

Amy Louise Russell

Grand Valley State University
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EDUCATION

- Ph.D. University of Tennessee, Knoxville. 2003.
Ecology and Evolutionary Biology. Advisor: Gary F. McCracken.
Dissertation: "Population genetics and effective population size of the Brazilian free-tailed bat, *Tadarida brasiliensis* (Chiroptera: Molossidae)".
- M.S. Bowling Green State University. 1997.
Biological Sciences. Advisor: Ron C. Woodruff.
Thesis: "The genetics and evolution of the *mariner* transposable element in natural populations of *Drosophila simulans*".
- B.S. Bowling Green State University. 1994. *Cum laude*.
Biology and Environmental Science.

POSITIONS HELD

- Assistant Professor – Grand Valley State University.
Department of Biology. 2008-present.
- Research Associate – Arizona Research Laboratories.
Division of Biotechnology. Supervisor: Michael F. Hammer. 2005-2008.
- Postdoctoral Fellow – Gaylord Donnelley Environmental Fellowship.
Yale University Institute for Biospheric Studies. Supervisor: Anne D. Yoder. 2003-2005.

PUBLICATIONS

- Russell, Amy L.**, Calvin M. Butchkoski, Leslie Saidak, and Gary F. McCracken, in press. Roadkilled bats, highway design, and the commuting ecology of bats. *Endangered Species Research*. Accepted 25 April 2008.
- O'Brien, John, Carol Mariani, Link Olson, **Amy L. Russell**, Ludovic Say, Anne Yoder, and Tom J. Hayden, 2009. Multiple colonisations of the Western Indian Ocean by *Pteropus* fruit bats (Megachiroptera: Pteropodidae): the furthest islands were colonised first. *Molecular Phylogenetics and Evolution* 51(2): 294-303.
- Russell, Amy L.**, Steven M. Goodman, Murray P. Cox, 2008. Coalescent analyses support multiple mainland-to-island dispersals in the evolution of Malagasy *Triaenops* bats (Chiroptera: Hipposideridae). *Journal of Biogeography* 35(6): 995-1003.
- Russell, Amy L.**, Steven M. Goodman, Isabella Fiorentino, and Anne D. Yoder, 2008. Population genetic analysis of *Myzopoda* (Chiroptera: Myzopodidae) in Madagascar. *Journal of Mammalogy* 89(1): 209-221.
- Russell, A. L.**, J. Ranivo, E. P. Palkovacs, S. M. Goodman, and A. D. Yoder, 2007. Working at the interface of phylogenetics and population genetics: a biogeographical analysis of *Triaenops* spp. (Chiroptera: Hipposideridae). *Molecular Ecology* 16(4): 839-851.

Goodman, Steven M., Scott G. Cardiff, Julie Ranivo, **Amy L. Russell**, and Anne D. Yoder, 2006. A new species of *Emballonura* (Chiroptera: Emballonuridae) from the dry regions of Madagascar. *American Museum Novitates* 0(3538): 1-24.

Russell, Amy and Gary F. McCracken, 2006. Population genetic structure of very large populations: the Brazilian free-tailed bat, *Tadarida brasiliensis*. In "*Functional and Evolutionary Ecology of Bats*" (A. Zubaid, G. F. McCracken, T. H. Kunz, eds.), pp 227-247. Oxford University Press, New York.

Russell, A. L., R. A. Medellín, and G. F. McCracken, 2005. Genetic variation and migration in the Mexican free-tailed bat (*Tadarida brasiliensis mexicana*). *Molecular Ecology* 14(7): 2207-2222.

Yoder, Anne D., Link E. Olson, Carol Hanley, Kellie Heckman, Rodin Rasoloarison, **Amy L. Russell**, Julie Ranivo, Voahangy Soarimalala, K. Praveen Karanth, Achille P. Raselimanana, and Steven M. Goodman, 2005. A multidimensional approach for detecting species patterns in Malagasy vertebrates. *Proceedings of the National Academy of Sciences, USA* 102(S1): 6587-6594.

Russell, A. L., A. S. Turmelle, V. A. Brown, and G. F. McCracken, 2005. Extremely variable di- and tetranucleotide microsatellite loci in Brazilian free-tailed bats (*Tadarida brasiliensis*). *Molecular Ecology Notes* 5(3): 669-671.

Russell, A. L. and R. C. Woodruff, 1999. The genetics and evolution of the *mariner* transposable element in *Drosophila simulans*: worldwide distribution and experimental population dynamics. *Genetica* 105(2): 149-164.

MANUSCRIPTS IN PREP

Muscarella, Robert A., Kevin L. Murray, Derek Ortt, **Amy L. Russell**, Theodore H. Fleming, in prep. Does wind or demography shape genetic structure in two lineages of Greater Antillean bats? Intended for *Molecular Ecology*.

Heckman, K. L., **A. L. Russell**, D. Weisrock, and A. D. Yoder, in prep. Demographic history of mouse lemur sister species: insight into species diversification. Intended for *BMC Evolutionary Biology*.

Russell, Amy L., Murray P. Cox, Veronica A. Brown, and Gary F. McCracken, in prep. Population growth of Mexican free-tailed bats (Chiroptera: Molossidae: *Tadarida brasiliensis mexicana*) predates human agricultural activity. Intended for *Molecular Biology and Evolution*.

Russell, Amy L., Michael Worobey, Beatrice H. Hahn, and Michael F. Hammer, in prep. MtDNA reveals different demographic histories and a significant impact of a Pleistocene megadrought in chimpanzees. Intended for *Proceedings of the National Academy of Sciences, USA*.

Vonhof, Maarten J., and **Amy L. Russell**, in prep. A mitochondrial DNA phylogeography of eastern red bats: effective population size and demographic trends in a species under threat. Intended for *Molecular Ecology*.

Russell, Amy L., and Maarten J. Vonhof, in prep. Parameterizing the effectiveness of genetic data for detecting population declines: a feasibility study. Intended for *Conservation Biology*.

Russell, Amy L., Tasha K. Altheide, Jessica Bendewald, and Michael F. Hammer, in prep. Genetic variation in hominid species. Intended for *Current Biology*.

Russell, Amy L., Fernando Mendez, Jessica Bendewald, and Michael F. Hammer, in prep. Significant rate heterogeneity among hominid lineages associated with older *Alu* families. Intended for *Molecular Biology and Evolution*

Russell, Amy L., Ruth C. B. Uzzurum, Anne P. Brooke, Veronica Brown, and Gary F. McCracken in prep. Genetic analyses reveal differing evolutionary histories in two sympatric species of *Pteropus* in the South Pacific. Intended for *Molecular Ecology*.

Russell, Amy L., Myriam Favi, Rosane V. Marques, Rodrigo A. Medellín, Susi M. Pacheco, Marcelo Romano, and Gary F. McCracken, in prep. Genetic structuring and subspecies status of mainland populations of the Brazilian free-tailed bat (*Tadarida brasiliensis*). Intended for *Molecular Phylogenetics and Evolution*.

SELECTED AWARDS AND GRANTS

U.S. Fish and Wildlife, Pacific Islands Fish and Wildlife Office. Collaborative proposal with Kevin Olival, American Museum of Natural History, and Maarten Vonhof, Western Michigan University. "Genetic approaches to defining conservation units for the Hawai'ian hoary bat". Pending. \$15,606.

Department of Energy, 20% Wind by 2030: Overcoming the Challenges. Collaborative proposal with Maarten Vonhof, Western Michigan University. "Genetic approaches to understanding the population-level impact of wind energy development on migratory bats". Pending. \$99,932.56.

Grand Valley State University, Faculty Summer Stipend. "Gone with the Wind: Population Genetics of Eastern Red Bats (*Lasiurus borealis*) and the Effect of Wind Turbine-Related Fatalities". 2009. \$5,000.

Grand Valley State University, Faculty Research Grant-in-Aid. "Gone with the Wind: Population Genetics of Eastern Red Bats (*Lasiurus borealis*) and the Effect of Wind Turbine-Related Fatalities". 2009-2010. \$3,000.

The Wenner-Gren Foundation, Post-Ph.D. Research Grant. "Ancestral Population Structure and Gene Flow in the Genus *Pan*". 2008-2009. \$24,982.

The Leakey Foundation, Research Grant. "Evolutionary Genomics of Wild Chimpanzee Populations". 2006-2009. \$16,000.

Yale University, Yale Institute for Biospheric Studies, Gaylord Donnelley Environmental Fellowship. 2003-2005.

University of Tennessee Division of Biology, Science Alliance Award for Outstanding Scholarly Achievement. 2003, \$3000.

North American Symposium on Bat Research, Karl Koopman Award for Outstanding Oral Presentation, 2002.

University of Tennessee Graduate School, Hilton A. Smith Graduate Fellowship, 2002. \$15,000.

University of Tennessee Department of Ecology and Evolutionary Biology Graduate Student Summer Research Grant, 2002. \$1000.

University of Tennessee Office of Research, Scholarly Activities Research Incentive Fund (SARIF) Summer Graduate Research Assistantship, 2001. \$3000.

Sigma Xi, the Scientific Research Society, Grant-in-aid-of-Research, 2000. \$300.

University of Tennessee Department of Ecology and Evolutionary Biology Graduate Merit Award, 2000. \$2500.

University of Tennessee Department of Ecology and Evolutionary Biology Graduate Student Summer Research Grant, 2000. \$1500.

Bat Conservation International Student Scholarship, 2000. \$2500.

Sigma Xi, the Scientific Research Society, Grant-in-aid of Research, 1999. \$700.

American Museum of Natural History, Theodore Roosevelt Memorial Grant, 1998. \$1300.

Case Western Reserve University, Howard Hughes Medical Institute Summer Research Grant, 1993, 1994. \$2500.

INVITED SEMINARS, WORKSHOPS, AND SYMPOSIA

Russell, Amy L. 2009. The impact of climate change on Caribbean bats. Evolution for Everyone seminar series, Grand Valley State University.

Russell, Amy L. 2009. The voodoo we do (s'well) to study evolutionary relationships. Department seminar series, Grand Valley State University.

Russell, Amy L., Kevin J. Olival. 2009. Genetics of the Hawaiian hoary bat. Hawaiian Hoary Bat and Climate Change Modeling Workshop, USGS Pacific Island Ecosystems Research Center.

Russell, Amy L. 2008. Gone with the wind: the impact of wind turbines on bat populations in North America. College of Liberal Arts and Sciences Faculty Research Colloquium, Grand Valley State University.

Vonhof, Maarten J., **Amy L. Russell.** 2008. Providing scope: genetic approaches to understanding the implications of bat – wind power interactions. Special Session on Bats and Wind Turbines, North American Symposium on Bat Research, Scranton, PA.

Russell, Amy L. 2008. Integrating phylogenetic, coalescent, and population genetic methods to address the evolutionary ecology of bats. Department seminar series, Western Michigan University.

Russell, Amy L. 2008. Coalescent approaches to reconstructing history: the how, where, and when of evolution. Department seminar series, Wright State University.

Russell, Amy L. 2008. Coalescent approaches to reconstructing history: the how, where, and when of evolution. Department seminar series, Grand Valley State University.

Vonhof, Maarten J., **Amy L. Russell.** 2008. Genetic contributions to the management of bat – wind power interactions. Bats and Wind Energy Cooperative meeting. Austin, TX.

Russell, Amy L. 2007. Coalescent approaches to reconstructing history: the how, where, and when of evolution. Department seminar series, Purdue University.

Russell, Amy L. 2007. Coalescent approaches to reconstructing history: the how, where, and when of evolution. Department seminar series, University of the South.

Russell, Amy L. 2007. The role of the coalescent in deciphering biogeography: case examples from Malagasy Chiroptera. Department seminar series, Southern Utah University.

Russell, Amy L., Steven M. Goodman, Anne D. Yoder. 2007. Integrating phylogenetic, coalescent, and population genetic approaches to reconstruct the historical biogeography of *Triaeonops*. Symposium on Phylogeography from Genes to Organisms, International Bat Research Conference, Merida, Mexico.

Russell, Amy L. 2006. Integrating phylogenetics and population genetics for biogeographical analyses: a biogeographic reconstruction of *Triaeonops* bats in Madagascar. National Evolutionary Synthesis Center (NESCent) Catalysis Meeting: Patterns of Biodiversity in Madagascar.

Russell, Amy L., Steven M. Goodman, Anne D. Yoder. 2005. An integrative approach to historical biogeography: picking up where phylogenetics leaves off. Workshop on Phylogeography and Phylogenetics, Mathematical Biosciences Institute, Ohio State University.

Russell, Amy L. 2005. Phylogeographic approaches to understanding bat diversity in Madagascar. Systematics Seminar Series, American Museum of Natural History, New York City, NY.

Russell, Amy L., Eric Palkovacs, Steven M. Goodman, J. Ranivo, Anne D. Yoder. 2004. Trees on islands: biogeographic patterns of diversification in Madagascar. Special Session on Phylogenetic Approaches to Understanding Bat Biodiversity, North American Symposium on Bat Research, Salt Lake City, UT.

Russell, Amy L. 2004. The lords of the wings: Population genetic structure and gene flow in a widely dispersing bat species. Seminar series, Yale Institute for Biospheric Studies.

Russell, Amy L. 2004. The lords of the wings: Population genetic structure and gene flow in a widely dispersing bat species. Department of Ecology and Evolutionary Biology seminar, Yale University.

Workshop on Molecular Evolution, Marine Biological Laboratory, Woods Hole, MA. 2003.

Russell, Amy L. 2002. Does size matter? Determining the size and genetic diversity of populations of the Brazilian free-tailed bat, *Tadarida brasiliensis*. Evolutionary and Behavioral Ecology seminar, University of Tennessee.

Russell, Amy L. 2002. Bats and panmixis: Investigating population genetic structure in large populations of migratory bats. Department of Ecology and Evolutionary Biology Graduate Student Symposium, University of Tennessee.

Russell, Amy and Gary F. McCracken. 2001. Population genetic structure of very large populations: the Mexican free-tailed bat, *Tadarida brasiliensis*. Symposium on Roosting Ecology and Population Genetic Structure of Bats, International Bat Research Conference, Kebangsaan, Malaysia.

Saidak, Leslie and **Amy Russell**. 2001. Beginner's guide to molecular markers: definitions and simple explanations of popular genetic techniques. Southeastern Bat Diversity Network, Clemson, SC.

ORAL PRESENTATIONS

Vonhof, Maarten J., **Amy L. Russell**. 2009. Migration in eastern red bats (*Lasiurus borealis*): what do molecular markers tell us? International Symposium on Bat Migration, Berlin, Germany.

Russell, Amy L., Liliana M. Dávalos. 2008. Dynamics of gene flow and extinction in island metapopulations under climate change: model discrimination through population genetic simulations. North American Symposium on Bat Research, Scranton, PA.

Dávalos, Liliana M., **Amy L. Russell**. 2008. A quantitative approach to historical ecology of the West Indies: *Artibeus jamaicensis*. North American Symposium on Bat Research, Scranton, PA.

Russell, Amy L. 2007. What can genetics contribute to definitions of subspecies and migratory groups of Brazilian free-tailed bats (*Tadarida brasiliensis*)? Western Bat Working Group, Tucson, AZ.

Russell, Amy L., Julie Ranivo, Eric P. Palkovacs, Steven M. Goodman, Anne D. Yoder. 2006. Integrating phylogenetics and population genetics for biogeographic analyses. Society for Molecular Biology and Evolution, Tempe, AZ.

Russell, Amy L. 2004. The power of hypothesis testing in phylogeography and population genetics: lessons learned from *Tadarida brasiliensis*. North American Symposium on Bat Research, Salt Lake City, UT.

Utzurum Ruth C. B., **Amy L. Russell**, Anne P. Brooke, Veronica Brown, Gary F. McCracken. 2004. Genetic analyses reveal differing evolutionary histories in two sympatric species of *Pteropus* in the South Pacific. North American Symposium on Bat Research, Salt Lake City, UT.

Russell, Amy L., Eric Palkovacs, Steven M. Goodman, J. Ranivo, Anne D. Yoder. 2004. A complex inter-species phylogeny reveals distinctive biogeographic patterns of diversification in triple leaf-nosed bats (*Triaenops* spp.) in Madagascar. International Bat Research Conference, Mikolajki, Poland.

Russell, Amy L., Eric Palkovacs, Steven M. Goodman, J. Ranivo, Anne D. Yoder. 2004. A complex inter-species phylogeny reveals distinctive biogeographic patterns of diversification in triple leaf-nosed bats (*Triaenops* spp.) in Madagascar. Society for the Study of Evolution, Fort Collins, CO.

Russell, Amy L. 2003. Phylogeography and the designation of subspecies in the Brazilian free-tailed bat, *Tadarida brasiliensis*. North American Symposium on Bat Research, Lincoln, NB.

Russell, Amy L. 2002. Bats and panmixis: Investigating population genetic structure in large populations of migratory bats. North American Symposium on Bat Research, Burlington, VT.

Hallam Thomas G., Paula Frederico, Thomas H. Kunz, Gary F. McCracken, **Amy Russell**. 2002. Physiologically-based models of bat population dynamics. North American Symposium on Bat Research, Burlington, VT.

Russell, Amy L., Calvin Butchkoski, Gary F. McCracken. 2002. Bats, roadkill, and the FBI (flat bat investigation). Colloquium on the Conservation of Mammals in the Southeastern United States, Clemson, SC.

Russell, Amy L. 2001. Does size matter? Determining the size and geographic extent of populations of *Tadarida brasiliensis*. Colloquium on the Conservation of Mammals in the Southeastern United States, Clemson SC.

Russell, Amy L. 2000. Population genetic structuring of the Brazilian free-tailed bat as determined by mitochondrial DNA sequencing. North American Symposium on Bat Research, Miami, FL.

Russell, Amy L. 2000. Conservation and population genetics in migratory and non-migratory populations of the Brazilian free-tailed bat, *Tadarida brasiliensis*. Sigma Xi Graduate Research Competition, University of Tennessee.

Russell, Amy L. 1999. Phylogeography of the Brazilian free-tailed bats *T. b. mexicana* and *T. b. cynocephala* as determined by mitochondrial DNA sequencing. North American Symposium on Bat Research, Madison, WI.

Russell, Amy L. 1999. Genetic structuring of migratory and non-migratory populations of Brazilian free-tailed bats *T. b. mexicana* and *T. b. cynocephala*. Colloquium on the Conservation of Mammals in the Southeastern United States, Wytheville, VA.

Russell, Amy L. 1998. Genetic structuring of migratory and non-migratory populations of Brazilian free-tailed bats *T. b. mexicana* and *T. b. cynocephala*. North American Symposium on Bat Research, Hot Springs, AR.

POSTER PRESENTATIONS

Russell, Amy L., Maarten J. Vonhof. 2009. Assessing the utility of genetic markers for long- and short-term monitoring of migratory populations. International Symposium on Bat Migration, Berlin, Germany.

Russell, Amy L., Eric Palkovacs, Steven M. Goodman, J. Ranivo, Anne D. Yoder. 2004. A complex inter-species phylogeny reveals distinctive biogeographic patterns of diversification in triple leaf-nosed bats (*Triaenops* spp.) in Madagascar. North American Symposium on Bat Research. Salt Lake City, UT.

Meyer, Wynn, **Amy L. Russell**, Danielle Rakotomalala, Anne D. Yoder. 2004. The impact of habitat destruction on population genetic structuring in Malagasy chameleons (Chamaeleonidae: Calumma). Society for the Study of Evolution, Fort Collins, CO.

Hanley, Carol, Steven M. Goodman, **Amy L. Russell**, Anne D. Yoder. 2004. Examining gene flow in the endangered Malagasy narrow-striped mongoose (*Mungotictis decemlineata*) using a novel panel of microsatellite loci. Society for the Study of Evolution, Fort Collins, CO.

Russell, Amy L., Calvin Butchkoski, Annie Tibbels, Leslie Saidak, Gary F. McCracken. 2002. Bats, road-kill, and the FBI (Flat Bat Investigation). North American Symposium on Bat Research, Burlington, VT.

Russell, A. L. and R. C. Woodruff. 1998. The *mariner* transposable element: frequency and distribution in natural populations of *Drosophila simulans*. Southeastern Ecology and Evolution Conference, VA.

Comeaux, Lisa, Gary McCracken and **Amy Russell**. 1997. Exposing the polygamous behavior at the Lube Foundation, Inc. North American Symposium on Bat Research, Tucson, AZ.

Russell, A. L. and R. C. Woodruff. 1997. The *mariner* transposable element: its frequency and geographic distribution in natural populations of *D. simulans*. *Drosophila* Research Conference, Chicago, IL.

Russell, A. L. and R. C. Woodruff. 1996. The *mariner* transposable element: frequency and distribution in natural populations of *Drosophila simulans*. Society for the Study of Evolution, St. Louis, MO.

Russell, A. L. and R. C. Woodruff. 1995. The frequency and geographical distribution of the *mariner* transposable element in natural populations of *Drosophila simulans*. Society for the Study of Evolution, Montreal, Canada.

Russell, A. L. and R. C. Woodruff. 1995. The frequency of the *mariner* transposable DNA element in natural populations of *Drosophila simulans*. *Drosophila* Research Conference, Atlanta, GA.

TEACHING EXPERIENCE

BIO495 Evolutionary Biology. Grand Valley State University.

Guest lecturer, Principles of Evolution, Ecology and Behavior. Yale University.

Guest lecturer, Evolution of the Mammals. Yale University.

Mentor for senior research project, Melodie Zamora. "Cryptic speciation in Malagasy bats, *Myzopoda* and *Emballonura*".

Mentor for senior research project, Wynn Meyer. "The impact of habitat destruction on population genetic structuring in Malagasy chameleons (Chamaeleonidae: *Calumma*)".

Guest lecturer, Conservation Biology. University of Tennessee.

Guest lecturer, General Genetics. University of Tennessee.

Teaching assistant, General Genetics, Conservation Biology, Evolution, Introductory Biology for majors. University of Tennessee.

Head teaching assistant, Introductory Biology for non-majors. Bowling Green State University

Teaching assistant, Introductory Biology for non-majors, Introductory Biology for majors. Bowling Green State University.

ACADEMIC SERVICE

Associate editor, *Genetica*. 2008-present.

Reviewer for Department of Defense, Israel Science Foundation, National Science Foundation, U.S. Army Corps of Engineers, *Biotropica*, *Caribbean Journal of Science*, *Current Biology*, *Ecosystems*, *Endangered Species Research*, *Evolution*, *Evolutionary Bioinformatics*, *Folia Zoologica*, *Gene Expression and Systems Biology*, *Genetica*, *International Journal of Primatology*, *Journal of Biosciences*, *Journal of Heredity*, *Journal of Mammalogy*, *Molecular Biology and Evolution*, *Molecular Ecology*, *Molecular Phylogenetics and Evolution*, *Proceedings of the National Academy of Sciences USA*, *Zootaxa*, *Functional and Evolutionary Ecology of Bats*, *Evolution*, *Ecology*, and *Conservation of Island Bats*.

Symposium organizer (“Phylogeography from Genes to Organisms”) for the International Bat Research Conference at Mérida, Mexico. 2007.

Lecturer for Niarchos Collaboration program between the Natural History Museum of Crete and the Yale Peabody Museum of Natural History. 2004.

Volunteer for the Joint Meeting of the Society for the Study of Evolution, Society of Systematic Biologists, and American Society of Naturalists at Knoxville, Tennessee. 2001.

Organization committee for Women In Science workshop. University of Tennessee. 2001.

Graduate student representative for faculty search committee. University of Tennessee. 2000-2001.

Vice-President of Graduate Researchers in Ecology, Behavior, and Evolution (GREBE), University of Tennessee, Knoxville, Tennessee. 1999-2000.

Departmental delegate to Graduate Student Association (GSA), University of Tennessee. 1999-2000.

GSA representative on the Faculty Senate Research Council, University of Tennessee. 1999-2000.

PUBLIC SERVICE

Presentations on bat diversity, evolution, and genetics to Twelfth grade AP biology class at Sunnyside High School in Tucson, Arizona. 2007.

Presentations on bat diversity and conservation to elementary schools in Lancaster, OH, Knoxville, TN, and Nashville, TN. 1999-2005.

Bat Walk, a public education class offered through the Spring Wildflower Pilgrimage at the Great Smoky Mountains National Park. 1998-2003.

Presentation on PCR and conservation genetics to Tenth grade biology class at Maryville High School in Maryville, Tennessee. 2000.

Bat Walk in the Smokies, a public education class offered through the Smoky Mountain Field School at the Great Smoky Mountains National Park. 1998.

ORGANIZATION MEMBERSHIPS

Society for the Study of Evolution. 2004-present.

Genetics Society of America. 1994-1998.