

Richard James Reynolds IV
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Birmingham, AL 35213
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Education

Rhodes College
Bachelor of Science, Biology 1996

Texas State University
Master of Science, Biology 2000
Research topic: Ecological determinants of gall size variation.

University of Maryland, College Park
Doctor of Philosophy, Biology 2008
Research topics: Natural selection on floral traits,
Quantitative genetic analysis of floral traits,
Floral specialization and evolution of pollination syndromes.

University of Alabama at Birmingham
Section on Statistical Genetics, Department of Biostatistics
Post-doctoral Fellow, 2008-Present
Research topics: Applied work and methodology development in genetic association,
multivariate phenotypic selection, QTL mapping

Publications

Reynolds, R.J., J. Kelley, L. Hughes, N. Yi, and S.L. Bridges. 2009. Genetic association of htSNPs across the major histocompatibility complex with rheumatoid arthritis in an African American population. *Genes and Immunity*. *in press*

Reynolds, R.J., M.R. Dudash, C.B. Fenster. 2009. Multi-year study of multivariate linear and nonlinear phenotypic selection on floral traits of hummingbird-pollinated *Silene virginica*. *Evolution*. *in press*.

Reynolds, R.J., M.J. Westbrook, A.S. Rohde, J.M. Cridland C.B. Fenster, and M.R. Dudash. 2009. Floral specialization and pollination syndromes of three closely related North American *Silene*. *Ecology* 90:2077-2087.

Reynolds, R.J. and C.B. Fenster. 2008. Point and interval estimation of pollinator importance: A study using pollination data of *Silene caroliniana*. *Oecologia* 156:325-332.

Kephart, S., **R.J. Reynolds**, M.T. Rutter, C.B. Fenster, and M.R. Dudash. 2006. Pollination and seed predation by moths on *Silene* and allied Caryophyllaceae:

Evaluating a model system to study the evolution of mutualisms. *New Phytologist* 169:637-651.

Fenster, C.B., G. Cheely, M.R. Dudash, and **R.J. Reynolds**. 2006. Nectar reward and advertisement in hummingbird-pollinated *Silene virginica*, (Caryophyllaceae) *American Journal of Botany* 93: 1800-1807.

Papers in review

Reynolds, R.J., D. Childers, and N. Pajewski. The distribution and hypothesis testing of eigenvalues from the canonical analysis of the gamma matrix of quadratic and correlational selection gradients. *Evolution*.

Papers in prep

Reynolds, R.J., C.B. Fenster, and M.Dudash. Spatial and temporal variation in oviposition, fruit and seed set, and fruit predation of the North American nursery pollinator *Hadena ectypa* (Lepidoptera: Noctuidae) on *Silene stellata* (Caryophyllaceae).

Reynolds, R.J., and C.B. Fenster. Quantitative genetic analysis of floral trait expression in the closely related hummingbird-pollinated *Silene virginica* and nocturnal moth-pollinated *S. stellata*.

Papers Presented

Reynolds, R.J. and N.M. Pajewski. 2009. Society for the Study of Evolution.
Reynolds, R.J., C.B. Fenster, and M.R. Dudash. 2008. Society for the Study of Evolution.
Reynolds, R.J., C.B. Fenster, and M.R. Dudash. 2006. The Ecology Society of America.
Reynolds, R.J., C.B. Fenster, and M.R. Dudash. 2006. Society for the Study of Evolution.
Reynolds, R.J., C.B. Fenster, and M.R. Dudash. 2005. Scandinavian Association of Pollination Ecology, Tjarno, Sweden.
C.B. Fenster, C. Williams, R.J. Reynolds, and M.R. Dudash. 2005. Scandinavian Association of Pollination Ecology, Tjarno, Sweden.
C.B. Fenster, M.R. Dudash, and R.J. Reynolds. 2005. Society for the Study of Evolution.
Reynolds, R.J. and J.R. Ott. 2000. Ecology Society of America.
Reynolds, R.J. and J.R. Ott. 1999. Entomological Society of America.

Grants Funded

Partitioning pollinator contributions to fitness components in a Potomac Basin population of *Silene caroliniana* (Caryophyllaceae) awarded spring 2004, Washington Biologists Field Club. \$2000.

Quantifying mating system, outcrossing rate, and genetic variation in a small Potomac River Gorge population of *Silene caroliniana*, awarded summer 2006, Biodiversity Conservation Research Fund, The Nature Conservancy, \$2900.

Short Courses

The Analysis of Cross-Classified Categorical Data 27-28 September 2007

Short course, American Statistical Society Headquarters, Alexandria, VA.

NSF Short Course on Statistical Genetics 21-25 July 2008
University of Alabama at Birmingham

Professional Affiliations

American Statistical Association
Ecology Society of America
Society for the Study of Evolution

Referred Journals

New Phytologist
Evolution

Work Experience

Parsons, Austin, TX,
Associate Scientist 2000-2002
Environmental risk assessment, statistical analysis.

Teaching Experience

University of Maryland Teaching Assistant,
Principles of Genetics 2004-2007
Eukaryotic Genetics 2004
Introduction to Ecology and Evolution 2002-2003

Texas State University Teaching Assistant,
Animal Physiology 2000
Zoology 1999-2000
Ecology 1998-1999
Anatomy and Physiology 1997-1998

Undergraduate Mentoring

University of Alabama at Birmingham
Taylor Garrett, 2009. Now undergraduate student at Washington and Lee.

Mountain Lake Biological Station (MLBS).

George Cheely, 2002. Now medical student University of Pennsylvania
Peter Stevens, 2002. Now masters student Cornell University
Jody Westbrook, 2003. Now Ph.D. student University of California, Berkeley
Jeremy Ash, 2003.
MS Miami University '2007, Now Ph.D. student at University of Florida
Sasha Rhode, 2005. Now Ph.D. student University of Pittsburgh

University of Maryland McNair Fellows in conjunction with MLBS
Chris Williams, 2005. Now Ph.D. student Georgetown University

University of Maryland

Julie Cridland Now Ph.D. student University of California, Irvine 2005-2006

Naveeda Mahmood B.S. Biology University of Maryland, College Park 2005

Undergraduate and Graduate* Coursework in Mathematics and Statistics

Rhodes College

Calculus I (MATH 121), Calculus II (MATH 122), Calculus III (MATH 223),
Differential Equations (MATH 251), Probability and Statistics (MATH 311&312)

MATH=Department of Mathematics

Texas State University

Experimental Design* (HR 5331) Regression analysis* (HR 5333), Linear Algebra
(MATH 3377)

HR=Health Research, School of Health Administration, College of Health
Professions

MATH=Department of Mathematics, College of Science

University of Maryland

Applied Multivariate Statistics* (BIOM 621), Introduction to Probability Theory*
(STAT 410), Introduction to Statistics* (STAT 420)

BIOM=Biometry, College of Agriculture and Natural Resources

STAT=Statistics, College of Computer, Mathematical, and Physical Sciences

Software and programming experience

SAS, R, Microsoft Visual Basic