

# Chelsea N. Miller

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## EDUCATION

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2020 – 2014	<b>PhD, Ecology and Evolutionary Biology</b> Kwit Lab Department of Ecology and Evolutionary Biology University of Tennessee, Knoxville
2020 – 2017	<b>MS, Statistics</b> Intercollegiate Graduate Statistics Program University of Tennessee, Knoxville
2013 – 2009	<b>BS, Biology</b> Biology Department University of Central Arkansas

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## PUBLICATIONS

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(\* = in prep, review, or revision; § = undergraduate coauthor)

- \* C. Kwit, M. Patton, **C. N. Miller**, and C. Lash. *In Review*. Advancing the profile of quality of seed treatment by frugivores and seed dispersers in seed dispersal effectiveness.
- 6. Gandhi, K. J. K., **Miller, C. N.**, Fornwalt, P. J., and Frank, J. M. 2021. Bark beetle outbreaks alter biotic components of forested landscapes. In: Gandhi, K. J. K., and Hofstetter, R. 2021. *Bark Beetle Management, Ecology, and Climate Change*. Elsevier, Inc. Pp. 227-259.
- 5. **Miller, C. N.**, M. Papeş, E. Schilling, and C. Kwit. 2021. Reproductive traits explain occupancy of predicted distributions in a genus of eastern North American understory herbs. *Diversity and Distributions* 2021;00: 1–18. <https://doi.org/10.1111/ddi.13297>.
- 4. **Miller, C. N.**, S. R. Whitehead, and C. Kwit. 2020. Effects of seed morphology and elaiosome chemical composition on attractiveness of five *Trillium* species to seed-dispersing ants. *Ecology and Evolution* 2020;00: 1–14. DOI:10.1002/ece3.6101.
- 3. **Miller, C. N.**, H. Brabazon<sup>§</sup>, I. M. Ware, N. H. Kingsley<sup>§</sup>, and J. M. Budke. 2019. Bringing an Historic Collection into the Modern Era: Curating the J. K. Underwood Seed Collection at the University of Tennessee Herbarium (TENN). *Collection Forum* 32(1-2): 14-30.

2. **Miller, C. N.**, and C. Kwit. 2018. Overall seed dispersal effectiveness is lower in endemic *Trillium* species than in their widespread congeners. *American Journal of Botany* 105(11): 1-11.
1. Valenta, K., **C. N. Miller**, S. K. Monckton, S. A. Styler, D. J. Jackson, A. D. Melin, C. A. Chapman, and M. J. Lawes. 2016. Fruit ripening signals and cues in a Madagascan dry forest: haptic indicators reliably indicate fruit ripeness to dichromatic lemurs. *Evolutionary Biology*, 1-12.

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## PRESENTATIONS

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(\* = upcoming presentations; § = undergraduate coauthor)

7. **Miller, C. N.**, S. Spinner, B. Barnes, E. McCarty, J. T. Vogt, and K. Gandhi. 2021. Subcortical beetles in wind-disturbed pine stands. North American Forest Insect Work Conference. University of Minnesota. [Virtual] conference. Poster presentation.
6. **Miller, C. N.**, S. Spinner, B. Barnes, E. McCarty, J. T. Vogt, and K. Gandhi. 2021. Subcortical beetles in wind-disturbed pine stands. Forest Pest Management Lecture Series, PPTH 470. West Virginia University, Davis College of Agriculture, Natural Resources, and Design. Morgantown, WV. [Virtual] invited seminar. Oral presentation.
5. **Miller, C. N.**, S. Spinner, B. Barnes, E. McCarty, J. T. Vogt, and K. Gandhi. 2021. Subcortical beetles in wind-disturbed pine stands. National Wind Disturbance Conference. University of Georgia, Athens, GA. [Virtual] invited conference. Oral presentation.
4. **Miller, C. N.**, S. R. Whitehead, and C. Kwit. 2020. Effects of seed morphology and elaiosome chemical composition on attractiveness of five *Trillium* species to seed-dispersing ants. Invited seminar. 105<sup>th</sup> Annual Meeting of the Ecological Society of America. Salt Lake City, UT. Oral presentation.
4. **Miller, C. N.**, S. R. Whitehead, and C. Kwit. 2019. Composition of elaiosome phytochemical profiles and fatty acid concentrations drive seed disperser preference in myrmecochorous species of *Trillium*. 104<sup>th</sup> Annual Meeting of the Ecological Society of America. Louisville, KY. Poster presentation.
5. **Miller, C. N.**, S. R. Whitehead, and C. Kwit. 2019. Elaiosome chemical attributes may explain disperser preference for the seeds of widespread *Trillium* species compared to their co-occurring endemic congeners. 5<sup>th</sup> Annual Women in STEM Symposium. Knoxville, TN. Poster presentation.
3. **Miller, C. N.**, and C. Kwit. 2018. Comparisons of seed dispersal effectiveness between sympatric endemic and widespread *Trillium* congeners in the southeastern US. 103<sup>rd</sup> Annual Meeting of the Ecological Society of America. New Orleans, LA. Oral presentation.

2. **Miller, C. N.**, and C. Kwit. 2017. Ant-seed dispersal and rarity in southeastern US trilliums. 78<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists Conference. Montgomery, AL. Oral presentation.
1. **Miller, C. N.**, and C. Kwit. 2015. Plant advantages in myrmecochory: redirecting directed dispersal. Natural Areas Association Conference. Little Rock, AR. Oral presentation.

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## AWARDS, SCHOLARSHIPS AND FELLOWSHIPS

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2021—2023	National Science Foundation Postdoctoral Research Fellowship in Biology (\$138,000)
2020	Outstanding Dissertation Award, Dept. EEB, UTK
2019 – 2020	Oscar Roy Ashley Fellowship, UTK (\$4,000)
2019	Ecological Society of America Student Section Travel Grant
2019	Graduate Student Council Travel Award, UTK
2019	Plant Research Center Travel Award, UTK
2019	Graduate Researchers in Evolutionary Biology and Ecology Travel Award, UTK
2018	Graduate Student Council Travel Award, UTK
2017 – 2018	TENN Herbarium Graduate Research Assistantship, UTK (\$10,320)
2017	Association of Southeastern Biologists Graduate Student Award
2017	Plant Research Center Travel Award, UTK
2017	Graduate Researchers in Evolutionary Biology and Ecology Travel Award, UTK
2015	Graduate Student Council Travel Award, UTK
2014 – 2020	Graduate Teaching Assistantship, UTK (\$117,500)
2012	Travel Abroad Grant, UCA (\$2,500)
2011	Travel Abroad Grant, UCA (\$3,000)
2009 – 2013	Norbert O. Schedler Honors College Scholarship, UCA (\$65,000)

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## GRANTS AND FUNDING (total: \$145,922.75)

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6. **Miller, C. N.** Living collections as common gardens: integrating phenology and species interactions into future predictions of spring ephemeral distributions. National Science Foundation Postdoctoral Research Fellowship in Biology (\$138,000).

5. **Miller, C. N.** Modified species distribution modeling to detect dispersal limitation in endemic *Trillium*. L.R. Hesler Herbarium Student Research Award (**\$1,822.75**).
4. **Miller, C. N.** Investigating rarity in southeastern myrmecochores using distribution modelling and a study of seed dispersal ecology. UTK EEB Departmental Funds (**\$350**).
3. **Miller, C. N.,** H. Korotkin, C. Lash, A. Bruce., C. Kwit, and B. Ownley. Does the presence of entomopathogenic fungi on myrmecochorous seeds affect seed-handling and dispersal behaviors in *Aphaenogaster* ants? Botanical Society of America Graduate Student Research Award (**\$500**).
2. **Miller, C. N.** Investigating rarity in southeastern trilliums: combining comparative *in situ* and *ex situ* approaches. UTK EEB Departmental Funds (**\$750**).
1. **Miller, C. N.** Seed biology and dispersal of rare, state-endangered southeastern trilliums: combining comparative *in situ* and *ex situ* approaches. Catherine H. Beattie Fellowship. Garden Club of America (**\$4,500**).

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## **TEACHING**

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### **Instructor or Co-instructor**

Spring 2020	University of Tennessee, Knoxville. BIOL 269: Ecology Field-Based Laboratory. <b>Head Instructor.</b>
Fall 2019	University of Tennessee, Knoxville. BIOL 269: Ecology Field-Based Laboratory. <b>Head Instructor.</b>
Summer 2019	University of Tennessee, Knoxville. BIOL 269: Ecology Field-Based Laboratory. <b>Head Instructor.</b>
Spring 2019	University of Tennessee, Knoxville. BIOL 269: Ecology Field-Based Laboratory. <b>Co-instructor.</b>
Fall 2017	University of Tennessee, Knoxville. BIOL 115: Introduction to Plant Diversity. <b>Co-instructor.</b>

### **Graduate Teaching Assistant**

Fall 2018	University of Tennessee, Knoxville. BIOL 260: Ecology Lecture.
Summer 2018	University of Tennessee, Knoxville. BIOL 101: Introduction to Biology I.
Spring 2017	University of Tennessee, Knoxville. EEB 426: Plant-Animal Interactions.
Fall 2016	University of Tennessee, Knoxville. BIOL 101: Introduction to Biology I.
Spring 2016	University of Tennessee, Knoxville. BIOL 102: Introduction to Biology II.
Fall 2015	University of Tennessee, Knoxville. BIOL 150: Organismal and Ecological Biology.
Spring 2015	University of Tennessee, Knoxville. BIOL 150: Organismal and Ecological

Fall 2014 Biology.  
University of Tennessee, Knoxville. BIOL 101: Introduction to Biology I.

### **Guest Lectures**

Spring 2021 West Virginia University, Davis College of Agriculture, Natural Resources, and Design, Morgantown, WV. Forest Pest Management Lecture Series, PPTH 470. *Subcortical beetles in wind-disturbed pine stands.*

Spring 2020 University of Tennessee, Knoxville. EEB 443: Plant Ecology. *Guest author to lead paper discussion.*

Spring 2020 University of Tennessee, Knoxville. FWF 422R/522: Rare Species Biology, Conservation, and Management. *An Introduction to Species Distribution Modeling (SDM)*

Fall 2018 University of Tennessee, Knoxville. BIOL 260: Ecology Lecture. *Introduction to Mutualism.*

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## **PROFESSIONAL AND RESEARCH EXPERIENCE**

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Dec. 2013 –  
June 2014 **Assistant Natural Resources Manager**  
Camp Robinson Military Base, North Little Rock, AR  
Responsible for the field and laboratory components of management/research projects being conducted by the Natural Resources Department. Performed aquatic macroinvertebrate sampling, rapid bioassessment of streams, small mammal trapping, herpetological sampling, invasive vegetation management, and game species monitoring. Participated in seasonal wild land management burns and in pest management duties.

May –  
Aug. 2013 **Biological Technician**  
Virginia Department of Game and Inland Fisheries, Wachapreague, VA  
Monitored populations of water and wading birds using nest, egg, chick, and incubating adult counting techniques and band resighting. Mastered use of binoculars and sighting scope in the field, bird identification skills, GPS use, and hand-capture of immature birds for banding.

May –  
Aug. 2012 **Biological Technician**  
Masoala National Park, Madagascar  
Assisted in a field study of the population dynamics of endemic carnivores in the rainforests of Northeastern Madagascar. Collaborated with Malagasy WCS workers and civilians. Fieldwork included setting up camera trap transects and performance of standard habitat transects. Performed lemur transects and small mammal trapping.

Jan. 2009 – May 2012	<p><b>Biological Technician</b>  University of Central Arkansas, Conway, AR  Aquatic Ecology Lab.  Sally Entrekin, PhD  Participated in studies of macroinvertebrates in the sediment of Gulf streams with emphasis on effects of natural gas fracking. Recorded aquatic habitat transects, collected aquatic samples. Studied leaf decomposition in wetland habitats, involving planting leaf bags, using HOBO loggers, and sampling for nutrients. Collaborated on a project studying the movement patterns of Cyprinidae in intermittent streams of the Sylamore River. Collected, tagged, and recorded mass, length, and sex of fish. Assisted in a follow-up study to the 2009 Arkansas Game and Fish snakehead eradication in Brinkley, AR. Required identification of common freshwater fishes and the use of an electroshocker.</p>
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## ADDITIONAL TRAINING

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Aug. 5, 2018	ESA2018 ComSciCon Workshop
Jan. 25, 2018	Generalized Joint Attribute Modeling (GJAM). Dr. James Clark.
June 19 – 23, 2017	Joint MBI-NIMBioS-CAMBAM Summer Graduate Program, “Connecting Models with Biological Data.” <i>Competitive entry program.</i>
May 18, 2017	TAG (TN-AL-GA) Plant Conservation Alliance Meeting
March 31, 2016	GEOLocate Software Tutorial (Tulane University). SERNEC at Association of Southeastern Biologists meeting.

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## PROFESSIONAL SERVICE AND MEMBERSHIP

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Present – 2017	<p><b>Member</b>  Ecological Society of America, Southeastern Chapter  Association of Southeastern Biologists  Botanical Society of America</p>
2018 – 2017	
Present – 2017	<p><b>Ad-Hoc Peer Reviewer</b>  <i>Journals:</i> Ecology and Evolution; Biotropica; Perspectives in Plant Ecology, Evolution, and Systematics; Ecosphere; Botany</p>
2017—2018	<p><b>President of Graduate Researchers in Evolutionary Biology and Ecology.</b>  Dept. of EEB at UTK. <i>Elected representative.</i></p>

2015—2019	<b>Member of Engaging Knoxville in Ecology and Evolutionary Biology</b> Dept. of EEB at UTK
2016—2017	<b>Committee Member</b> Dept. of EEB at UTK Graduate Affairs Committee. <i>Elected representative.</i>
2015—2016	<b>Committee Member</b> Dept. of EEB at UTK Undergraduate Affairs Committee. <i>Elected representative.</i>
2014—2015	<b>Committee Member</b> Dept. of EEB at UTK Seminar Committee. <i>Elected representative.</i>

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## VOLUNTEER AND OUTREACH SERVICE

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2019	<b>Instructor.</b> Kids U. Vertebrate Zoology. Hands-on vertebrate zoology. 4 <sup>th</sup> – 8 <sup>th</sup> graders. University of Tennessee, Knoxville.
2018	<b>Instructor.</b> Kids U. Snakes Alive! Hands-on herpetology. 4 <sup>th</sup> – 8 <sup>th</sup> graders. University of Tennessee, Knoxville.
2019	<b>Poster Judge.</b> Southern Appalachian Science and Engineering Fair Judge, UTIA, Knoxville, TN.
2018	<b>Poster Judge.</b> Pittman Center Elementary Science Fair, Pittman Center, TN.

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## REFERENCES

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1. Kamal Gandhi, Ph.D.  
UGA Professor, Postdoctoral Adviser  
[kjgandhi@uga.edu](mailto:kjgandhi@uga.edu)  
(706) 247-4025
2. J. T. Vogt, Ph.D.  
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Southern Research Station  
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3. Charles Kwit, Ph.D.

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