CURRICULUM VITAE

Amy Louise Mertl

Somerville, MA 02145

CURRENT POSITION: A*ssistant Professor of Biology*, Lesley University, Cambridge, MA, Fall 2013 - present

Instructor for CBIOL 2505 Ecology and Natural History, CBIOL 1011 Introductory Biology, CBIOL 3100 Animal Behavior, CNSCI 1888 Research Experiences in Natural Sciences, CNSCI 3888 Scientific Film-making: Documenting Climate Change in Cambridge, CBIOL 2205 Botany with Lab. Developing all lectures and course materials. Advising and mentoring undergraduates conducting independent research. Facilitating community outreach programs. Researching the community ecology of ants and termites in New England forests and urban ecosystems. Developing community partnerships with urban and suburban green spaces (Alewife Reservation, Blair Pond, Mt. Auburn Cemetery, Hale Reservation, Middlesex Fells) to engage students and citizen scientists in urban ecological research.

EDUCATION:

Boston University, Boston MA, Spring 2009

Ph.D. in Ecology, Evolution and Behavior. Dissertation Title: Species Richness, Community Structure and Social Organization in Amazonian *Pheidole*

University of Minnesota, Minneapolis MN, Spring 2001

B.S. in Ecology, Evolution and Behavior, second major in Genetics and Cell Biology, minor in Spanish.

RESEARCH EXPERIENCE:

Urban Ecologist, Mt. Auburn Cemetery, Cambridge, MA, Spring 2017 to present:

Researching the insect diversity of Mt. Auburn Cemetery, a uniquely managed garden cemetery. Determining the relationship between plant diversity, microhabitat structure, management pratices and insect diversity. Developing and leading citizen science projects related to insect herbivory, pollinator diversity and ant community ecology: running training programs, outreach to participants, collecting and managing data.

Visiting Researcher, Boston University, Boston MA, Spring 2011 – 2013

Investigating the community ecology and ecological associations of Neotropical ants and termites in

Ecuador and Peru.

Doctoral Research: Boston University, Boston MA, Fall 2001 – Spring 2009. Research advisor: Dr. James Traniello

Extensive experience studying the evolution, behavior and ecology of ants, in particular the hyperdiverse genus *Pheidole* in Amazonian Ecuador. Over 12 months of independent field research in remote locals, intensive training in ant taxonomy, behavioral ecology, ant sampling protocols, morphometrics, and molecular phylogenetics, Managed all personal grants and research assistants, as well as supervised undergraduate research projects relating to social insects in the laboratory and in the field in Ecuador.

Undergraduate Senior Thesis: Council of International Educational Exchange, Monteverde, Costa Rica, January – June 2000

Completed independent research on daily foraging cycles of leafcutter ants in lower-montane rainforest in Costa Rica

Research Assistant: University of Minnesota, Minneapolis MN, May – August 1999

Studied the effects of natural predators on the pest population of European Corn Borers in fields of Bt and non-Bt corn. Collected data on egg predation, collected and reared lady beetle populations, maintained field sites, conducted independent research on ant / aphid / lady beetle interactions

Research Assistant: University of Minnesota, Minneapolis MN, January – May 1998

Studied the effects of simulated global warming on genetically identical plants. Prepared field sites in Kansas, Oklahoma and Minnesota, planted seeds and reared seedlings, collected data on growth

UNIVERSITY TEACHING:

Adjunct Professor of Biology, Lesley University, Cambridge, MA, Fall 2012 – Spring 2013

Instructor for CBIOL 2505 Ecology and Natural History, CBIOL 1011 Introductory Biology, CBIOL 3100 Animal Behavior

Teaching Fellow, Boston University, Boston MA, eight semesters between Spring 2002 – Fall 2008

Taught lab and discussion sections for Introductory Biology, Animal Behavior and Sociobiology courses. Developed course websites for Sociobiology and Animal Behavior. Restructured the Animal Behavior lab course, which included developing new labs and co-writing a lab manual. Mentored undergraduate and graduate students conducting independent research in behavior and ecology.

Undergraduate Teaching Assistant, University of Minnesota, Minneapolis MN, Fall 1997 – Fall 1999

Taught recitation and lab sections for an introductory biology course. Planned labs, graded papers, wrote lab tests and homework assignments

EDUCATIONAL OUTREACH:

Youth Instructor, Science Specialist, Cambridge Community Television, Cambridge, MA, February 2012 – June 2015

Worked with high school students in CCTV's Youth Media program as they planned, produced, shoot, edited and distributed short documentaries related to scientific topics.

Youth Instructor, Friend's of the Alewife Reservation's Summer Ecology Camp, Alewife Reservation, Cambridge MA, Summers of 2012, 2013 and 2015

Working with urban high school students participating in the camp to survey plant and insect diversity in the Alewife Reservation. Taught students the basics of plant identification, insect biology, anatomy and techniques for collecting/identifying specimens. Worked with students in the field to survey different habitats within the reserve.

Documentary Instructor, Cambridge Community Television, Cambridge, MA, January 2007 – May 2010

Taught 3-week and 6-week courses on basic documentary to community members of all ages and backgrounds, including specialized classes for teens and seniors. Lead Project Documentary, a production group for scientific documentaries, including "Ants," which introduces viewers to the alien world of ant biology and "Nuclear on the Block," focused on the pros and cons of nuclear research (both available from my website: http://www.amymertl.com/personal.html)

BIOBUGS outreach program, Boston University, Boston MA, April 2005 – December 2008

Worked with other graduate students and teachers to design and run BIOBUGS, an outreach program that brings high school students to Boston University to experience college level labs in forensic science, evolution, and comparative zoology

Volunteer instructor, The Global Classroom, Santo Domingo and Loreto, Mexico, January – April 2001

Taught afterschool English classes to students in grades 2 – 6 at a rural community school. Planned and conducted environmental education projects in Spanish for adults and children.

GRANTS AND AWARDS:

2005 Boston University Graduate Research Abroad Fellowship
2005 Sigma Xi Research Award
2003 Boston University Tony Swain award for best qualifying exam
2002 National Science Foundation Graduate Research Fellowship
2001 Claire Booth Luce Graduate Fellowship

ADDITIONAL RELATED WORK:

Senior Scientific Editor: Journal of Visualized Experiments, Somerville MA, May 2009 – August 2011

Managing author- and peer-review of articles from proof to publication. Reviewing methodological papers and editing submissions relating to behavior, cell and molecular biology, entomology, neuroscience and developmental biology. Hiring and managing biological illustrators and scientific editors at the PhD and Masters levels.

Assistant Volunteer Coordinator: Massachusetts Sierra Club, Boston, MA, April 2009 – May 2010

Organized new and current volunteers in the Boston area, planning events and orientations and recruiting new members. Wrote research-based testimonials for environmental legislation before the Massachusetts congress for the Legislative Action Committee. Visited community organizations to present simple, low cost ways to reduce home energy usage and combat global warming. Contacted local organizations to schedule presentations and developed educational handouts and multimedia.

PRESENTATIONS AT SCIENTIFIC MEETINGS:

The natural ecology of an economically significant insect: The eastern subterranean termite *Reticulitermes flavipes* in relation to ants and environmental aviation in a Northern Temperate forest. Amy L. Mertl. Social Insects in the North East Region. Boston, MA, June 26 - 27, 2015

Ants in the City: Can Community Gardens and Citizen Scientists Help Preserve Insect Biodiversity? Amy L. Mertl and Susan Rauchwerk. Northeast Natural History Conference, Springfield, MA April 6 – 9, 2014

Ecological interactions and sociogeographic variation in social insects of the Amazonian leaf litter. (invited speaker). Amy L. Mertl. Field Museum Seminar Series, Chicago, IL, April 20, 2011

Age, size, brain and subcaste evolution in the ant genus *Pheidole*. (invited speaker) Amy L. Mertl, Mario M. Muscedere and James F.A. Traniello. Honoring Hölldobler and Wilson by Celebrating the Social Insects symposium at the Entomological Society of America meeting in Indianapolis, IN, Dec. 13 – 16, 2009

Natural disturbance and litter-nesting ant communities: Richness, abundance and species composition along an Amazonian flooding gradient. (invited speaker). Amy L Mertl, Kari T Ryder Wilkie and James FA Traniello. Harvard Entomological Club Seminar Series, Cambridge, MA, November 13, 2007

Subcaste morphology and behavioral plasticity in a community of tropical *Pheidole*. (invited speaker). Amy L Mertl and James FA Traniello. Caste Interactions and Social Reproduction symposium at the International Union for the Study of Social Insects (IUSSI) 2006 Congress in Washington DC, July 30 – August 5, 2006

Tropical subterranean biodiversity; A new method for studying an under-sampled ant fauna. (poster) Kari T Ryder Wilkie, Amy L Mertl, and James FA Traniello. International Union for the Study of Social Insects (IUSSI) 2006 Congress, Washington DC, July 30 – August 5, 2006

Community structure in naturally disturbed habitats. (invited speaker). Amy L Mertl. Yasuni Day symposium, Mindo, Ecuador, October 11 – 13, 2004

Species composition of ground-dwelling ant communities in primary and secondary rainforests of Amazonian Ecuador. (student speaker) Amy L Mertl, Kari T Ryder Wilkie, Amanda Breneman, Stefan Cover, and James FA Traniello. Entomological Society of America, 2002 Annual Meeting at Fort Lauderdale, Florida, November 17-20, 2002

PUBLICATIONS:

Mertl AL, Ryder Wilkie KT, Constantino R, and Traniello JFA. 2012. Ecological associations of two species-rich insect taxa in the litter-layer of an Amazonian rainforest: is there a relationship between ants and termites? *Psyche* doi:10.1155/2012/312054

Mertl AL, Sorenson MD, Traniello JFA. 2010. Community-level interactions and functional ecology of major workers in the hyperdiverse ground-foraging *Pheidole* (Hymenoptera: Formicidae) community of Amazonian Ecuador. Insectes Sociaux 57(4): 441-452

Mertl AL, Ryder Wilkie KT, Traniello JFA. 2009. Impact of flooding on the species richness, density and composition of Amazonian litter-nesting ants. Biotropica 41(5): 633-641

Mertl AL, Traniello JFA. 2009. Behavioral evolution in the major worker subcaste of twig-nesting *Pheidole* (Hymenoptera: Formicidae): Does morphological specialization influence task plasticity? Behavioral Ecology and Sociobiology 63(10): 1411-1426

Ryder Wilkie KT, Mertl AL, Traniello JFA. 2010. Species diversity and distribution patterns of the ants of Amazonian Ecuador. PLoS ONE 5(10): e13146.doi:10.1371/journal.pone.0013146

Ryder Wilkie KT, Mertl AL, Traniello JFA. 2009. Diversity of ground-dwelling ants in primary and secondary forests in Amazonian Ecuador. Myrmecological News 12: 139-147

Ryder Wilkie KT, Mertl AL and Traniello JFA. 2007. Biodiversity below ground: probing the subterranean ant fauna of Amazonia. Naturwissenschaften. 94(9): 725-731

BOOK REVIEWS:

Mertl AL, Traniello JFA. (2011) Review of *Ant Ecology*, Lach L, Parr C and Abbott K (Eds.). For the Entomological Society of America

PROFESSIONAL MEMBERSHIPS

Entomological Society of America

Society for Conservation Biology
The Association for Tropical Biology
Union of Concerned Scientists
American Association of University Women
Association for Women in Science, Massachusetts Chapter
Sigma Xi
Cambridge Entomological Club
Global Ant Project
- Member, Ecology and Natural History Committee (2009 - 2010)
Navajo Ant Project

OTHER SKILLS:

Languages spoken: English, Spanish; Proficient in Word, Excel, Powerpoint,
web design, statistics in SPSS and JMP, media production with Adobe Premiere, Final Cut Pro and Motion