

BRANDON S. COOPER

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EDUCATION

Indiana University, Bloomington, Indiana, USA

Ph.D. student, Evolutionary Biology

Committee: Kristi Montooth, Curt Lively, Armin Moczek, and Michael Wade

Indiana State University, Terre Haute, Indiana, USA

B.S., 2002; M.S., December 2009

Committee: Michael Angilletta, Steven Lima, and William Mitchell

PUBLICATIONS

- Cooper, B.S.**, L.A. Hammad, N.P. Fisher*, J.A. Karty, and K.L. Montooth. 2012. In a variable thermal environment selection favors greater plasticity of cell membranes in *Drosophila melanogaster*. *Evolution*. doi: 10.1111/j.1558-5646.2011.01566.x.
- Cooper, B.S.**, J.M. Tharp*, I.I. Jernberg*, and M.J. Angilletta. 2012. Developmental plasticity of thermal tolerances in temperate and subtropical populations of *Drosophila melanogaster*. *Journal of Thermal Biology*. doi:10.1016/j.jtherbio.2012.01.001
- Hammad, L.A., **B.S. Cooper**, N.P. Fisher*, K.L. Montooth, and J.A. Karty. 2011. Profiling and quantification of *Drosophila melanogaster* lipids using liquid chromatography-mass spectrometry. *RCMS*. 25: 2959-2968.
- Schuler, M.S., **B.S. Cooper**, J.M. Storm, M.W. Sears, and M.J. Angilletta. 2011. Isopods failed to acclimate their thermal physiology of locomotor performance during predictable or stochastic cooling. *PLoS ONE*. 6(6): e20905. doi:10.1371/journal.pone.0020905.
- Cooper, B.S.**, M. Czarnoleski, and M.J. Angilletta. 2010. Acclimation of thermal physiology in natural populations of *Drosophila melanogaster*: a test of an optimality model. *Journal of Evolutionary Biology* 23: 2346-2355.
- Angilletta, M.J., **B.S. Cooper**, M.S. Schuler, and J.G. Boyles. 2010. The evolution of thermal physiology in endotherms. *Frontiers in Bioscience E2*, 861-881.
- Cooper, B.S.**, B.H. Williams*, and M.J. Angilletta. 2008. Unifying indices of heat tolerance in ectotherms. *Journal of Thermal Biology* 33: 320-323.
- Boyles, J.G., D.P. Aubrey, **B.S. Cooper**, J.G. Cox, R.J. Fisher, J.D. Hoffman, and J.J. Storm. 2008. Statistical Uncertainties Among Graduate Students: Sickness or Symptom? *Journal of Wildlife Management*. 72(8): 1869-1871.
- Cooper, B.S.** and M. Czarnoleski. 2008. A multi-chamber device for observing courtship behaviors of fruit flies without using anesthesia. *Drosophila Information Service* 91.

In Preparation:

Czarnoleski, M., **B.S. Cooper**, and M.J. Angilletta. The evolutionary significance of cell size in fluctuating environments. To be submitted to *Functional Ecology*.

Condon, C., **B.S. Cooper**, S. Yeaman, and M.J. Angilletta. Experimental evolution of plastic reproductive strategies in *Drosophila melanogaster*.

Cooper, B.S., C. Burrus, C. Ji, M.W. Hahn, and K.L. Montooth. Negative selection predominates across the mitochondrial genomes of *Drosophila melanogaster*.

**Undergraduate co-author*

ACADEMIC POSITIONS

- 2012 Associate Instructor, L318 - Evolution, Indiana University
- 2011 Associate Instructor, L111 - Evolution & Diversity, Indiana University
- 2010 Associate Instructor, L111 - Evolution & Diversity, Indiana University
- 2009 Head Teaching Assistant, 101L - Principles of Biology I, Indiana State University
Teaching Assistant, 113 - Human Aspects of Biology, Indiana State University
- 2008 Head Teaching Assistant, 101L - Principles of Biology I, Indiana State University
Teaching Assistant, 113 - Human Aspects of Biology, Indiana State University
- 2007 Research Assistant, Angilletta Lab, Indiana State University
Field Assistant, Sevilleta LTER Site, Socorro, NM

PRESENTATIONS

- 2012 *Drosophila* Genetics (Fly Meeting), Chicago, IL, "In a variable thermal environment selection favors greater plasticity of cell membranes in *Drosophila melanogaster*."*
-platform talk
Evolution and Development 2012 (IGERT), Portland, OR, "In a variable environment selection favors greater plasticity of cell membranes in *Drosophila melanogaster*."
Society for Comparative and Integrative Biology, Charleston, SC, "Selection favors increased cellular plasticity in a variable environment."*
Society for Comparative and Integrative Biology, Charleston, SC, "Evolution of thermal acclimation in constant and heterogeneous environments"
- 2011 Society for Comparative and Integrative Biology, Salt Lake City, UT, "Evolution of membrane acclimation in experimentally evolved populations of *Drosophila melanogaster*."
Fly IU, Bloomington, IN, "Evolution of plastic physiologies in variable environments."*

- EEB Brown Bag Series, Bloomington, IN, “Evolution of physiological strategies in natural and experimentally evolved populations of *Drosophila melanogaster*.”*
- 2010 Society for Comparative and Integrative Biology, Seattle, WA, “Acclimation of thermal sensitivity in *Drosophila melanogaster* from high and low latitudes: a test of optimality theory.”*
- Society for Comparative and Integrative Biology, Seattle, WA, “Turning Up the Heat: Using Thermal Extremes to Test an Optimality Model of Developmental Acclimation.”
- 2009 Society for Comparative and Integrative Biology, Boston, MA, “Acclimation of thermal physiology in predictable and stochastic environments: a test of optimality theory.”
- Midwest *Drosophila* Conference, Allerton, IL, “Developmental acclimation capacity of *Drosophila melanogaster* from high and low latitudes: a test of optimality theory.”
- 2008 Indiana State University Graduate Showcase, Terre Haute, IN, “Life in the Big City: Thermal Tolerance of Isopods to an Urban Heat Island.”
-*Awarded Best Graduate Poster*
- Society for Comparative and Integrative Biology, San Antonio, TX, “Unifying indices of heat tolerance in ectotherms.”
- Society for Comparative and Integrative Biology, San Antonio, TX, “Life in the Big City: Thermal Tolerance of Isopods to an Urban Heat Island.”

*Talk

FUNDING, HONORS & AWARDS

- 2012 Travel Award, Evolution and Development 2012, \$300
- 2011 Indiana Academy of Science Research Grant, “The evolution of cellular acclimation strategies”, \$3,000
College of Arts and Sciences Travel Award, Indiana University, \$300
- 2010 GIAR Program, The Society for Integrative and Comparative Biology, \$1000
University Fellowship, Indiana University
- 2009 Associate Faculty Member, Faculty of 1000
Student Research Fund, Indiana State University, \$700
- 2008 Indiana Academy of Science Research Grant, “Towards a quantitative theory of physiological acclimation”, \$2554
Student Research Fund, Indiana State University, \$500
Biology Department Research Grant, Indiana State University, \$400
Best Poster Presentation, Indiana State University Research Showcase
- 2007 Lilly Endowment “Fulfilling the Promise: Pathways to Pre-eminence” Fellowship,
Indiana State University, \$5,000

Donald and Mary Jo Stanley Endowed Scholarship in Math, Chemistry, Physics, or Allied Subjects, Indiana State University, \$1,200
Research Fellowship, Indiana State University, \$3,000

UNDERGRADUATE MENTORING

2012 Dan Gutt, Undergraduate Research
2011 Nicholas Fisher, Undergraduate Research
2010 Nicholas Fisher, Undergraduate Hutton Honors Fellow
2009 Isaiah Jernberg, Undergraduate Research
2008 Jeff Tharp, Undergraduate Research
Ben Williams, Undergraduate Research

PROFESSIONAL ACTIVITIES

Working Groups - National Center for Ecological Analysis and Synthesis, "Where Will Wildlife Move in Changing Environments?" Santa Barbara, CA. *Invited Contributor.*
Professional Society Affiliations – AAAS, American Society of Naturalists, Society for Integrative and Comparative Biology, and the Society for the Study of Evolution
Referee for Professional Publications – Evolution, Functional Ecology, Global Change Biology, Journal of Thermal Biology