

Jessica A. Wooten

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Professional Positions

The University of Findlay, Findlay, Ohio (August 2009 – present)

Assistant Professor of Biology

The Ohio State University, Columbus, Ohio (November 2008 – present)

Visiting Scholar in the Department of Evolution, Ecology, and Organismal Biology

Franklin University, Columbus, Ohio (August 2007 – August 2009)

Assistant Professor / Lead Faculty of Natural Sciences

The University of Alabama, Tuscaloosa, Alabama (August 2003 – July 2007)

Graduate Teaching Assistant of Biological Sciences

West Virginia University at Parkersburg, Parkersburg, West Virginia (July 2001 – July 2003)

Instructor of Biology

Education

The University of Alabama, Tuscaloosa, Alabama (2003-2008)

Ph.D. in Biological Sciences, Area of Specialization: Ecology, Evolution, and Systematics

Marshall University, Huntington, West Virginia (1999-2001)

M.S. in Biological Sciences, Area of Specialization: Herpetology and Field Ecology

Marshall University, Huntington, West Virginia (1994-1999)

B.S. in Biological Sciences, Minor in Chemistry

Research Interests

- Molecular evolution, including phylogeography and population genetics, of amphibians and reptiles, using mitochondrial and nuclear DNA sequences, microsatellites, and, rarely, AFLP
- Inquiry into the evolution of the ecological niche using ecological niche modeling, specifically to test for niche conservatism between closely related nominal taxa or evolutionary significant groups
- Investigations into the determinants of the spatial distribution of amphibians and reptiles across the landscape as indicated by genetic signatures and biogeography
- Studies of the life history and ecology of vertebrates, particularly the population and community structure of amphibians and reptiles
- Examinations into morphology using morphometrics and various microscopical techniques and behavior, such as competition, aggression, and predation, at species boundaries and / or alleged hybridization zones for closely related nominal taxa

Teaching

Institutions taught (evaluations were in the top 25% and are available by request):

- The University of Findlay (2009 – present)
- Franklin University (2007 – 2009)
- The University of Alabama (2003 – 2007)
- West Virginia University at Parkersburg (2001 – 2003)

Courses taught (* indicates lecture and laboratory):

- Biodiversity, Form, and Function* (Findlay, Alabama)
- Introduction to Cell and Molecular Biology (Findlay)
- Human Genetics (Findlay)
- Introduction to Research* (Findlay)
- Ornithology* (Findlay)
- Special Topics: Undergraduate Research (Findlay)
- General Biology I for majors and non-majors* (West Virginia)
- General Biology II for majors and non-majors* (West Virginia)
- Anatomy and Physiology II (West Virginia)
- Zoology: Animals as Organisms* (West Virginia)
- Introduction to General Chemistry* (West Virginia)

Courses developed (*indicates lecture and laboratory):

- Earth Science (Franklin)
- Environmental Science (Franklin)
- Microbiology (Franklin)
- Introduction to Human Biology (Franklin)
- Introduction to General Chemistry (Franklin)
- Science and Society (Franklin)
- Integrated Science (Franklin)
- Biodiversity, Form, and Function* (Findlay, Alabama)
- Introduction to Cell and Molecular Biology (Findlay)
- Human Genetics (Findlay)
- Introduction to Research* (Findlay)
- Ornithology* (Findlay)
- *Co-Course Developer*: Part of a three-person team appointed to purchase equipment, and develop and implement lab topics covered in Human Physiology Laboratory (Alabama)
- General Biology I for majors and non-majors* (West Virginia)
- General Biology II for majors and non-majors* (West Virginia)
- Anatomy and Physiology II* (West Virginia)
- Zoology: Animals as Organisms* (West Virginia)
- Introduction to General Chemistry* (West Virginia)

Courses assisted during graduate school:

- Vertebrate Zoology Laboratory (Alabama)
- Microscopical Techniques – Scanning Electron Microscopy only (Alabama)
- Principles of Biology I Laboratory (Alabama)
- Principles of Biology I Laboratory for Honor Students (Alabama)
- Functional Vertebrate Anatomy Laboratory (Alabama)
- Human Physiology Laboratory (Alabama)
- Integrated Freshman Community (Math and Biology; Alabama)

Service to the Institution

On-campus service:

- Advisor for the Pre-Med Club (Findlay)
- Committee of Committees (Findlay)
- Endowed Scholarship Committee (Findlay)
- Faculty Vice President for Sigma Xi (Findlay)
- Faculty advisor and mentor for undergraduate researchers (Findlay)
- Personnel Committee (Franklin)
- Academic Sustainability Committee (Franklin)
- Honorary Degree Committee (Franklin)
- Freshman Community Seminar Mentor (Alabama)
- Graduate Teaching Fellow (Alabama)
- Faculty advisor for the Earth and Sky Club (West Virginia)
- Faculty advisor for the Earth Club (West Virginia)
- Social Justice Committee (West Virginia)
- Non-Violence Committee (West Virginia)
- Academic Diversity Committee (West Virginia)
- Faculty Development Committee (West Virginia)
- Regional Educational Service Area Science Quiz Bowl (West Virginia)
- Attended Association of Southeastern Biologists Meeting in Boone, North Carolina with undergraduate researchers (West Virginia)

Inter-campus service:

- Marshall University: Adjunct Professor: Sole responsibility is to serve on thesis committees

Research

Current undergraduate research projects:

- Nathan Richey – Investigations into hybridization patterns across elevational gradients using mitochondrial and nuclear DNA sequences for two species of woodland salamanders, *Plethodon shermani* and *P. chattahoochee*.

- Alicia Oberhaus – Phylogeography and population genetics inferred from mitochondrial DNA, in the Black Mountain Salamander, *Desmognathus welteri*, in the Cumberland Mountains and Plateau.
- Katherine McHenry, Hannah Rice, and Jessica Claudio – Habitat disturbance and hybridization between the Arizona Toad, *Anaxyrus microscaphus* and Woodhouse's Toad, *Anaxyrus woodhousii*.
- Danielle Peters – Using standard contrasts to gain insights into morphological homoplasy in *Desmognathus* in the Appalachian Mountains.
- Caitlin Corbet – Behavioral interactions and aggression in sympatric and allopatric populations of the Black-bellied Salamander, *Desmognathus quadramaculatus*, and the Dwarf Black-bellied Salamander, *D. folkertsi*.
- Kimberly Eaken – Life history evolution in several species of *Desmognathus*: Investigations using phylogenies and independent contrasts.

Submitted or In Preparation Manuscripts (* indicates an undergraduate author):

Wooten, Jessica A., Sutton, William B., and Thomas K. Pauley. Integrating multi-scale environmental data to determine factors affecting the distribution of sympatric plethodontid salamander species. *Submitted*: Diversity and Distribution.

Bagley, Justin and **Jessica A. Wooten**. Phylogenetic analysis of morphological allometry in dusky salamanders (Plethodontidae: *Desmognathus*). *Submitted*: Evolution.

Camp, Carlos D., **Wooten, Jessica A.**, Corbet, Caitlin*, Mitchem, Joshua*, and Thomas J. Krieger. Until extinction do them part: Relationships and interactions between two sympatric, cryptic species of *Desmognathus*. *In prep*: Submission in January 2011 to Herpetological Monographs.

Wooten, Jessica A., Camp, Carlos D., and Nathan Richey*. Investigations into hybridization patterns across elevational gradients using mtDNA and nDNA: Evidence of introgression in two species of woodland salamanders. *In prep*: Submission in February 2011 to Molecular Ecology.

Publications

Kintukumar, Lad*, Lauer, Rebecca*, Facer, Megan*, Bickelhaupt, Katlynn*, White, Chris, **Wooten, Jessica**, and Terry Schwaner. 2010. Early growth and age of American Bullfrogs, *Rana* (= *Lithobates*) *catesbeiana*, in a recently constructed, northwest Ohio wetland. *In press*: Proceedings of the West Virginia Academy of Science.

Wooten, Jessica A., Rissler, Leslie J., and Carlos D. Camp. 2010. Cryptic genetic diversity in a narrowly endemic, recently described dusky salamander within the southern Appalachian Mountains. *Conservation Genetics* 11:835-854.

Wooten, Jessica A. and Lori Tolley-Jordan. 2009. Validation of the phylogenetic signals in AFLP data: testing the utility and reliability of AFLP in closely related taxa. *BMC Research Notes* 2:26.

Marcum, Conley, Pauley, Thomas K., and **Jessica A. Wooten**. 2008. Review of Nesting Ecology and Larval Period for *Desmognathus ochrophaeus* (Amphibia: Caudata: Plethodontidae) with Specific Comments for Populations in West Virginia. *Proceedings of the West Virginia Academy of Science* 80:21-29.

Wooten, Jessica A. and Thomas K. Pauley. 2007. Sexual size dimorphism in dusky salamanders, *Desmognathus*. *Proceedings of the West Virginia Academy of Science* 79(2):9-15.

Wooten, Jessica A. and Thomas K. Pauley 2007. Amphibians of the upland habitats of the New River Gorge National River, West Virginia. *Proceedings of the West Virginia Academy of Science* 79(2):44-55.

Bonett, R.M., Kozak, K.H., Vieites, D.R., Bare, A., **Wooten, J.A.**, and S.E. Trauth. 2007. The importance of comparative phylogeography in diagnosing introduced species: A lesson from the seal salamander, *Desmognathus monticola*. *BMC Ecology* 7:7.

Secor, Stephen M., **Wooten, Jessica A.**, and Christian L. Cox. 2007. Effects of meal size, meal type, and body temperature on the specific dynamic action of anurans. *Journal of Comparative Physiology* 177(2):165-182.

Wooten, Jessica A. and Leslie J. Rissler. 2005. Geographic distribution of the dwarf black-bellied salamander, *Desmognathus folkertsi*. *Herpetological Review* 36(4):461.

Current collaborations (* indicates undergraduate reserachers are directly involved):

- *Carlos D. Camp, Ph.D. (Piedmont College, Demorest, GA)
- *Zachary I. Felix, Ph.D. (Reinhardt College, GA)
- *Brian Sullivan, Ph.D. (Arizona State University, Phoenix, AZ)
- *Terry Schwaner, Ph.D. (The University of Findlay, Findlay, OH)
- H. Lisle Gibbs, Ph.D. (The Ohio State University, Columbus, OH)
- Thomas K. Pauley, Ph.D. (Marshall University, Huntington, WV)
- William Sutton, Ph.D. (Alabama A & M, Normal, AL)
- Justin Bagley, Ph.D. Candidate (Brigham Young University, Provo, UT)

Selected conference abstracts and presentations (*undergraduate presented):

2010 *Multiple approaches to identifying unique lineage distributions in the Black Mountain Dusky Salamander, *Desmognathus welteri* (Caudata: Plethodontidae), The Ohio Academy of Science Annual Meeting, Ada, Ohio and The University of Findlay Undergraduate Symposium for Scholarship and Creativity, Findlay, Ohio

2010 *Chemical communication in two species of dusky salamanders (Genus *Desmognathus*) from the southern Appalachian Mountains, The Ohio Academy of Science Annual Meeting, Ada, Ohio and The University of Findlay Undergraduate Symposium for Scholarship and Creativity, Findlay, Ohio

2010 *Estimates of growth rate and age of bullfrogs, *Rana* (= *Lithobates*) *catesbeiana*, in a recently constructed wetland in northwest Ohio, The Ohio Academy of Science Annual Meeting, Ada, Ohio and The University of Findlay Undergraduate Symposium for Scholarship and Creativity, Findlay, Ohio

2010 *Using the comparative method to investigate life history evolution in dusky salamanders (Genus *Desmognathus*), The University of Findlay Undergraduate Symposium for Scholarship and Creativity, Findlay, Ohio

2010 *Morphological homoplasy in three species of closely related dusky salamander species (Plethodontidae: *Desmognathus*) in the southern Appalachian Mountains, The University of Findlay Undergraduate Symposium for Scholarship and Creativity, Findlay, Ohio

2009 Characterization of the ecological requirements for three plethodontid salamander species, Conference on Ecology and Management of High-Elevation Forests of the Central and Southern Appalachian Mountains, Conference on Ecology and Management of High-elevation Forests of the Central and Southern Appalachian Mountains in Slatyfork, West Virginia

2008 Habitat and climate relationships for three plethodontid salamander species: implications for conservation, Society of Conservation Biology in Chattanooga, Tennessee

2006 Body size relationships and allometry in the dusky salamanders, *Desmognathus*, American Society for Ichthyologists and Herpetologists in New Orleans, Louisiana

2006 Allometric relationships of body size in the dusky salamanders, *Desmognathus* (Caudata: Plethodontidae), Ecological Society of America meeting in Memphis, Tennessee

2005 Multiple approaches to identifying lineage distribution in the black-bellied salamander, *Desmognathus quadramaculatus*, Sigma Xi meeting in Seattle, Washington

2005 Phylogenetics of the black-bellied salamander, *Desmognathus quadramaculatus*, American Society for Ichthyologists and Herpetologists in Tampa, Florida

2005 Determinates of the specific dynamic action for anurans, Society of Integrative and Comparative Biology in San Diego, California

2004 Determinates of the specific dynamic action for anurans, Society of Ecology and Evolution in Atlanta, Georgia

2004 Determinates of the specific dynamic action for anurans, American Society of Ichthyologists and Herpetologists in Norman, Oklahoma

Grants and Awards

Pending:

2010 Submitted a collaborative grant application to the National Science Foundation: Major Research Instrumentation grant for a scanning electron microscope (Wooten, PI with six other researchers), rejected with highly meritorious and very good review categories; planned resubmission in January 2011.

2009 Submitted a grant application to the National Science Foundation to be a sponsoring scientist for a post-doctoral researcher over two years (Bill Sutton, Alabama A&M, PI, Wooten, sponsoring scientist); application was rejected, but with good and very good review categories; planned resubmission if the program is announced in 2011.

Grants and Awards Received:

2008 Nominated as an Excellent Educator for Ohio Magazine

2007 Graham Prize for Outstanding Achievement in Biology from The University of Alabama \$1500

2006 American Natural History Museum Research Grant \$1500

2006 Outstanding Graduate Teaching Assistant of the Year from The University of Alabama

2005 The Inge and Illouise Hill Research Fellowship from The University of Alabama \$2000

2003 Graduate Teaching Assistantship at The University of Alabama

2001 Faculty Development Committee \$4000

2001 The West Virginia Foundation \$2000

2000 NASA Space Grant \$500

2000 West Virginia Department of Natural Resources and the Nongame Wildlife and Natural Heritage Program \$3400

1999 Graduate Assistantship at Marshall University

1994 Flatwoods Area Jaycees Scholarship \$500

1994 American Association of University Women Scholarship \$2000

Professional Affiliations

The Society for the Study of Evolution

American Association for the Advancement of Science

Ecological Society of America

Sigma Xi

The Ohio Academy of Science

Professional References

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