

CURRICULUM VITAE
Ryan A. Thum

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PROFESSIONAL PREPARATION

Academic degrees –

2004 – Ph.D Dartmouth College
1998 – B.S. Florida State University

Academic positions held –

Present – Assistant Research Professor, Annis Water Resources Institute (Grand Valley State University)
2006-2007 – Postdoctoral fellow, University of Illinois at Urbana-Champaign
2004-2006 – Postdoctoral fellow, Cornell University
1999-2004 – Graduate student, Dartmouth College
1998-1999 – Research Assistant, Savannah River Ecology Laboratory
1997-1998 – Research Assistant, Florida State University

GRANTS & FELLOWSHIPS

Using dispersal and environmental variables to predict milfoil occurrence and susceptibility to invasion by non-native milfoil in New Hampshire lakes (\$50,000). Co-PI: Jay Lennon. New Hampshire Dept. of Environmental Services (2005-2007)

Biogeochemistry and Biocomplexity Initiative Postdoctoral Fellowship. Academic sponsors: Nelson G. Hairston, Jr., Richard G. Harrison, Brian Lazarro. Cornell University (2004-2006)

Development of microsatellite markers for two invasive water-milfoils: *Myriophyllum heterophyllum* and *M. spicatum* (\$7,500). Undergraduate mentoring scholarship. Northeast Aquatic Plant Management Society (2005-2006)

Molecular characterization of native and invasive water-milfoils in New Hampshire lakes (\$6,500). Co-PI: Jay Lennon. New Hampshire Dept. of Environmental Services (2001-2003)

OTHER AWARDS

Graduate Alumni Research Award (\$1,000), Dartmouth College (2003)

Nathan Jenks Biology Prize (\$1,650), Dartmouth College (2002)

Graduate Community Award, (1,000) Dartmouth College (2002)

Magna cum laude with honors, Florida State University (1998)

SYNERGISTIC ACTIVITIES

2002 Attendee, Bodega Bay Phylogenetics Workshop, University of California, Davis

2001-2003 President, Dartmouth College Graduate Student Council

2000-2001 Social Chair, Dartmouth College Graduate Student Council

Societal Memberships –

Society for the Study of Evolution (2000 – present)

International Biogeography Society (2005 – present)

Ecological Society of America (2000 – present)

Northeastern Aquatic Plant Management Society (2004 – present)

North American Lake Management Society (2004-present)

Invited seminars –

Kellogg Biological Station (Michigan State University) 2007 – Integrating historical biogeography, ecology, and evolution with invasion biology. Host – Jay Lennon.

Annis Water Resources Institute (Grand Valley State University) 2007 – Molecular Ecology and Management of Invasive Aquatic Plants. Host – Alan Steinman.

University of Wisconsin, Madison 2007 – Zooplankton community assembly at local and regional scales. Host – Stanley Dodson.

Wells College 2006 – Integrating historical biogeography and evolution with ecological studies of species ranges and co-occurrence. Host – Tom Vawter.

Cornell University 2004 – The influences of environmental gradients and reproductive interactions on the maintenance of parapatry in *Skistodiaptomus* copepods. Host – Nelson Hairston, Jr.

Lehigh University Lacawac Field Station 2000 – Molecular phylogenetics and phylogeography of diaptomid copepods. Host – Craig Williamson.

Scientific meeting presentations –

Ecological Society of America 2007 – Phylogeographic patterning and cryptic invasions in the Two-leaf Watermilfoil, *Myriophyllum heterophyllum*.

American Society of Limnology & Oceanography 2007 – The effect of reproductive isolation and historical biogeography on copepod distribution and co-occurrence (Special Session)

Northeast Aquatic Plant Management Society 2007 – Geographic patterns of multilocus genetic variation in the invasive macrophyte *Myriophyllum heterophyllum*.

Ecology 2006 – Reproductive interference can maintain species ranges: an empirical example from two ecologically similar copepod species

Ecology 2005 – Historical biogeography of copepod assemblages

Northeast Aquatic Plant Management Society 2005 – The use of molecular genetic markers to identify morphologically cryptic, invasive water-milfoils

Evolution 2004 – Reproductive interactions among *Skistodiaptomus* copepods

Ecology 2003 – The influences of spatial versus environmental factors on *Skistodiaptomus* occurrences.

Evolution 2003 – Ancient divergence in morphologically similar *Skistodiaptomus* copepods

North American Lake Management Society 2003 – Hybrid vigor does not explain the invasion of variable-leaf water-milfoil (*Myriophyllum heterophyllum*) in New Hampshire lakes

Evolution 1999 – Patterns of genetic variation in Largemouth Bass (*Micropterus salmoides*) populations on the Savannah River Site, SC

Reviewer –

National Science Foundation

Ecology

American Naturalist

Oecologia

Oikos

Global Change Biology

Biological Journal of the Linnean Society

Canadian Journal of Fisheries and Aquatic Sciences

Aquatic Botany

TEACHING EXPERIENCE

Lecturer, “Characteristics of Mammals”. Invited Guest Lecture for Vertebrate Zoology (Michael Kinnison, instructor). Dartmouth College (2000)

Lecturer, “The Human Genome Project: Biology and Ethics”. Invited Lecture for Dartmouth College residence hall (Leanne Boucher, inviting Resident Advisor) (2001).

Introduction to Ecology and Evolutionary Biology. Laboratory instructor. Dartmouth College (1999, 2000)

Vertebrate Zoology. Laboratory Instructor. Dartmouth College (2000)

Aquatic Ecology. Laboratory Instructor. Dartmouth College (2003)

Evolution. Teaching Assistant. Dartmouth College (2002)

BioStatistics. Laboratory Instructor, Teaching Assistant. Dartmouth College (2003)

Animal Behavior. Laboratory Instructor. Dartmouth College (2004)

PUBLICATIONS

Thum, R. A. 2007. Reproductive interactions and the maintenance of parapatry in *Skistodiaptomus* copepods. *Oikos* 116: 759-768.

Thum, R.A. and J.T. Lennon. 2006. Is hybridization responsible for aggressive growth of non-indigenous water-milfoils? *Biological Invasions* 8(5): 1061-1066.

Thum, R.A., Lennon, J.T., Connor, J. and A. P. Smagula. 2006. A DNA fingerprinting approach for distinguishing among native and non-native milfoils. *Lake and Reservoir Management* 22(1): 1-6.

Thum, R. A., Andres, J.A., and Harrison, R.G. Patterns of mitochondrial DNA evolution in morphologically cryptic copepods. In revision, *Molecular Phylogenetics and Evolution*.

Thum, R.A. and R.S. Stemberger. 2006. Pure spatial and spatially-structured environmental variables explain copepod range limits. *Canadian Journal of Fisheries and Aquatic Sciences* 63: 1397-1404.

Turgeon, J., Stoks, R., Thum, R.A., Brown, J.M., McPeck, M.A. 2005. Simultaneous quaternary radiations of three damselfly clades across the holarctic. *American Naturalist* 165: E78-E107.

Thum, R.A. 2004. Using 18S rDNA to resolve diaptomid copepod (Copepoda: Calanoida: Diaptomidae) phylogeny: an example with the North American genera. *Hydrobiologia* 519: 135-141.

James, F.C., C.A. Hess, B.C. Kicklighter, and R.A. Thum. 2001. Ecosystem management and the niche gestalt of the red-cockaded woodpecker in longleaf pine forests. *Ecological Applications* 11: 854-870.

Manuscripts in prep –

Thum, R.A., Bronski, M.J., Bogdanowicz, S.M., Johnson, R.L., and Moody, M.L. Cryptic invasion by Two-leaf Watermilfoil, *Myriophyllum heterophyllum*, in New England: implications for comparative studies of invasive species in their native and introduced ranges. In prep for *Molecular Ecology*.

Thum, R.A. and J.T. Lennon. Quantifying niche opportunities for the invasive Two-leaf Watermilfoil in New England. In prep for *Ecological Applications*.

Thum, R.A., M.R. Allen, J. Smith, and C.E. Caceres. Does gene flow facilitate or constrain adaptation in geographically isolated and novel habitats? An empirical test with *Daphnia* assemblages in artificial lakes. In prep for *Evolution*.

Caceres, C.E. and Thum, R.A. A comparison of community stabilities for cladoceran and copepod assemblages in a biogeographically isolated and novel habitats. In prep for *Ecology*.

Thum, R.A. and A Derry. Testing alternative biogeographic hypotheses for species associations: phylogeographic analysis of the freshwater copepod species *Leptodiaptomus minutus* across a biogeographic boundary. In prep for *Molecular Ecology*.