations in the Bahamas. *Breviora* 566:1-9.
- 14. **Pringle, RM,** TR Kartzinel, TM Palmer, TJ Thurman, K Fox-Dobbs, CCY Xu, MC Hutchinson, TC Coverdale, JH Daskin, DA Evangelista, KM Gotanda, NA Man in 't Veld, JE Wegener, JJ Kolbe, TW Schoener, DA Spiller, JB Losos, RDH Barrett. 2019. Predator-induced collapse of niche structure and species coexistence. *Nature* 570:58-64.
  - Cover article

- News & Views: "Fearful effects on ecological competitors" by OJ Schmitz, *Nature* (vol. 570, p. 43-44)
- Agence France-Presse, PBS Nova
- 15. Atkins, JL, RA Long, J Pansu, JH Daskin, AB Potter, M Stalmans, CE Tarnita, and **RM Pringle**. 2019. Cascading impacts of large-carnivore extirpation in an African ecosystem. *Science* 364:173-177.
  - In Depth: "Grazing animals shown to inhabit a 'landscape of fear" by E Pennisi, *Science* (vol. 363, p. 1025).
  - The Atlantic, Discover, Le Figaro, Science News, Tech Times, Pacific Standard
- 16. Pringle, RM. 2019. A mountain of ecological interactions. Nature 568:38-39.
- 17. Hu, J, AM Askary, TJ Thurman, DA Spiller, TM Palmer, **RM Pringle**, RDH Barrett. 2019. The epigenetic signature of colonizing new environments in Anolis lizards. *Molecular Biology and Evolution* 36:2165-2170.
- 18. Coverdale, TC, IJ McGeary, RD O'Connell, TM Palmer, JR Goheen, M Sankaran, DJ Augustine, AT Ford, and **RM Pringle**. 2019. Strong but opposing effects of associational resistance and susceptibility on defense phenotype in an African savanna plant. *Oikos* 128:1772-1782.
- Branco, PS, JA Merkle, **RM Pringle**, J Pansu, AB Potter, A Reynolds, M Stalmans, and RA Long. 2019. Determinants of elephant foraging behavior in a coupled human-natural system: is brown the new green? *Journal of Animal Ecology* 88:780-792.
- 20. Stalmans, ME, TJ Massad, MJS Peel, CE Tarnita, and **RM Pringle**. 2019. War-induced collapse and asymmetric recovery of large-mammal populations in Gorongosa National Park, Mozambique. *PLOS ONE* 14:e0212864.
- Gill, BA, PM Musili, S Kurukura, AA Hassan, JR Goheen, WJ Kress, M Kuzmina, RM Pringle, TR Kartzinel. 2019. Plant DNA-barcode library and community phylogeny for a semi-arid East African savanna. *Molecular Ecology Resources* 19:838-846.
- 22. Pansu, J, JA Guyton, AB Potter, JL Atkins, JH Daskin, B Wursten, TR Kartzinel, and **RM Pringle**. 2019. Trophic ecology of large herbivores in a reassembling African ecosystem. *Journal of Ecology* 107:1355-1376.
- Reese, AT, FC Pereira, A Schintlmeister, D Berry, M Wagner, LP Hale, HK Durand, X Zhou, R Premont, AM Diehl, TM O'Connell, SC Alberts, TR Kartzinel, **RM Pringle**, RR Dunn, JP Wright, and LA David. 2018. Microbial nitrogen limitation in the mammalian large intestine. *Nature Microbiology* 3:1441-1450.
- 24. Pringle, RM. 2018. Megaherbivores homogenize the landscape of fear. Current Biology 15:R835-R837.
- 25. Daskin, JH and **RM Pringle**. 2018. Warfare and wildlife declines in Africa's protected areas. *Nature* 553:328-332.
  - New York Times, Washington Post, The Economist, The Atlantic, LA Times, Associated Press, Agence France-Presse, Spiegel, El País, Smithsonian, NPR, BBC World Service
- 26. Louthan, AM, **RM Pringle**, JR Goheen, TM Palmer, WF Morris, and DF Doak. 2018. Aridity weakens the population-level effects of multiple species interactions on *Hibiscus meyeri*. *Proceedings of the National Academy of Sciences USA* 115:543-548.
- 27. Coverdale, TC, JR Goheen, TM Palmer, and **RM Pringle**. 2018. Good neighbors make good defenses: associational refuges reduce defense investment in African savanna plants. *Ecology* 99:1724-1736.

- 28. Goheen, JR, DJ Augustine, KE Veblen, DM Kimuyu, TM Palmer, LM Porensky, **RM Pringle**, J Ratnam, C Riginos, M Sankaran, AT Ford, AA Hassan, R Jakopak, TR Kartzinel, S Kurukura, AM Louthan, WO Odadi, TO Otieno, AM Wambua, HS Young, and TP Young. 2018. Conservation lessons from large-mammal manipulations in East African savannas: the KLEE, UHURU, and GLADE experiments. *Annals of the New York Academy of Sciences* 1429:31-49.
- 29. Titcomb, G, **RM Pringle**, TM Palmer, HS Young. 2018. What explains tick proliferation following large-herbivore exclusion? *Proceedings of the Royal Society B* 286:20180612.
- Palmer, TM, C Riginos, R Damiani, N Morgan, J Lemboi, J Lengingiro, J Ruiz Guajardo, and RM Pringle. 2017. Influence of neighboring plants on the dynamics of an ant-acacia protection mutualism. *Ecology* 98:3034-3043.
- 31. **Pringle, RM**. 2017. How large herbivores subsidize aquatic food webs in African savannas. *Proceedings of the National Academy of Sciences USA* 114:7489-7491.
- 32. Pringle, RM. 2017. Upgrading protected areas to conserve wild biodiversity. *Nature* 546:91-99.
- 33. **Pringle, RM** and CE Tarnita. 2017. Spatial self-organization of ecosystems: integrating multiple mechanisms of regular-pattern formation. *Annual Review of Entomology* 62:359-377.
- 34. 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
  - *Science* news feature: "Fairy circles could be the handiwork of hungry termites and thirsty plants" by E. Pennisi.
  - New York Times, Washington Post, Associated Press, Atlas Obscura, BBC, Der Spiegel, El Pais, Guardian, National Geographic, New Scientist, Smithsonian Magazine
- 35. Titcomb, G, BF Allan, T Ainsworth, L Henson, T Hedlund, **RM Pringle**, TM Palmer, L Njoroge, MG Campaña, R Fleischer, JN Mantas, and HS Young. 2017. Interacting effects of wildlife loss and climate on ticks and tick-borne disease. *Proceedings of the Royal Society B* 286:20170475.
- 36. Long, RA, A Wambua, JR Goheen, TM Palmer, and **RM Pringle**. 2017. Climatic variation mediates the indirect effects of large herbivores on small-mammal habitat use. *Journal of Animal Ecology* 86:739-748.
- 37. Ripple, WJ, and 42 co-authors. 2017. Conserving the world's megafauna and biodiversity: the fierce urgency of now. *BioScience* 67:197-200.
- 38. Young, HS, DJ McCauley, R Dirzo, CL Nunn, B Agwanda, M Campana, R Fleischer, EO Castillo, D Salked, E Lambin, JR Goheen, TM Palmer, **RM Pringle**, TP Young, and KM Helgen. 2017. Interacting effects of land-use and climate on rodent-borne disease in central Kenya. *Philosophical Transactions of the Royal Society of London B* 372:20160116.
  - Cover article
- 39. Pellegrini, AFA, **RM Pringle**, N Govender, and LO Hedin. 2017. Woody plant biomass and carbon exchange depend on elephant-fire interactions in African savanna. *Journal of Ecology* 105:111-121.
- 40. Ripple, WJ, and 42 co-authors. 2016. Saving the world's terrestrial megafauna. *BioScience* 66:807-812.
  BBC, CNN, *El Pais, National Geographic News, US News & World Report*
- 41. **Pringle, RM**, KM Prior, TM Palmer, TP Young, and JR Goheen. 2016. Large herbivores promote habitat specialization and beta diversity of African savanna trees. *Ecology* 97:2640-2657.

- 42. Coverdale, TC, TR Kartzinel, KL 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 by megaherbivores on African savanna plants. *Ecology* 97:3219-3230.
- 43. Daskin, JH and **RM Pringle**. 2016. Does primary productivity modulate the indirect effects of large herbivores? A global meta-analysis. *Journal of Animal Ecology* 85:857-868.
- 44. Daskin, JH, M Stalmans, and **RM Pringle**. 2016. Ecological legacies of civil war: 35-year increase in savanna tree cover following wholesale mammal declines. *Journal of Ecology* 104:79-89.
  - Featured as "Editor's Choice" in *Science* (vol. 351, p. 573)
  - Runner-up ("Highly Commended") for the 2016 Harper Prize from the British Ecological Society for best paper in *Journal of Ecology* by a young author
- 45. Kartinzel, TR, P Chen, TC Coverdale, DL Erickson, WJ Kress, M 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 Sciences USA* 112:8019-8024.
  - Cover article
  - Commentary: "African mammals, foodwebs, and coexistence" by D Tilman & ET Borer, *PNAS* (vol. 112, p. 7890-7891)
  - New York Times, NPR, National Geographic, Smithsonian Magazine
- 46. Fraser, LH, and 58 co-authors. 2015. Worldwide evidence supporting a unimodal relationship between productivity and plant species richness. *Science* 349:302-305.
- 47. Ford, AT, JR Goheen, MF Kinnaird, TG O'Brien, TM Palmer, **RM Pringle**, R Woodroffe. 2015. Recovery of African wild dogs suppresses prey but does not trigger a trophic cascade. *Ecology* 96:2705-2714.
- Pringle, RM, RL Sensenig, D Kimuyu, TM Palmer, C Riginos, KE Veblen, and TP Young. 2015. Synergistic indirect effects of fire and elephants on arboreal fauna. *Journal of Animal Ecology* 84:1637-1645.
- 49. Kartzinel, TR and **RM Pringle**. 2015. Molecular detection of invertebrate prey by vertebrate predators: trophic ecology of Caribbean island lizards. *Molecular Ecology Resources* 15:903-914.
- 50. Ceballos, G, PR Ehrlich, AD Barnosky, A Garcia, **RM Pringle**, and TM Palmer. 2015. Accelerated modern human-induced species losses: entering the sixth mass extinction." *Science Advances* 1:e1400253.
  - New York Times, Washington Post, Boston Globe, The Guardian, USA Today, CNN, NBC News, Daily Telegraph, US News & World Report.
- Young, HS, DJ McCauley, R Dirzo, JR Goheen, B Agwanda, AW Ferguson, SN Kinyua, MM McDonough, TM Palmer, **RM Pringle**, TP Young, and KM Helgen. 2015. Context-dependent effects of large-wildlife declines on small mammal communities in central Kenya. *Ecological Applications* 25:348-360.
  - Cover article
  - Featured in Bulletin of the Ecological Society of America
- 52. 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
  - News feature: "Africa's soil engineers" by E. Pennisi, *Science* 347:596-597.

- New York Times, Le Monde, Christian Science Monitor, NSF.gov.
- 53. Ford, AT, JR Goheen, TO Otieno, L Bidner, L Isbell, TM Palmer, R Woodroffe, D Ward, and **RM Pringle**. 2014. Large carnivores make savanna tree communities less thorny. *Science* 346:346-349.
  - New York Times, BBC News, Scientific American, and podcasts by AAAS and CBC Quirks & Quarks.
- 54. Tarnita, CE, TM Palmer, and **RM Pringle**. 2014. Colonization and competition dynamics can explain incomplete sterilization parasitism in ant-plant symbioses. *Ecology Letters* 17:1290-1298.
- 55. **Pringle, RM**, JR Goheen, TM Palmer, GK Charles, E DeFranco, R Hohbein, AT Ford, and CE Tarnita. 2014. Low functional redundancy among mammalian browsers in regulating an encroaching shrub (*Solanum campylacanthum*) in African savanna. *Proceedings of the Royal Society B* 281:20140390.
- 56. Louthan, AM, DF Doak, JR Goheen, TM Palmer, and **RM Pringle**. 2014. Mechanisms of plant-plant interactions: concealment from herbivores is more important than abiotic stress mediation in an African savannah. *Proceedings of the Royal Society B* 281:20132647.
- 57. Ngatia, LW, KR Reddy, PKR Nair, **RM Pringle**, TM Palmer, and BL Turner. 2014. Seasonal patterns in decomposition and nutrient release from East African savanna grasses grown under contrasting nutrient conditions. *Agriculture, Ecosystems & Environment* 188:12-19.
- 58. Mendenhall, CD, LO Frishkoff, G Santos-Barrera, J Pacheco, E Mesfun, FM Quijano, PR Ehrlich, G Ceballos, GC Daily, and **RM Pringle**. 2014. Countryside biogeography of Neotropical reptiles and amphibians. *Ecology*: 95:856-870.
- 59. Kartzinel, TR, JR Goheen, GK Charles, E DeFranco, JE Maclean, TO Otieno, TM Palmer, and RM Pringle. 2014. Plant and small-mammal responses to large-herbivore exclusion in an African savanna: five years of the UHURU experiment. *Ecology* 95:787.
- 60. Palmer TM, ML Stanton, TP Young, JR Goheen, JS Lemboi, and **RM Pringle**. 2013. A role for indirect facilitation in maintaining diversity in a guild of African acacia ants. *Ecology*: 94:1531-1539.
- 61. Donihue, CM, LM Porensky, J Foufopoulos, C Riginos, and **RM Pringle**. 2013. Glade cascades: indirect legacy effects of pastoralism enhance the abundance and spatial structuring of arboreal fauna. *Ecology* 94:827-837.
- 62. Louthan, AM, DF Doak, JR Goheen, TM Palmer, and **RM Pringle**. 2013. Climatic stress mediates the impacts of herbivory on plant population structure and components of individual fitness. *Journal of Ecology* 101:1074-1083.
- 63. Young, HS, DJ McCauley, KM Helgen, E Otarola-Castillo, JR Goheen, TM Palmer, **RM Pringle**, TP Young, and R Dirzo. 2013. Responses of plant communities to experimental removals of and anthropogenic declines in large mammalian herbivores. *Journal of Ecology* 101:1030-1041.
- 64. Goheen, JR, TM Palmer, GK Charles, KM Helgen, SN Kinyua, JE Maclean, HS Young, and **RM Pringle**. 2013. Piecewise disassembly of a large-herbivore community across a rainfall gradient: the UHURU experiment. *PLOS ONE* 8:e55192 (RMP was corresponding and joint lead author)
- 65. **Pringle, RM**. 2012. How to be manipulative: intelligent tinkering is key to understanding ecology and rehabilitating ecosystems. *American Scientist* 100:30-37.
- Losos, JB and RM Pringle. 2011. Competition, predation, and natural selection in island lizards. *Nature*: 475:E1-2. doi:10.1038/nature10140

- 67. **Pringle, RM**, TM Palmer, JR Goheen, DJ McCauley, F. Keesing. 2011. Ecological importance of large herbivores in the Ewaso ecosystem. Pp. 43-53 in NJ Georgiadis (ed), *Conserving Wildlife in African Landscapes: Kenya's Ewaso Ecosystem*. Smithsonian Contributions to Zoology No. 632. Smithsonian Institution Scholarly Press, Washington, DC.
- 68. **Pringle, RM**. 2011. Nile perch. Pp. 484-488 in D. Simberloff and M. Rejmánek (eds), *Encyclopedia of Invasive Introduced Species*. University of California Press, Berkeley, CA.
- Palmer, TM, DF Doak, ML Stanton, JL Bronstein, ET Kiers, TP Young, JR Goheen, and RM Pringle. 2010. Synergy of multiple partners, including freeloaders, increases host fitness in a multispecies mutualism. *Proceedings of the National Academy of Sciences USA* 107:17234-17239.
- 70. **Pringle, RM**, DF Doak, AK Brody, R Jocqué, and TM Palmer. 2010. Spatial pattern enhances ecosystem functioning in an African savanna. *PLOS Biology* 8:e1000377.
  - Commentary: "Spatial dynamics and ecosystem functioning" by OJ Schmitz, *PLOS Biology* (vol. 8, article e1000378)
  - Featured as "Research Highlight" in Nature (vol. 465, p. 529)
  - New York Times, USA Today, Daily Telegraph, CBC, Discovery News, National Geographic News, NSF.gov; RMP radio interview with BBC World Service
- 71. **Pringle, RM**. 2010. The costs of large-mammal extinctions. Pp. 52-53 in NS Sodhi and PR Ehrlich (eds), *Conservation Biology for All*. Oxford University Press, Oxford, UK.
- 72. **Pringle, RM**, M Syfert, JK Webb, and R Shine. 2009. Quantifying historical changes in habitat availability for endangered species: use of pixel- and object-based remote sensing. *Journal of Applied Ecology* 46:544-553.
  - Sydney Morning Herald, Cosmos Magazine, and ABC News
- 73. Angilletta, MJ, MW Sears, and **RM Pringle**. 2009. The spatial dynamics of nesting behavior: lizards shift microhabitats to construct nests with beneficial thermal properties. *Ecology* 90:2933-2939.
- 74. Roman, J, PR Ehrlich, **RM Pringle**, and JC Avise. 2009. Facing extinction: nine steps to save biodiversity. *Solutions*. 1:27-37.
- 75. Webb, JK, **RM Pringle**, and R Shine. 2009. Intraguild predation, thermoregulation, and microhabitat selection by snakes. *Behavioral Ecology* 20:271-277.
  - Cover article
- 76. **Pringle, RM** and K Fox-Dobbs. 2008. Coupling of canopy and understory food webs by grounddwelling predators. *Ecology Letters* 11:1328-1337.
  - Cover article
- 77. Ehrlich, PR and **RM Pringle**. 2008. Where does biodiversity go from here? A grim business-as-usual forecast and a hopeful portfolio of partial solutions. *Proceedings of the National Academy of Sciences USA* 105:11579-11586.
  - Republished in Avise, JC, SP Hubbell, and FJ Ayala (eds) 2008. In the Light of Evolution, Volume II: Biodiversity and Extinction, pp. 323-357. Washington D.C., Natl. Acad. Press.
  - Scientific American, NPR's Science Friday; RMP radio interview with WaloRadio, Puerto Rico.
- 78. Pejchar, L., **RM Pringle**, J Ranganathan, JR Zook, G Duran, and GC Daily. 2008. Birds as agents of seed dispersal in a human-dominated landscape in Costa Rica. *Biological Conservation* 141:536-544.

- 79. Palmer, TM, ML Stanton, TP Young, JR Goheen, **RM Pringle**, and R Karban. 2008. Putting ant-acacia mutualisms to the fire. *Science* 319:1760-1761.
- 80. **Pringle, RM**. 2008. Elephants as agents of habitat creation for small vertebrates at the patch scale. *Ecology* 89:26-33.
  - Cover article
  - Featured in Bulletin of the ESA, National Geographic News
  - Interview with "Field Talk" Podcast on the ESA website.
- 81. Palmer, TM, ML Stanton, TP Young, JR Goheen, **RM Pringle**, and R Karban. 2008. Breakdown of an ant-plant mutualism follows the loss of large herbivores from an African savanna. *Science* 319:192-195.
  - Cover article
  - Featured in *Science* Perspectives
  - New York Times, San Francisco Chronicle, Scientific American, New Scientist, BBC News, National Public Radio, Daily Telegraph, and others.
- 82. **Pringle, RM**, TP Young, DI Rubenstein, and DJ McCauley. 2007. Herbivore-initiated interaction cascades and their modulation by productivity in an African savanna. *Proceedings of the National Academy of Sciences USA* 104:193-197.
  - Commentary: "Ungulate herbivory: indirect effects cascade into the treetops" by AJ Larson and RT Paine, *PNAS* (vol. 104, pp. 5-6)
  - Highlighted on cover and in *PNAS* front matter
  - New York Times, Scientific American.
- 83. Chan, KMA, **RM Pringle**, J Ranganathan, CL Boggs, YE Chan, PR Ehrlich, PK Haff, NE Heller, K Al-Khafaji, and D. MacMynowski. 2007. When agendas collide: human welfare and biological conservation. *Conservation Biology* 21-59-68.
- 84. McCauley, DJ, F Keesing, TP Young, BF Allan, and **RM Pringle**. 2006. Indirect effects of large herbivores on snakes in an African savanna. *Ecology* 87:2657-2663.
- 85. Pringle, RM. 2005. The Nile perch in Lake Victoria: local responses and adaptations. Africa 75:510-538.
- 86. Pringle, RM. 2005. The origins of the Nile perch in Lake Victoria. BioScience 55:780-787.
- 87. Webb, JK, R Shine, and **RM Pringle**. 2005. Canopy removal restores habitat quality for an endangered snake in a fire-suppressed landscape. *Copeia* 2005:894-900.
- 88. Webb, JK, **RM Pringle**, and R Shine. 2004. How do nocturnal snakes select diurnal retreat sites? *Copeia* 2004: 919-925.
- 89. **Pringle, RM**, JK Webb, and R Shine. 2003. Canopy structure, microclimate, and habitat selection by the nocturnal snake *Hoplocephalus bungaroides*. *Ecology* 84:2668-2679.
- 90. **Pringle, RM**. 2001. Warren Candler and the war against state aid to the post-bellum University of Georgia. *The Penn History Review* 9:11-34.

## **BOOK REVIEWS**

• **Pringle, RM**. 2015. Review of "How to do Ecology" by R Karban, M Huntzinger, and IS Pearse. *Quarterly Review of Biology* 90:324-325.

- **Pringle, RM**. 2014. Where the wild beasts are. Review of "Serengeti story: life and science in the world's greatest wildlife region" by ARE Sinclair. *Ecology* 95:583-584.
- **Pringle, RM**. 2010. Review of "Conservation Psychology: Understanding and Promoting Human Care for Nature" by S Clayton and G Myers. *Environmental Conservation*: 37:222.
- **Pringle, RM**. 2009. Review of "Paradise Found: Nature in America at the Time of Discovery," by S Nicholls. *Environmental Conservation* 36:173-174.
- Pringle, RM. 2006. "Thinking anthropologically about nature." Review of "People and Nature," by EF Moran. *Trends in Ecology & Evolution* 21:483-484.

## **PUBLISHED ABSTRACTS**

- Wegener, JE, KP Mulder, **RM Pringle**, TR Kartzinel, JB Losos, JJ Kolbe. 2016. Relative contribution of genetic and ecological factors to morphological differentiation in island populations of *Anolis sagrei*. *Integrative & Comparative Biology* 56:E235
- Angilletta MJ and **RM Pringle**. 2001. Thermal requirements of offspring drive the nesting behavior of fence lizards. *American Zoologist* 41:1381-1382

## THESES

- **Pringle, RM**. 2009. *Indirect effects and spatial pattern in an African savanna*. PhD Dissertation, Department of Biology, Stanford University.
- **Pringle, RM**. 2004. On the depression of reptile biomass by large herbivores: a case study from central Kenya. MSc Thesis, University of Oxford.
- **Pringle, RM**. 2003. *The Nile perch in Lake Victoria: origins and responses*. MSc Thesis, Faculty of Modern History, University of Oxford.
- **Pringle, RM**. 2001. To educate the head, the hand, and the soul: the challenges to state-supported higher education in the post-bellum South. BA Honors Thesis, Department of History, University of Pennsylvania

## SELECTED OP-EDS, ESSAYS, AND REPRINTED ARTICLES

2015	East Africa's elephant architects. Animal Ecology in Focus. 12 August 2015.
2014	Puma observed hunting howler monkeys in Costa Rica. National Geographic Newswatch, 10
	February 2014.
2013	On snakes and snake hunting. Huffington Post, 29 January 2013.
2012	How to be manipulative. Spektrum der Wissenschaft (Germany). Reprinted from American
	Scientist, January 2012.
2011	The rebirth of Gorongosa National Park. Mozambique Review, March 2011.
2009	How to find a turd in the woods (with TM Palmer). Bulletin of the British Ecological Society,
	March 2009.
2009	Predicting the impacts of drought and extinction: the UHURU experiment (with JR
	Goheen and TM Palmer). Mpala Memos, October 2009.
2008	Nobody Reads Nature: Why So Many Tree Species in the Amazon? Forwords (quarterly
	journal of the New Zealand Association of Scrabble Players, circulation 195).
2008	Elephants as architects in East African savannas (photo essay). Bulletin of the Ecological Society
	of America 89:20-24.
2008	My New Year's Resolution. Op-Ed, San Francisco Chronicle, 13 January 2008.

2007	Keeping Science in the Debate over Evolution (with PR Ehrlich). Op-Ed, Sacramento Bee, 24
	June 2007.
2007	Biofuel Tradeoffs. Letter, San Francisco Chronicle, 13 June 2007.
2007	Zebras, giraffes, and snakes in the grass (with DJ McCauley). Laikipia Wildlife Forum
	Newsletter, January 2007.
2005	Proud to be an Environmentalist (with CH Segall and BB Grant). Letter, The New York
	<i>Times</i> , 15 March 2005.

## SELECTED MEDIA COVERAGE OF RESEARCH, TEACHING, AND SERVICE

"Professor Pringle gets inventive with online teaching," Daily Princetonian, 11/22/2020 "Healthy ecosystems need fear," Psychology Today, 10/2020 "The wild experiment to bring apex predators back from the brink," Wired, 03/2020 "Landscape of fear': how invasive species disrupt habitats," Agence France Presse 06/2019 "How civil war among humans made animals braver," The Atlantic, 03/2019 "In Mozambique, a living laboratory for nature's renewal," New York Times, 09/2018 "Ecological and evolutionary Biology: ecological cost of war," Princeton Alumni Weekly, 04/2018 "War's other victims: animals," New York Times, 01/2018 "Conflict's other casualties: how war affects wildlife," The Economist, 01/2018 "Theory seeks to explain Namibia's 'fairy circles," BBC News, 01/2017 "The astonishing science behind the desert's mysterious fairy circles," Washington Post, 01/2017 "Fishing for clues to solve Namibia's fairy circle mystery," New York Times, 01/2017 "Extinction up close: a rare turtle under assault from poaches," New York Times 06/2015 "No food fights for large African herbivores," New York Times, 06/2015 "Termites: Guardians of the soil," New York Times, 03/2015 "Princeton graduate students on a mission in Mozambique," www.princeton.edu, 02/2015 "Africa's soil engineers: termites," Science research highlight, 02/2015 "Contre la désertification, les termites," Le Monde 02/2015 "When herbivore numbers drop, plants lose their thorny defenses," New York Times, 10/2014 "Carnivores help trees thrive without thorns, study says," BBC News, 10/2014 "Antelope and lion have unlikely meeting," National Geographic News Watch, 08/2014 "Elephants eat the strangest things," Slate, 07/04/2014 "Animating science: student videos explain ecological challenges," www.princeton.edu, 03/2014 "Breaking ground: bringing back the lions and zebras," Princeton Alumni Weekly, 05/2013 "Secrets of the Savannah," Episode 2 of BBC's Secrets of Our Living Planet series, 06/2012 "Synergy of mutualism," PNAS research highlight, 10/2010 "Ecology: Mighty termite mounds," Nature research highlight, 06/2010 "On savanna, termites are a force for good" New York Times, 05/2010 "Termiten: die kleinen konige der savanne," Der Spiegel, 05/2010 "It's getting cold in here" Sydney Morning Herald, 03/2009 "Rare Australian snake needs more bushfires to survive," Cosmos 03/2009 "Small ways to fix a big problem" Popular Science, 08/2008 "Big mammals key to ant-tree team," BBC News, 01/2008 "In life's web, aiding trees can kill them," New York Times, 01/2008 "The ungulate effect on an ecosystem," New York Times, 01/2007

# **DOCUMENTARY FILMS**

2020	Nature's Fear Factor (PBS NOVA special, originally aired October 2020)
2018	Laws of the Lizard (Smithsonian Channel feature, originally aired December 2018)

# INVITED SEMINARS AND OTHER TALKS

2021	University of Utah, Salt Lake City, UT (student-invited speaker)		
2021	University of Pennsylvania, Philadelphia, PA (departmental seminar)		
2020	University of Manitoba, Winnipeg, Canada (student-invited speaker)		
2020	Yale University, New Haven, CT (departmental seminar)		
2020	Princeton Environmental Institute Faculty Seminar Series		
2018	St. Louis Zoo, St. Louis, MO (public lecture)		
2018	Regular Patterns in Biology: Causes & Consequences (workshop co-organizer, Princeton		
2010	Center for Theoretical Science).		
2017	Jackson Hole Wildlife Film Festival, WY (panel discussant on nature conservation)		
2017	Wake Forest University, Winston-Salem, NC (plenary speaker, 33 <sup>rd</sup> Annual Perspectives in		
2017	Biology Symposium)		
2017	Utah State University, Logan, UT (student-invited speaker, two departmental seminars)		
2017	Cornell University, Ithaca, NY (departmental seminar)		
2017	University of California, Santa Barbara, CA (departmental seminar)		
2017	Duke University, Durham, NC (departmental seminar)		
2017	North Carolina State University, Raleigh, NC (departmental seminar)		
2016	Yale University, New Haven, CT (Yale Center for Biodiversity & Global Change)		
2016	Stanford University, Palo Alto, CA (student-invited speaker, departmental seminar)		
2016	University of Minnesota, Minneapolis, MN (departmental seminar)		
2016	University of Oslo, Norway (departmental seminar)		
2016	University of Groningen, Netherlands (external PhD examiner & symposium speaker)		
2016	University of Toronto, Toronto, Canada (11th Annual Atwood Colloquium; invited "Rising		
	Star in Ecology" plenary speaker)		
2016	University of Colorado, Boulder, CO (departmental seminar)		
2015	Howard Hughes Medical Institute, Chevy Chase, MD (The Holiday Lectures)		
2015	École Normale Supérieure/CNRS-PSL Eco-Evo-Devo, Paris, France		
2015	University of Rhode Island, Kingston, RI (departmental seminar)		
2015	The College of New Jersey, Trenton, NJ (departmental seminar)		
2014	Lorentz Workshop, "Spatio-Temporal Dynamics in Ecology," Leiden, Ned.		
2014	University of California at Davis, CA (departmental seminar)		
2013	McGill University, Montreal, Canada (departmental seminar)		
2013	Savannah Science & Networking Meeting, Kruger National Park, South Africa		
2013	University of Georgia, Athens, GA (student-invited speaker, departmental seminar)		
2012	Harvard University, Cambridge, MA (departmental seminar)		
2012	University of North Carolina, Chapel Hill, NC (special seminar)		
2012	University of Craiova, Craiova, Romania (symposium speaker)		
2012	Bard College, Annandale-on-Hudson, NY (departmental seminar)		
2011	Young Investigators Prize Symposium, ASN/SSE/SSB meetings, Norman, OK		
2011	United States Agency for International Development (USAID), Washington, DC		
2011	Brown University, Providence, RI (departmental seminar)		
2010	Concord-Harvard Environmental Lecture, Concord, MA (public lecture)		
2010	Northeastern University, Boston, MA (departmental seminar)		
2010	Princeton University, Princeton, NJ (departmental seminar)		
2010	University of British Columbia, Vancouver, Canada (departmental seminar)		
2009	University of Vermont, Burlington, VT (departmental seminar)		
2009	California Academy of Sciences, San Francisco, CA (public lecture)		
2008	University of Sydney, Sydney, Australia (special seminar)		
2008	University of California, Berkeley, CA (special seminar)		
2007	University of California, Davis, CA (special seminar)		
2007	Society for Conservation Biology Annual Meeting, Port Elizabeth, South Africa		
2004	University of Cambridge, Cambridge, UK (African Studies seminar speaker)		
2003	University of Oxford, Oxford, UK (Economic History colloquium co-organizer)		

# **POSTDOCTORAL RESEARCHERS ADVISED**

Lotanna Micah Nneji	2021-present	
Rafael Valentin	2019-present	
Matthew Mumma	2019-present	
Meredith Palmer	2019-present	
Michiel Veldhuis	2018-2019	(Current: Asst Professor, University of Leiden)
Johan Pansu	2016-2018	(Current: Marie Curie Fellow, CSIRO)
Jessica Castillo Vardaro	2015-2018	(Current: Asst Professor, San Jose State University)
Christopher Baker	2015-2017	(Current: Post-doctoral Researcher, Harvard University)
Rebecca Kartzinel	2017	(Current: Asst Professor, Brown University)
Tyler Kartzinel	2013-2017	(Current: Asst Professor, Brown University)
Ryan Long	2013-2014	(Current: Asst Professor, University of Idaho)

## **GRADUATE STUDENTS ADVISED**

Erin Phillips	Starting 2020	
Finote Gijsman	Starting 2020	
Joel Abraham	2019-present	
Matthew Hutchinson	2017-present	(William Georgetti Graduate Fellowship)
Arjun Potter	2015-present	(NSF GRF)
Tyler Coverdale	2013-2018	(NSF GRF; Current: Presidential Fellow, Cornell)
Jennifer Guyton	2013-2018	(NSF GRF; Current: Fulbright Fellow)
Joshua Daskin	2012-2017	(Current: Donnelly Fellow, Yale University)

## **EXTERNAL PHD EXAMINER FOR:**

Robert Spitzer	2019	Swedish University of Agricultural Sciences
James R. Allan	2019	University of Queensland
Elizabeth le Roux	2016	Nelson Mandela Metropolitan University
Michiel Veldhuis	2016	University of Groningen

# UNDERGRADUATE SENIOR THESIS STUDENTS ADVISED

Luca Kuziel	Princeton EEB '21
Vienna Lunking	Princeton EEB '20
Stephanie Neatby	Princeton EEB '20
Maria Stahl	Princeton EEB '20
Megan Demmel	Princeton EEB '19
Azwad Iqbal	Princeton EEB '19
Daniel Petticord	Princeton EEB '19
Kayli Marshall	Princeton EEB '19
Alana Reynolds	Princeton EEB '18
Ciara Nutter	Princeton EEB '18
Quinn Parker	Princeton EEB '18
Onyemaechi Uzosike	Princeton EEB '17
Patrick Barba	Princeton EEB '17
Jonathn Carcione	Princeton EEB '17
O'Neill Bergeron	Princeton EEB '16
Julianna Hsing	Princeton EEB '16
Katie Grabowski	Princeton CEE '16
Ian McGeery	Princeton EEB '16
Bing Lin	Princeton EEB '16
Anne Ferlmann	Princeton EEB '16

Renata Diaz	Princeton EEB '15
Taylor Pearson	Princeton EEB '15
Eliot Linton	Princeton EEB '15
Seokmin Kim	Princeton EEB '14
Alexandra Kasdin	Princeton EEB '14
Caroline Stone	Princeton EEB '14
Lauren Wyman	Princeton EEB '14
Ariel Jesperson	Princeton EEB '13
Claire Guinez	Princeton EEB '13
Iris Zhou	Princeton EEB '13
Grace Charles	Harvard OEB '11

## **DEPARTMENTAL & UNIVERSITY SERVICE**

2020-	Co-director, Biodiversity Grand Challenge Program, Princeton Environmental Institute
2020-	Member, Institutional Animal Care & Use Committee (IACUC)
2020	Princeton Environmental Institute Walbridge Fund Review Panel
2020-2021	Co-organizer, EEB 522 Colloquium Seminar Series
2016-2018	Member of EEB Committee on Diversity, Inclusion, & Departmental Climate
2016-2018	Faculty Fellow, Scholars Institute Fellows Program (a curricular and co-curricular support
	program for first-generation, low-income undergraduates).
Fall 2015	Guest speaker, President's Retreat on the Natural Sciences
2014-2015	Co-organizer, EEB 522 Colloquium Seminar Series
2015	Search Committee member, EEB Ecology job search
2014	ENV senior thesis prize evaluation committee
2014	Search Committee member, EEB open-rank search in Ecology
2013	Search Committee member, EEB-LSI joint job search in Molecular Evolution
2013-present	Academic-Athletic Faculty Fellow, Men's & Women's Volleyball

# TEACHING

2012-present	Instructor, EEB 321, Ecology: Species Interactions, Biodiversity, and Society
2014-present	Co-Instructor, EEB 504, Fundamental Concepts in Ecology & Evolution
2015-present	Co-Instructor, EEB-TUT_F2015 Junior Tutorial
2015-2016	Instructor, CEE 478, Senior Thesis
2013-2014, 2020	Co-Instructor, EEB 506, Responsible Conduct in Research
2013-2015	Co-Instructor, EEB 380, Ecology & Conservation of African Savannas

## **ADVISORY BOARDS**

2014-present	Advisor, International Conservation Fund of Canada (ICFC).
2011-present	Board of Directors, Guancaste Dry Forest Conservation Fund (GDFCF), Area de Conservación Guanacaste, Costa Rica.
2010-2020	Advisory Board, Gorongosa Restoration Project, Gorongosa National Park, Mozambique.

## **OTHER SYNERGISTIC ACTIVITIES**

Ad hoc reviewer for: Acta Oecologica; Africa; American Naturalist; Annals of the New York Academy of Sciences; Austral Ecology; Behavioral Ecology; Biological Conservation; Biology Letters; Biotropica; BioScience; Copeia; Conservation Biology; Conservation Letters; Current Biology; Ecography; Ecological Applications; Ecological Entomology; Ecological Monographs; Ecology, Ecology and Evolution; Ecology Letters; Ecoscience; Ecosystems; Environ. Res. Lett.; Forest Ecology and Management; Functional Ecology; Hydrobiologia; Integrative and Comparative Biology; J. Applied Ecol.; J. Arid Environments, J.

	Ecol; J. Herpetology; J. Mammalogy; J. Field Ornithology; J. Veg. Sci; J. Trop. Ecol.; Landscape Ecology; Molecular Ecology Resources; Natural Resources Research; Nature; Nature Communications; Oecologia; Oikos; PeerJ; PLOS Biology; PLOS ONE; Phil Trans. Roy. Soc. B; Proc. Natl. Acad. Sci. USA; Proc. Roy. Soc. Ser. B; Science, Science Advances; Scientific Reports; S. Afr. J. Sci.; Trees; US National Science Foundation; European Commission ERC Advanced Grants; Royal Society DFID Africa Capacity Building Initiative; Israel Science Foundation; Austrian Science Fund; Legislative-Citizen Commission on Minnesota Resources; South African National Research Foundation; Swiss National Science Foundation; National Geographic Society; Cambridge University Press; Princeton University Press; Roberts and Co. Academic Publishers.
2012-2021	US National Science Foundation Proposal Review Panels (2012, 2013, 2014, 2021)
2016-2018	Faculty Fellow, Scholars Institute Fellows Program (SIFP, a curricular and co-curricular support program for first-generation, low-income undergraduates).
2015	Delivered the annual Holiday Lectures at HHMI for high school biology students; the lectures are used to develop curriculum-enhancing tools that are ultimately in thousands of high school biology classrooms nationwide.
2014	Student videos, made as class projects for EEB 321, posted on YouTube and subject of www.princeton.edu feature story, "Animating science: student videos explain ecological challenges" (posted 03/17/2014).
2014	NSF DEB Review Panel (Population and Community Ecology cluster).
2013	NSF DEB Review Panel (Population and Community Ecology cluster).
2012	NSF DEB D-DIG Review Panel (Population and Community Ecology cluster).
2010-2011	Consultant for BBC documentary series "Africa" (2010) and "Secrets of Our Living Planet" (2011).
2008	Ecological Society of America's Representative at the Coalition for National Science Funding's Exhibition on Capitol Hill (annual event showcasing NSF-funded research for members of Congress and their staffs).
1997-2001	University of Pennsylvania Varsity Tennis (NCAA Div. I). 2001 Team Captain and recipient of the Julius Axelrod C'34 Award for "Most Inspirational Player."