

JOHN L. ORROCK

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PROFESSIONAL EXPERIENCE

University of Wisconsin, Madison	
Department of Integrative Biology	Professor, 2019 – present Associate Professor, 2014 – 2019 Assistant Professor, 2010 – 2014 Faculty Affiliate, 2010 – present Chair 2018 - 2020
Center for Ecology and the Environment	Faculty Affiliate, 2010 – present
Nelson Institute for Environmental Studies	Faculty Affiliate, 2010 – present
Crow Institute for the Study of Evolution	Faculty Affiliate, 2010 – present
Washington University in Saint Louis	
Department of Biology	Assistant Professor, 2007 – 2010
Environmental Studies Program	Faculty Affiliate, 2007 – 2010
National Center for Ecological Analysis & Synthesis	Postdoctoral Associate, 2004 – 2007

EDUCATION

Iowa State University	Ph.D., Ecology & Evolutionary Biology, 2004
Virginia Commonwealth University	M.S., Biology, 1999
Virginia Commonwealth University	B.S., Biology, 1995

HONORS AND AWARDS

2024	Fellow of the Ecological Society of America
2022-2024	Wayland E. Noland Distinguished Chair in Integrative Biology, UW-Madison
2019-2021	Vilas Faculty Mid-Career Investigator Award, UW-Madison
2016	Storer Award for outstanding invited distinguished speaker, UC-Davis
2013-2014	Vilas Fellowship, UW-Madison

2011	Honored as an outstanding undergraduate mentor, UW-Madison College of Letters and Sciences
2009	Outstanding Undergraduate Education award from Washington University College of Arts & Sciences
2004	Zaffarano Prize, honorable mention for outstanding scholarly publications as a graduate student, Iowa State University
2004	Elected to Sigma Xi
2003	A. Brazier Howell Award from American Society of Mammalogists
2001-2004	Environmental Protection Agency Science to Achieve Results (STAR) Fellow

RESEARCH SUPPORT

Total: \$7.44 million, \$4.45 million to Orrock Lab

Research Grants

2023-2024	UW-Madison Office of the Vice Chancellor for Research and Graduate Education (\$59,954) “Learning from the past to secure the future of oak forests in Wisconsin” (PIs: J. Orrock, E. Damschen, J. Desprez, A. Workman, C. Maier, J. Meunier, M. Zine, L. Just)
2021-2025	National Science Foundation (\$1,471,283) “IMAGiNE: Linking individual variation in immunity and behavior to landscape patterns in disease risk using the National Ecological Observatory Network (NEON)” (PIs: J. Orrock and M. Martin)
2021-2024	National Science Foundation (\$1,046,151) “Collaborative Research: Using herbivore kairomones to assess short-term and legacy risk responses in the early life stages of long-lived woody plants.” (PIs: E. Preisser, C. Orians, and J. Orrock)
2021-2024	USDA NIFA (\$499,900) “Optimizing sustainable management of Midwestern forests by identifying context-specific limits to tree and plant recruitment” (PI: J. Orrock, Co-PI: B. Connolly)
2020-2021	National Science Foundation (\$132,900) “Linking population dynamics and behavior to understand how wildfire modifies the prevalence of zoonotic disease” (PI: J. Orrock)
2017-2019	Strategic Environmental Research and Development Program (SERDP; \$293,904) “Using long-term data to optimize recovery of understory plant communities: identifying the management contexts and species’ traits that maximize the likelihood of persistence and spread of plant populations.” (PIs: J. Orrock, E. Damschen, L. Brudvig)

- 2017-2018 UW-Madison Office of the Vice Chancellor for Research and Graduate Education (\$43,259)
“Large-scale field experiments to determine whether plant defenses that increase caterpillar cannibalism serve to reduce crop losses in agricultural settings.” (PI: J. Orrock)
- 2017-2018 UW Graduate School Fall Research Competition (\$47,043)
“Building a foundation for a newly described form of plant defense: How plant induced defenses may alter herbivore abundance and facilitate the spread of herbivore pathogens by encouraging herbivores to become cannibals” (PI: J. Orrock)
- 2014-2018 National Science Foundation (\$83,645)
“Do extreme climatic events and predator diversity interact to shape the biogeography of disease?” (PI: J. Orrock)
- 2014-2017 USDA NIFA Fellowship (\$140,118)
“Warming winters as the perfect storm: how the interaction between climate change and pathogens may fuel widespread recruitment failure.” (PIs: B. Connolly and J. Orrock)
- 2010-2015 Strategic Environmental Research and Development Program (SERDP; \$1,466,000)
“Developing and testing a robust, multi-scale framework for the recovery of longleaf pine communities.” (PIs: J. Orrock, E. Damschen*; Co-PIs: L. Brudvig, J. Walker)
*Damschen and Orrock contributed equally to proposal, order of lead PI determined by coin toss
- 2011-2015 National Science Foundation (\$650,000)
“Collaborative research: Landscape connectivity and the movement ecology of plant and animal communities.” (PIs: J. Tewksbury, N. Haddad, L. Brudvig, D. Levey, T. Carlo, E. Damschen, J. Orrock)
- 2014-2015 UW Graduate School Fall Vilas Associate Fellowship (\$74,448)
“Using large-scale experimental landscapes to understand how past activities constrain the future of plant biodiversity.” (PI: J. Orrock)
- 2013-2014 UW Graduate School Fall Research Competition (\$32,077)
“Plants perceive more than we realize: uncovering the cues and genes involved in the new discovery that plants perceive the incidental cues of herbivores and prepare for attack.” (PIs: J. Orrock and S. Gilroy)
- 2012-2013 National Science Foundation (\$48,200)

- “Experimental manipulation of a keystone host to test indirect effects on Lyme disease dynamics.” (PIs: S. Paskewitz, J. Orrock, A. Schotthoefer)
- 2009-2011 U. S. Forest Service (\$299,500)
 “Integration of savanna restoration processes at various scales to create a comprehensive strategy for landscape restoration.” (PIs: E. Damschen, J. Orrock, L. Brudvig)
- 2008-2010 Strategic Environmental Research and Development Program (SERDP) (\$512,000) “Developing and testing a robust, multi-scale framework for the recovery of longleaf pine communities.” (PIs: J. Orrock, E. Damschen*; Co-PIs: L. Brudvig, J. Walker)
 *Damschen and Orrock contributed equally to proposal, order of lead PI determined by coin toss
- 2005-2010 National Science Foundation (\$365,913)
 “The role of apparent competition and patch geometry in mediating the invasion and restoration of grassland communities” (PIs: O. J. Reichman and J. Orrock)
- 2008-2009 I-CARES: International Center for Advanced Renewable Energy and Sustainability (\$35,000)
 “An experimental evaluation of regional variation in the quality and production of sustainable biofuels.” (PI: J. Orrock)
- 2004-2007 National Science Foundation SGER (\$43,571)
 “Does manipulation of top predators lead to rapid shifts in the structure of ecological communities?” (PIs: J. Orrock and O. J. Reichman)

Research Training Grants

- 2019-2020 National Science Foundation (\$7,690)
 Research Experience for Undergraduates Supplement
 “Do corridors modify predator-prey interactions?” (PIs: S. Bartel, J. Orrock, and E. Damschen)
- 2018-2019 National Science Foundation (\$7,995)
 Research Experience for Undergraduates Supplement
 “How does patch geometry affect secondary seed dispersal by small mammals?” (PIs: S. Bartel, J. Orrock, and E. Damschen)
- 2017-2018 National Science Foundation Doctoral Dissertation Improvement Grant (\$19,890)
 “Can predation risk limit small mammal seed predation in novel winter habitats?” (PIs: P. Guiden and J. Orrock)
- 2014-2015 National Science Foundation Doctoral Dissertation Improvement Grant (\$13,000)

“Disentangling the roles of neighboring plant density and palatability in providing associational defense against herbivory within different habitat types” (PIs: P. Hahn and J. Orrock)

- 2009-2010 National Science Foundation (\$8,775)
Research Experience for Undergraduates Supplement
“How connectivity alters seed predation rates in the surrounding landscape matrix” (PIs: L. Brudvig, E. Damschen, J. Orrock, and D. Levey)
- 2008-2009 National Science Foundation (\$5,568)
Research Experience for Undergraduates Supplement
“Do invasion-mediated changes in rodent abundance increase the abundance of black-legged ticks?” (PIs: O. J. Reichman and J. Orrock)
- 2007-2008 National Science Foundation (\$5,420)
Research Experience for Undergraduates Supplement
“Do exotic plants alter consumer impact by creating a refuge?” (PIs: O. J. Reichman and J. Orrock)
- 2006-2007 National Science Foundation (\$5,250)
Research Experience for Undergraduates Supplement
“The impact of gastropod herbivores on the recruitment of native and non-native grasses” (PIs: O. J. Reichman and J. Orrock)

Grants for Program Development

- 2019-2020 UW Office of the Vice Chancellor for Research and Graduate Education
(\$45,000)
“Creation of a Center for Ecology and the Environment at UW-Madison” (PIs: J. Pauli and J. Orrock)

PUBLICATIONS

*indicates Orrock lab undergraduate co-author, **indicates Orrock lab graduate student co-author, ***indicates Orrock lab postdoctoral researcher co-author

1. Brehm, A. M. ^{***}, V. R. Assis, L. B. Martin, and **J. L. Orrock**. In press. Environmental variability affects individual flexibility in activity timing at large geographic scales. Behavioral Ecology.
2. Assis, V. R., K. McCain, R. A. Munds, A. M. Brehm^{***}, J. L. Orrock, and L. B. Martin. In press. Climate-driven immune gene expression profiles in *Peromyscus leucopus*: implications for bacterial infection dynamics. Ecological and Evolutionary Physiology.

3. Overstrum, K., E. Santiago, B. Pellegrini, K. Headrick, C. Orians, **J. L. Orrock**, E. Preisser. In press. Herbivore cues and plant damage-associated-compounds jointly alter seed germination and seedling herbivory. Oecologia.
4. Gaynor, K. M., F. P. Hayes, K. Manlove, N. Galloway, J. F. Benson, M. Cherry, C. W. Epps, R. J. Fletcher Jr., **J. Orrock**, J. A. Smith, ..., P. Cross [58 authors total]. 2025. The influence of human presence and footprint on animal space use in US national parks. Proceedings of the Royal Society B 292: 20251013
<https://doi.org/10.1098/rspb.2025.1013>
5. Fuka, M. E. **, B. M. Connolly, and **J. L. Orrock**. 2025. Urbanization, not invasive shrubs, alters tree seed fate by modifying rodent activity. Ecology and Evolution 15:e72038. <https://doi.org/10.1002/ece3.72038>
6. Fuka, M. **, B. M. Connolly, and **J. L. Orrock**. 2025. Promoting acorn survival using capsaicin seed coatings is strengthened by the removal of invasive shrubs. Restoration Ecology 33:e70042 <https://doi.org/10.1111/rec.70042>
7. Bartel, S. L. **, L. Hakkila*, and **J. L. Orrock**. 2025. Deer vigilance and movement behavior are affected by edge density and connectivity. Ethology 131:22-30.
<https://doi.org/10.1111/eth.13574>
8. **Orrock, J. L.**, E. J. Lindley*, and Zirbel, C. R. **. 2025. Freeze-thaw events differently affect survival of seeds of two native and two invasive woody species. Canadian Journal of Forest Research 55: 1-6. [dx.doi.org/10.1139/cjfr-2024-0276](https://doi.org/10.1139/cjfr-2024-0276)
9. Assis, V. R., G. Cifarelli, A. M. Brehm **, **J. L. Orrock**, L. B. Martin. 2025. Congeneric rodents differ in immune gene expression: implications for host competence for tick-borne pathogens. Journal of Experimental Zoology 343: 502-510.
<https://doi.org/10.1002/jez.2908>
10. Fuka, M. **, B. M. Connolly, and **J. L. Orrock**. 2025. Invasive shrub removal may be more effective at reducing granivory than coating tree seeds with capsaicin. Canadian Journal of Forest Research 55: 1–7 [dx.doi.org/10.1139/cjfr-2024-0160](https://doi.org/10.1139/cjfr-2024-0160)
11. Becker, M. A., Carrasco, C., A. F. Kautt, S. Castañeda-Rico, **J. L. Orrock**, J. E. Maldonado, and C. W. Edwards. 2025. Phylogenetics of Channel Island deer mice based on the cytochrome *b* gene sheds light on multiple colonization events and supports current taxonomy. Western North American Naturalist 85:293-309.
12. Brehm, A. M. **, V. R. Assis, L. B. Martin, and **J. L. Orrock**. 2025. Individual variation underlies large-scale patterns: host conditions and behavior affect parasitism. Ecology 106: e4478
13. Fuka, M. **, and **J. L. Orrock**. 2024. Invasive shrubs amplify seasonal granivory, revealing optimal windows for seed survival following invasive shrub removal.

14. Connolly, B. M., C. Zirbel^{***}, C. B. Keller^{**}, M. Fuka^{**}, and **J. L. Orrock**. 2024. Invasive shrubs differentially alter autumnal activity for three common small mammal species. Ecology 105:e4384
15. Pellegrini, B. A., L. S. Pintado, P. N. Souza, S. P. Bhavanam, C. M. Orians, **J. L. Orrock** and E. L. Preisser. 2024. Herbivore kairomones affect germination speed, seedling growth, and herbivory. Oecologia 206:215-223.
16. Brehm, A. M.^{***} and **J. L. Orrock**. 2024. Suggestions for optimizing a global behavioral trait database. Trends in Ecology and Evolution 39:607-608.
17. Connolly, B. M., C. Zirbel^{***}, and **J. L. Orrock**. 2024. Rodent-mediated seed limitation affects woody seedling establishment more than invasive shrubs and downed woody debris. Canadian Journal of Forest Research 54:421-430.
18. Lanni, F., Connolly, B. M., **J. L. Orrock**, and P. W. Guiden. 2024. Seed coatings containing capsaicin reduce seed removal of temperate woody species. Canadian Journal of Forest Research 54:238-244.
19. Brehm, A. M.^{***} and **J. L. Orrock**. 2023. Extensive behavioral data contained within existing ecological datasets. Trends in Ecology and Evolution 38:1129-1133.
20. Bartel, S. L.^{**}, J. C. Kilgo, and **J. L. Orrock**. 2023. White-tailed deer responses to acoustic predator cues are contingent upon past land use and contemporary fire regime. Behavioral Ecology 34:1013-1022.
21. Keller, C. B.^{**} and **J. L. Orrock**. 2023. Removal of invasive shrubs reduces rodent consumption of non-native invasive animals and native understory seeds. Biological Invasions 25:3207-3221.
22. Bartel, S. L.^{**} and **J. L. Orrock**. 2023. Land-use history, fire regime, and large-mammal herbivory affect deer-preferred plant diversity in longleaf pine woodlands. Forest Ecology and Management 541: 121023
23. **Orrock, J. L.**, L. A. Brudvig, E. I. Damschen, W. B. Mattingly, J. Cruz^{***}, J. W. Veldman, P. G. Hahn, and A. L. Larsen-Gray^{***}. 2023. Long-term, large-scale experiment reveals the profound effect of seed limitation, climate, and anthropogenic effects on the restoration of plant communities in a biodiversity hotspot. Proceedings of the National Academy of Sciences USA 120: e2201943119
24. LoPresti, E., V. S. Pan, C. Girvin, G. Barber, S. Jaeger, and **J. L. Orrock**. 2023. Sandy seeds: armor or invisibility cloak? Mucilage-bound sand physically protects seeds from rodents and invertebrates. Journal of Ecology 111:540-551.

25. Gilbert, N., K. McGinn, L. Nunes, A. Shipley, J. Bernath-Plaisted, J. Clare, P. Murphy, S. Keyser, K. Thompson, S. Maresh Nelson, J. Cohen, I. Widick, S. Bartel^{**}, **J. L. Orrock**, and B. Zuckerberg. 2023. Daily activity timing in the Anthropocene. Trends in Ecology and Evolution 38:324-336.
26. Resasco, J., M. Burt, **J. L. Orrock**, N. M. Haddad, D. Shoemaker, and D. J. Levey. 2023. Transient effects of corridors on polygyne fire ants over a decade. Ecological Entomology 48:263-268.
27. Bartel, S. L.^{**}, J. T. Schamel, B. A. Parrino, M. K. Marshall and **J. L. Orrock**. 2023. Channel Island foxes are viable seed dispersal agents of toyon (*Heteromeles arbutifolia*). Western North American Naturalist 83:23-32.
28. **Orrock, J. L.**, P. W. Guiden^{**}, V. S. Pan, and R. Karban. 2022. Plant induced defenses that promote cannibalism reduce herbivory as effectively as highly pathogenic herbivore pathogens. Oecologia 199:397-405.
29. Bartel, S. L.^{**} and **J. L. Orrock**. 2022. The important role of animal social status in vertebrate seed dispersal. Ecology Letters 25:1094-1109.
30. Anderegg, G. C, J. J. Henn, **J. L. Orrock**, E. I. Damschen. 2022. Litter removal reduces seed predation in restored prairies during times when seed predation would otherwise be high. Restoration Ecology 30:e13550
31. **Orrock, J. L.**, L. Abueg, S. Gammie, and J. Munshi-South. 2021. Exome sequencing of deer mice on two California Channel Islands identifies potential adaptation to strongly contrasting ecological conditions. Ecology and Evolution 11:17191-17201.
32. Brudvig, L. A., N. E. Turley, S. L. Bartel^{**}, L. Bell-Dereske, S. Breland, E. I. Damschen, S. E. Evans, J. Gibbs, P. G. Hahn^{**}, R. Isaacs, J. A. Ledvina, **J. L. Orrock**, Q. Sorenson, J. D. Stuhler^{**}. 2021. Large ecosystem-scale effects of restoration fail to mitigate impacts of land-use legacies in longleaf pine savannas. Proceedings of the National Academy of Sciences USA 118:e2020935118.
33. Bartel, S. L.^{**} and **J. L. Orrock**. 2021. Past agricultural land use affects multiple facets of ungulate antipredator behavior. Behavioral Ecology 32:961-969.
34. **Orrock, J. L.**, B. M. Connolly, P. W. Guiden^{**}, J. L. Chandler^{**}, G. M. Bron, C. A. Drost, and D. K. Garcelon. 2021. Sin Nombre virus prevalence in wild deer mice, *Peromyscus maniculatus*, on five of the California Channel Islands 2014-2017. Zoonoses and Public Health 68:849-853.
35. Bartel, S.^{**} and **J. L. Orrock**. 2021. An omnivorous mesopredator modifies predation of omnivore-dispersed seeds. Ecosphere 12:e03369. 10.1002/ecs2.3369

36. Guiden, P. W.^{**} and **J. L. Orrock**. 2021. Snow depth and woody debris drive variation in small mammal winter seed removal. Journal of Vegetation Science 32:e13007.
37. **Orrock, J. L.** 2021. A simple method for restraint of small mammals for sampling blood or tissue in the field. Western North American Naturalist 81:264-266.
38. Chandler, J. L.^{**}, T. Van Deelen, N. Nibbelink, and **J. L. Orrock**. 2020. Large-scale patterns of seed removal by small mammals differ between areas of low- vs. high wolf occupancy. Ecology and Evolution 10: 7145-7156.
39. Sheriff, M., **J. L. Orrock**, M. Ferrari, R. Karban, E. Preisser, A. Sih, and J. Thaler. 2020. Proportional fitness loss and the timing of defensive investment: a cohesive framework across animals and plants. Oecologia 193:273-283.
40. Bartel, S.L.^{**} and **J. L. Orrock**. 2020. Past and present disturbances generate spatial variation in seed predation. Ecosphere 11:e03116.
41. **Orrock, J. L.** 2020. Deterministic insights from stochastic interactions. Proceedings of the National Academy of Sciences USA 117:6965-6957.
42. Guiden, P. W.^{**} and **J. L. Orrock**. 2020. Seasonal shifts in activity timing reduce small-mammal heat loss during winter. Animal Behaviour 164:181-192.
43. Raffa, K., P. Bonello, and **J. L. Orrock**. 2020. Why do entomologists and plant pathologists approach trophic relationships so differently? Identifying biological distinctions to foster synthesis. New Phytologist 22:609-620.
44. Donelan, S. C., J. K. Hellmann, A. M. Bell, B. Luttbeg, **J. L. Orrock**, M. J. Sheriff, and A. Sih. 2020. Transgenerational plasticity in human-altered environments. Trends in Ecology and Evolution 35:115-124.
45. Connolly, B. M., P. W. Guiden^{**}, and **J. L. Orrock**. 2020. Mycorrhizal inoculation mitigates damage from an intermediate, but not severe, frost event for a cool-season perennial bunchgrass. Botany 98:127-135.
46. Damschen, E. I., L. A. Brudvig, M. A. Burt, R. J. Fletcher, Jr., N. M. Haddad, D. J. Levey, **J. L. Orrock**, J. Resasco, J. J. Tewksbury. 2019. Landscape connectivity causes diversity to accumulate over decades through colonization credits and reduced extinctions. Science 365:1478-1480.
47. Guiden, P. W.^{**}, S. L. Bartel^{**}, N. W. Byer, A. A. Shipley, and **J. L. Orrock**. 2019. Predator-prey interactions in the Anthropocene: reconciling multiple aspects of novelty. Trends in Ecology and Evolution 34:616-627.

48. Kelt, D. A., E. J. Heske, X. Lambin, M. K. Oli, **J. L. Orrock**, A. Ozgul, J. N. Pauli, L. Prugh, R. Sollmann, and S. Sommer. 2019. Advances in population ecology and species interactions in mammals. Journal of Mammalogy 100: 965-1007.
49. Guiden, P. W. ** and **J. L. Orrock**. 2019. Invasive shrubs modify rodent activity timing, revealing a consistent behavioral rule governing diel activity. Behavioral Ecology: 30:1069-1075.
50. Barker, C., Turley, N., **J. L. Orrock**, J. Ledvina, and L A. Brudvig. 2019. Agricultural land-use history does not reduce woodland understory herb establishment. Oecologia 189: 1049-1060.
51. Guiden, P. W. **, B. M. Connolly***, and **J. L. Orrock**. 2019. Seedling responses to decreased snow depend on canopy composition and small-mammal herbivore presence. Ecography 42:780-790.
52. Pearson, D. E., M. Valliant, C. Carlson, G. C. Thelen, Y. K. Ortega, **J. L. Orrock**, and M. D. Madsen. 2019. Spicing up restoration: can chili peppers improve reseeding success by reducing seed predation? Restoration Ecology 27:254-260.
53. Karban, R. and **J. L. Orrock**. 2018. A judgement and decision-making model for plant behavior. Ecology 99:1909-1919.
54. Guiden, P. W. **, B. M. Connolly***, and **J. L. Orrock**. 2018. Extreme cold consistently reduced seedling growth but has species-specific effects on browse tolerance in summer. American Journal of Botany 105:2075-2080.
55. **Orrock, J. L.**, B. M. Connolly***, W-G Choi, P. W. Guiden **, S. W. Swanson, and S. Gilroy. 2018. Plants eavesdrop on cues produced by snails and induce costly defenses that affect insect herbivores. Oecologia 186: 703-710.
56. Connolly, B. M. *** and **J. L. Orrock**. 2018. Exogenous application of methyl jasmonate alters *Pinus resinosa* seedling response to simulated frost. Botany 96:705-710.
57. Sheriff, M. J., B. Dantzer, O. P. Love, and **J. L. Orrock**. 2018. Error management theory and the adaptive significance of transgenerational maternal-stress effects on offspring phenotype. Ecology and Evolution 8:6473-6482.
58. Schwemm, C. A., C. A. Drost, T. J. Coonan, **J. L. Orrock**, and T. R. Stanley. 2018. Comparison of estimators for monitoring long-term population trends in deer mice, *Peromyscus maniculatus*, on the California Channel Islands. Western North American Naturalist 78:496-509.
59. Connolly, B. M. *** and **J. L. Orrock**. 2018. Habitat-specific capture timing of deer mice (*Peromyscus maniculatus*) suggests that predators structure temporal activity of prey. Ethology 124:105-112.

60. **Orrock, J. L.**, B. M. Connolly^{***}, and A. J. Kitchen^{*}. 2017. Plant induced defences reduce herbivory by increasing cannibalism. Nature Ecology and Evolution 1:1205-1207.
61. Connolly, B. M. ^{***}, P. W. Guiden^{**}, and **J. L. Orrock**. 2017. Past freeze-thaw events on *Pinus* seeds increase seedling herbivory. Ecosphere 8(3):e01748.
62. Turley, N., **J. L. Orrock**, J. Ledvina, and L. Brudvig. 2017. Dispersal and establishment limitation slows plant community recovery on post-agricultural longleaf pine savannas. Journal of Applied Ecology 54:1100-1109.
63. Connolly, B. M. ^{***}, L. Agnew^{*}, and **J. L. Orrock**. 2017. Interactive effects of fungicide and cold stratification on the germination rate for five dominant temperate tree species. Forest Science 63:303-309.
64. Guiden, P. W. ^{**} and **J. L. Orrock**. 2017. Invasive shrub modifies a classic animal-habitat relationship and alters patterns of vertebrate seed predation. Ecology 98:321-327.
65. Collins, C., C. Banks-Leite, L. Brudvig, B. Foster, W. Cook, E. Damschen, A. Andrade, M. Austin, J. Camargo, D. Driscoll, R. Holt, W. Laurance, N. Nicholls, and **J. L. Orrock**. 2017. Fragmentation affects plant community composition over time. Ecography 40:119-130.
66. Karban, R., **J. L. Orrock**, E. L. Preisser, and A. Sih. 2016. A comparison of plants and animals in their responses to risk of consumption. Current Opinion in Plant Biology 32:1-8.
67. Hahn, P. G. ^{**} and **J. L. Orrock**. 2016. Neighbor palatability generates associational effects by altering herbivore foraging behavior. Ecology 97: 2103-2111.
68. Hahn, P. G. ^{**} and **J. L. Orrock**. 2016. Ontogenetic responses of four plant species to interactive effects of land-use history, canopy structure, and herbivory. Journal of Ecology 104: 1518-1526.
69. **Orrock, J. L.** and Connolly, B. M. ^{***} 2016. Changes in trap temperature as a method to determine timing of activity of small mammals. PLOS ONE 11(10):e0165710.
70. Connolly, B. M. ^{***}, **J. L. Orrock**, and M. S. Witter. 2016. Soil conditions mediate the effect of herbivores, but not mycorrhizae, on a native bunchgrass. Acta Oecologica 77: 100-108.
71. Grace, J. B., T. M. Anderson, E. W. Seabloom, E. T. Borer, P. B. Adler, W. S. Harpole, Y. Hautier, H. Hillebrand, E. M. Lind, M. Partel, J. D. Bakker ..., **J. L. Orrock**, S. M. Prober, and M. D. Smith [26 authors total]. 2016. Integrative modeling reveals mechanisms linking productivity and plant species richness. Nature 529: 390-393.

72. Chandler, J. L. **, **J. L. Orrock**, and J. Resasco. 2016. Invasive ants generate heterogeneity in patterns of seed survival. American Midland Naturalist 176: 289-297.
73. Stuhler, J. D. ** and **J. L. Orrock**. 2016. Historical agriculture and present-day canopy thinning differentially affect the distribution and abundance of invasive and native ant species. Biological Invasions 18:1813-1825.
74. Stuhler, J. D. ** and **J. L. Orrock**. 2016. Past agricultural land use and present-day fire regimes can interact to determine the nature of seed predation. Oecologia 181:463-473.
75. Herrmann, J. D., T. A. Carlo, L. A. Brudvig, E. I. Damschen, N. M. Haddad, D. J. Levey, **J. L. Orrock**, and J. J. Tewksbury. 2016. Connectivity from a different perspective: comparing seed dispersal kernels in connected vs. unfragmented landscapes. Ecology 97:1274-1282.
76. Bartowitz, K. J. **, and **J. L. Orrock**. 2016. Invasive exotic shrub (*Rhamnus cathartica*) alters the timing and magnitude of post-dispersal seed predation of native and exotic species. Journal of Vegetation Science 27:789-799.
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Pagels, J. F., **J. L. Orrock**, and R. J. Reynolds. 2000. Rock Vole, *Microtus chrotorrhinus carolinensis*, Recovery Plan. Virginia Dept. Game & Inland Fisheries.

TEACHING

University of Wisconsin, Madison (2010 – present)

Undergraduate: Behavioral Ecology (Zoo 425)

Spring 2012 (79 students)

Spring 2013 (79 students)

Spring 2014 (90 students)

Spring 2015 (101 students)

Spring 2016 (188 students)

Spring 2018 (103 students)

Spring 2020 (54 students)

Spring 2022 (48 students)

Spring 2025 (43 students)

Undergraduate: Introductory Biology (Zoo/Bio 101), Section on Evolution and Ecology

Fall 2010 (865 students)

Fall 2011 (800 students)

Fall 2013 (728 students)

Fall 2014 (675 students)

Fall 2015 (659 students)

Fall 2017 (859 students)

Fall 2018 (806 students)

Fall 2019 (764 students)

Spring 2020 (643 students)

Fall 2021 (768 students)

Fall 2022 (764 students)

Fall 2024 (753 students)

Undergraduate: Independent study (Bio 199, 299, 699)
Every semester from 2010-present (30 undergraduates)

Graduate: The Ecology of Habitat Structure (Zoo 956)
Fall 2012 (13 students)

Graduate: Novel Ecosystems and the Ecology of Fear (Zoo 956)
Fall 2017 (10 students)

Guest lectures: Animal Behavior, General Ecology, Basic and Applied Insect Ecology, Ecology of Infectious Disease, Exploring Biology, First-generation STEM seminar, Introduction to Wisconsin Ecology; Professional Development in Ecology

University of Richmond (Sabbatical from Fall 2023-Spring 2024)

Undergraduate: Ecological Interactions and Global Change (Biol 381)

Virginia Commonwealth University (Sabbatical from Fall 2016-Spring 2017)

Graduate: Predator-prey Interactions and the Ecology of Fear (Bio 693)

Washington University (Assistant Professor from 2007-2010)

Undergraduate: Behavioral Ecology (Bio/Enst 372)
Spring 2008, 2009, 2010 (100-140 students each year)

- Received Arts & Sciences Faculty Award for Outstanding Undergraduate Education, 2009

Undergraduate: Independent Study (Bio 200 and Bio 500)

Graduate: Spatial Dynamics in Ecology and Evolution (Bio 580)

TRAINING AND MENTORING

Mentorship training:

Advancing Research Mentoring Practices Seminar, Fall 2024. I worked with a community of peers to develop, discuss, and improve mentoring skills. Specific outcomes of the seminar included the development of a personal mentoring philosophy and multiple strategies for dealing with mentoring challenges.

Graduate Students Trained (co-author on manuscript):

Current:

Hannah Ashe	Ph.D., Integrative Biology 2024- American Society of Mammalogists Grant-in-Aid-of-Research
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Past graduate students:

<u>Caleb Hickman</u>	Ph.D., Zoology, 2008-2013 Current position: wildlife biologist in North Carolina
<u>Phil Hahn</u>	Ph.D., Zoology, 2010-2015 NSF Doctoral Dissertation Improvement Grant Current position: Assistant Professor at University of Florida
<u>Matt Schuler</u>	Ph.D., Biology, Washington University (Matt stayed at Washington University to finish Ph.D. after Orrock lab moved to UW-Madison) EPA STAR Fellowship Recipient (Spring 2010) Current position: Assistant Professor at Montclair University
<u>John Stuhler</u>	M.S., Zoology, 2012-2015 Current position: Curator of Mammals and Birds, UW-Madison Vertebrate Museum
<u>Kristina Bartowitz</u>	M.S., Nelson Institute, 2014-2015 Current position: Research Assistant Professor, University of Idaho
<u>Jen Chandler</u>	M.S., Zoology, 2014-2017 American Society of Mammalogists Grants-in-Aid-of-Research George Melendez Wright Young Leaders in Climate Change fellowship from National Park Service Current position: Research technician at University of Massachusetts, Amherst
<u>Pete Guiden</u>	Ph.D., Zoology 2014-2019 NSF Doctoral Dissertation Improvement Grant American Society of Mammalogists Grant-in-Aid-of-Research Current position: Associate Professor at Hamilton College
<u>Savannah Bartel</u>	Ph.D., Zoology, 2017- 2022 American Society of Mammalogists Shadle Fellowship American Society of Mammalogists Grant-in-Aid-of-Research Current position: Biologist at USGS Forest and Rangeland Ecosystem Science Center
<u>Carson Keller</u>	Zoology 2019-2024 (no degree awarded) American Society of Mammalogists Guy Cameron Research Award UW-Madison Arboretum Fellowship
Elizabeth Locke	M.S., Integrative Biology 2022-2024 Current position: Research technician in North Dakota
<u>Mark Fuka</u>	Ph.D., Zoology 2020-2025 William C. Burns and Lemuel A. Fraser Teaching Enrichment Scholarship UW-Madison Arboretum Fellowship Current position: Postdoc at University of Minnesota

Graduate Thesis Committees (8 current, 43 completed)

Current: Yishai Barak (Advisor: Gilroy), Pairsa Belmaric (Advisor: Pauli), Michelle Homann (Advisor: Damschen), Bijit Khadka (Advisor: Pauli), Elsa Luebke (Advisor: Payseur), Ben Murley (Advisor: Pauli), Shiqi Zheng (Advisor: Damschen).

Completed: Brian Allan (Advisor: Chase), Ilianna Anise (Advisor: Strier), Angelica Bautista (Advisor: Damschen), Peggy Boone (Advisor: Strier), Michael Bosch (Advisor: Ives), Jamie Botsch (Advisor: Ives), Lauren Brooks (Advisor: Payseur), Amber Burgett (Advisor: Chase), Katherine Charton (Advisor: Damschen), Amy Conley (Advisor: Templeton), Olivia Cope (Advisor: Lindroth), Kara Cromwell (Advisor: Peckarsky), Mauriel Curras (Advisor: Pauli), Landon Falke (Advisor: Preston), Meghan Fitzgerald (Advisor: Ives), Cat Frock (Advisor: Turner), Jen Grauer (Advisor: Pauli), Nick Griffin (Advisors: Templeton and Knight), Jeremy Hemberger (Advisor: Gratton), Jon Henn (Advisor: Damschen), Michele Johnson (Advisors: Losos and Templeton), Samuel Jolly (Advisor: Pauli), Nic Kooyers (Advisor: Olsen), Jacob Kraus (Advisor: Strier), Corbin Kuntze (Advisor: Pauli), Xia Lee (Advisor: Paskewitz), Stephanie MacFarlane (Advisor: Damschen), Grace Melone (Advisor: Crall), Nichole Miller (Advisor: Hoch), Lucas Nell (Advisor: Ives), Jennifer Neuwald (Advisor: Templeton), Michelle Parmenter (Advisor: Payseur), Paula Perrig (Advisor: Pauli), Jesse Pfammatter (Advisor: Raffa), John Pokallus (Advisor: Pauli), Wade Ryberg (Advisor: Chase), Shotaro Shiratsuru (Advisor: Pauli), Melissa Simon (Advisor: Damschen), Quinn Sorenson (Advisor: Damschen), Jered Stratton (Advisor: Payseur), Jake Walsh (Advisor: Vander Zanden), Camille Warbington (Advisor: Van Deelen).

External Thesis Committees:

Haleigh Nogueira	Ph.D., University of Massachusetts, Amherst 2024-present Advisor: Michael Sheriff
<u>Katie Overstrom</u>	M. Sc., University of Rhode Island 2023-present Advisor: Evan Preisser
<u>Brooke Pellegrini</u>	M. Sc., University of Rhode Island 2022-2024 Advisor: Evan Preisser
Taylor Ellis	M. Sc., Sonoma State University 2013-2015 Advisor: J. Hall Cushman

External Thesis Examinations:

Miguel Perez, “Foraging responses of swamp wallabies (*Wallabia bicolor*) to plant chemistry, vegetation composition, and diversity.” Advisors: C. MacArthur and P. Banks, University of Sydney; graduated 2014

Postdoctoral Fellows (13 total; co-author on manuscript):

Clay Morrow (2025-present)

Alli Brehm (2022-2024); currently a Wildlife Biometrician at the New Hampshire Fish and Game Department

Chad Zirbel (2021-2024); currently a research scientist at USGS Northern Prairie Wildlife Research Center

Jen Cruz (2018-2020); currently an Assistant Professor at Boise State University

Angie Larsen (2018); currently a Wildlife Ecologist at NCASI, Virginia Tech

Brian Connolly (2014-2017); currently Lab Coordinator at Gonzaga University

Joseph Veldman (2010-2014); currently an Associate Professor at Texas A&M University

Susan Carr (2010-2011); currently an Information Specialist for USDA ARS

Chris Habeck (2010-2012); currently an Associate Professor at Kutztown University

Brett Mattingly (2009-2012); currently an Associate Professor at Eastern Connecticut University

Cathy Collins (2009-2010); currently an Associate Professor at Bard College

Cory Christopher (2008-2010); currently Director of Conservation at Cincinnati Nature Center

James Watling (2008-2010); currently an Associate Professor at John Carroll University

Postgraduate M.S. Research Technicians (6 total; co-author on manuscript):

Jennifer Chandler, Jessica Hoisington-López, Stephanie Koontz, Joe Ledvina, Danielle Racke, Nick Reif

Postgraduate B.S. Research Technicians (16 total, 11 from underrepresented groups)

Lauren Bizzari, Chelsea Blake, Bonnie Cooper, Diana Guzmán, Jordan Kremer, Anthony Lucia, Emily Meineke, Nicholas Mills, John Mordasky, Marilena Nuñez, Amanda Powell, Rick Ranalli, Theresa Rusca, Kira Santulli, Sarah Smiley, Julia Sosin

Undergraduate Students (73 total, 49 from underrepresented groups; co-author on manuscript;

^Presented poster at scientific meeting; *funded by NSF REU supplement):

Lauren Agnew^P, Brady Andersen, Lauren Arrett^P, Kirk Barnett*, Savannah Bartel^P, Emily Becker, Nichole Boyea^P, Emma Callan, John Brennan, Molly Burns*, Bliss Capener^P, Jessica Casper, Sophie Corsaro, Julie Cotton, Michael Craig*, Tess Croner*, Greg Curler*, Max Czerwonka, Katie DeYoung, Roberta Donaldson^P, Anide Duval, Raina Eddy^P, Deborah Farley, Morgan Fenrich, Julia Frangul, Kate Goodwin, Sarah Gorsline, Ben Gottsacker^P, Ali Gregorian, Maia Gumnit^P, Leotie Hakkila*, Josephine Hall, Emily Hills, Lily Huffman, Alex Johnson^P, Gavin Jones, Collin Kirk^P, A. J. Kitchen^P, Madeline Kubica, Emily Lannoye, Lauren Lansing, Eric Lee, Eliza Lindley^P, Melissa Lyman^P, Luke Maillefer^P, Carsyn Maier, Melissa Martin, Kaitlin Mattos^P, Jing Mei, Jake Merten^P, Abby Mitchell, Sara Motheral*^P, Cole Nichols, Suncana Pavlik*, Ben Rakov, Mark Rowe, Brian Schuh, John Stuhler, Aidan Tamayo, Isabell Teng, Natasha Thompson, Kylie Vanchena, Amy VanLishout^P, Brianna Van Matre, Kai Wang, Marina Waggoner, Elicia Walker, Kai Wang, Alicia Ward, Julia Warren, Amelia Weidemann^P, Joseph Willman^P, Whitney Wood, Melissa Yu, Gabriela Zaldumbide^P, Adeline Zamora^P

ACADEMIC AND PROFESSIONAL ACTIVITIES

Service

University of Wisconsin:

Department of Integrative Biology:

Associate Chair (Fall 2024-present). Provide guidance and feedback to the Department Chair, serve on Budget and Strategic Planning Committee, conduct strategic planning for department including fiscal planning, review and approve new faculty/staff position requests, determine allocations for annual salary exercises, review annual activity reports from faculty and advise on faculty matters, establish annual department service roles for faculty, advise on annual giving and general fundraising initiatives, review affiliate faculty status renewal requests, identify issues/concerns in the department for discussion and resolution, discuss space management and requests, consult about major facility projects. This service also includes the coordination of space within Birge Hall, a building shared with the Botany department that houses multiple iBio staff offices as well as lab, office, and storage space for scores of faculty and graduate students in iBio.

Integrative Biology and Botany Industry Partnership Committee (Spring 2025 - present). Explores ways to build relationships with industry and private partners to advance biological research.

Integrative Biology and Botany Reorganization Steering Committee (Fall 2024). Provide vision and strategic plan to facilitate merger of Integrative Biology and Botany departments; assess faculty and staff concerns and aspirations regarding the merger and work towards productive unification of the two departments.

Biology Building Design Committee (Fall 2021-Spring 2023). This ad hoc committee participates in planning meetings with L&S and campus partners to discuss plans for an upcoming construction of a Biology Building.

Curriculum Committee Chair (Fall 2021-Spring 2023). Provided oversight on curriculum development, planning and implementation of new courses, evaluation of courses and instructors, development of teaching plans for new faculty, and allocation of faculty effort to teaching. Specific tasks associated with these duties included the review of proposed name changes for other departments and programs, review of proposals for new certificates (e.g., the FMS certificate), preparation of the self-study and participating in the 10-year review of the Zoology major, and formalization of our procedure for students who have a dispute regarding their final grade.

Task Force on Affiliate Faculty (Spring 2018-Spring 2023). This task force reviews and discusses roles and obligations of zero-time affiliate faculty in the Department of Integrative Biology, and drafts an updated policy for zero-time faculty.

Revision of Integrative Biology tenure guidelines (Spring 2019-Spring 2021). I revised the mentoring and tenure guidelines for the department to be consistent with recommendations from the Biological Sciences Divisional

Committee; these guidelines were selected by the Biological Sciences Divisional Committee to be posted as an example for other departments. Graduate Program Executive Committee (Fall 2017-Fall 2020). This committee works to set future goals for the graduate program, to facilitate progress of current graduate students, and to help address questions or issues that may arise.

Director of Graduate Admissions (Fall 2017-Fall 2020). I oversaw admission into the graduate program, prepared reports that summarized student and program performance, helped promote initiatives to maximize diversity and inclusion in graduate recruitment, and secured funding to support graduate fellowships and recruiting activities.

Preparation and review of faculty performance and promotion documents. (Fall 2018-present). I work with other faculty in our department to provide reviews of faculty performance, including pre- and post-tenure reviews. Because of my service on the Biological Sciences Divisional Committee, I am also able to provide review and assistance for Integrative Biology faculty who are preparing their tenure and promotion documents.

Faculty mentoring committees. Provide input on early-career faculty progress and facilitate career development.

Robert Johnson, Department of Integrative Biology (Fall 2021-Spring 2023)

Farrah Madison, Department of Integrative Biology (Fall 2025-present)

Aaron Ragsdale, Department of Integrative Biology (Fall 2021-present)

Interim Director of Zoology Graduate Program (Fall 2018-2019). I oversaw the graduate program and worked to ensure its success in all capacities (e.g., by helping resolve student and faculty issues and concerns).

Instruction and Programs Committee (Fall 2014-Fall 2017). This committee oversees the planning, staffing, and implementation of all courses offered through the Department of Integrative Biology.

Faculty Search Committee (Fall 2013). This committee conducted a successful search for a tenure-track evolutionary biologist.

College of Letters and Sciences:

Building Partnerships with Industry Committee (Spring 2025-present). Member of committee to explore new ways to engage with industry partners for supporting scientific research and strategic partnerships.

Faculty Search Committee (Fall 2024). Member of search committee for two faculty hires in Botany Department. I am on the Evolution search subcommittee, although this service obligation requires also participating in meetings and discussions with the concurrent Ecology search that Botany is conducting, including co-review of applications.

Biological Sciences Divisional Committee (Fall 2017-Spring 2020). This is the executive committee of the Faculty Division of Biological Sciences. It reviews tenure and promotion cases for the biological sciences across the UW campus and makes recommendations to deans and directors. It also advises deans and directors about recommendations to use honorific modified

professorial titles, names Hilldale Award recipients and Hilldale Lecture Series speakers, and makes appointments to standing and ad hoc committees. Biological Sciences Fellowship Committee (Spring 2014-2016). This committee reviews funding requests from graduate programs across the biological sciences. The committee allocates approximately 2 million in funding annually, and also makes recommendations regarding campus-wide faculty awards.

Campus-wide:

UW Arboretum Fellowship Review Committee (Spring 2022 – present). I participate in review of graduate fellowship applications submitted to the UW Arboretum.

Chair, Wisconsin Ecology (Fall 2018 – Fall 2020). I provided oversight and leadership for Wisconsin Ecology, a cross-campus group of 71 faculty and 49 graduate students who interact to foster ecological research on campus. This included obtaining funding to support two campus-wide symposia, strategic planning to articulate future visions for Wisconsin Ecology, and continued implementation of current initiatives. In addition to those initiatives, I also worked with campus leadership to establish a consistent funding stream to support Wisconsin Ecology and also spearheaded a successful effort to create the Center for Ecology and the Environment at UW-Madison.

Wisconsin Ecology Executive Committee (Fall 2015 – Fall 2020). This committee works to implement all current initiatives of Wisconsin Ecology.

Wisconsin Ecology Academic Programs and Curricula Chair (Fall 2015-Fall 2016). In this position, I explored options for creating an undergraduate major for Wisconsin Ecology as well as a graduate major.

Research Animal Resources Center (RARC) informal review. (Fall 2014). I provided constructive feedback to assist the development of a wildlife module for the UW RARC.

Review of faculty promotion documents. (Fall 2021-present). Provide review of promotion-related materials for ecologists in other departments at UW-Madison.

Peer review of faculty teaching. (Fall 2014). Provided peer review of Invasive Species course (LA 375) for Landscape Architecture

Faculty mentoring committees. Provide input on early-career faculty progress and facilitate career development.

Dan Preston, Department of Forest and Wildlife Ecology (2019-2020)

James Crall, Entomology Department (2021-present).

Washington University:

Environmental Studies Review Committee — 2007-2010

Ecology, Evolution, and Population Biology Steering Committee — 2007-2010

Graduate Qualifying Exam Committee — 2008

Moog Scholarship Committee, College of Arts and Sciences — 2008

Biomathematics in Biology Committee — 2008-2009

Service to professional societies and organizations:

Associate editor: *Ecology* — 2018-2021

Manuscript review: I review an average of 8-14 manuscripts a year. These reviews are for a variety of journals, including *American Naturalist*, *Ecology*, *Ecology Letters*, *Journal of Animal Ecology*, *PNAS*, *Proceedings of the Royal Society*, *Trends in Ecology and Evolution*.

Invited participant in planning symposium at National Center for Ecological Analysis and Synthesis; 2012

Grants-in-Aid Committee, American Society of Mammalogists. — 2005-2009

Panel Member, Perspectives on a Successful Career in Ecology, Ecological Society of America — 2008-2010

Grant proposal review:

University of Wisconsin grant proposal review: Hatch/McIntire-Stennis Fund (College of Agriculture and Life Sciences)

Washington University grant proposal review: International Center for Advanced Renewable Energy and Sustainability (I-CARES), HHMI Summer Undergraduate Research Fellowship (SURF), SURF Travel Award Review Committee

Extramural grant proposal review: I have reviewed proposals from the National Science Foundation (USA), USDA, Natural Sciences and Engineering Research Council (Canada), American Society of Mammalogists Grant-in-Aid of Research

Panel Member:

National Science Foundation DEB grant review — 2010, 2015, 2020, 2022

USDA NIFA Sustainability program grant review — 2022

Program review:

National Park Service: Invited peer review of Natural Resource Condition Assessment for Channel Islands National Park — 2016

National Ecological Observatory Network: Provided in-depth review of small-mammal sampling protocol for National Ecological Observatory Network (NEON) — 2015

Center review:

Rice Rivers Center (Virginia Commonwealth University): External center review panel — 2024.

Invited departmental seminars (since 2007):

2025	University of Rhode Island
2024	Virginia Commonwealth University
2023	Tufts University (Barnum Museum Lecture)
2022	University of Minnesota, Duluth

2021 University of Minnesota, Twin Cities, EEB Department
 2019 Texas Tech University
 Michigan State University
 2018 Pennsylvania State University
 Virginia Commonwealth University
 University of Wisconsin, Madison, qBio seminar series
 2017 Fordham University
 University of Wisconsin, Madison, Entomology Department
 2016 Virginia Commonwealth University
 2015 University of California, Davis
 University of Illinois, Urbana-Champaign
 2014 Northern Illinois University
 2013 Southeastern Wisconsin Invasive Species Colloquium
 University of Wisconsin, Whitewater, Biology Department
 University of Wisconsin, Madison, Forest and Wildlife Ecology Department
 University of Wisconsin, Madison, Biology Colloquium
 University of Wisconsin, Madison, Entomology Department
 2012 University of Guelph
 Washington State University
 Iowa State University (two presentations)
 2011 Michigan State University (two presentations)
 University of Southern Florida
 University of Indiana
 2010 Illinois State University
 University of Wisconsin, Madison (two presentations)
 University of British Columbia
 2009 University of South Carolina
 Ohio State University
 University of California, Santa Cruz
 University of Michigan
 California State University, Northridge
 University of Missouri, Columbia (invited by UM graduate student conservation group)
 University of Florida
 Oklahoma State University
 2008 Virginia Commonwealth University
 Southern Illinois University, Carbondale
 University of Nevada, Reno
 2007 University of Missouri, St. Louis
 Indiana State University
 University of Rhode Island
 Texas Tech University

Invited presentations at scientific meetings (first-authored only):

2024 **Orrock, J. L.** Predatory Dynamics: Understanding the impact of consumption in

ecological systems. Invited session leader, Gordon Research Conference on Predator-Prey Interactions, Ventura, CA

- 2021 **Orrock, J. L.**, E. Damschen, J. Cruz, L. Brudvig, W. Mattingly, J. Veldman, A. Larsen-Gray, P. Hahn. Using long-term experiments to identify functional traits and environmental conditions that maximize restoration potential. The Past as a Lens for Biodiversity Conservation on a Dynamically Changing Planet, Virtual Symposium.
- 2018 **Orrock, J. L.**, J. Munshi-South, L. Aubeg. Predator-mediated evolution of prey behavior: using population genetics to quantify evolutionary change. Gordon Research Conference on Predator-Prey Interactions, Ventura, CA.
- Orrock, J. L.** and P. W. Guiden. Invasive plants alter foraging and space use by animals. Organized Symposium on Behavioral Landscape Ecology, International Association of Landscape Ecologists Meeting, Chicago, IL.
- Orrock, J. L.** Long-term studies of Sin Nombre virus in island mice. Third annual Wisconsin Wildlife Health Symposium, sponsored by Wisconsin Student Chapter of the Wildlife Disease Association, Madison, WI.
- 2017 **Orrock, J. L.** and L. A. Brudvig. Past land use affects restoration of consumers and consumer effects on plants. Organized Symposium on Restoration of Consumers to Ecological Communities, Ecological Society of America Meeting, Portland, OR.
- 2016 **Orrock, J. L.** The ecological and evolutionary implications of fear. Wisconsin Festival of Ideas, Madison, WI.
- Orrock, J. L.** How climate and predators shape large-scale patterns of Sin Nombre virus in wild mice. Second annual Wisconsin Wildlife Health Symposium, sponsored by Wisconsin Student Chapter of the Wildlife Disease Association, Madison, WI.
- 2015 **Orrock, J. L.** and A. Alstad. Connections among ticks and invasive plants: how changes in habitat structure might change human disease risk. Prairie Enthusiasts Annual Meeting, Stephen's Point, WI.
- 2014 **Orrock, J. L.** Invasive plants generate changes in animal behavior, communities, and disease risk. Keynote speaker at Southeastern Wisconsin Invasive Plants (SEWISC) meeting, Milwaukee, WI.
- 2013 **Orrock, J. L.** Shifting Interactions in a Changing World: Human Altered Plantscapes. Invited session leader, Gordon Research Conference on Plant-Herbivore Interactions, Ventura, CA

Orrock, J. L. and R. J. Fletcher. An island-wide predator manipulation reveals immediate and long-lasting matching of risk by prey. Symposium on invasive plants and wildlife. Wildlife Society of America, Milwaukee, WI.

Orrock, J. L., C. Hickman, J. Watling, H. Dutra, and B. Allan. Invasive plants generate changes in animal behavior, animal communities, and human disease risk by altering habitat structure and composition. Symposium on fear in wildlife populations. Wildlife Society of America, Milwaukee, WI.

Contributed presentations at scientific meetings: (Since 2008; 94 total)

- 2025 Headrick, K, B. Pellegrini, B., A. Santiago, K. Overstrum, S. Bhavanam, **J. Orrock**, E. Preisser, C. Orians. Impacts of age, herbivore cues, and herbivore exclusion on seedling survival and resistance to damage. Ecological Society of America Annual Meeting. Baltimore, Maryland.
- Warneke, C., C. Zirbel, E. Damschen, and **J. Orrock**. Fire affects different vegetation layers of an oak savanna restoration in ways that complicate restoration action. Ecological Society of America Annual Meeting. Baltimore, Maryland.
- Ashe, H. and **J. Orrock**. Risk of cache pilferage is not modified by the presence of invasive shrubs. American Society of Mammalogists Annual Meeting, West Lafayette, Indiana.
- 2024 Fuka, M. E. and **J. L. Orrock**. The efficacy of capsaicin-coated seeds to promote tree seed persistence and dispersal is modified by invasive shrubs. Ecological Society of America Annual Meeting. Long Beach, California.
- Bhavanam, S. P., E. Preisser, **J. L. Orrock**, and C. Orians. Growth and defense responses to herbivory cues in a woody plant species. Entomological Society of America Annual Meeting. Phoenix, Arizona.
- Fuka, M. E., **Orrock, J. L.** Invasive shrubs modify the efficacy of capsaicin coatings at promoting tree seed persistence and dispersal. Society for Ecological Restoration Midwest Great Lakes Chapter Meeting, Hammond, IN.
- Fuka, M. E., **Orrock, J. L.** Invasive shrubs amplify seasonal granivory, revealing optimal windows for seed survival following invasive shrub removal. Midwest Fish and Wildlife – Nuts and Bolts of Restoration Symposium, Sioux Falls, SD.
- 2023 Keller, C.B. and **J. L. Orrock**. The effects of invasive shrubs and individual state on the antipredator behavior of white-footed mice (*Peromyscus leucopus*). Ecological Society of America Annual Meeting. Portland, Oregon. 2023

Orrock, J. L. and S. Bartel. Wildfire modifies the prevalence of Sin Nombre Virus in deer mice on Santa Cruz Island. California Islands Symposium, Ventura, CA.

Schamel, J., M. Marshall, B. Parrino, and **J. L. Orrock**. Wildfire contributes to greater spatial and temporal overlap in the activity of island foxes (*Urocyon littoralis*) and deer mice (*Peromyscus maniculatus*) on Santa Cruz Island. California Islands Symposium, Ventura, CA.

Schamel, J., S. Bartel, M. Marshall, B. Parrino, and **J. L. Orrock**. The complex role of the Channel Island Fox (*Urocyon littoralis*) as seed dispersal agents on the Channel Islands. California Islands Symposium, Ventura, CA.

Fuka M. and **J. L. Orrock**. Seasonal variation in small mammal granivory of native tree species reveals the optimal window for seed additions in the absence of invasive woody shrubs. Society for Ecological Restoration, Midwest Great Lakes Chapter, Baraboo, WI.

Fuka M. and **J. L. Orrock**. Seasonal variation in small mammal granivory of native tree species reveals an optimal window for seed additions in the absence of invasive woody shrubs. Ecological Society of America, Portland, OR.

2022 Bartel, S.L. and **J. L. Orrock**. Cascading effects of eavesdropping: predator sociality mediates foraging behavior and multiple plant-consumer interactions. American Society of Mammalogists, Tucson, AZ.

Keller, C.B. and **J. L. Orrock**. Size- and state-dependent effects of invasive plants on antipredator behavior of white-footed mice (*Peromyscus leucopus*). American Society of Mammalogists, Tucson, AZ.

Keller, C. B. and **J. L. Orrock**. Invasive shrubs increase rodent foraging on exotic animals and native understory plants. Upper Midwest Invasive Species Conference, Green Bay, WI.

Fuka, M. E. and **J. L. Orrock**. Stem density of invasive shrubs facilitate increased winter seed removal by small mammals. American Society of Mammalogists, Tucson, AZ.

Fuka, M. E. and **J. L. Orrock**. Stem density of invasive shrubs facilitate increased winter seed removal by small mammals. Upper Midwest Invasive Species Conference, Green Bay, WI.

2021 Bartel, S.L. and **J. L. Orrock**. Past and present disturbance affect deer antipredator behavior. American Society of Mammalogists, Virtual Conference.

Keller, C.B. and **J. L. Orrock**. Invasive shrubs generate rodent biotic resistance

- to invasive earthworms. American Society of Mammalogists, Virtual Conference.
- 2019 Damschen, E.I., **J. L. Orrock**, L. A. Brudvig, J. Cruz, and W. B. Mattingly. How management and climate affect long-term recovery and spread of longleaf pine understory plants. SERDP Annual Meeting, Washington, D.C.
- Guiden, P. W. and **J. L. Orrock**. Landscapes of fear in novel winters: woody debris addition increases small-mammal winter seed predation in habitats with snow removed. Ecological Society of America, Louisville, KY.
- Bartel, S. L. and **J. L. Orrock**. Mesopredator omnivory generates both direct and indirect effects on seed fate. American Society of Mammalogists, Washington, DC.
- 2018 **Orrock, J. L.**, E. I. Damschen, A. Larsen, L. Brudvig, and W. B. Mattingly. The value of seed additions for longleaf pine groundcover restoration. Longleaf Alliance Annual Meeting, Alexandria, LA.
- Guiden, P. W. and **J. L. Orrock**. An invasive shrub alters the timing and magnitude of native rodent activity in spring and autumn. Ecological Society of America, New Orleans, LA.
- Bartel, S. L. and **J. L. Orrock**. Land-use history and canopy thinning alters seed predation and secondary dispersal by small mammals. American Society of Mammalogists, Manhattan, KS.
- Larsen, A. L., **J. L. Orrock**, E. I. Damschen, and L. A. Brudvig. Seed dispersal drives large-scale legacies of past land use on contemporary plant communities. Ecological Society of America, New Orleans, LA.
- Damschen, E. I., L. A. Brudvig, M. A. Burt, **J. L. Orrock**, N. M. Haddad, D. J. Levey, and J. Resasco. So close and yet so far: Overcoming hurdles for publishing long-term and large-scale data. Ecological Society of America, New Orleans, LA.
- Brudvig, L., N. Turley, S. Breland, J. Gibbs, P. Hahn, R. Isaacs, J. Ledvina, **J. L. Orrock**, and J. Stuhler. An ecosystem-wide evaluation of how agricultural legacies and restoration affect longleaf pine savannas. Ecological Society of America, New Orleans, LA.
- Schwemm, C. A., C. Drost, **J. L. Orrock**, T. Stanley, and T. Coonan. Comparing indices and advanced models for detecting population trends from mark-recapture data for island deer mice (*Peromyscus maniculatus*) over two decades. Wildlife Society of America, Santa Rosa, CA.
- 2017 Guiden, P. W., B. M. Connolly, and **J. L. Orrock**. Interspecific variation in the

effects of novel cold stress on tree seedling survival and growth. Ecological Society of America, Portland, OR

Guiden, P.W. and **J. L. Orrock**. Invasive buckthorn degrades a classic animal-habitat relationship. American Society of Mammalogists, Moscow ID.

Hahn, P. G. and **J. L. Orrock**. Agricultural legacies affect insect communities and herbivory decades after abandonment and implementation of restoration. Ecological Society of America, Portland, OR

2016 **Orrock, J. L.**, B. Connolly, and M. Sheriff. Predator diversity predicts large-scale patterns of stress in prey. Gordon Research Conference on Predator-Prey Interactions, Ventura, CA.

Orrock, J. L., B. Connolly, and M. Sheriff. Different predator communities drive large-scale patterns in rodent stress. Third Symposium of the California Channel Islands, Ventura, CA.

Drost, C. D., C. Schwemm, T. Coonan, **J. L. Orrock**, and T. Stanley. Long-term monitoring of deer mice on the California Islands: comparison of population estimators for trend detection. Third Symposium of the California Channel Islands, Ventura, CA.

Chandler, J. L., **J. L. Orrock**, and T. R. Van Deelen. Trophic cascades mediated by gray wolves (*Canis lupus*) reduce seed predation by rodents. American Society of Mammalogists, Minneapolis, MN.

Guiden, P. W., and **J. L. Orrock**. Mixed hardwood seedling mortality is associated with canopy and herb-layer composition in a broad-scale transplant experiment. Ecological Society of America, Fort Lauderdale, FL

Barker, C. A., N. E. Turley, **J. L. Orrock**, J. Ledvina, and L. A. Brudvig. No evidence for reduced plant establishment in post-agricultural sites. Ecological Society of America, Fort Lauderdale, FL

Connolly, B. M. and **J. L. Orrock**. Effects of freeze-thaw stress and soil-borne pathogens on the germination of two *Pinus* spp. in soils from a deciduous-evergreen forest transition zone. Ecological Society of America, Fort Lauderdale, FL.

2015 Chandler, J. L., **J. L. Orrock**, and N. P. Nibbelink. Recolonizing wolves indirectly alter seed survival. Ecological Society of America, Baltimore, MD.

Guiden, P.W. and **J. L. Orrock**. Predation risk impacts small mammal seed removal distance. Ecological Society of America, Baltimore, MD.

Hahn, P.G. and **J.L. Orrock**. Plant frequency generates associational effects by altering grasshopper foraging behavior. Entomological Society of America, Minneapolis, MN.

Herrmann, J. D., L. A. Brudvig, T. A. Carlo, E. I. Damschen, N. M. Haddad, D. J. Levey, **J. L. Orrock**, and J. J. Tewksbury. When landscape corridors restore plant dispersal relative to unfragmented landscapes. Ecological Society of America, Baltimore, MD.

Turley, N. L. A. Brudvig, and **J. L. Orrock**. Dispersal limitation and ecological conditions inhibit restoration of post-agricultural plant communities. Ecological Society of America, Baltimore, MD.

2014 Bartowitz, K. J. and **J. L. Orrock**. Indirect impacts of *R. cathartica* invasion on small mammal seed predators. Ecological Society of America, Sacramento, CA.

Borer, E. T., **J.L. Orrock**, and the Nutrient Network Collaborative. 2014. Nutrients and vertebrate herbivores interact to control global grassland productivity. Ecological Society of America, Sacramento, CA.

Brudvig, L. A., **J. L. Orrock**, and J. Ledvina. 2014. Agricultural legacies, contemporary restoration, and seed limitation co-structure longleaf pine understory plant communities. Ecological Society of America, Sacramento, CA.

Chandler, J. L., **J. L. Orrock**, and J. Resasco. 2014. Invasive ants cause size-biased differences in seed survival. Ecological Society of America, Sacramento, CA.

Coyle, D., M. Murphy, S. Paskewitz, **J. L. Orrock**, X. Lee, R. Murphy, M. McGeehin, and K. Raffa. 2014. Belowground herbivory in red pine stands initiates a cascade that increases the abundance of Lyme disease vectors. International Union of Forest Research Organizations (IUFRO) World Conference, Salt Lake City, UT.

Damschen, E.I., L. A. Brudvig, N. M. Haddad, **J. L. Orrock**, C. D. Collins, D. J. Levey, and J. J. Tewksbury. 2014. How useful is island biogeography for predicting the impacts of habitat isolation on plant communities? Ecological Society of America, Sacramento, CA.

Hahn, P.G. and **J.L. Orrock**. 2014. Are associational effects driven by insect herbivore abundance or foraging behavior? A test of foraging decisions by grasshoppers (Order: Orthoptera). Entomological Society of America, Portland, OR.

Hahn, P.G. and **J.L. Orrock**. 2014. Landuse history, canopy thinning, and consumers interact to affect seedling establishment. Ecological Society of

America, Sacramento, CA.

Stuhler, J.D., **J.L. Orrock**, J.A. Ledvina, and L.A. Brudvig. 2014. Historic agricultural land-use legacies affect the contemporary abundance of small mammals. Ecological Society of America, Sacramento, CA.

2013

Orrock, J. L. and M. S. Witter. Mammalian consumers mediate the effect of mycorrhizae on the establishment and growth of a native perennial bunchgrass. American Society of Mammalogists, Philadelphia, PA.

Orrock, J. L. and S. Gilroy. Eavesdropping plants prepare to be attacked: seeds exposed to herbivore kairomones become seedlings that are less palatable to herbivores. Gordon Research Conference on Plant-Herbivore Interactions, Ventura, CA.

Orrock, J. L. and S. Gilroy. Eavesdropping plants prepare to be attacked: seeds exposed to herbivore kairomones become seedlings that are less palatable to herbivores. Ecological Society of America, Minneapolis, MN.

Veldman, J.W., L.A. Brudvig, E.I. Damschen, **J.L. Orrock**, W.B. Mattingly, and J.L. Walker. Prescribed fire, land-use history, and connectivity in the restoration of species-diverse, subtropical pine savannas. Society for Ecological Restoration, Madison, WI.

Damschen, E. I., **J. L. Orrock**, L. A. Brudvig, P. G. Hahn, J. W. Veldman, W. B. Mattingly, J. L. Walker. How seed banks vary across a degradation gradient and their restoration potential. Society for Ecological Restoration, Madison, WI.

Brudvig, L. A., E. I. Damschen, N. M. Haddad, J. D. Herrmann, D. J. Levey, **J. L. Orrock**, and J. J. Tewksbury. The SRS corridor experiment: how habitat fragmentation, landscape connectivity, and climate change impact plant populations and communities. Ecological Society of America, Minneapolis, MN.

Damschen, E. I., N. M. Haddad, L. A. Brudvig, **J. L. Orrock**, D. J. Levey, and J. J. Tewksbury. Long-term effects of connectivity on plant species richness. Ecological Society of America, Minneapolis, MN.

Hahn, P. G. and **J. L. Orrock**. Habitat quality and herbivory interact to have species-specific effects on plant growth. Ecological Society of America, Minneapolis, MN.

Herrmann, J. D., L. A. Brudvig, T. A. Carlo, E. I. Damschen, C. Forster, N. M. Haddad, D. J. Levey, **J. L. Orrock**, and J. J. Tewksbury. Using stable isotopes to quantify seed dispersal among habitat corridors. Ecological Society of America, Minneapolis, MN.

Stuhler, J. D. and **J. L. Orrock**. Fire and land use interact to affect patterns of granivory. American Society of Mammalogists, Philadelphia, PA.

Resasco, J., N. M. Haddad, **J. L. Orrock**, D. D. Shoemaker, L. A. Brudvig, E. I. Damschen, J. J. Tewksbury, and D. J. Levey. Landscape corridors can increase invasion by an exotic species and reduce diversity of native species. Ecological Society of America, Minneapolis, MN.

2012 **Orrock, J. L.** and Nutrient Network. Large-scale studies reveal strong relationships between climatic conditions and seed predation across central North America. Ecological Society of America, Portland, OR.

Orrock, J. L. and L. H. Yang. Stable isotope analysis of terrestrial food webs on four Channel Islands. California Channel Islands Symposium, Ventura, CA.

Damschen, E. I., D. V. Baker, G. Bohrer, J. R. Turner, L. A. Brudvig, N. M. Haddad, D. J. Levey, R. Nathan, **J. L. Orrock**, and J. J. Tewksbury. Predicting and understanding wind-driven seed dispersal in fragmented landscapes with corridors. Ecological Society of America, Portland, OR.

Guzmán Colón, D. K., N. T. Reif, W. B. Mattingly, and **J. L. Orrock**. Historic land use affects ground-dwelling ant community structure in longleaf pine savannas. Ecological Society of America, Portland, OR.

Habeck, C., L. A. Brudvig, and **J. L. Orrock**. Scale-dependent legacies of agricultural land-use on soils and understory plant communities in longleaf pine woodlands. Ecological Society of America, Portland, OR.

Hahn, P. G. and **J. L. Orrock**. Agricultural land use history and fire suppression strengthen herbivore impacts. Ecological Society of America, Portland, OR.

Merten, J. and **J. L. Orrock**. Effects of varying seed size on prairie seed removal. University of Wisconsin-Madison Undergraduate Research Symposium, Madison, WI.

Capener, B. and **J. L. Orrock**. The effect of germination timing and competition on the success of *Brassica nigra* seedlings. University of Wisconsin-Madison Undergraduate Research Symposium, Madison, WI.

Preisser, E. P. and **J. L. Orrock**. The allometrics of fear: Interspecific relationships between body size and response to predation. Ecological Society of America, Portland, OR.

2011 **Orrock, J. L.**, E. L. Preisser, J. H. Grabowski, and G. C. Trussell. The hidden cost of safety: Prey refugia increase the negative effect of predation risk in aquatic systems. Ecological Society of America, Austin, TX.

Habeck, C. W., J. Ledvina, L. A. Brudvig, and **J. L. Orrock**. Controls over understory species richness within degraded remnants of longleaf pine woodland. Ecological Society of America, Austin, TX.

Hickman, C. R., **J. L. Orrock**, and J. I. Watling. 2011. The effects of an invasive shrub on responses to heterospecifics in amphibians. Animal Behavior Society, Bloomington, IN.

Brudvig, L. A., W. B. Mattingly, **J. L. Orrock**, E. I. Damschen, J. W. Veldman, and J. L. Walker. Land use history alters soil compaction and affects the plant community: implications for diversity in longleaf pine ecosystems. Strategic Environmental Research and Development Program, Washington DC.

Hahn, P. G. and **J. L. Orrock**. Anthropogenic legacies mediate contemporary plant-herbivore interactions. Ecological Society of America, Austin, TX.

Gorsline, S., P. Hahn, and **J. L. Orrock**. Agricultural land use history alters grasshopper diversity and abundance in longleaf pine savannas. University of Wisconsin-Madison Undergraduate Research Symposium, Madison, WI.

Thompson, N. and **J. L. Orrock**. Bottom-up effects of nitrogen on biomass in a longleaf pine savanna of South Carolina. University of Wisconsin-Madison Undergraduate Research Symposium, Madison, WI.

2010 Melnechuk, M. E., C. C. Christopher, L. A. Brudvig, C. D. Collins, E. I. Damschen, W. B. Mattingly, **J. L. Orrock**, and J. L. Walker. Changes in reference sites over time and implications for restoration. Ecological Society of America, Pittsburgh, PA.

Mattingly, W. B., C. D. Collins, L. A. Brudvig, C. C. Christopher, E. I. Damschen, **J. L. Orrock**, and J. L. Walker. Geographic variation in patterns of alpha and beta diversity along a degradation gradient in longleaf pine savannas. Ecological Society of America, Pittsburgh, PA.

Brudvig, L. A., **J. L. Orrock**, E. I. Damschen, J. Walker, W. B. Mattingly, C. Collins, and M. Melnechuk. A classification framework for assessing degradation and recovery potential of understory plant communities in longleaf pine forests on DOD/DOE lands. Strategic Environmental Research and Development Program annual, Washington DC.

Boyea, N., P. Hahn, and **J. L. Orrock**. Plant diversity, not community palatability, alters herbivore foraging patterns and reduces consumption rates. University of Wisconsin-Madison Undergraduate Research Symposium, Madison, WI.

- 2009 **Orrock, J. L.**, and M. W. Witter. Multiple drivers of apparent competition reduce re-establishment of a native plant in invaded habitats. Ecological Society of America, Albuquerque, NM.
- Hickman, C. R., **J. L. Orrock**, and J. I. Watling. An invasive shrub causes changes survival and response to predators by a larval amphibian. Ecological Society of America, Albuquerque, NM
- Hinkelman, T. M., **J. L. Orrock**, and S. C. Loeb. Logs as protective cover for foraging rodents. Midwest Ecology and Evolution Conference, Lincoln, NE
- Resasco, J., N. M. Haddad, and **J. L. Orrock**. Distribution of fire ants and harvester ants in experimental landscapes. Southeastern Ecology and Evolution Conference, Gainesville, FL.
- Dutra, H. P., K. Barnett, R. Marquis, J. Reinhardt, and **J. L. Orrock**. Apparent competition with an invasive plant: Amur honeysuckle (*Lonicera maackii*) reduces native seedling establishment by providing refuge for native rodents. Ecological Society of America, Albuquerque, NM.
- Craig, M., L. Brudvig, and **J.L. Orrock, J. L.** Spatial and temporal variation of seed predation in the matrix of a corridor system. Undergraduate Research Symposium, Washington University, St. Louis, MO.
- 2008 **Orrock, J. L.** Anti-predator behavior and the reintroduction of a top predator. California Channel Islands Symposium, Ventura, CA.
- Orrock, John.** Local community size and the role of stochastic versus deterministic determination of competition in metacommunities. Ecological Society of America, Milwaukee, WI.
- Haddad, N. M., B. Hudgens, E. I. Damschen, D. J. Levey, **J. L. Orrock**, J. J. Tewksbury, A. Weldon. Putting in perspective the positive and negative effects of corridors. International Association of Landscape Ecologists, Madison, WI
- Fletcher, R. J., **J. L. Orrock**, and B. Robertson. Toward a unified framework for interpreting the consequences of ecological and evolutionary traps. International Association of Landscape Ecologists, Madison, WI.
- Nogeire, T. F. W. Davis, and **J. L. Orrock**. Carnivores in the farmland matrix: Use of avocado orchards depends on neighboring land use types. International Association of Landscape Ecologists, Madison, WI.
- Nogeire, T., F. W. Davis, and **J. L. Orrock**. Carnivores in the farmland matrix: Use of avocado orchards depends on neighboring land use types. Society for Conservation Biology, Chattanooga, TN.

Allan, B. F., H. P. Dutra, L. S. Goessling, K. Barnett, J. M. Chase, R. J. Marquis, G. A. Storch, R. E. Thach, **J. L. Orrock**. Invasive honeysuckle (*Lonicera maackii*) increases tick-borne disease risk. Ecological Society of America, Milwaukee, WI.

Mattos, K. J. and **J.L. Orrock, J. L.** Exploring indirect effects of biological invasions on native communities. Undergraduate Research Symposium, Washington University, St. Louis, MO.

Outreach:

Faculty participant in Bio 375 First Generation STEM seminar. I provided an overview of my experiences as a first-generation college student for 12-16 UW undergraduates, including my perspective on mentoring undergraduates, advice for first-generation undergraduates, and answering student questions, 2021, 2022.

Faculty presenter and discussion leader for BioHouse. I provided an overview of my career in science, major scientific questions in my discipline, and discussed contemporary topics in ecology with 40 UW-Madison undergraduates, 2020

Participant in UW First Generation Connect, which holds events to allow first-generation undergraduates to meet with first-generation faculty and graduate students, 2020.

My collaborators and I have partnered with the Ruth Patrick Science Education Center at the University of South Carolina-Aiken to develop curriculum about corridors and scientific field research that meets state education standards. This program has reached 4,271 students; 2011 – present.

My lab has actively participated in the Open House events at UW's Trout Lake Station; these events provide a chance for members of the public to interact with researchers and learn about the latest research at Trout Lake. We have presented on a variety of topics, including mammals of the Northwoods, seed and seedling survival, methods in mammalian research; 2014 – 2017.

My lab participates in Science Day at the UW-Arboretum, providing presentations to members of the public to highlight research at the Arboretum; 2016, 2017, 2020, 2021.

Contributed a blog for the IGERT Novel Ecosystems webpage: "Trying to see the invisible: what are the consequences of behavioral changes along gradients of novelty?" <http://novelecosystems.com>; 2016

My lab has participated in Volunteer at Discovery Expo, Wisconsin Science Festival, Wisconsin Institute for Discovery, Madison, WI; 2016

Interactive presentation to 30 pre-K students at UW-Madison School of Human Ecology's Preschool Lab to introduce them to the mammals of Wisconsin; 2015

Invited presentation entitled "Perspectives on a career in ecology" given to approximately 40 undergraduates at the UW-Madison Undergraduate Zoological Society; 2015

ALBERTI program (with Dr. Gay Lorberbaum, Washington University); scientific outreach to inner-city St. Louis youth; 2009

Judge for Elementary Science Fair; St. Louis City Schools; 2009

Kids Do Ecology Program at NCEAS; 2007
Eco-Workshops at Sedgwick Reserve; 2006, 2008
NCEAS “Ask an Ecologist” Program respondent; 2005-2006
“The Education Diversity Project: Feeding the Science Education Pipeline” sponsored by the Summer Outreach Camp, Santa Ynez Tribe of Chumash Indians; 2005

Media Coverage

General media coverage (e.g., interviews regarding general topics or research projects)

Interviewed for “Will your car hit that deer? Depends on your headlight bulbs—and the deer’s personality” in Science, May 30, 2025.
<https://www.science.org/content/article/will-your-car-hit-deer-depends-your-headlight-bulbs-and-deer-s-personality>

Invited participant on Michael Feldman’s “Whad’ya Know” Podcast, December 2, 2017

Interviewed for NPR show “The Pulse”, discussing plant communication and the evolutionary and ecological roles of communication in general. Show aired on December 2, 2017

Interviewed for “Prairie Dogs are Serial Killers That Murder Their Competition”, published in National Geographic online (2016).
<https://news.nationalgeographic.com/2016/03/160322-prairie-dogs-squirrels-murders-animals-killers/>

Interviewed for “Cute and Cuddly Herbivores Can Be Bloodthirsty Savages”, published in Discover Magazine online (2016). <http://blogs.discovermagazine.com/d-brief/2016/03/30/herbivores-killing-aggression-competition/>

Nutrient Network research featured in: “Open-source Ecology Takes Root Across the World”, *Science* 334:308-309.

Large-scale restoration research featured in Yale’s Environment 360: “Military bases provide unlikely refuge for South’s longleaf pine”, Nov. 2011.
http://e360.yale.edu/features/military_bases_provide_unlikely_refuge_for_longleaf_pine_in_us_south

Interviewed for “**Imagine Earth Without People**” in New Scientist magazine (2010).

Coverage of individual Orrock Lab research publications:

Orrock et al., *Oecologia* (2018). Research demonstrating that **plants induced defenses in**

response to snail mucus that led to reduced growth of caterpillars.

Scientific American: <https://www.scientificamerican.com/article/plants-eavesdrop-on-slimy-snails/>

Orrock et al., Nature Ecology and Evolution (2017). Research showing that **plant induced defenses cause accelerated cannibalism among herbivores** featured by 64 news outlets. This paper is in the top 0.1% of the papers tracked by Altmetric.

Discover: <http://blogs.discovermagazine.com/d-brief/2017/07/10/cannibal-caterpillars-tomato-plants>

National Geographic: <https://news.nationalgeographic.com/2017/07/caterpillar-cannibalism-plant-defense-spdl/>

Nature: <http://www.nature.com/news/plants-turn-caterpillars-into-cannibals-1.22281>

Newsweek: <http://www.newsweek.com/tomatoes-can-turn-plant-eaters-cannibals-study-shows-634380>

New York Times: <https://mobile.nytimes.com/2017/07/11/science/tomato-plants-caterpillars-cannibalism.html>

Scientific American: <https://www.scientificamerican.com/article/plants-turn-caterpillars-into-cannibals/>

Also featured on several radio programs: Canadian Public Radio (CBC), BBC radio, WORT-FM Madison

Haddad et al., Science Advances (2015). Research demonstrating the **pervasive effects of habitat fragmentation** featured in over 26 news outlets.

Christian Science Monitor:

<https://www.csmonitor.com/Environment/2015/0323/There-are-basically-two-big-forests-left-say-scientists>

Scientific American: <https://www.scientificamerican.com/article/world-s-forests-have-fragmented-into-tiny-patches/>

The New Yorker: <https://www.newyorker.com/tech/elements/roads-habitat-fragmentation>

Hahn and Orrock, Journal of Animal Ecology (2015). Research on how **land-use legacies affect ecological communities** featured on WORT-FM Madison radio and UW-Madison homepage.

Damschen et al., PNAS (2008). **Conservation corridors and plant dispersal** featured in multiple media outlets, including

Nature News and Views:

<http://www.nature.com/nature/journal/v506/n7489/full/506440a.html>

Orrock, PLOS ONE (2013). Experiment demonstrating that **herbivore cues alone can generate significant changes in plant defense** featured on UW-Madison homepage as well as in UW student newspaper (The Daily Cardinal). Also covered by several print media outlets:

Discover: <http://discovermagazine.com/2014/april/8-snail-fail>

National Geographic: <https://voices.nationalgeographic.org/2013/08/14/plants-hear-herbivores-coming-and-prepare/>

Orrock et al., American Naturalist (2011). Research **linking predators, precipitation, and disease** was featured on National Public Radio (KCLU-FM, Santa Barbara, CA). Also covered by several print media outlets:

Nature (Research Highlight): <https://www.nature.com/articles/472392a>

Described in New York Times Op-Ed piece:

<https://www.nytimes.com/2016/08/21/opinion/sunday/a-natural-cure-for-lyme-disease.html>

Allan et al., PNAS (2010). Research demonstrating how invasive plants may alter human disease risk featured on WORT-FM Madison radio. Also featured in several print outlets, such as Science Daily, Discover Magazine's blog, Albany Times Union, ST. Louis Beacon, Fox News online

Orrock and Watling, Proc. Roy. Soc. (2010). **Theoretical community ecology research on stochastic and deterministic metacommunities** featured on "EBB and Flow" Ecology and Evolution blog

Damschen et al., Science (2006). **Conservation corridor research** featured in New York Times, Santa Barbara News-Press, National Public Radio, Science Daily, National Geographic.

Society Memberships:

American Society of Mammalogists (1997 — Present; lifetime member since 2008)

Ecological Society of America (1997 — Present; lifetime member since 2009)