

Sean Brendan Menke

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Education

- 2007 Ph.D. (Biology) University of California, San Diego. David A. Holway advisor.
Predicting Argentine Ant (*Linepithema humile*) Invasions at Multiple Spatial Scales: The Relative Importance of Abiotic and Biotic Factors.
- 2002 M.S. (Zoology) University of Oklahoma, Norman. Laurie J. Vitt advisor.
Lizard community structure across an expanding grassland/creosote shrubland ecotone in the Chihuahuan Desert.
- 1999 B.A. (Biology) University of Minnesota, Morris

Professional experience

2007-present Postdoctoral Fellow, North Carolina State University

Publications

- Menke, S.B., W. Booth, R.R. Dunn, C. Schal, E. Vargo, J. Silverman. 2010. Is it easy to be urban? Convergent success in urban habitats among lineages of a widespread native ant. *PLoS ONE*, 5(2):e9194.
- Dunn R.R., D. Agosti, A.N. Andersen, X. Arnan, C.A. Bruhl, X. Cerda, A.M. Ellison, B.L. Fisher, M.C. Fitzpatrick, H. Gibb, N.J. Gotelli, A.D. Gove, B. Guenard, M. Janda, M.E. Kaspari¹, E.J. Laurent, J.P. Lessard, J.T. Longino, J.D. Majer, S.B. Menke, T.P. McGlynn, C.L. Parr, S.M. Philpott, M. Pfeiffer, J. Retana, A.V. Suarez, H.L. Vasconcelos, M.D. Weiser, and N.J. Sanders. 2009. Climatic drivers of hemispheric asymmetry in global patterns of ant species richness. *Ecology Letters*, 12:324-333.
- Menke, S.B., D.A. Holway, R.N. Fisher, W. Jetz. 2009. Characterizing and predicting species distributions across environments and scales: Argentine ant occurrences in the eye of the beholder. *Global Ecology and Biogeography*, 18:50-63.
- Grover, C.* , K.C. Dayton*, S.B. Menke, D.A. Holway. 2008. Effects of aphids on foliar foraging by Argentine ants and the resulting effects on other arthropods. *Ecological Entomology*, 33:101-106.
- Menke, S.B., R.N. Fisher, W. Jetz, D.A. Holway. 2007. Biotic and abiotic controls of Argentine ant invasion success at local and landscape scales. *Ecology*, 88(12):3164-3173.
- Dunn, R.R., N.J. Sanders, M.C. Fitzpatrick, E. Laurent, J. Lessard, D. Agosti, A. Andersen, C. Bruhl, X. Cerda, A. Ellison, B. Fisher, H. Gibb, N. Gotelli, A. Grove, B. Guenard, M. Janda, M. Kaspari, J.T. Longino, J. Majer, T.P. McGlynn, S. Menke, C. Parr, S. Philpott, M. Pfeiffer, J. Retana, A. Suarez, and H. Vasconcelos. 2007. Global ant (Hymenoptera: Formicidae) biodiversity and biogeography – a new database and its possibilities. *Myrmecological News*, 10:77-83.
- Menke, S.B. and D.A. Holway. 2006. Abiotic factors control invasion by Argentine ants at the community scale. *Journal of Animal Ecology*, 75:368-376.
- Munroe, T.A. and S.B. Menke. 2004. Two new soleid flatfishes (Pleuronectiformes: Soleidae: *Soleichthys*) from Australian waters, with a re-description of *Soleichthys microcephalus* (Günther). *Records of the Australian Museum*, 56:247-258.
- Menke, S.B. 2003. Lizard community structure across a grassland/creosote shrubland ecotone in the Chihuahuan Desert. *Canadian Journal of Zoology* 81:1829-1838.

Anderson, D. R., A. E. Carlson, H.G. Friedrich, M.C. Funk, F. Hammergren, P.A. Joyce III, J.A. Klicka, D.T. Marsden, S.B. Menke, D.W. Preuss, T. Raphael, R.A. Schmidt, and R.M. Zink. 1998. Predation on artificial ground nests at Itasca State Park. *The Loon*, 69:176-183.

Manuscripts in Preparation

Menke, S.B., A.V. Suarez, C.V. Tillberg, C.T. Chou*, and D.A. Holway. Trophic ecology of the invasive Argentine ant: isotopic enrichment and spatio-temporal variation in resource assimilation. *In Review Oecologia*.

Weiser, M.D. N.J. Sanders, D. Agosti, A.M. Ellison, B.L. Fisher, H. Gibb, N.J. Gotelli, A.D. Gove, B. Guenard, M. Janda, M. Kaspari, J. Lessard, J.T. Longino, J.D. Majer, S.B. Menke, T.P. McGlynn, C.L. Parr, S.M. Philpott, J. Retana, A. Suarez, H.L. Vasconcelos, S.P. Yanoviak, R.R. Dunn. 2009. Ant diversity on the ground and in the canopy: Do similar patterns imply similar climatic drivers? *In Review Biology Letters*.

Scientific Presentations

Menke, S.B., R.R. Dunn, and J. Silverman. 2009. Urban biogeography of ants, global to the local scale. Meeting of the Ecological Society of America. Albuquerque, NM.

Menke, S.B., W. Booth, E. Vargo, R.R. Dunn, and J. Silverman. 2008. Phylogeography of the odorous house ant *Tapinoma sessile*. Poster at the Meeting of the Entomological Society of America. Reno, NV.

Menke, S.B., W. Booth, R.R. Dunn, and J. Silverman. 2008. The odorous house ant (*Tapinoma sessile*): A new model system for the study of generalities in invasion biology. Meeting of the Ecological Society of America. Milwaukee, WI.

Menke, S.B., D.A. Holway, R.N. Fisher, and W. Jetz. 2007. Effects of sampling and scale on predicting the occurrence of species in novel environments: A test with Argentine ants (*Linepithema humile*). Entomological Society of America. San Diego, CA.

Holway, D.A. and S.B. Menke. 2007. Landscape heterogeneity and ant invasions in southern California. Entomological Society of America. San Diego, CA.

Menke, S.B., R.N. Fisher, W. Jetz, and D.A. Holway. 2006. Factors influencing Argentine and occurrence from the community to the landscape scale. Meeting of the Ecological Society of America. Memphis, TN.

Menke, S.B., R.N. Fisher, W. Jetz, and D.A. Holway. 2006. Predictors of Argentine ant (*Linepithema humile*) occurrence at the landscape scale. The International Union for the Study of Social Insects. Washington, DC.

Menke, S.B. and D.A. Holway. 2005. Abiotic factors control invasion by ants at the community scale. Joint Meeting of the Ecological Society of America and the International Congress of Ecology. Montréal, Canada.

Menke, S.B. 2002. Lizard community structure in an expanding grassland/creosote shrubland ecotone in the Chihuahuan Desert. Joint Meeting of Ichthyologists and Herpetologists. University of Kansas, Kansas City, MI.

Menke, S.B. 2001. Effects of an Ecotone on Lizard Community Structure in the Chihuahuan Desert. Joint Meetings of the Herpetologists' League and the Society for the Study of Amphibians and Reptiles. Indiana University, Indianapolis, IN.

Menke, S.B. 2001. Lizard Community Assemblages Across a Grassland/Creosote Scrubland Ecotone. 11th Annual Jornada Symposium. New Mexico State University, Las Cruces, NM.

Menke, S.B. 1999. Developmental abnormalities of the Mink Frog (*Rana septentrionalis*) observed by clearing and staining. *Journal of the Minnesota Academy of Science* 63: 3.

Invited Seminars

2010 Species distribution modeling and invasive species. Duke University, NC.

2009 Invasives, pests, and urban biogeography: Are urban areas really that bad?. Eastern Carolina University, NC.

2009 The odorous house ant (*Tapinoma sessile*): A model system for urban pest species. National Pest Management Association, Pest World 2009. Las Vegas, NV.

2009 The odorous house ant (*Tapinoma sessile*): A model system for urban pest species. The North Carolina Pest Management Association 59th Annual Pest Control Technicians' School. Raleigh, NC.

2009 Process and pattern in invasive Argentine ant occurrences at multiple spatial scales. North Carolina State University, Department of Entomology Seminar Series.

2008 Limitations to the success of Argentine ant invasions in natural habitats in southern California. Rocky Mountain Biological Laboratory Graduate and Postdoc Summer Seminar Series

2008 Process and pattern in invasive Argentine ant occurrences at multiple spatial scales. University of North Carolina Seminar Series.

2007 Factors influencing Argentine ant occurrence from the community to the landscape scale. Division of Biology Graduate Recruitment.

2006 How the physical environment and competition from native species determine invasion success of the Argentine ant: Conservation implications for the Tijuana Slough Estuary. Tijuana Estuary Seminar Series.

2006 Experimental evidence for the importance of environmental conditions in determining Argentine ant invasion success at the local scale. Division of Biology Graduate Recruitment.

2005 The importance of the physical environment in determining invasion success of the Argentine ant. NOAA National Estuarine Research Reserve Annual Meeting.

Grants Awarded

2008-2009 Pest Management Foundation: \$13,650

2007 Entomological Society of America Young Professional Award: \$100

2004-2006 NOAA Graduate Research Fellowship: \$60,000

2003 Jeanne Marie Messier Memorial Fund: \$765

2002 Graduate Student Senate Research Grant: \$184

2002 Graduate Student Senate Travel Grant: \$250

2001 Graduate Student Senate Research Grant: \$125

2001 Graduate Student Senate Travel Grant: \$250

2000 Graduate Student Senate Research Grant: \$250

2000 Graduate Student Senate Travel Grant: \$125

1998-1999 UROP Grant

1996-1997 Morris Academic Partnership

Honors and Awards

2005 Murray F. Buell award for the best student oral presentation: Ecological Society of America

2000 M. Blanche Adams and M. Francis Adams Memorial Scholarship in Zoology

2000 NSF Graduate Fellowship Honorable Mention

1999 NSF Graduate Fellowship Honorable Mention

1999 Scholar of the College: University of Minnesota-Morris

1998 Kaufman - McCree Award: Excellence in Science

1998 Research Training Program National Museum of Natural History, Grant from the National Science Foundation's Research Experiences for Undergraduates Program: Award # DBI-9531331
1997 Gertrude Gaffney Hanlon Memorial Scholarship
1995-1997 UMM Academic Scholarship
1995-1997 Presidential Scholarship (UMM)

Students Mentored

** Students that have gone on to post-graduate education or a job in a science*

2009-2010 Tommy Barrow: Odorous house ant microsattellites
2009 Josh Davendonis: Ant / plant mutualisms
2007-2008 Cheng Chou, MS/BS student: Aphid / Argentine ant interactions
2005-2007 Crystal Grover*, MS/BS student: Aphid / Argentine ant interactions
2006 Kathleen Dayton*, Aphid / Argentine ant interactions
2003-2005 Stephanie Glenn*, MS/BS student: Predation by native ant lions on Argentine ants
2005 Adam Calo*: Argentine ant and native ant interactions
2005 Chris Cignarella: Biotic resistance in ants
2005 Sarah Higgins*: Ant in Tamarisk invaded habitats
2005 Sheena Sidhu*: Biotic resistance in ants
2004 Alex Dixson: Abiotic environment and Argentine ants
2004 Constantine Lau*: Abiotic environment and Argentine ants
2004 Ashok Sadrozinski*: Abiotic environment and Argentine ants
2003 Justin McCreary: Argentine ants
2001 Serene Dunleavy: Lizard Community Ecology

Teaching Experience

2009 North Carolina State University: Biogeography: Co-taught upper level undergraduate / graduate course of 20 students with Dr. Rob Dunn.

2006 University of California, San Diego: Behavioral Ecology: Head teaching assistant for a class of 215 students. Lead two discussion sections, grade exams and papers. Assist other TA's with their sections and lead review sessions.

2005 University of California, San Diego: Biometry: Instructor for two lab sections for 25 students each. Labs are designed to teach basic statistical techniques, when to apply various techniques and how to use JMP statistical software.

2004 University of California, San Diego: Introduction to Ecology Class: Head teaching assistant for Drs. Ted Case and Joshua Kohn, led discussion sections, graded exams and papers, led review sessions.

2001 University of Oklahoma: Field Ecology Lab: Instructor for a lab of 11 students. The lab is designed to help students formulate, implement and analyze data from individual projects performed in the field.

2001 University of Oklahoma: Principles of Physiology Lab: Instructor for one lab section of 10 students. Labs are designed to provide students with an introduction to techniques in physiology.

2001-2002 University of Oklahoma: Principles of Ecology Lab: I was the primary instructor of 1 lab section and assist with two other lab sections of 25 students each. Labs are designed to teach field methods, analysis, and the use of models for solving ecological questions.

1999-2000 University of Oklahoma: Introduction to Zoology Lab: I taught two lab sections of 26 students each. Labs explore the field of zoology, with emphasis on major disciplines within the field (i.e. microscopy, behavior, taxonomy, genetics, evolution, physiology, anatomy, and ecology).

Guest Lecturer

2009 Community Ecology
2009 Evolution, Behavior, and Ecology
2008 Community Ecology
2008 Evolution, Behavior, and Ecology

2007 Biogeography
2006 Behavioral Ecology
2005 Biometry
2004-2006 Insect Ecology
2004-2005 Introduction to Ecology

Professional Activities

Member:

1999-present Ecological Society of America
2005-present International Union for the Study of Social Insects
2007-present Entomological Society of America
1998-2004 American Society of Ichthyologists and Herpetologists
1998-2004 Society for the Study of Amphibians and Reptiles
1998-2004 Herpetologists' League

Reviewer:

Agricultural and Forest Entomology, Biodiversity and Conservation, Biological Invasions, Conservation Biology, Diversity and Distributions, Ecography, Ecology, Environmental Entomology, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Biogeography, Journal of Insect Physiology, Myrmecological News, Oecologia, Oikos, The Southwestern Naturalist

Service:

2004-2006 University of California, San Diego, EBE Graduate Student TA Coordinator
2004-2006 University of California, San Diego, EBE Graduate Student Representative
2004-2005 University of California, San Diego, Graduate Student Representative on the Senior Biology Faculty Search Committee
2003-2006 University of California, San Diego, Graduate Student Representative on the Seminar Committee
2003-2007 University of California, San Diego, Graduate Student Representative on the Conservation Biology Faculty Search Committee
2001-2002 University of Oklahoma, Computer Services Committee
2000-2001 University of Oklahoma, Graduate Student Faculty Representative
2000-2001 University of Oklahoma, Chair of Zoology Student Advisory Committee
1999-2000 University of Oklahoma, Computer Services Committee
1992-present Member and Participant in the Minnesota Herpetological Society: I perform public education programs about herpetology, the animals habitats, proper care, identification, and need for protection and conservation

References

Dr. Jeffrey A. Crooks
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Tijuana River National Estuarine Research Reserve
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National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Systematics Laboratory, MRC 153
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University of Tennessee
Knoxville, TN 37996
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Email: nsanders@utk.edu

Dr. Jules Silverman

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Dr. Laurie J. Vitt
Curator of Reptiles
Oklahoma Museum of Natural History
Professor, Department of Zoology
University of Oklahoma
Norman, OK 73019
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