DIANA C. OUTLAW
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Department of Biological Sciences
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PROFESSIONAL APPOINTMENTS

Associate Professor, Department of Biological Sciences, Mississippi State University, 2016 – present

Assistant Professor, Department of Biological Sciences, Mississippi State University, 2009 – 2016

Adjunct Faculty, Department of Wildlife & Fisheries, Texas A&M University, 2013 – present

Postdoctoral Research Associate, Department of Biology, University of Missouri - St. Louis, 2006 – 2009

EDUCATION

B.A. 1998 Sonoma State University, Rohnert Park, California (Biology), Magna cum Laude, *with* Distinction

M.A. 2001 Sonoma State University, Rohnert Park, California (Biology)

Ph.D. 2006 University of Memphis, Memphis, Tennessee (Biology)

PUBLICATIONS

Larson, D. A., J. Goddard, & **D. C. Outlaw**. Mosquito vectors of avian malaria in Mississippi: A first look. Journal of Parasitology, *in press*.

Ricklefs, R. E., M. Medeiros, V. A. Ellis, M. Svensson-Coelho, J. Blake, B. Loiselle, L. Soares, A. Fecchio, **D. C. Outlaw**, P. Marra, S. C. Latta, G. Valkiūnas, O. Hellgren & S. Bensch. 2017. Avian migration and the distribution of malaria parasites in New World passerine birds. Journal of Biogeography 44: 1113-1123.

Walstrom, V. W., & **D. C. Outlaw**. 2017. Distribution and prevalence of haemosporidian parasites in the Northern Cardinal (*Cardinalis cardinalis*). Journal of Parasitology 103: 63-68.

Bertram, M., S. Hamer, B. Hatrup, M. Mederios, **D. C. Outlaw** & G. Hamer. 2017. Vector-borne hemoparasites in wild whooping cranes (*Grus americana*) and sandhill cranes (*Grus canadensis*), with evidence of shared lineages. Molecular Phylogenetics and Evolution 109: 73-79.

Outlaw, D. C., J. Harvey, S. Drovetski, & G. Voelker. 2016. Diversity and distribution of avian haemosporidians in sub-Saharan Africa: An inter-regional biogeographic overview. Parasitology 144: 394-402.

Fast, K. M., V. W. Walstrom, & **D. C. Outlaw**. 2016. Haemosporidian prevalence and parasitemia in the tufted titmouse (*Baeolophus bicolor*). Journal of Parasitology 102: 636-642.

Moyle, R. G., P. A. Hosner, A. W. Jones, & **D. C. Outlaw**. 2015. Phylogeny and biogeography of

Ficedula flycatchers (Aves: Muscicapidae): Novel results from fresh source material. Molecular Phylogenetics and Evolution 82: 87-94.

Outlaw, R. K., B. Counterman, & **D. C. Outlaw**. 2015. Differential patterns of molecular evolution among haemosporidian parasite groups. Parasitology 142: 612-622.

Ricklefs, R. E., **D. C. Outlaw**, M. S. Coelho, M. Medeiros, V. A. Ellis & S. Latta. 2014. Species formation by host switching in avian malaria parasites. Proceedings of the National Academy of Sciences 111: 14816-14821.

Outlaw, D. C. & R. E. Ricklefs. 2014. Species limits in avian malaria parasites (Haemosporida): How to move forward in the molecular era. Parasitology 141: 1223-1232.

Bensch, S., O. Hellgren, A. Križanauskienė, V. Palinauskas, G. Valkiūnas, **D. C. Outlaw** & R. E. Ricklefs. 2013. Calibrating the rate of molecular evolution of malaria parasites. Trends in Parasitology 29: 363-369.

Outlaw, D. C. 2011. Morphological evolution of some migratory *Ficedula* flycatchers. Contributions to Zoology 80: 279-284.

Outlaw, D. C. & R. E. Ricklefs. 2011. Rerooting the evolutionary tree of malaria parasites. Proceedings of the National Academy of Sciences, 108: 13183-13187.

Ricklefs, R. E. & **D. C. Outlaw.** 2010. A molecular clock for malaria parasites. Science 329: 226-229.

Outlaw, D. C. & R. E. Ricklefs. 2010. Comparative gene evolution in haemosporidian parasites of birds and mammals. Molecular Biology and Evolution 27: 537-542.

Santiago, D. A., **D. C. Outlaw**, R. E. Ricklefs & P. G. Parker. 2010. Phylogenetic relationships of haemosporidian parasites in new world Columbiformes, with emphasis on the endemic Galapagos dove. International Journal of Parasitology 40: 463-470.

Levin I. I., **D. C Outlaw**, H. Vargas & P. G Parker. 2009. *Plasmodium* blood parasite found in endangered Galapagos penguins (*Spheniscus mendiculus*). Biological Conservation 142: 3191-3195.

Outlaw, D. C. & R. E. Ricklefs. 2009. On the phylogenetic relationships of haemosporidian parasites from raptorial birds (Falconiformes and Strigiformes). Journal of Parasitology 95: 1171-1176.

Voelker, G., S. Rohwer, **D. C. Outlaw** & R. C. K. Bowie. 2009. Repeated trans-Atlantic dispersal catalyzed a global songbird radiation. Global Ecology and Biogeography 18:41-49. (6.531)

Outlaw, D. C. &. G. Voelker. 2008. Pliocene climatic change in insular Southeast Asia as an engine of diversification in *Ficedula* flycatchers. Journal of Biogeography 35: 739-752.

Voelker, G., S. Rohwer, R. C. K Bowie & **D. C. Outlaw.** 2007. Molecular systematics of a speciose, cosmopolitan songbird genus: Defining the limits of, and relationships among, the *Turdus* thrushes. Molecular Phylogenetics and Evolution 42: 422-434.

Outlaw, R. K., G. Voelker & **D. C. Outlaw**. 2007. Molecular systematics and historical biogeography of *Monticola* rock thrushes. Auk 124: 561-577.

Outlaw, D. C. & G. Voelker. 2006. Systematics of *Ficedula* flycatchers (Muscicapidae): A molecular reassessment of a taxonomic enigma. Molecular Phylogenetics and Evolution 41: 118-126.

Outlaw, D. C. & G. Voelker. 2006. Phylogenetic tests of hypotheses for the evolution of avian migration: A case study using the Motacillidae. Auk 123: 455-466.

Outlaw, D. C. 2004. Phylogenetic approaches to studying the evolution of avian migratory behavior. Proceedings of the First Austral Migration Symposium, VII Neotropical Ornithological Congress, Termas de Puyehue, Chile, October, 2003. http://www.zoo.ufl.edu/ajahn/participants/diana%20outlaw/diana%20outlaw.htm.

Outlaw, D. C., G. Voelker, B. Mila & D. J. Girman. 2003. Evolution of long-distance migration in, and historical biogeography of the *Catharus* thrushes: A molecular phylogenetic approach. Auk 120: 299-310.

RESEARCH AWARDS/FUNDING

- United States Department of Agriculture, Farm Bill Management Program, Cooperator, "Emerald Ash Borer and Invasive Insect Outreach and Education for Mississippi," 2017, $135,452
- National Institutes of Health, R03, "Adapting to new hosts: Identifying genes under selection in malaria parasites," 2016-2018, $161,147
- Henry Family Research Fund, "Bridge" Grant, MSU, 2015, $5000
- Institute for Genomics, Biocomputing & Biotechnology, MSU, funding for malaria parasite sequencing, $5000
- National Geographic Society, Committee for Research and Exploration, 2014, PI, "Mosquito vectors of avian malaria in Mississippi." $10,000
- Biology Faculty Fund Student Award, MSU, 2014 (awarded to four graduate students)
- ORED, Cross-College Research Grant, MSU, 2013, $2000
- Northeast MS Daily Journal Grant, 2013 (awarded to undergraduate student)
- MSU Women's Club Scholarship, 2013 (awarded to MS student)
- American Ornithologists' Union Award for Graduate Student Research, 2013 (awarded to PhD student)
- Zernickow Fellowship, MSU, 2013 (awarded to two graduate students)
- Biology Faculty Fund Student Award, MSU, 2013 (awarded to three graduate students)
- Zernickow Fellowship, MSU, 2012 (awarded to two graduate students)
- Biology Faculty Fund Student Award, MSU, 2012 (awarded to PhD student)
- Shackouls Honors College Honors Research Undergraduate Program Award, MSU, 2012
- Walstrom Family Private Donation, 2012, $3500
- Society of Systematic Biologists Award for Graduate Student Research (to PhD student), 2012
- Henry Family Research Fund, "Bridge" Grant, MSU, 2012, $5000
- Mississippi State University ORED Cross College Research Program, 2011, $2000
- Doctoral Dissertation Improvement Grant, National Science Foundation, 2005
- American Ornithologists' Union, Research Award, 2004
- Society of Systematic Biologists Award for Graduate Student Research, 2002
- Sonoma State University, Department of Biology, Student Research Awards, 1999, 2000
- Sigma Xi Grant-in-Aid-of-Research, 2000

OTHER AWARDS

- Starkville Area Arts Council, Community Arts Grant, 2016

- Mississippi State University, College of Arts and Sciences "Researcher of the Month," February, 2014
- Mississippi State University, State Pride Award, 2011
- Donovan Travel Award, University of Memphis, 2005
- American Ornithologists' Union, Marcia Brady Tucker Travel Award, 2002
- Delaware Museum of Natural History Collections Study Scholarship, 2002
- American Museum of Natural History Collections Study Grant, 2002
- American Ornithologists' Union, Marcia Brady Tucker Travel Award, 2001
- Sonoma State University, Natural Sciences Student Opportunities Fund Award, 2000
- Sally Cassanova Pre-Doctoral Fellowship, Sonoma State University, 2000

TEACHING

Molecular Evolution, Department of Biological Sciences, Mississippi State University, MS
Avian Diversity and Evolution, Department of Biological Sciences, Mississippi State University, MS
Human Genetics, Department of Biological Sciences, Mississippi State University, MS
Animal Physiology, Department of Biological Sciences, Mississippi State University, MS
Biology Seminar Fall 2011, Department of Biological Sciences, Mississippi State University, MS

SERVICE

- *Panel Member*, National Science Foundation DEB, Hybrid Preliminary Proposal Panel, 2017
- *Editorial Board Member,* Parasitology, 2015-2017
- *Guest Editor,* Special Issue of Parasitology, "Molecular, genetic and genomic approaches to studying coevolution of hosts and parasites," expected publication, 2017
- *Reviewer*: Genetica, Journal of Biogeography, Journal of Parasitology, Molecular Phylogenetics and Evolution, The Condor, Naturwissenschaften, PloSOne, Acta Zoologica Sinica, Ibis, The Auk, Molecular Ecology, Journal of Ornithology, Parasitology, Journal of Wildlife Diseases, Gene, Parasitology International, Proceedings of the National Academy of Sciences, Evolution, Ecology, International Journal of Parasitology, PeerJ, Proceedings of the Royal Society of London B, Journal of Raptor Research, Molecular Biology and Evolution, Parasitology Open, International Journal for Parasitology: Parasites & Wildlife, Zoological Journal of the Linnean Society, Science Advances, Parasitology Research
- *Faculty Liaison,* Biology Graduate Students Association, Department of Biological Sciences, MSU, 2014-present
- *Faculty Mentor*, Dawn Brancheau Foundation Service-Learning Project, with Madison Buras, 2015-2016
- *Panel Member*, National Science Foundation DEB, Evolutionary Genetics, 2014
- *Panel Member*, National Science Foundation DEB, Evolutionary Processes, Doctoral Dissertation Improvement Grant, 2013/2014
- *Co-planner*, "Darwin Week" program, Mississippi State University, MS, 2013-present
- *Graduate Committee Member*, Department of Biological Sciences, Mississippi State University, MS, 2012-present

- *Strategic Plan Committee Member*, Department of Biological Sciences, Mississippi State University, MS, 2009, 2010
- *"Biology Camp" Organizer*, Emerson Family School, Starkville, MS 2011-2015
- *Cataloging and databasing:* Bird Reference Collection, Mississippi State University, MS, 2011-2012
- *Section Chair*, American Ornithologists' Union Meeting, Laramie, WY, 2007
- *Group Leader*, High School Students as Scientists, University of Memphis, 2004
- *Inaugural Meeting Planning Committee Member*, International Biogeographical Society, Mesquite, NV, 2003
- *Group Leader*, High School Students as Scientists, University of Nevada Las Vegas, 2001
- *Biology Colloquium Committee Member*, Sonoma State University, CA, 1999
- *Pacific Seabird Group Meeting Planning Group Member*, Sonoma, CA, 1999

INVITED SEMINARS

Origins and diversification of malaria parasites. University of Mississippi, Oxford, MS, 2016.

What are malaria parasites and why are there so many of them? University of Mississippi, Oxford, MS, 2015.

Malaria parasites: Origins and diversity, Café Scientifique, Starkville, MS, 2015.

Species limits in malaria parasites: How to move forward in the molecular era. University of Mississippi Malaria Symposium, University of Mississippi, Oxford, MS, 2015.

Evolution and Diversification of Malaria Parasites. "*Keynote Address*." Western Collegiate Division Meeting of the Tennessee Academy of Sciences. Christian Brothers University Memphis, TN, 2014; University of Mississippi Malaria Symposium, University of Mississippi, Oxford, MS, 2014; Texas A&M University, College Station, TX, 2014.

Malaria parasites: Evolutionary history and mechanisms of diversification. Texas Tech University, Lubbock, TX, 2013

Rerooting the evolutionary tree of malaria parasites. California Academy of Sciences, San Francisco, CA, 2011; University of Memphis, Memphis, TN, 2012; Central Michigan University, Mt. Pleasant, MI, 2012

Evolution in malaria parasites: Are we rewriting the story? Louisiana State University, Museum of Natural Science, Baton Rouge, LA, 2011

Avian malaria parasites: Insights from DNA, Museum of Vertebrate Zoology, Harvard University, Cambridge, MA, 2009

Genes, geography and germs: Evolution and speciation in birds, Mississippi State University, Starkville, MS, 2009

How did they get here? Geography, ecology, behavior and morphology in avian evolution, University of the Pacific, Stockton, CA, 2009

Genes, geography and germs: Genetic and geographic structure in birds and the parasites they carry, University of North Carolina – Asheville, Asheville, NC, 2007; University of Findlay, Findlay, OH, 2009

Comparative molecular evolution of haemosporidian parasites, Washington University, St. Louis, MO, 2008

A tale of two endeavors: Molecular systematic approaches to studying diversification in birds and avian malaria parasites, Washington University, St. Louis, MO, 2007; Black Hills

State University, Spearfish, SD, 2007

Phylogenetic approaches to studying the evolution of avian migration, Neotropical Ornithological Congress, Puyehue, Chile, 2003

CONFERENCE PAPER PRESENTATIONS

A Survey of Mississippi mosquitoes' blood meals and malaria parasites. Aycock, J., Goddard, J., Outlaw, D. C, Molecular Parasitology/Vector Biology Symposium, Center for Tropical and Emerging Diseases, University of Georgia, Athens, GA May 2016 (poster).; Mississippi Entomological Association, Mississippi State, MS, October, 2016 (poster).; Louisiana Mosquito Control Association, Baton Rouge, LA, December, 2016 (oral).

An assessment of malaria parasitemia and prevalence in a population of tufted titmice (*Baeolophus bicolor*). Fast, K., Outlaw, D.C. (Oral). Mississippi Academy Of Sciences, February, 2015. Hattiesburg, MS; American Society of Parasitologists meeting, June, 2015, Omaha, NE.

Distribution and prevalence of haemosporidian parasites in the northern cardinal (*Cardinalis cardinalis*). (Oral). Walstrom, V.W., Outlaw, D.C. Mississippi Academy of Sciences, February, 2015. Hattiesburg, MS; American Society of Parasitologists meeting, June, 2015, Omaha, NE.

Prevalance of avian malaria in mosquitoes at Ross Barnett reservoir. Larson, D., Outlaw, D.C., Goddard, J. (Oral). Mississippi Academy of Sciences, February, 2015. Hattiesburg, MS.

The Repetitive Landscape of *Megachile Rotundata*. Coley, A.B., Ray, D., Outlaw, D.C. (poster). "Evolution 2014" June 2014, Raleigh, North Carolina.

Distribution and Prevalence of Haemosporidian Parasites in the Northern Cardinal (*Cardinalis cardinalis*). Walstrom, V.W., Outlaw, D.C. July 2014. Third Annual International Workshop on Malaria and Related Haemospodridian Parasites of Wildlife, Shepherdstown, WV.

Hybridization Between Wild-Type Cogongrass and the Horticultural Cold-Tolerant Cultivar, Red Baron (*Imperata cylindrica* var. konegii [Rubra]). Lucardi, R.D, D.C. Outlaw, G.E. MacDonald [Oral] A Joint Symposium of the10th Annual GA-EPPC and 16th Annual SE-EPPC Conference. November 2014. Athens, GA.

Avian malaria parasites: Insights from DNA, College of Arts & Sciences Faculty Research Symposium, Mississippi State University, Mississippi State, MS, 2009

Molecular phylogenetics of malaria parasites, Meeting of the American Ornithologists' Union, Laramie, WY, 2007

Migration and morphology: Convergent evolution of phenotypic covariance structure in *Ficedula* flycatchers, Meeting of the American Ornithologists' Union, Santa Barbara, CA, 2005

Molecular systematics of *Ficedula* (Muscicapidae), Joint Meeting of the American Ornithologists' Union and the Canadian Ornithologists' Union, Quebec, QU, 2004

Evaluating existing hypotheses for the evolution of migration: the Motacillidae as a test case, North American Ornithological Conference, New Orleans, LA 2002

The evolution of migration in the Motacillidae, Joint meeting of the Society for the Study of Evolution and the Society of Systematic Biologists, Urbana, IL 2002

Evolution of migration in and historical biogeography of the *Catharus* thrushes, Meeting of

the Society for the Study of Evolution, Knoxville, TN, 2001
The evolution of migration in the *Catharus* thrushes, Joint Meeting of the American Ornithologists' Union and the Canadian Ornithologists' Union, Seattle, WA, 2001

CURRENT COLLABORATORS

Staffan Bensch, Lund Unversity
Brian Dorr, USDA/WS/National Wildlife Research Center
Katie Dorr, USDA/WS/National Wildlife Research Center
Sergei Drovetski, Smithsonian Institution
Jerome Goddard, Mississippi Entomology Museum
Olof Hellgren, Lund University
Jovonn Hill, Mississippi Entomology Museum
Susan Perkins, American Museum of Natural History
Daniel Peterson, Mississippi State University
Robert Ricklefs, University of Missouri – St. Louis
Jennifer Seltzer, Mississippi Entomology Museum
Gary Voelker, Texas A&M University

GRADUATE STUDENTS

Jessica Aycock, PhD, Major Advisor
Margarita Baquero, MS, Committee Member (Graduated 5/2016)
Haley Bodden, MS, Major Advisor
Kayla Fast, MS, Major Advisor (Graduated 12/2015)
Johanna Harvey, PhD, Committee Member (Texas A&M)
Christie Jaeger, MS, Committee Member, Entomology (Graduated 8/2017)
Sara Lamb, MS, Landscape Architecture, Committee Member (Graduated 5/2015)
David Larson, MS, Major Advisor (Graduated 12/2015)
Christopher Savell, MS, Committee Member (Graduated 8/2016)
Jennifer Schwab, PhD, Committee Member
Gabriel Schuler, MS, Committee Member
Michael Vandewege, PhD, Molecular Biology and Biochemistry, Committee Member (Graduated 5/2016)