

JENNIFER LOUISE MODLISZEWSKI

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EDUCATION

Ph.D. candidate in Biology, Duke University, expected graduation date: December 2011

M.S. in Botany, December 2005, North Carolina State University

Thesis: The formation and maintenance of a hybrid zone of *Aesculus* L. (Sapindaceae) in the southeastern United States. (Thesis Co-Advisors: Dr. Jenny Qiu-Yun Xiang, Dr. Michael Purugganan)

B.S. in Botany, May 2002, North Carolina State University

B.S. in Horticultural Science, May 2002, North Carolina State University

Graduated summa cum laude (4.0 GPA)

RESEARCH INTERESTS

I am broadly interested in topics in the field of evolutionary genetics, including speciation, adaptation, and the evolutionary genetics of polyploidy. Currently, my research efforts are focused on establishing synthetic tetraploid lines of *Mimulus guttatus* and *M. nasutus*, to be used in determining whether or not polyploidization can result in novel heritable genetic variation, which evolution may then act upon.

RESEARCH EXPERIENCE

August 2006–present, (Duke University): Doctoral Student, Department of Biology. Advisor: Dr. John Willis. Current research projects: Investigating the demographic history of polyploidy in *Mimulus guttatus* (monkeyflower) and close relatives; evolution of reproductive isolation in allotetraploid *Mimulus*, and evolutionary genetics of synthetic allotetraploid *Mimulus*.

January-May 2006, (NCSU): Research Assistant, Department of Genetics. Supervisor: Dr. Michael Purugganan. Assisted in the analysis of sequence data for the *Oryza* evolutionary genomics research project.

Fall 2002-December 2005, (NCSU): Graduate Research and Teaching Assistant, Department of Botany. M.S. research under the supervision of J.Q.-Y. Xiang and M.D. Purugganan. Research project: Analysis of gene flow in a hybrid zone of *Aesculus* using the geographical distribution and a combined phylogeographic and population genetic approach to analyze chloroplast haplotypes, exploring hypotheses regarding the formation and maintenance of the hybrid zone.

May-August 2001, (USDA, United States National Arboretum): Intern. Supervisor: Dr. Margaret Pooler. Research project: Genetic diversity of *Gaylussacia brachycera* (box huckleberry).

April 2000-May 2001, (NCSU): Undergraduate Research Assistant, Department of Genetics. Supervisor: Dr. Michael Purugganan. Collected and assisted in the analysis of phenotypic data regarding inflorescence architecture in *Arabidopsis thaliana*.

TEACHING EXPERIENCE

2009, (Duke): Teaching Assistant/Discussion Section Leader, Ecology and Evolution

2008, (Duke): Laboratory Instructor, Organismal Evolution

2007, (Duke): Laboratory Instructor, Principles of Biology

2003-2005, (NCSU): Laboratory Instructor, Core Technologies in Molecular and Cellular Biology

2003, (NCSU): Laboratory Instructor, Introduction to Ecology

2002, (NCSU): Laboratory Instructor, Introductory Plant Biology

SOCIETIES & SERVICE

Reviewer, *Proceedings for the Royal Society of London B: Biological Sciences*

Duke University Biology Department Computing Committee (2009)

Park Scholar Regional Selection Committee Volunteer (2007-08)

WISE – Women in Science and Engineering at Duke University

Phi Beta Kappa National Honor Society

Phi Kappa Phi National Honor Society
Gamma Beta Phi National Honor Society
Member, Botanical Society of America (BSA)
Member, Society for the Study of Evolution (SSE)

FELLOWSHIPS & AWARDS

2009 NSF Doctoral Dissertation Improvement Grant # (Duke, \$14,960)
2008 Duke University Sigma Xi Mini-Grant (Duke, \$500)
2008 Oregon Native Plant Society Leighton Ho Memorial Field Research Grant (Duke, \$750)
2007 Duke University Department of Biology Grant-in-Aid of Research (Duke, \$1000)
2006 Biology Graduate Student Fellowship (Duke)
2002 Outstanding Botany Student Award, Department of Botany (now Plant Biology) at NCSU
2002 Jerry G. Collier Graduate Fellowship (NCSU)
1998 Park Scholarship Recipient (four-year academic scholarship with living stipend, NCSU)

PRESENTATIONS

Modliszewski, J.L., and J.H. Willis. 2009. Duplicate gene evolution in allotetraploid *Mimulus*. Society for the Study of Evolution Conference, Moscow, ID, 14 June 2009.

Modliszewski, J.L. 2008. The dynamics of genomic and phenotypic variation in natural and synthetic allotetraploid *Mimulus*. Vision Research Group, University of North Carolina at Chapel Hill, NC, 29 Oct 2008.

Modliszewski, J.L. 2008. Polyploid evolution in *Mimulus*: insights from the field, the lab, and the greenhouse. Population Biology Seminar Series, Duke University, Durham, NC, 25 Sep 2008.

Modliszewski, J.L. and J.H. Willis 2008. Formation and evolution of a polyploid derivative of *Mimulus guttatus* and *M. nasutus*: inferences from chloroplast DNA. Society for the Study of Evolution Conference, Minneapolis, MN.

Modliszewski, J.L., and J.Q.-Y. Xiang. 2004. cpDNA Analysis of an *Aesculus* L. (Sapindales) Hybrid Zone: Implications for Evolutionary Processes. Session Moderator. Society for the Study of Evolution Conference, Fort Collins, CO.

Modliszewski, J.L., and J.Q.-Y. Xiang. 2003. Chloroplast DNA Variation and Gene Flow in a Broad Hybrid Zone of *Aesculus* L. in the Southeastern United States. Southeastern Ecology, Evolution and Population Genetics Conference (SEEPAGE), Camp Sequoia, VA.

PUBLICATIONS

Lowry, D.B., **J.L. Modliszewski**, K.M. Wright, C.A. Wu, and J.H. Willis. 2008. The strength and genetic basis of reproductive isolating barriers in flowering plants. *Philosophical Transactions of The Royal Society B*. 363: 3009-3021.

Modliszewski, J.L., D. Thomas, C. Fan, D. Crawford, C.W. dePamphilis and J.Q.-Y. Xiang. 2006. Ancestral chloroplast polymorphism and historical secondary contact in a hybrid zone of *Aesculus* (Sapindaceae). *American Journal of Botany*. 93: 377-388.

Ungerer, Mark C., S.S. Halldorsdottir, **J.L. Modliszewski**, T.F.C. McKay, and M.D. Purugganan. 2002. Quantitative trait loci for inflorescence development in *Arabidopsis thaliana*. *Genetics*. 160:1133-1151.

In preparation

Modliszewski, J.L., and J.H. Willis. Multiple origins in allotetraploid *Mimulus*, as revealed by chloroplast and nuclear markers.

Wu C.A., **J.L. Modliszewski**, M. Nakamura, and J.H. Willis. Range-wide population differentiation and species cohesion in the high-elevation endemic monkeyflower *Mimulus tilingii*. *In preparation for Molecular Ecology*.

REFERENCES available upon request