

# Marie L. Nydam

Assistant Professor of Biology  
Division of Science and Mathematics  
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## Professional Appointments

2012-present: Assistant Professor of Biology  
Division of Science and Mathematics  
Centre College

2010-2012: Postdoctoral Research Associate  
Department of Molecular, Cellular and Developmental  
Biology, University of California, Santa Barbara

## Education:

2004-2010: Ph.D. in Evolutionary Biology, Cornell University. Advisor:  
Richard G. Harrison  
1999-2003: B.S. in Evolution and Ecology. University of California,  
Davis (*summa cum laude*).

## Refereed Publications:

Ilut, D., Nydam, M.L., Hare, M.P. 2014. Defining loci in restriction-based reduced representation genomic data from nonmodel species: Sources of bias and diagnostics for optimal clustering. *BioMed Research International* doi:10.1155/2014/675158.

Nydam, M.L., Neutschil, N., \*Sanders, E., Langenbacher, A., Lewis, D. L., Marimuthu, A., Gracey, A.Y., De Tomaso, A.W. 2013. The candidate histocompatibility locus of a basal chordate encodes two highly polymorphic proteins. *PLOS ONE*. 8: e65980.

\*Undergraduate co-author.

Nydam, M.L., Hoang, T.A., Shanley, K.M., De Tomaso, A.W. 2013. Molecular evolution of a polymorphic HSP40-like protein encoded in the histocompatibility locus of an invertebrate chordate. *Developmental and Comparative Immunology* 41: 128-136.

Nydam, M.L., \*Taylor, A.A., De Tomaso, A.W. 2013. Evidence for

selection on a chordate histocompatibility locus. *Evolution* 67: 487-500. \*Undergraduate co-author.

- Nydam, M.L.,** De Tomaso, A.W. 2012. The fester loci in *Botryllus schlosseri* experience positive selection. *BMC Evolutionary Biology* 12:249.
- Nydam, M.L.,** De Tomaso, A.W. 2011. Creation and maintenance of variation in allorecognition loci: molecular analysis in various model systems. *Frontiers in Molecular Innate Immunity* 2: 79.
- Nydam, M.L.,** Harrison, R.G. 2011. Reproductive protein evolution in two cryptic species of marine chordate. *BMC Evolutionary Biology* 11:18.
- Nydam, M.L.,** Harrison, R.G. 2010a. Polymorphism and divergence within the ascidian genus *Ciona*. *Molecular Phylogenetics and Evolution* 56: 718-726.
- Nydam, M.L.,** Harrison, R.G. 2010b. Introgression despite substantial divergence in the ascidian *Ciona intestinalis*. *Evolution* 65: 429-442.
- Ratcliffe, J.M. \*, **Nydam, M.L.** \* 2008. Multimodal warning signals for a multiple predator world. *Nature* 455: 96-100.  
\*Both authors contributed equally to this work.
- Cabrera, D.A., Mandel, J., Andras, J., **Nydam, M.L.** 2008. What is the crisis? Defining and addressing the world's most pressing problems. *Frontiers in Ecology and the Environment* 6: 469-475.
- Nydam M.L.,** Harrison R.G. 2007. Genealogical relationships within and among shallow-water *Ciona* species (Ascidiacea). *Marine Biology* 151: 1839-1847.
- Nydam M.L.,** Stachowicz J.J. 2007. Predator effects on fouling community development. *Marine Ecology Progress Series* 337: 93-101.

#### **Non-Refereed Publications:**

- Rypien, K.L., Anderson, J., Andras, J., Clark, R.W., Gerrish, G.A., Mandel, J.T., Nydam, M.L., Riskin, D.K. 2007. Students unite to create State of the Planet course. *Nature* 447: 775.

#### **Teaching Experience:**

- Senior Seminar** Centre College, 2014  
**Evolution, Biodiversity, Ecology Lecture** Centre College, 2014, 2015  
**Evolution, Biodiversity, Ecology Lab** Centre College, 2013  
**Invertebrate Zoology Lecture** Centre College, 2013  
**Macroevolution Lecture** Centre College, 2013

**Introduction to Genetics Lecture Centre College, 2012-2014**  
**Introduction to Genetics Lab Centre College, 2012-2014**  
**Writing in the Majors Evolution Cornell University, 2010, 2006.**  
**Freshman Writing Seminar Cornell University, 2009.**  
**Speciation Cornell University, 2007.**  
**Invertebrate Zoology Lab University of California Davis, 2003.**

**Grants and Awards (\$161,402 excluding tuition)**

- NSF KY EPSCoR Research Scholars Program, 2014 **(\$8,698)**
- Faculty Development Committee, Centre College, 2014 **(\$9,560)**
- Faculty Development Committee, Centre College, 2013 **(\$11,328)**
- Doreen J. Putrah Cancer Research Foundation Conference Fellowship, UCSB, 2011 and 2012 **(\$1,466)**
- Doctoral Dissertation Improvement Grant, NSF, 2009 **(\$15,000)**
- Andrew W. Mellon Student Research Grant, Cornell, 2008 **(\$1,500)**
- Conference Travel Grant, Graduate School, Cornell, 2007 **(\$650)**
- Research Travel Grant, Graduate School, Cornell, 2007 **(\$2,000)**
- Lerner Gray Fund for Marine Research, AMNH, 2006 **(\$1,500)**
- Summer Research Funding, Dept. of E&EB, Cornell, 2006, 2008 **(\$1,700)**
- Cornell Sigma Xi Award, 2005, 2008 **(\$1,500)**
- Orenstein Fund Award, Dept. of E&EB, Cornell, 2005 **(\$500)**
- Olin Fellowship, Cornell, 2005 **(\$8,000 + 1 semester tuition)**
- Wiegand Scholarship, Cornell, 2004 **(\$8,000 + 1 semester tuition)**
- NSF Graduate Research Fellowship, 2004 **(\$90,000 + 3 years' tuition)**

**Presentations (2008-2014):**

**"Boundaries in the sea"**

Kentucky Paleontological Society, Lexington, KY, 2014

**"Evolution of allorecognition in *B. schlosseri*"**

Society for the Study of Evolution, Snowbird, Utah, 2013

**"Speciation and fusion in broadcast spawning marine invertebrates"**

Dept of Entomology, University of Kentucky, Lexington, KY 2013

**"An introduction to the invertebrates"**

Kentucky Paleontological Society, Lexington, KY, 2013

**"Evidence for selection on a chordate histocompatibility locus"**

Kentucky Academy of Sciences, Richmond, KY, 2012

**"Evidence for selection on a chordate histocompatibility locus"**

Society for the Study of Evolution, Ottawa, Canada, 2012

**"Phylogenetic pattern and evolutionary process in the sea"**

- Department of Biology, Siena College, Loudonville, NY, 2012
- “Phylogenetic pattern and evolutionary process in the sea”**  
Biology Program, Centre College, Danville, KY, 2012
- “Species boundaries in a broadcast spawning marine invertebrate”**  
Biology Department, Augustana College, Rock Island, IL, 2011
- “Reproductive barriers in marine invertebrates”**  
Department of Life Sciences, Texas A&M Corpus Christi, Corpus Christi, TX, 2011
- “Positive selection on an allorecognition locus in *B. schlosseri*”**  
6<sup>th</sup> International Tunicate Meeting, Montreal, Canada, 2011
- “Speciation and fusion in broadcast spawning marine invertebrates”**  
Department of Biology, San Diego State Univ., San Diego, CA, 2011
- “Introgression despite substantial divergence in a broadcast spawner”**  
Western Evolutionary Biologists, Irvine, CA, 2010
- “Reproductive isolation in marine broadcast spawners”**  
Western Society of Naturalists, San Diego, CA, 2010
- “Species boundaries in a broadcast spawning marine invertebrate”**  
Cornell Dept. of Ecology and Evol. Biology, Ithaca, NY, 2010
- “Multimodal warning signals for a multiple predator world”**  
International Society of Behavioral Ecology, Ithaca, NY, 2008
- “Introgression despite substantial divergence in a marine chordate”**  
Society for the Study of Evolution, Minneapolis, MN, 2008

**Academic Service:**

Reviewer – Evolution, Proceedings of the Royal Society of London B,  
Molecular Ecology, Marine Biology, Molecular Biology and  
Evolution, Axios

Recognized as a “Top Referee” in 2012 for Proceedings of the Royal  
Society of London B

NSF Doctoral Dissertation Improvement Grant Panel Participant 2012