

Emily E. Puckett

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EDUCATION

- 2015 PhD University of Missouri, Columbia, MO; Biological Sciences (Advisor: LS Eggert) Certificate: Science and Public Policy, 2013
- 2008 MS State University of New York- College of Environmental Science and Forestry, Syracuse, NY; Environmental and Forest Biology (Advisor: LB Smart)
- 2004 BS North Carolina State University, Raleigh, NC; Botany (*summa cum laude*)

DISSERTATION & THESIS

Phylogeography and Population Genomics of the American Black Bear (*Ursus americanus*). PhD Dissertation, University of Missouri, 2015, p 190.

Molecular Basis for Differential Uptake and Sensitivity to Arsenic among Clones of Shrub Willow (*Salix* spp.). MS Thesis, SUNY-ESF, 2008, p 168.

RESEARCH EXPERIENCE

- 2017-present Postdoctoral Associate: Michigan State University, East Lansing, MI (PI: G Bradburd)
- 2015-2017 Postdoctoral Associate: Fordham University, Bronx, NY (PI: J Munshi-South)
- 2010-2015 Graduate Assistant: University of Missouri, Columbia, MO (Advisor: LS Eggert)
- 2008-2010 Research Associate III: Edenspace Systems Corporation, Chantilly, VA
- 2006-2008 Research Project Assistant: SUNY- College of Environmental Science and Forestry, Syracuse, NY (Advisor: LB Smart)
- 2005-2006 Research Assistant: University of North Carolina, Chapel Hill, NC (PI: CE Mitchell)

PUBLICATIONS

Puckett, EE and J Munshi-South. (*In Review*) Brown rat demography reveals pre-commensal structure in eastern Asia prior to expansion into Southeast Asia during the Song dynasty. [biorXiv](#).

Kristensen, TV, **EE Puckett**, EL Landguth, JL Belant, JT Hast, C Carpenter, JL Sajecki, J Beringer, M Means, JT Cox, LS Eggert, D White Jr, KG Smith. (*In Press*) Genetic structuring in American black bears (*Ursus americanus*) can be explained by more than female philopatry: interactions of density, genetic diversity, and sex-biased dispersal. *Heredity*.

- Combs, M, **EE Puckett**, JR Richardson, D Mims, and J Munshi-South. (In Press) Spatial population genomics of the brown rat (*Rattus norvegicus*) in New York City. *Molecular Ecology*.
- Media Coverage: NPR, The Atlantic, Popular Science
- Puckett, EE**, O Micci-Smith, and J Munshi-South. (In Press). Genomic analyses identify multiple Asian origins and deeply diverged mitochondrial clades in inbred brown rats (*Rattus norvegicus*). *Evolutionary Applications*.
- Puckett, EE**. 2017. Variability in total project and per sample genotyping costs under varying study designs including with microsatellites or SNPs to answer conservation genetic questions. *Conservation Genetics Resources* 9 (2): 289-304.
- Puckett, EE**, J Park, M Combs, MJ Blum, JE Bryant, A Caccone, F Costa, EE Deinum, A Esther, CG Himsworth, PD Keightley, A Ko, A Lundkvist, LM McElhinney, S Morand, J Robins, J Russell, TM Strand, O Suarez, L Yon, and J Munshi-South. 2016. Global population divergence and admixture of the brown rat (*Rattus norvegicus*). *Proceedings of the Royal Society B* 283: 20161762.
- Media Coverage: New York Times, Popular Science, and Business Insider
- Puckett, EE**, DC Kesler, and DN Greenwald. 2016. Taxonomic class, petitioning agency, and lawsuits affect time spent awaiting listing under the Endangered Species Act. *Biological Conservation* 201: 220-229.
- Media Coverage: Huffington Post
- Wilton, CM, J Beringer, **EE Puckett**, LS Eggert, and JL Belant. 2016. Spatio-temporal capture-recapture biases in black bear detection probability. *Journal of Mammalogy* 97: 266-273.
- Puckett, EE** and LS Eggert. 2016. Comparison of SNP and microsatellite genotyping panels for spatial assignment of individuals to natal range: A case study using the American black bear (*Ursus americanus*). *Biological Conservation* 193: 86-93.
- Puckett, EE**, PD Etter, EA Johnson, and LS Eggert. 2015. Phylogeographic analyses of American black bears (*Ursus americanus*) suggest four glacial refugia and complex patterns of post-glacial admixture. *Molecular Biology and Evolution* 32: 2338-2350.
- Wilton, CM, **EE Puckett**, J Beringer, B Gardner, LS Eggert, and JL Belant. 2014. Trap array configuration influences estimates and precision of black bear density and abundance. *PLoS One* 9(10): e111257.
- Puckett, EE**, TV Kristensen, CM Wilton, SB Lyda, KV Noyce, PM Holahan, DM Leslie, Jr, J Beringer, JL Belant, D White, Jr, and LS Eggert. 2014. Influence of drift and admixture on population structure of American black bears (*Ursus americanus*) in the Central Interior Highlands, USA 50 years after translocation. *Molecular Ecology* 23: 2414-2427.
- Puckett, EE**, MJ Serapiglia, AM DeLeon, S Long, R Minocha, and LB Smart. 2012. Differential expression of genes encoding phosphate transporters contributes to arsenic tolerance and accumulation in shrub willow (*Salix* spp.). *Environmental and Experimental Botany* 75: 248-257.
- Hudson, CM, **EE Puckett**, M Bekaert, JC Pires, and GC Conant. 2011. Selection for higher gene copy number after different types of plant gene duplication. *Genome Biology and Evolution* 3: 1369-1380.

Mitchell, CE, D Blumenthal, V Jarosik, **EE Puckett**, P Pysek. 2010. Controls on pathogen species richness in plants' introduced and native ranges: roles of residence time, range size and host traits. *Ecology Letters* 13 (12): 1525-1535.

MANUSCRIPTS

Puckett, EE, E Magnussen, L Khylap, T Strand, and J Munshi-South. (*In Prep*) Genomic analyses reveal two independent introductions of the invasive brown rat (*Rattus norvegicus*) to the Faroe Islands.

Puckett, EE, E Sherratt, W Harcourt-Smith, and J Munshi-South. (*In Prep*) Temporal variation in brown rat cranium and mandible shape due to morphological drift instead of adaptation to a dense urban matrix.

GRANTS

2018 New Mexico Department of Game and Fish and US Fish and Wildlife Service
Range-wide assessment of genomic diversity, demography, and subspecies
status for the least (*Tamias minimus*) and Colorado (*T. quadrivittatus*) chipmunks-
\$52,664

RESEARCH TALKS

Invited

Evolution Meeting, Evolution in Urban Environments Symposium: Portland, OR	2017
Yale University, DNA Analysis Facility: New Haven, CT	2017
Fordham University, Biology Department: Bronx, NY	2016
Missouri Chapter of The Wildlife Society: Bois D'Arc Conservation Area, MO	2013
Missouri Department of Conservation: Columbia, MO	2013

Contributed

Evolution Meeting: Austin, TX	2016
24 th International Conference on Bear Research & Management: Anchorage, AK	2016
SMBE-GAP Genetics of Admixed Populations: San Antonio, TX	2016
NY Area Population Genomics Workshop: Princeton, NJ	2016
University of Missouri, Life Sciences Fellows: Columbia, MO	2014
Evolution Meeting: Snowbird, UT	2013
University of Missouri, EcoLunch: Columbia, MO	2013

POSTER PRESENTATIONS

Bronx Science Consortium: Bronx, NY	2016
Ecological and Evolutionary Genomics, Gordon Research Conference: Biddeford, ME	2015
12 th Western Black Bear Workshop: Canamore, AB	2015
21 st Eastern Black Bear Workshop: Louisville, MS	2015
12 th Ecological Genomics Symposium: Kansas City, MO	2014
Life Sciences Week, University of Missouri: Columbia, MO (3 rd place- Best EEB Poster)	2014
11 th Ecological Genomics Symposium: Kansas City, MO	2013

Life Sciences Week, University of Missouri: Columbia, MO	2013
10 th Ecological Genomics Symposium: Kansas City, MO	2012
Evolution Meeting: Ottawa, ON	2012
11 th Western Black Bear Workshop: Coeur d'Alene, ID	2012
Life Sciences Week, University of Missouri: Columbia, MO	2012
Ecological and Evolutionary Genomics, Gordon Research Conferences: Biddeford, ME	2011
20 th Eastern Black Bear Workshop: Hendersonville, NC	2011
Northeast Section, American Society of Plant Biologists: Storrs, CT	2008
Symposium in Plant Biology, University of Massachusetts: Amherst, MA	2007
Ecological Society of America: San Jose, CA	2007

TEACHING EXPERIENCE

2017	Guest Lecture: RADseq, American Museum of Natural History
2017	Guest Lecture: Molecular Phylogenetics, BISC 3244: Evolution, Fordham U
2017	Guest Lecture: Natural Selection, BISC 3244: Evolution, Fordham U
2016	Guest Lecture: Genomic Evolution, BISC 7501: Population Biology, Fordham U
2015	Guest Lecture: Evolution of Sex, BISC 3244: Evolution, Fordham U
2014-2015	Teaching Assistant, BIO 2200: General Genetics, U Missouri
2013	Guest Lecture: Phylogeography, BIO 4983: Molecular Ecology, U Missouri
2008 (Spring)	Teaching Assistant, EFB 531: Plant Physiology Laboratory, SUNY-ESF
2003 (Fall)	Teaching Assistant, BCH 451: Principles of Biochemistry, NC State University

MENTORING (*- denotes co-author)

2017- <i>present</i>	Sarah Frocillo Prevalence of isolation-by-distance across life history strategies
2016-2017	Olivia Micci-Smith* Geographic origin of inbred brown rats using genomic data Presented poster at Evolution 2017
Summer 2016	Destiny Mims* Sex-biased dispersal of brown rats in New York City Presented poster at Evolution 2017
2011-2013	Michelle Anderson Geographic variation in <i>CLOCK</i> and <i>FTO</i> in American black bears Presented poster at the University of Missouri- Life Sciences Week 2013
2011-2012	Jessica (Philbrick) Wayhart Mitochondrial phylogeography of American black bears Presented poster at the University of Missouri- Life Sciences Week 2012
2007-2008	Alyssa DeLeon* Molecular analysis of genes related to arsenic uptake and detoxification in sensitive and tolerant varieties of shrub willow (<i>Salix</i> spp.) Presented poster at American Society of Plant Biologists 2009

OUTREACH

- 2013-present Founder and blogger at WildlifeSNPits (<http://wildlifesnpits.wordpress.com>)
As of October 2017: 49 posts as EEPuckett & 117 posts as WildlifeSNPits
- 2002-2004 Volunteer, Young Scientists Program: Weekly science tutoring with a fourth grade student in Raleigh, NC

PATENTS

Gampala, S, D Lee, **EE Puckett**, R Nair, and F Chumley. Poplar genomic DNA sequences that regulate gene expression in plants and uses thereof. Patent Filing date: June 4, 2009.

SCHOLARSHIPS AND HONORS

- 2012 TransWorld Airlines Scholarship, University of Missouri
- 2010-2014 Life Science Fellow, University of Missouri
- 2008, 2006 Lowe-Wilcox Graduate Scholarship, Department of Environmental and Forest Biology, SUNY-ESF
- 2004 Outstanding Botany Senior Award, Department of Botany, NC State University
- 2004 University Scholars Program, NC State University
- 2004 Honors Program, College of Agriculture and Life Sciences, NC State University
- 2003 Larry A. Whitford Scholarship, Department of Botany, NC State University
- 2001 Promising Young Botanist Award, Department of Botany, NC State University

PROFESSIONAL SERVICE

Journal Reviewer: *Evolutionary Applications*, *Heredity*, *Molecular Ecology Resources*, *Journal of Biogeography*, *Biological Journal of the Linnean Society*, *Genome*, *Biological Conservation*, *Conservation Genetics*, *Animal Conservation*, *Journal of Mammalogy*, *Scientific Reports*, *Ursus*, *Biological Invasions*, *Environmental Science and Pollution Research*, Axios Reviews

- 2016-present Member, IUCN Bear Specialist Group
- 2014-2015 Member, Systems Biology Search Committee, Biological Sciences, U Missouri
- 2011-2014 Member, Biology Seminar Series Organizing Committee, Biological Sciences, U Missouri
- 2013 Graduate Student Representative, Divisional Council, Biological Sciences, U Missouri
- 2010-2015 Secretary (2011-2013) and Member, Biology Graduate Student Association, U Missouri
- 2008 Member, Graduate Advisory Council, Dept. of Environmental and Forest Biology, SUNY-ESF
- 2001-2004 President, Botany Club, NC State University

PROFESSIONAL AFFILIATIONS

Society for the Study of Evolution
International Association for Bear Research and Management
Phi Beta Kappa