
DONALD B. SHEPARD

Sam Noble Oklahoma Museum of
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University of Oklahoma
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RESEARCH INTERESTS

- Evolutionary Ecology
- Speciation
- Phylogenetics
- Phylogeography
- Biogeography
- Herpetology

POSITIONS

- 2009–present Affiliated Research Associate, Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Norman, OK
- 2009 Post-doctoral Researcher and Adjunct Lecturer, Department of Biology, College of Staten Island – City University of New York, Staten Island, NY.
- 2002–2008 Graduate Research/Teaching Assistant, Department of Zoology and Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Norman, OK.
- 2000–2002 Field Ecologist, Illinois Natural History Survey, Center for Biodiversity, Champaign, IL.
- 1998–2000 Graduate Teaching Assistant, Department of Biological Sciences, Illinois State University, Normal, IL.

EDUCATION

- Ph.D. Zoology, University of Oklahoma, Norman, Oklahoma, 2008.
Advisor: Janalee P. Caldwell
Dissertation: Phylogeography and Diversification of the Ouachita Mountain Endemic Salamanders of the *Plethodon ouachitae* complex
- M.S. Biological Sciences, Illinois State University, Normal, Illinois, 2000.
Major Professor: Lauren E. Brown
Thesis: Aggressive Behavior and Potential of Territoriality in the Green Frog *Rana clamitans*
- B.S. Biology, University of Illinois, Urbana-Champaign, Illinois, 1997.

RESEARCH EXPERIENCE

- **Post-doctoral Researcher**, Department of Biology, College of Staten Island – City University of New York, Staten Island, NY. Advisor: Dr. Frank T. Burbrink – January to August 2009

- Conduct phylogeographic studies on salamanders of the genus *Plethodon* in the Interior Highlands (Ozark & Ouachita Mountains) of the U.S. to determine species diversity, boundaries, and factors driving diversification. Also, develop informative nuclear loci for use in systematic studies of plethodontid salamanders.
- **Graduate Research Assistant**, Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Norman, OK. Advisors: Drs. Jan Caldwell and Laurie Vitt – October to December 2003 and August 2004 to June 2008
As part of an NSF funded project “Survey and Inventory of the Brazilian Cerrado Herpetofauna”, I assisted with field surveys and making collections of amphibians and reptiles throughout the Cerrado region of Brazil. Additionally, I conducted and assisted with research on the behavior and ecology of Cerrado amphibians and reptiles.
 - **Graduate Research Assistant**, Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Norman, OK. Advisors: Drs. Jan Caldwell and Laurie Vitt – May to August 2003–2008
Conduct field surveys and make collections of amphibians and reptiles on 1) Camp Gruber U.S. Army Training Grounds, Muskogee County, Oklahoma, 2) BLM lands in the Billings, Montana region, and 3) various State Wildlife Management Areas in Oklahoma.
 - **Field Ecologist**, Illinois Natural History Survey, 607 East Peabody Drive, Champaign, IL 61820. Supervisor: Dr. Chris Phillips – August 2000 to July 2002
Conduct field surveys for the endangered eastern massasauga rattlesnake (*Sistrurus catenatus*) at Carlyle Lake, IL, including tracking snakes using radio-telemetry and collecting life history and ecological data.
 - **Field Assistant**, Illinois Natural History Survey, 607 East Peabody Drive, Champaign, IL 61820. Supervisors: Drs. Scott Robinson and James Herkert – May to August 1997
Searching for and monitoring of nests of grassland bird species at the Midewin National Tallgrass Prairie (former Joliet Arsenal), Will Co., IL. Census birds by song using point counts.
 - **Undergraduate Research**, University of Illinois, Urbana-Champaign, IL. Supervisor: Dr. Lowell Getz – January to May 1997
Trapping of small mammals in tallgrass prairie, bluegrass, and alfalfa fields in central Illinois as part of a 25-year population study of the prairie vole (*Microtus orchrogaster*) and meadow vole (*Microtus pennsylvanicus*).

TEACHING EXPERIENCE

Lecturer/Instructor

- **Evolution**, Department of Biology, College of Staten Island – City University of New York – Summer 2009
- **Behavioral Biology**, Department of Biology, College of Staten Island – City University of New York – Spring 2009
- **Vertebrate Zoology Lab**, Department of Biology, College of Staten Island – City University of New York – Spring 2009
- **Human Biology**, Department of Biological Sciences, Illinois State University – Summer 1999 and last ¼ of Fall 1999

Lab Teaching Assistant

- **Ecology**, Department of Zoology, University of Oklahoma – Fall 2008
- **Herpetology**, Department of Zoology, University of Oklahoma – Spring 2005
- **Human Anatomy**, Department of Zoology, University of Oklahoma – Spring 2003
- **Introduction to Zoology**, Department of Zoology, University of Oklahoma – Fall 2002

- **Comparative Vertebrate Anatomy**, Department of Biological Sciences, Illinois State University – Spring 2000
- **Biology of the Lower Vertebrates**, Department of Biological Sciences, Illinois State University – Fall 1998 and 1999
- **Fundamental Concepts of Biology**, Department of Biological Sciences, Illinois State University – Spring and Fall 1998 and 1999

COLLECTIONS EXPERIENCE

- Graduate Student, Department of Herpetology, Sam Noble Oklahoma Museum of Natural History, University of Oklahoma – August 2002 to December 2008.
- Graduate Research Curatorial Assistant, Division of Herpetology, Sam Noble Oklahoma Museum of Natural History, University of Oklahoma – August 2003 to July 2004.
Assist with general maintenance of herpetology collection (50,000+ specimens). Collect and catalogue specimens and assist curators on collecting trips to Brazil. Organize, check identifications and update taxonomy of snakes in the collection.
- Graduate Student, Illinois State University Museum, Illinois State University – January 1998 to May 2000.
Assist curator with maintenance of amphibian and reptile museum and teaching collections.

PUBLICATIONS

- 2009 **Shepard, D.B.**, and F.T. Burbrink. Phylogeographic and demographic effects of Pleistocene climatic fluctuations in a montane salamander, *Plethodon fouchensis*. *Molecular Ecology* 18:2243–2262.
- 2009 Crawford, J.A., **D.B. Shepard**, and C.A. Conner. Diet composition and overlap between recently metamorphosed *Rana areolata* and *Rana sphenoccephala*: Implications for a frog of conservation concern. *Copeia*, in press.
- 2009 Goldberg, S.R., C.R. Bursey, J.P. Caldwell, and **D.B. Shepard**. Gastrointestinal helminths of six sympatric species of *Leptodactylus* from Tocantins State, Brazil. *Comparative Parasitology* 76:258–266.
- 2008 **Shepard, D.B.**, and F.T. Burbrink. Lineage diversification and historical demography of a sky island salamander, *Plethodon ouachitae*, from the Interior Highlands. *Molecular Ecology* 17:5315–5335.
- 2008 **Shepard, D.B.**, A.R. Kuhns, M.J. Dreslik, and C.A. Phillips. Roads as barriers to animal movement in fragmented landscapes. *Animal Conservation* 11:288–296.
- 2008 Costa, G.C., C.A. Wolfe, **D.B. Shepard**, J.P. Caldwell, and L.J. Vitt. Detecting the influence of climatic variables on species' distributions: a test using GIS niche-based models along a steep longitudinal environmental gradient. *Journal of Biogeography* 35:637–646.
- 2008 Aldridge, R.D., B.C. Jellen, M.C. Allender, M.J. Dreslik, **D.B. Shepard**, J.M. Cox, and C.A. Phillips. Reproductive biology of the massasauga (*Sistrurus catenatus*) from south-central Illinois. Pp. 403–412. In *The Biology of Rattlesnakes*. W.K. Hayes, K.R. Beaman, M.D. Cardwell, and S.P. Bush (eds.). Loma Linda University Press, Loma Linda, California.
- 2008 **Shepard, D.B.**, M.J. Dreslik, B.C. Jellen, and C.A. Phillips. Reptile road mortality around an oasis in the Illinois corn desert with emphasis on the endangered eastern massasauga. *Copeia* 2008:350–359.

- 2008 Brown, L.E., A. Dubois, and **D.B. Shepard**. Inefficiency and bias of search engines in retrieving references containing scientific names of fossil amphibians. *Bulletin of Science, Technology & Society* 28:279–288.
- 2008 Vitt, L.J., **D.B. Shepard**, G.H.C. Vieira, J.P. Caldwell, G.R. Colli, and D.O. Mesquita. Ecology of *Anolis nitens brasiliensis* in cerrado woodlands of Cantão. *Copeia* 2008:144–153.
- 2007 **Shepard, D.B.** Habitat but not body shape affects predator attack frequency on lizard models in the Brazilian Cerrado. *Herpetologica* 63:193–202.
- 2007 Vitt, L.J., **D.B. Shepard**, J.P. Caldwell, G.H.C. Vieira, F.G.R. França, and G.R. Colli. Living with your food: Geckos (*Gymnodactylus carvalhoi*) in termitaria of Cantão. *Journal of Zoology* 272:321–328.
- 2007 Caldwell, J.P., and **D.B. Shepard**. Calling site fidelity and call structure of a Neotropical toad, *Rhinella ocellata* (Anura: Bufonidae). *Journal of Herpetology* 41:611–621.
- 2007 Jellen, B.C., **D.B. Shepard**, M.J. Dreslik, and C.A. Phillips. Male movement and body size affect mate acquisition in the Eastern Massasauga (*Sistrurus catenatus*). *Journal of Herpetology* 41:451–457.
- 2005 **Shepard, D.B.**, and J.P. Caldwell. From foam to free-living: Ecology of larval *Leptodactylus labyrinthicus*. *Copeia* 2005:803–811.
- 2005 Leary, C.J., D.J. Fox, **D.B. Shepard**, and A.M. Garcia. Body size, age, growth and alternative mating tactics in toads: satellite males are smaller but not younger than calling males. *Animal Behaviour* 70:663–671.
- 2005 **Shepard, D.B.**, and L.E. Brown. *Bufo houstonensis* Houston toad. Pp. 415–417. In *Amphibian Declines: The Conservation Status of United States Species*. M. Lannoo (ed.). University of California Press, Berkeley, California.
- 2005 **Shepard, D.B.**, L.E. Brown, and B.P. Butterfield. *Pseudacris streckeri* Strecker's Chorus Frog. Pp. 484–485. In *Amphibian Declines: The Conservation Status of United States Species*. M. Lannoo (ed.). University of California Press, Berkeley, California.
- 2005 Vitt, L.J., J.P. Caldwell, G.R. Colli, A.A. Garda, D.O. Mesquita, F.G.R. França, **D.B. Shepard**, G.C. Costa, M.M. Vasconcellos, and V. De Novaes e Silva. Uma atualização do guia fotográfico dos répteis e anfíbios da região do Jalapão no Cerrado Brasileiro. *Special Publications in Herpetology, Sam Noble Oklahoma Museum of Natural History* 2:1–24.
- 2004 **Shepard, D.B.**, C.A. Phillips, M.J. Dreslik, and B.C. Jellen. Prey preference and diet of neonate eastern massasaugas (*Sistrurus c. catenatus*). *American Midland Naturalist* 152:360–368.
- 2004 **Shepard, D.B.** Seasonal differences in aggression and site tenacity in male green frogs, *Rana clamitans*. *Copeia* 2004:159–164.
- 2002 **Shepard, D.B.** Spatial relationships of male green frogs (*Rana clamitans*) throughout the activity season. *American Midland Naturalist* 148:394–400.

Shorter Contributions

- 2007 Petzing, J.E., J.M. Mui, M.J. Dreslik, A.R. Kuhns, **D.B. Shepard**, C.A. Phillips, J.K. Tucker, J.K. Warner, D. Mauger, T.G. Anton, E.J. Gittinger, T.R. Hunkapiller, B.C. Jellen, and R.J. Cosgriff. Filling in the gaps II: New Illinois amphibian and reptile county records from 2000–2005. *Herpetological Review* 38:240–243.

- 2007 Jellen, B.C., C.A. Phillips, M.J. Dreslik, and **D.B. Shepard**. *Sistrurus catenatus*. Reproduction. *Herpetological Review* 38:343–344.
- 2005 **Shepard, D.B.** *Eumeces fasciatus*. Predation. *Herpetological Review* 36:177.
- 2004 Richter, S.C., and **D.B. Shepard**. *Rana areolata*. Geographic distribution. *Herpetological Review* 35:283.
- 2003 **Shepard, D.B.**, M.J. Dreslik, C.A. Phillips, and B.C. Jellen. *Sistrurus catenatus catenatus*. Male-male aggression. *Herpetological Review* 34:155–156.
- 2002 Petzing, J.E., J.M. Mui, M.J. Dreslik, C.A. Phillips, **D.B. Shepard**, J.A. Crawford, A.R. Kuhns, M.J. Mayer, T.G. Anton, E.O. Moll, J.G. Palis, and D. Mauger. Filling in the gaps I: New county records for amphibians and reptiles in Illinois. *Herpetological Review* 33:327–330.
- 2000 **Shepard, D.B.**, and A.R. Kuhns. *Pseudacris triseriata*. Calling sites after drought. *Herpetological Review* 31:235–236.
- 2000 Petzing, J.E., M.J. Dreslik, C.A. Phillips, C.D. Smith, A.R. Kuhns, **D.B. Shepard**, J.G. Palis, E.O. Moll, D.J. Olson, T.G. Anton, D. Mauger, and B.A. Kingsbury. New amphibian and reptile county records in Illinois. *Herpetological Review* 31:189–194.
- 2000 **Shepard, D.B.**, and H.M. Burdett. *Pseudacris clarkii*. Geographic distribution. *Herpetological Review* 31:50.

PRESENTATIONS

Invited Speaker

- 2008 Lineage diversification in sky island salamanders. Ph.D. seminar, Department of Zoology, University of Oklahoma, Norman, Oklahoma, USA.
- 2008 Life without Legs: Evolution and Diversity of Snakes. Oklahoma City Audubon Society, Oklahoma City, Oklahoma, USA.
- 2001 Ecology of the eastern massasauga rattlesnake at Carlyle Lake, Illinois: A case study. Co-presented with C. Phillips, M. Dreslik, and B. Jellen at Herpetology Group, Washington University, St. Louis, Missouri, USA.

Contributed Papers

- 2008 Lineage diversification and historical demography in a sky island salamander. Joint Annual Meeting of the American Society of Naturalists, Society of the Study of Evolution, and the Society of Systematic Biologists. Minneapolis, Minnesota, USA.
- 2008 Reassessment of species boundaries in salamanders of the *Plethodon ouachitae* complex. Arkansas Wildlife Action Plan Conference, Mt. Magazine State Park, Arkansas, USA.
- 2007 A new perspective on the morphological and genetic variation among *Plethodon ouachitae* from different mountains in the Ouachita Range. Joint Meeting of American Society of Ichthyologists and Herpetologists, Society for the Study of Amphibians and Reptiles, and Herpetologists' League. St. Louis, Missouri, USA.
- 2006 Habitat but not body shape affects predator attack frequency on lizards in the Brazilian Cerrado. Joint Meeting of American Society of Ichthyologists and Herpetologists, Society for the Study of Amphibians and Reptiles, and Herpetologists' League. New Orleans, Louisiana, USA.

- 2005 Reptile road mortality around an oasis in the Illinois corn desert, with emphasis on the endangered eastern massasauga (*Sistrurus c. catenatus*). 19th Annual Meeting of the Society for Conservation Biology. Universidade de Brasilia, Brasília, DF, Brazil.
- 2005 Reptile road mortality around an oasis in the Illinois corn desert, with emphasis on the endangered Eastern Massasauga. Joint Meeting of American Society of Ichthyologists and Herpetologists, Society for the Study of Amphibians and Reptiles, and Herpetologists' League. University of South Florida, Tampa, Florida, USA.
- 2003 Foraging ecology of neonate eastern massasaugas (*Sistrurus c. catenatus*). 50th Annual Meeting of the Southwestern Association of Naturalists, Norman, Oklahoma, USA.
- 2002 Ecology of neonate eastern massasauga rattlesnakes (*Sistrurus c. catenatus*). Joint Annual Meeting of the American Society of Ichthyologists and Herpetologists, the Society for the Study of Amphibians and Reptiles, and the Herpetologists' League, Kansas City, Missouri, USA.
- 2001 Population ecology of the eastern massasauga rattlesnake, *Sistrurus catenatus catenatus*. Joint Annual Meeting of the Society for the Study of Amphibians and Reptiles and the Herpetologists' League, Indianapolis, Indiana, USA.
- 2001 Population ecology of the eastern massasauga rattlesnake, *Sistrurus catenatus catenatus*. 93rd Annual Meeting of the Illinois State Academy of Sciences, Macomb, Illinois, USA.
- 2000 Absence of territoriality in the green frog *Rana clamitans*. Joint Meeting of the American Society of Ichthyologists and Herpetologists, American Elasmobranch Society, Neotropical Ichthyological Association, Herpetologists' League, Canadian Association of Herpetologists, and Society for the Study of Amphibians and Reptiles, La Paz, B.C.S., Mexico.
- 2000 Aggressive behavior and the potential of territoriality in the green frog *Rana clamitans*. 1st Annual Phi-Sigma Biological Sciences Research Symposium, Illinois State University, Normal, Illinois, USA.

GRANTS

- 2006-9 State of Arkansas, Game and Fish Commission SWG grant. "Reassessment of species boundaries in the endemic Arkansas salamanders of the *Plethodon ouachitae* complex using molecular phylogeographic techniques." \$95,181 (with F. Burbrink and K. Irwin)
- 2007 Graduate Student Senate Research and Activity Grant, University of Oklahoma. \$218.40
- 2006 Graduate Student Senate Research and Activity Grant, University of Oklahoma. \$250
- 2006 Graduate Student Senate Conference and Creative Exhibition Grant, University of Oklahoma. \$250
- 2005 Graduate Student Senate Research and Activity Grant, University of Oklahoma. \$209.25
- 2005 Graduate Student Senate Conference and Creative Exhibition Grant, University of Oklahoma. \$232.50
- 2004 Graduate Student Senate Research and Activity Grant, University of Oklahoma. \$182.50
- 2004 Graduate Student Senate Conference and Creative Exhibition Grant, University of Oklahoma. \$124
- 2003 Graduate Student Senate Research and Activity Grant, University of Oklahoma. \$208
- 2002 U.S. Fish and Wildlife Service Candidate Species Fund. "Ecology and Conservation of the Eastern Massasauga Rattlesnake at Carlyle Lake, Illinois." \$43,000 (with C. Phillips and M. Dreslik)
- 2000 Graduate Student Association Research Grant, Illinois State University. \$125

- 1999 Illinois Wildlife Preservation Fund Small Project Grant, Illinois Department of Natural Resources. "Herpetofaunal Survey along the Illinois River in Woodford and Marshall Counties." \$742.90

PROFESSIONAL MEMBERSHIPS (PRESENT)

American Society of Ichthyologists and Herpetologists
Herpetologists' League
Partners in Amphibians and Reptile Conservation
Society for the Study of Amphibians and Reptiles
Society for the Study of Evolution
Society of Systematic Biologists

PROFESSIONAL SERVICE

- Assistant Editor, *Herpetological Conservation and Biology* – 2006 to present
- Assistant to the Corresponding Editor, *Alytes-International Journal of Batrachology* – 2004 to present
- Journal Referee for: *Copeia*, *Herpetologica*, *Journal of Herpetology*, *Austral Ecology*, *Oecologia*, *Biological Journal of the Linnean Society*, *Ecography*, *Herpetological Journal*, *Journal of Applied Ecology*, *Alytes-International Journal of Batrachology*, *Herpetological Review*, *Acta Ethologica*, and *Western North American Naturalist*
- Member of IUCN/SSC Amphibian Specialist Group 2005–present
- Local Committee for the 2004 Joint Meeting of Ichthyologists and Herpetologists, Norman, OK
- Contributing Scientist for IUCN Red List Assessment of *Bufo houstonensis* for Global Amphibian Assessment Project – 2003

HONORS, SCHOLARSHIPS, AND AWARDS

- 2007 Adams Scholarship, Department of Zoology, University of Oklahoma
2004 George Miksch Sutton Scholarship in Ornithology, University of Oklahoma.
2000 Graduate Student Association Professional Advancement Award, Illinois State University.
2000 Omar Rilett Scholarship Award, Department of Biological Sciences, Illinois State University.
2000 Outstanding Oral Presentation Award, First Annual Phi-Sigma Biological Sciences Research Symposium, Illinois State University.
2000 Nominated for Outstanding University Graduate Student Teaching Award, Illinois State University.
1999 Outstanding Teaching Assistant Award, Department of Biological Sciences, Illinois State University.
1996-7 Dean's List, University of Illinois.