

CURRICULUM VITAE

**Vincent A. Formica**

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**Professional Appointments**

- 2010 – Post-Doctoral Research Associate, University of Virginia,
- 2008 – 10 Visiting Associate Research Professor, University of Virginia
- 2007 – 08 Visiting Assistant Professor, Swarthmore College
- 2007 Faculty, Mountain Lake Biological Station
- 2006 – 07 Visiting Assistant Professor, Gettysburg College

**Education**

- 2001 – 06 Ph.D., Indiana State University, Title: Spatial Dynamics of Alternative Reproductive Strategies, Life Science, Elaina Tuttle advisor
- 1997 – 01 B.A., St. Mary's College of Maryland, Major: Biology, Focus: Environmental Studies

**Research Funding**

- 2010 – 13 National Science Foundation Grant, \$450,000  
“Phenotypic selection resulting from social interactions” from the Animal Behavior Panel; 08/1/10 - 07/30/13 (senior personnel) IOS-1027251
- 2008 – 09 University of Virginia Centers and Labs Union Technology Grant \$2000
- 2002 – 06 Indiana State University Graduate School Research Grants, \$2470
- 2002 Animal Behavior Research Grant, \$500
- 2000 – 04 Indiana State University Graduate School Research Grants, \$4050
- 2001 - 06 Indiana Academy of Science, \$2700
- 2000 Beta Beta Beta (National Biological Honors Society), \$480
- 2000 Sigma Xi Grant-in-Aid of Research, \$300

**Awards and Honors**

- 2007 Favorite Instructor in Biology, Gettysburg College
- 2006 Runner Up for the Warder Clyde Allee Award, Animal Behavior Society
- 2005 Education Excellence Award; Presented by the College of Arts and Sciences, Indiana State University
- 2005 Best Graduate Poster in Biological and Medical Sciences. 9th Graduate/Undergraduate Research Showcase, Indiana State University
- 2004 Ecology Section Winner Indiana Academy of Science
- 2001 Genesis Award (For Outstanding Undergraduate Poster) Animal Behavior Society

### Publications

- Formica, V. A., W. Larsen\*, C. W. Wood, R. E. Butterfield\*, H. Hougen\* & E. D. Brodie III. *Published Online*. Fitness consequences of social network position in a wild population of forked fungus beetles (*Bolitotherus cornutus*). *Journal of Evolutionary Biology*.
- Formica, V.A., J. W. McGlothlin, C. W. Wood\*, M. E. Augat\*, R. E. Butterfield\*, M. E. Barnard\*, & E. D. Brodie III. 2011. Phenotypic social selection in a wild population of forked fungus beetles (*Bolitotherus cornutus*). *Evolution*, 6, 2771-2781
- Formica, V. A., M. E. Augat\*, M. E. Barnard\*, R. E. Butterfield\*, C. W. Wood\*, & E. D. Brodie III. 2010. Using spatial analysis to define social networks in wild populations of insects. *Behavioral Ecology and Sociobiology*, 64, 1199-1208.
- Formica, V. A. & E. M. Tuttle. 2009. Examining the Social Landscapes of Alternative Reproductive Strategies. *Journal of Evolutionary Biology*, 22, 2395 – 2408.
- Holliday, A. E., F. M. Walker\*, E. D. Brodie III, V. A. Formica. 2009. Differences in Defensive Volatiles in the Forked Fungus Beetle, *Bolitotherus Cornutus*, Living On Two Species Of Fungus. *Journal of Chemical Ecology*, 35,1302–1308.
- Tuttle, E. M., R. J. Jensen, V. A. Formica, & R. A. Gonser. 2006. Using Remote Sensing Image Texture to Study Habitat Use Patterns: A Case Study Using the Polymorphic White-throated Sparrow (*Zonotrichia albicollis*). *Global Ecology and Biogeography*, 15, 349 – 357.
- Formica, V. A., R. A. Gonser, S. M. Ramsay, & E. M. Tuttle. 2004. Spatial Dynamics of Alternative Reproductive Strategies: The Role of Neighbors. *Ecology*, 85, 1125-1136 [Selected by Faculty of 1000]

\* Undergraduate collaborators

### Manuscripts Submitted

- Benowitz\*, K. M., E. D. Brodie III, & V. A. Formica. *In revision*. Morphological correlates of a sexually dimorphic performance trait. Submitted to PLOS One.
- Donald\*, H. M., C. W. Wood, K. M. Benowitz\*, R. M. Johnson\*, E. D. Brodie III, & V. A. Formica. *In revision*. Non-destructive sampling of high-quality, insect DNA from reflexive bleeding. Submitted to Molecular Ecology Resources.

### Manuscripts in Preparation

Perkins-Taylor\*, I., E. D. Brodie III, & V. A. Formica. *In Prep* . Morphological correlates of courtship behavior in the forked fungus beetle (*Bolitotherus cornutus*). To be submitted to Journal of Insect Behavior.

Milano\*, N. J., E. D. Brodie III, & V. A. Formica. *In Prep*. No Evidence for trade offs between testes size and body size a horned tenebrionid beetle (*Bolitotherus cornutus*). To be submitted to Journal of Insect Physiology.

### Teaching Experience

- 2008 – 10 University of Virginia: Experimental and Investigative Evolution, Molecular Ecology and Evolution
- 2007 – 08 Swarthmore College: Evolution with laboratory, Population and Organismal Biology, and Honors Seminar in Molecular Ecology and Evolution
- 2007 Mountain Lake Biological Station: Ecological Applications of GIS
- 2006 – 07 Gettysburg College: Introduction to Ecology and Evolution with laboratory (for majors), Introduction to Molecules, Genes and Cells (for non-majors), Coordinated laboratory sections for Introduction to Form and Function (for majors).
- 2003 – 06 Indiana State University: Co-coordinator, Principles of Biology Laboratory (for majors)
- 2001 – 06 Indiana State University: Teaching Assistant for: Principles of Biology Laboratory, Anatomy and Physiology Laboratory, and Forensic Biology.

### Professional Presentations

- 2011 Formica, V.A., A. Cowley, A. Hsiesh, E.D. Brodie III. Using agent based simulations to explore behavioral mechanisms of sexual selection. Evolution 2011, Norman, Oklahoma
- 2010 Formica, V.A., W. Larsen\*, C. Wood, E. Brodie III. Sexual Selection for Social Network Position in a Wild Population of Forked Fungus Beetles. Evolution 2010 Portland, Oregon
- 2009 Formica, V.A., E. D. Brodie III, J. W. McGlothlin,. Phenotypic social selection in a wild population of forked fungus beetles (*Bolitotherus cornutus*). Evolution 2009, Moscow, Idaho.
- 2007 Formica, V.A.. Are there metrosexual songbirds? Evidence for Social Niche Construction in a Polymorphic Passerine. Invited talk for undergraduates and the public at the Mountain Lake Biological Station, VA .
- 2006 Formica, V.A. Modifying the Landscape Through Social Niche Construction, 43rd Annual Meeting of the Animal Behavior Society at Snowbird, Utah.

- 2006 Korody\*, M.L., V.A. Formica, R.A. Gonser, and E.M. Tuttle. 2006. Patterns of parental investment in sex ratio: A birds-eye view using geographic information systems, 43rd Annual Meeting of the Animal Behavior Society at Snowbird, Utah.
- 2004 Formica, V.A. There Goes the Neighborhood: Territoriality in the White-throated Sparrow. Invited talk at the Cranberry Lake Biological Station, NY.
- 2004 Formica, V.A. and E.M. Tuttle. Evidence for Social Selection in a Polymorphic Passerine. Midwest Ecology and Evolution Meeting at the University of Notre Dame, IN.
- 2003 Adank\*, K.M., R.A. Gonser, V.A. Formica and E.M. Tuttle. Nest Site Story: Nest Attributes of the Polymorphic White-throated Sparrow. Poster, 40th Annual Meeting of the Animal Behavior Society at Boise, ID.
- 2002 Formica, V.A. and E.M. Tuttle. The Milkman's Child: Strategic Neighborhood Choice in the Polymorphic White-throated Sparrow. Poster, 9th Congress of the International Society for Behavioral Ecology, McGill University in Montreal .
- 2001 Formica, V.A. and E.M. Tuttle. Location, Location, Location. Spatial Correlates of Reproductive Success in the Polymorphic White-throated Sparrow. Poster, 38th Annual Meeting of the Animal Behavior Society at Oregon State University

\* Undergraduate collaborators

### Independent Research Students Mentored

- 2011 Ian Perkins-Taylor (Swarthmore College), Nelson Milano (University of Massachusetts), Rebecca Johnson (University of Idaho).
- 2010 – Kyle Benowitz, Hannah Donald (University of Virginia)
- 2010 Molly Siegel (Swarthmore College), Ashley Troth (Indiana University)
- 2009 Whitney Larsen (Cornell University), Helen Hougen (Swarthmore College), David Montgomery (Grinnell College)
- 2009 Amy Heilman (University of Virginia)
- 2008 – 10 Malcolm Augat (Swarthmore College)
- 2008 – 09 Eileen Butterfield (University of Texas at Austin)
- 2008 Mollie Barnard (Swarthmore College)
- 2007 – 09 Corlett Wood (Swarthmore College)
- 2007 – 08 Whitney Nekoba (Swarthmore College)
- 2007 Jennifer Richardson (Indiana University)
- 2006 – 07 Shaun Viechweg & Katie Greenfield (Gettysburg College)
- 2005 Tiffany Ko (Terre Haute South Vigo High School)
- 2003 – 04 Marisa Korody (Indiana State University)
- 2002 – 03 Lyndsey Foster (Indiana State University)
- 2002 Katy Adank (Depauw University)
- 2002 Kenneth Cochran (Depauw University)
- 2002 Erin Wilman (Indiana State University)
- 2001 – 03 Anthony Clemons (Indiana State University)

**Other Professional Experience & Outreach**

- 2009 Field Trip Research Mentor, Ecological Society of America SEEDS program  
2006 – 07 Faculty Mentor, Biosphere Biology Club at Gettysburg College  
2003 Science Olympiad Coach, Sullivan Jr. High School Team Winners of the 2003 regional championship  
2002 – 06 Workshop Leader, Indiana Junior Science and Humanities Symposium  
1999 – 01 GIS Analyst, Natural Capital Group, Center For Environmental Studies at the Chesapeake Biological Laboratories, University of Maryland