

## Kate Burke Lepis

Department of Plant Biology and Pathology

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[www.rci.rutgers.edu/~struwe/students/kate/index.htm](http://www.rci.rutgers.edu/~struwe/students/kate/index.htm)

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<b>Education</b>	<b>University of Rhode Island</b> , Kingston, RI B.S.: Natural Resource Management, Wildlife Biology: May, 1995 - GPA 3.06/4.0 <b>Rutgers University</b> , New Brunswick, NJ Ph.D.: Plant Biology: Expected defense May/June 2008 – GPA 3.9/4.0 Ph.D. Candidate as of October 24, 2005 Research: Revision of the genus <i>Chelonanthus</i> (Gentianaceae) using two statistical methods: phylogenetic analyses of morphological and molecular characters and multivariate statistics on morphological data. Advisor: Dr. Lena Struwe
<b>Professional Experience</b>	<b>Division of Life Sciences, Rutgers University</b> , New Brunswick, NJ <b>Head Teaching Assistant</b> Fall Semesters 2002-2005 and 2007 General Biology Laboratory I: Guide and oversee the performance of 30+ teaching assistants to ensure all undergraduate students receive the same laboratory experience. Develop introductory lessons for each lab and present TAs with methods and strategies for relaying introductory information as well as helping students understand the material while the lab is underway. Train TAs in question writing and grading through one on one evaluation of tests produced and reports graded.
September, 1999-July, 2002 Laboratory	<b>Teaching Assistant</b> General Biology Laboratory I, General Biology Laboratory II, Principles of Botany
Field Season, 2000 and 2002	<b>Center for Urban Restoration</b> , New Brunswick, NJ <b>Field Technician</b> <ul style="list-style-type: none"><li>• Subcontracted by the EPA to survey terrestrial vegetation for Environmental Impact Statement on effects of strip mining: Use of Point Quarter Transects from remnant forests into adjacent mining areas in West Virginia to determine the rate of tree invasion into highly disturbed sites; Collect soil samples from forests and mined areas for comparison of microbial activity.</li><li>• Bioremediation using tropical ferns to absorb lead and arsenic from contaminated soils.</li><li>• Analysis of factors affecting reforestation of Fresh Kills Landfill, Staten Island, NY.</li></ul>
Field Season, 2001	<b>Greenbelt Native Plant Nursery</b> , Staten Island, NY Identification, collection and propagation of native plants from the New York Metropolitan area for use in local restoration projects.
January, 1998-2001	<b>Raimondi Horticultural Group</b> , Ridgewood, NJ <b>Horticultural Supervisor</b> Evaluate plant technicians' accounts and make recommendations to improve horticultural techniques; Act as liaison between company and customers; Train new employees; Oversee pesticide records and company's adherence to state regulations; Maintain indoor plantscapes for commercial clientele; Recognized as Technician of the Quarter, 10/9/98; Practice Integrated Pest Management and the use of beneficial organisms to control pest populations; Sales; Horticultural Consultation.
January, 1995-November, 1995	<b>The US Naval Air Weapons Station, Environmental Division</b> , Point Mugu, CA <b>Assistant Ecologist, Intern</b> Identify and photograph island flora and organize into a taxonomic reference collection for field station library; Collect herbarium, pollen and seed specimens; Collect data on migratory bird nesting colonies; Assist in marine mammal surveys. <b>National Biological Service</b> , Channel Islands National Park, Ventura, CA

### **Research volunteer**

Assist in line transect vegetation survey of San Nicolas Island Annual Plant Distribution/Growth Study; Explore canyons of Santa Rosa Island to find and map populations of rare plant, *Jepsonia malvifolia*; Establish permanent demographic plots to study life cycle of *J. malvifolia*.

### **The US Dept. of Agriculture, Div. of Animal Damage Control, San Nicolas Island, CA Assistant Wildlife Biologist, Intern**

Certified to euthanize animals with sodium pentobarbital; Assist in the eradication of feral cats via euthanasia and 22 long rifle; Hike rough terrain in search of footprints and scat of cats and island fox; Use lures to track population densities; Placement and repair of Tomahawk Traps.

### **Grants Received**

#### **Special Local Needs Funding – Snyder Farm, Rutgers Research Extension**

2002 Exploring How Stresses Affect the Dynamics of the Symbiosis Between the Endophytic Fungi *Epichloë/Neotyphodium* and *Festuca rubra*: Applications Toward Restoration and Turf Management (\$500; PI: Kate Burke).

#### **Rutgers University, Department of Plant Biology and Pathology Travel Grant**

2003 Revision of the angiosperm genus *Chelonanthus* (Gentianaceae). Travel to Utrecht University to visit the Netherlands National Herbarium and work with active gentian botanists, Dr. Paul Maas (\$1000; PI: Kate B. Lepis).

#### **Rutgers University, Graduate School of New Brunswick Travel Grant**

2003 Revision of the angiosperm genus *Chelonanthus* (Gentianaceae). Travel to Utrecht University to visit the Netherlands National Herbarium and work with active gentian botanists, Dr. Paul Maas (\$1500; PI: Kate B. Lepis).

#### **Rutgers University, Graduate School of New Brunswick Travel Grant**

2005 Revision of the angiosperm genus *Chelonanthus* (Gentianaceae). Travel support to present a talk at Botany 2004 Conference, Snow Bird, Utah. Title can be found below. (\$300; PI: Kate B. Lepis).

#### **Rutgers University, Department of Plant Biology and Pathology Travel Grant**

2005 Revision of the angiosperm genus *Chelonanthus* (Gentianaceae). Travel support to present a talk at International Botanical Congress, Vienna Austria. Title can be found below. (\$350; PI: Kate B. Lepis).

#### **Rutgers University, C. Reed Funk Plant Biology Student Fund**

2006 Revision of angiosperm genus *Chelonanthus* (Gentianaceae). Travel support to attend the UC Davis Workshop in Applied Phylogenetics, Bodega Marine Laboratory, Bodega Bay, California. (\$1200; PI: Kate B. Lepis).

### **Awards**

**Robert White-Stevens Fellowship** - for the academic year 2006-2007, \$7,500.

**University and Bevier Fellowship, runner-up** - for the academic year 2006-2007, \$0.00.

**Robert White-Stevens Fellowship** - for the academic year 2007-2008, \$8,000.

### **Publications**

**Catálogo de las Plantas Vasculares de Bolivia** – In press. *Chelonanthus* Treatment. Lepis. ed. Peter Møller Jørgensen (Missouri Botanical Garden).

### **Talks/Posters**

**New York Area Plant Molecular Biology Meeting – New York Botanical Garden, May 2006** - A new taxonomic classification for *Chelonanthus* (Gentianaceae) as supported by ribosomal nuclear, chloroplast and morphological data. Oral presentation.

#### **International Botanical Congress – Vienna, Summer 2005 -**

Common weeds to rare habitat specialists: Speciation and distribution patterns of *Chelonanthus* within South America. Oral presentation.

#### **Northeast Ecology and Evolution Conference – Penn State, March 2005 -**

*Chelonanthus alatus* (Gentianaceae), widely distributed weeds to narrow endemics: where do you draw the species lines? Oral presentation.

**Botany 2004 – Snow Bird, UT** - Teasing apart the hidden species within the widely distributed herb *Chelonanthus alatus* (Gentianaceae). Oral presentation.

**Brazil Botanical Congress – Belém, July 2003** – Biodiversity and evolution of *Chelonanthus* (Gentianaceae): the impact of phylogeny on conservation. Poster.

**Service & Public Outreach** **Co-organizer of the Gentianaceae Symposium** – International Botanical Congress, Vienna. Summer 2005.

**Visiting Instructor - 3rd Grade Lesson** - The Forest Community and Ethnobotany Past and Present. Paramus, NJ. Fall 2005-2006. Look to website for lesson plan and details.

**Botanical Inventory** - Create plant list from specimens found in the exterior and interior plantscape with toxicity information for each to be used as part of a state re-certification application - John Kenney Childcare Center of Heller Park, Edison, NJ. Summer 2007.

**Certifications** **New York Botanical Garden**, Botany & Commercial Horticulture, July 13, 1999

**Associated Landscape Contractors of America**, Interior Landscape Technician, June 23, 1999

**Professional Organizations** **Society for Ecological Restoration**, Northeast Chapter- Member since 1998

**American Society of Plant Taxonomists** – Member since 2004