

## Julia H. Bowsher

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### EDUCATION

**Duke University, PhD**, May 2007

Department of Biology, Durham, NC  
Major Area: Evolution, Minor Area: Philosophy

**University of Canterbury, MS**, June 2000

Department of Zoology, Christchurch, NZ

**Yale University, BS**, May 1999

Department of Ecology and Evolutionary Biology, New Haven, CT

### GRANTS AND FELLOWSHIPS

PERT Postdoctoral Fellowship, Center for Insect Science, University of Arizona

Graduate Award for International Research, Duke University (2006)

National Science Foundation Pre-doctoral Fellowship (2001-2004)

James B. Duke Fellowship (2000-2004)

Department of Biology Grant-in-Aid (2002)

Richter Fellowship (2000-2001)

Fulbright Fellowship, New Zealand (1999-2000)

### PUBLICATIONS

**Bowsher, J. H.**, G. A. Wray and E. Abouheif. [In press]. Growth and patterning are evolutionarily dissociated in the vestigial wing discs of workers of the red imported fire ant, *Solenopsis invicta*. *Journal of Experimental Zoology, B series*.

**Bowsher, J. H.** and H. F. Nijhout. 2007. Evolution of novel abdominal appendages in a sepsid fly from histoblasts, not imaginal discs. *Evolution and Development* 9(4):347-354.

Gemmell, N. J., **J. H. Bowsher** and K. P. Gomas. 2003. The genetic affinities of Hochstetter's frog (*Leiopelma hochstetteri*) populations in the Bay of Plenty. A report commissioned by the New Zealand Department of Conservation

Cartwright, P., **J. H. Bowsher** and L. W. Buss. 1999. Expression of a Hox gene, *Cnox-2*, and the division of labor in a colonial hydroid. *Proceedings of the National Academy of Sciences* 96:2183-2186.

### RESEARCH EXPERIENCE

**Duke University**, Department of Biology, Durham, NC

Ph.D. Candidate, Advisor: H. Frederik Nijhout.

Current research focuses on the evolution of novelty, as exhibited in the moveable abdominal brushes of male sepsid flies. Different developmental techniques are being used to determine how the brushes evolved.

**University of Canterbury**, Department of Zoology, Christchurch, NZ

Masters Student, Advisor: Neil J. Gemmell

My thesis investigated genetic diversity in New Zealand's endemic frog *Leiopelma hochstetteri*.

Genetically distinct populations were identified with the goal of conservation of the species.

**Yale University**, Department of Ecology and Evolutionary Biology, New Haven, CT

Undergraduate, Advisor: Leopold W. Buss.

Research focused on the evolution of different polyp types in the colonial marine hydroid *Hydractinia symbioligocarpus*. I also investigated the genetics of colony shape in the same species.

### TALKS AND POSTERS

"Evolution of male abdominal appendages in sepsid flies" Invited talk. Meeting of the European Society for Evolutionary Developmental Biology, Prague, Czech Republic, 2006

"The evolution of novelty: abdominal brushes in male sepsid flies" talk. Developmental Basis of Evolutionary Change, University of Chicago, 2005

- "Evolution of novelty: abdominal brushes in male sepsid flies" talk. Evolution of Developmental Diversity, Cold Spring Harbor Labs, 2004
- "Evolution of novelty: abdominal brushes in male sepsid flies" talk. Biology Graduate Student Symposium, Duke University, 2003
- "Evolution of novelty: abdominal brushes in male sepsid flies" poster. Graduate Student Research Day, Duke University, 2003
- "Growth, patterning, and specification of wing imaginal discs in the red imported fire ant *Solenopsis invicta*" poster. The Developmental Basis of Evolutionary Change II, University of Chicago, 2001

### **TEACHING**

#### Training in Pedagogy

Pathways to the Professoriate workshop series, Fall 2004

#### Teaching Assistantships

Biology 47: Dinosaur Biology, Fall 2006

Biology 118: Principles of Genetics & Cell Biology I, Spring 2006

Biology 26&L: Diversity of Life, Spring 2005

Biology 222&L: Entomology, Fall 2004

#### Mentoring

Howard Hughes Pre-college summer program, 2002, 2003, 2006

### **Service/Committees**

- Society of Duke Fellows, Co-president (2002-2004) SDF is an organization that fosters interdisciplinary academic exchange between graduate students in different departments.
- Young Trustee Screening Committee, Chairperson (2004) Oversaw the application and interview process for student applicants to serve on the Duke University Board of Trustees
- Duke University Board of Trustees, Building and Grounds Committee, Graduate student representative (2003, 2004)
- Graduate Student Affairs Advisory Committee (GSAAC), Duke University, Graduate student representative (2002-2004)
- Graduate student host for Mary Jane West-Eberhard (2004), and John Gerhart (2003) Made the logistical arrangements for their visits, and served as their host while on campus
- Committee on Facilities and Environment, Duke University, Graduate student representative (2003)
- National Graduate Student Leadership Conference, St. Louis, MO, Duke University representative (2003)
- Graduate and Professional School Council, Biology Department representative (2001-2002)