

Jonathan M. Brown
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Education

Ph.D., September 1989
Michigan State University, East Lansing, MI.
Dept. of Zoology and W.K. Kellogg Biological Station
Interdepartmental Graduate Specialization in Ecology and Evolutionary Biology

B.A. *magna cum laude*, 1983
Carleton College, Northfield, MN.

Major: Biology

Honors: -Phi Beta Kappa

-Distinction in Biology

-Dean's List (3 years)

-Certificate of Superior Achievement in German Language and Area Studies

Scholarships, Fellowships and Grants

- 2005 RUI: Generating the entangled bank: Biogeography and host use in a Hawaiian herbivore radiation. [PI: J. M. Brown] National Science Foundation Division of Environmental Biology, Systematic Biology and Biodiversity Investigations Cluster. \$185,350.
- 2003 MRI/RUI: Acquisition of instrumentation for nutrient analyses in ecological research. National Science Foundation [PI: Peter Jacobson; CO-PI's: Kathy Jacobson, Vince Eckhart and Jonathan Brown]. \$135,887.
- 2000 ROA: Evolution of Wing Patterns in Hawaiian Picturewing Flies. National Science Foundation Population Biology Program. [PI: Donald Price; supported J. Brown's collaboration] \$16,332
- 00-01 RUI: Acquisition of a capillary electrophoresis system for DNA analysis in investigations of adaptation, speciation, species interactions and DNA repair." National Science Foundation Multi-user Equipment and Instrumentation Resources for Biological Sciences Program. \$67,351 (Co-Author and Principal Investigator)
- 99-02 "Reform of Undergraduate Biology Education: Biological Inquiry and Integrative Biology" Co-author and co-PI. National Science Foundation Curriculum, Classroom and Laboratory Improvement (CCLI) grant. \$150,000.
- 95-7 "The role of ecological interactions in diversification: rates of habitat shifts and within-habitat diversification in the *Enallagma* damselflies of two communities." Co-P.I. with Dr. Mark A. McPeck, Dartmouth College. National Science Foundation. \$70,000.
- 95-96 "Supplement to host expansion and speciation in phytophagous insects (Host association patterns of cynipid gallmakers and oaks)." Co-PI's Warren Abrahamson (Bucknell University) and George Melika (Uzhgorod State University, Ukraine). National Science Foundation, Division of International Programs/Research in Undergraduate Institutions. \$10,000.

85-88 National Science Foundation Graduate Fellowship, Michigan State University.

Professional Experience

- 6/02-6/04 Biology Department Chair, Grinnell College, IA.
9/00-Pres. Associate Professor, Department of Biology, Grinnell College, IA.
8/95 - 00 Assistant Professor, Department of Biology, Grinnell College, IA.
6/94-6-95 Visiting Assistant Professor, Department of Biology, Bucknell University.
6/91-5/94 David Burpee Post-doctoral Associate, Department of Biology, Bucknell University.
12/89-6/91 Post-doctoral Research Associate, Section of Ecology and Systematics, Cornell University.

Publications (*undergrad student co-authors) submitted and published

McPeck, M.A. and J.M. Brown. *Submitted*. Clade age and not diversification rate explains species richness among animal taxa. **Nature**.

Mittelbach, G.G., D. Schemske, H.V. Cornell, A.P. Allen, J. M. Brown, M.Bush, S.P. Harrison, A. Hurlbert, N. Knowlton, H. A. Lessios, C.M. McCain, A.R. McCune, L.A. McDade, M.A. McPeck, T.J. Near, T.D. Price, R.E. Ricklefs, K. Roy, D.F. Sax, D. Schluter, J.M. Sobel, M. Turelli. *Submitted*. Evolution and the latitudinal diversity gradient: Speciation, extinction, and biogeography. **Ecology Letters**.

Heard, S.B, J.O. Stireman, J.D. Nason, G.H. Cox, C. Kolacz, and J.M. Brown. *Accepted*. On the elusiveness of enemy-free space: Spatial, temporal, and host-plant-related variation in parasitoid attack rates on three gallmakers of goldenrods. **Oecologia**.

Brown, J.M., M. Todd-Thompson*, A. McCord*, A. O'Brien*, and B. O'Fallon* 2006. Phylogeny, host association, and wing pattern variation in the endemic Hawaiian tephritids (Tephritidae: Tephritini). **Instrumenta Biodiversitatis** VII:1-16.

Brown, J.M., and I. Cooper*. 2006. Evolution of wing pigmentation patterns in a tephritid gallmaker: divergence and hybridization. Pp. 253-261 *in* Galling Arthropods and Their Associates – Ecology and Evolution, K. Ozaki, J. Yukawa, T. Ohgushi, and P.W. Price, eds. Springer-Verlag, Tokyo.

Turgeon, J. R. Stoks, R.A. Thum, J.M. Brown, and M.A. McPeck. 2005. Simultaneous quaternary radiations of three damselfly clades across the Holarctic. **American Naturalist**. 165:E78-107.

McGranahan, D.A. *, S. Kuiper, and J.M. Brown. 2005. Temporal patterns in use of an Iowa woodlot during the autumn bird migration. **American Midland Naturalist** 153:61-70.

Cooper*, I., E. Roeder*, and J.M. Brown. 2003. Arthropod response to burning and mowing in a reconstructed prairie. **Ecological Restoration** 21:204-5.

Brown, J.M, M.A. McPeck, and M. May. 2000. A phylogenetic perspective on habitat shifts and diversity in the North American *Enallagma* damselflies. **Systematic Biology** 49:697-712.

- McPeck, M.A. and J.M. Brown. 2000. Building a regional species pool: Diversification of the *Enallagma* damselflies in eastern North American waters. **Ecology** 81: 904–920.
- Drown*, D.M., and J.M. Brown. 1998. Molecular phylogeny of North American oak-galling Cynipini (Hymenoptera: Cynipidae) supports need for generic revision. Pp. 241-246. *The Biology of Gall-Inducing Arthropods* (Csoka, G., W.J. Mattson, G.N. Stone and P.W. Price eds.). Gen. Tech. Rep. NC-199. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station.
- Faust*, L., and J.M. Brown. 1998. Sexual selection via female choice in the gall-making fly *Eurosta solidaginis* Fitch (Diptera: Tephritidae). *The Biology of Gall-Inducing Arthropods* (Csoka, G., W.J. Mattson, G.N. Stone and P.W. Price eds.). Gen. Tech. Rep. NC-199. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station.
- Brown, J.M., J. Leebens-Mack, O. Pellmyr, J.N. Thompson, and R.G. Harrison. 1997. Phylogeography and host association in a pollinating seed parasite, *Greya politella* (Lepidoptera: Prodoxidae). **Molecular Ecology** 6:215-224.
- Pellmyr, O., J.N. Thompson, J. M. Brown and R.G. Harrison . 1996. Evolution of pollination and mutualism in the yucca moth lineage. **American Naturalist** 148:827-847.
- Hess, M.D. W.G. Abrahamson and J.M. Brown. 1996. Intraspecific larval competition in the herbivorous ball-gallmaker, *Eurosta solidaginis* (Diptera: Tephritidae). **American Midland Naturalist** 136:121-133.
- McPeck, M.A., A. K. Schrot, and J. M. Brown. 1996. Adaptation to predators in a new community: swimming performance and predator avoidance in damselflies. **Ecology** 77:617-629.
- Brown, J.M, W.G. Abrahamson and P.A. Way*. 1996. mtDNA phylogeography of host races of the goldenrod ball gallmaker (Diptera: Tephritidae: *Eurosta solidaginis*). **Evolution** 50:777-786.
- Brown, J.M., W.G. Abrahamson, R. Packer*, and P.A. Way*. 1995. The role of enemy escape in a gallmaker host-plant shift. **Oecologia** 104:52-60.
- Brown, J.M., O. Pellmyr, J.N. Thompson, and R.G. Harrison. 1994. mtDNA phylogeny of the Prodoxidae (Lepidoptera: Incurvarioidea) indicates a rapid ecological diversification of the yucca moths. **Annals of the Entomological Society of America** 87:795-802.
- Brown, J.M., O. Pellmyr, J.N. Thompson, and R.G. Harrison. 1994. Phylogeny of *Greya* (Lepidoptera:Prodoxidae) based on nucleotide sequence variation in cytochrome oxidase I and II: congruence with morphological data. **Molecular Biology and Evolution** 11:128-141.
- Abrahamson, W.G. J.M. Brown, S.K. Roth, D.V. Sumerford, J.D. Horner, M.D. Hess, S.T. How, T.P. Craig, R.A. Packer*, and J.K. Itami. 1994. Gallmaker speciation: an assessment of the roles of host-plant characters and phenology, gallmaker competition, and natural enemies. *In* P. Price, W. Mattson, and Y. Baranchikov, eds. *Gall-forming Insects*. USDA Forest Service, North Central Experiment Station. General Technical Report. pp. 208-222.
- Brown, J.M. and D.S. Wilson. 1994. *Poecilochirus carabi*: Behavioral and life-history adaptations to

different hosts and the consequences of geographical shifts in host communities. pp. 1-22 in M. Houck, ed., *Mites -- Ecological and Evolutionary Analyses of Life History Patterns*. Chapman and Hall, New York.

Brown, J.M. and D.S. Wilson. 1992. Local specialization on sympatric hosts: phoretic mites on carrion beetles. *Ecology* 73:463-478.

Invited lectures (since 1996)

- 9/05 Zoology Department and Center for Ecological Research, Kyoto University, Kyoto, Japan
- 5/04 Biology Department, St. Olaf College, Northfield, MN.
- 3/04 Biology Department, Luther College, Decorah, IA
- 4/03 Biology Department, Grinnell College, Grinnell, IA.
- 2/03 Biology Department, Dartmouth College, Hanover, NH.
- 8/02 Symposium: "Restoration Education" Annual Meeting for the Ecological Society of America/Society for Ecological Restoration.
- 2/02 Department of Biology, University of Hawaii-Hilo.
- 11/01 Department of Biology, University of Washington-Bellingham.
- 10/01 Department of Animal Ecology, Iowa State University, Ames, IA.
- 6/00 Workshops on teaching evolution. Society for the Study of Evolution Annual Meeting. University of Indiana, Bloomington, IN.
- 11/98 Dept. of Biology, University of North Dakota.
- 4/98 Dept. of Biology, University of Iowa, Iowa City, IA.
- 9/97 Dept. of Biology, University of Missouri. Columbia, MO.
- 5/97 Dept. of Biology, Carleton College. Northfield, MN.
- 3/97 Dept. of Animal Ecology, Iowa State University, Ames, IA.
- 7/96 ACM Wilderness Field Station. Ely, MN.
- 4/96 Dept. of Entomology, University of Illinois.

Contributed Papers/Posters (since 1996)

- 9/05 Brown, J.M., and I. Cooper*. Evolution of wing pigmentation patterns in a tephritid gallmaker: divergence and hybridization. Biodiversity of galling arthropods and their associates. Kyoto, Japan.
- 9/05 Brown, J.M. Ecological diversity in a radiation of herbivorous Hawaiian flies. Biodiversity of galling arthropods and their associates. Kyoto, Japan.
- 7/04 3rd International meeting of Tephritoid Systematists. *Evolution of host association and wing pattern in the endemic Hawaiian tephritids*. J.M. Brown and Megan Todd-Thompson* Geneva, Switzerland.
- 6/04 Annual Meeting of the Society for the Study of Evolution. *Genetic evidence for speciation among island populations of endemic Hawaiian tephritids* (J. Brown and M. Todd-Thompson*). Colorado State University, Ft. Collins, CO.
- 6/03 Annual Meeting of Society for the Study of Evolution. *Evolution of host-plant use and wing pattern in endemic Hawaiian tephritids* (J. Brown, A. McCord*, and A. O'Brien*) Cal. State at Chico. Chico, CA.
- 8/02 Annual Meeting of Ecological Society of America. *Effects of burning and mowing on arthropods in a reconstructed tallgrass prairie*. (I. Cooper*, E. Roeder* and J. Brown). Tucson, AZ.
- 6/02 Annual Meeting of the Council on Undergraduate Research. *The Student as Scientist: A First Course in Biology at Grinnell College* (C. Sullivan, C. Lindgren, J. Brown, and D. Lopatto)

- 7/01 Annual Meeting of the Society for Conservation Biology. *Prairie Restoration: An introduction to Biological Inquiry* (co-author C. Caruso) University of Hawaii at Hilo.
- 6/01 Annual Meeting of the Society for the Study of Evolution. *Evolution of wing pigmentation patterns in flies: divergence and hybridization* (co-author Idelle Cooper*). Univ. of Tennessee at Knoxville.
- 6/99 Annual Meeting of the Society for the Study of Evolution. *Laboratory exercises to teach principles of heritability; Methods for quantifying wing variation in Hawaiian tephritids* (Brendan O'Fallon* and J. Brown).
- 6/98 Annual Meeting of the Society for the Study of Evolution. University of British Columbia (Poster on damselfly research and contributed paper on teaching evolution as a lab science).
- 8/97 Symposium: Biology of gall-inducing arthropods. Matrafured, Hungary. (3 talks, 2 as presenter)
- 10/96 Symposium: Phylogeny of Life and the Accomplishments of Phylogenetic Biology (2 posters). Univ. of Arizona.
- 6/96 Annual Meeting of the Society for the Study of Evolution. St. Louis, MO.
- 5/96 Endless Forms: Species and Speciation (A symposium in honor of G.L. Bush). Asilomar, CA.

Professional Societies

Associate Editor of *Evolution – International Journal of Organic Evolution* (Jan 2006-present)

Society for the Study of Evolution (Member of Education Committee 1997-2001)

Organization for Tropical Studies

Society for Conservation Biology

Sigma Xi

Reviewer for

American Journal of Botany

Annals Entomological Society of America

Biochemical Systematics and Ecology

Ecology

Molecular Ecology

American Midland Naturalist

National Science Foundation Systematics and Population Biology Panels

Evolution

Journal of Evolutionary Biology

Molecular Phylogenetics and Evolution

Proceedings of the Royal Society

Entomologia Experimentalis et Applicata

Student research (IS/MAP) supervision at Grinnell

Derrick Mitchell '06 and Jonathan Homans '06 -- Summer 2005 – *Morphological and ecological variation among populations of endemic Hawaiian tephritids*

Anna Larimer '05, Chris Mitros '05, and Hanghang Wang '07 -- Summer 2004 – *Effects of burning and mowing on prairie soil and litter arthropods*

Megan Todd-Thompson '05 – Summer 2003 -- *Genetic differentiation among island populations of an endemic Hawaiian fly*

Anne O'Brien '03 – Summer 2002 -- *Molecular phylogeny of native Hawaiian herbivores*

Aleia McCord '03 – Summer 2002 -- *Genetic differentiation among island populations of a native Hawaiian herbivore*

Pam Marks '02 – Summer 2001 -- *Investigations for 4th grade science*

Idelle Cooper '01 – Spring 2001 -- *Quantitative image analysis of a hybrid zone in gall flies*

Abby Laatsch '01 – Spring 2001 -- *Genetic analysis of gall fly hybrid zone*

Monica Poelchau '01 – Summer 2000 – *Molecular systematics of S. African plants**

Tor Janson '01 Summer 1999 -- *Butterfly populations in Iowa prairie remnants and reconstructions*
Liz Roeder '01 Summer 1999 -- *Effects of burning and mowing on above-ground prairie arthropods*
Idelle Cooper '01 Summer 1999 -- *Effects of burning and mowing on below-ground prairie arthropods*
Brendan O'Fallon '99 Spring 1999 -- *Methods for quantification of tephritid wing patterns*
Zoe McKiness '99 Spring 1999 -- *Molecular phylogeny of oak gall wasps*
Shira Peltan '99, Summer 1998 -- *Molecular markers for a gall fly hybrid zone*
Abby Laatsch '01, Summer 1998 -- *Sexual selection in a gall fly*
Josh Rehmann '00, Summer 1998 -- *Molecular phylogeny of oak gall wasps*
Jennifer Johnson '99, Summer 1997 -- *Effects of ranching on Hawaiian cave arthropods**
Lisa Faust '97, Spring 1997 -- *Sexual selection in a gall fly*
Devin Drown '97, Spring 1996-Spring 1997 -- *Molecular phylogeny of oak gall wasps*
William Eichman '97, Spring 1996-Fall 1996 -- *Comparison of growth in gall fly host races*
Marta Fisher '97, Summer 1996 -- *Feeding ecology of macaws in Costa Rica**
Aksel Casson '96, Summer 1996 -- *Molecular phylogeny of N. American damselflies*

*acted as on-campus advisor for off-campus research internship

College Service

00-01, 02-05 Science Phase II Planning Committee
00-01, 04-05 Center for Prairie Studies Executive Committee
99- 01 04-5 Writing Advisory Committee
96- 01, 04-05 Faculty Director of the Conard Environmental Research Area (CERA)
97-Present Campus Advisor for the ACM and OTS Tropical Field Research program in Costa Rica
02-04 Chair, Department of Biology
96- 02 Campus Advisor for the ACM summer program at the Wilderness Field Station (Member of Executive Committee 1998)
96- 01 Health Professions Advisory Committee
98- 01 Environmental Studies Committee
00-01 Gender and Women's Studies Committee
97- 99 Academic Computing Committee