

Curriculum Vitae

Education

State University of New York – College of Environmental Science and Forestry Syracuse, NY
Doctor of Philosophy in Environmental Biology December 2021

- *Specialization - Entomology*
- Dissertation: Environmental drivers modulate parasitism of native giant silk moths by an exotic biological control agent

The University of Virginia Charlottesville, VA
Master of Science in Environmental Sciences May 2013

- *Specialization - Ecology*
- Thesis: The effects of spongy moth (*Lymantria dispar*) defoliation and *Bacillus thurengiensis* var. *kurstaki* suppression treatments on forest moth diversity and abundance

The University of Chicago Chicago, IL
Bachelor of Arts in Biological Sciences June 2009

- *Specialization - Evolution & Ecology*
- Thesis: Intrahost strain competition of the *Lymantria dispar* nucleopolyhedrosis virus

Research Experience

Department of Environmental Biology, SUNY – ESF Syracuse, NY
Graduate Student, Dylan Parry Lab Sept. 2015 – Dec. 2021

- Designed multiple field studies assessing impacts of a long-established biological control agent on native Lepidoptera at 32 forested sites in Virginia, New York, Pennsylvania, and Massachusetts, including extensive literature review and permit acquisition in each state.
- Conducted field work sampling insects and surveying forest trees to compare biological control impact across different forest communities and management histories, accessing sites using GPS.
- Reared, identified, dissected, and preserved moth larvae, parasitoid flies, and wasps.
- Compiled and analyzed statistical and spatial data in R and ArcGIS.

Blandy Experimental Farm, Dept. of Envi. Sci., University of Virginia Boyce, VA
Graduate Student, Kyle Haynes Lab Sept. 2010 – May 2013

- Designed field study assessing the impact of an invasive species' disturbance and management on native Lepidoptera in Shenandoah National Park, including extensive literature review, ArcGIS mapping of affected area, and permit acquisition.

- Conducted field research capturing forest Lepidoptera using black light trapping, accessing sites using GPS; performed vegetation and tree surveys to assess forest compositions.
- Sorted, examined, and identified specimens of moths, managed information using database techniques, and conducted statistical analyses in SAS and R.

Department of Evolution & Ecology, University of Chicago

Chicago, IL

Undergraduate Student, Greg Dwyer Lab

Nov. 2007 – June 2009

- Assisted in study of the *Lymantria dispar* nucleopolyhedrosis virus as a biopesticide, including modeling population dynamics in R, conducting mortality checks, and performing carcass necropsies.
- Aided in field research at the Kellogg Biological Research Station in Kalamazoo, MI studying foraging habits of *L. dispar*, including collecting tree limbs, constructing experimental habitats, cooking caterpillar diet, and rearing and sorting live insects.

Teaching Experience

Cranberry Lake Biological Station, SUNY – ESF

Cranberry Lake, NY

Co-instructor, EFB 202 Ecological Monitoring and Biodiversity Assessment May – Aug. 2019

Co-instructor, EFB 496 Field Studies in Environmental Biology June – July 2019

Department of Environmental Biology, SUNY – ESF

Syracuse, NY

Teaching Assistant, EFB 480 Principles of Animal Behavior Jan. – May 2018, 2019

Teaching Assistant, EFB 352 Entomology Aug. – Dec. 2018

Teaching Assistant, EFB 211 Diversity of Life II Jan. – May 2017

Department of Forestry, SUNY – ESF

Syracuse, NY

Guest lecturer, FOR 332 Forest Ecology Nov. 2017 – 2020

Department of Environmental Sciences, University of Virginia

Charlottesville, VA

Senior Instructor, EVSC 3201 Fundamentals of Ecology Laboratory Sept. 2012 – May 2013

Co-instructor, EVSC 3201 Fundamentals of Ecology Laboratory Sept. 2010 – May 2012

Teaching Assistant, EVSC 3200 Fundamentals of Ecology Sept. 2010 – May 2013

Fellowships, Grants, and Competitive Awards

SUNY – College of Environmental Science and Forestry

Department of Environmental Biology Outstanding Doctoral Student, \$300 June 2020

Grober Graduate Research Fellowship, \$14 300 March 2019

Office of Instruction and Graduate Studies Travel Grant, \$400 October 2017, 2018, 2019

ESF Alumni Memorial Scholarship Award, Citizen, \$1 200 March 2018

Graduate Student Association Research Grant, \$500 December 2017

Gerald Lanier Memorial Award, \$550 November 2017

Leroy C. Stegeman Endowment in Invertebrate Ecology, \$2 750 April 2017

The Edna Bailey Sussman Foundation

The Caterpillar Lab Graduate Internship, \$7 350 May 2018

The University of Virginia

Blandy Experimental Farm Graduate Student Summer Fellowship, \$1 915 May 2012

Blandy Experimental Farm Graduate Student Summer Fellowship, \$1 792 May 2011

The University of Chicago

The Odyssey Scholarship, \$47 000 September 2008

Applications

Excellence and Student Initiative Scholarship Awards, Association of Council Members and College Trustees July 2019

DeWind Award for Invertebrate Research, The Xerxes Society December 2018

Grober Graduate Research Fellowship, SUNY-ESF March 2017

Mentoring

The Caterpillar Lab

Grace Horne, Colby College Honors Research in Biology (BI483J) Marlborough, NH
June 2020 – May 2021

Department of Environmental Biology, SUNY – ESF

Emily Booth, EFB 498 Independent Research Syracuse, NY
Jan. 2019 – May 2021

Annarose Quinn, EFB 498 Independent Research Jan. – May 2019

Emma Livingston, EFB 498 Independent Research July – Dec. 2018

Chapin Czarnecki, EFB 498 Independent Research May 2017 – Dec. 2018

Noah Garwood, EFB 298 Research Internship Oct. 2017 – May 2018

Department of Environmental Science, University of Virginia

Sang-Me Ko, EVSC 4995 Supervised Research Charlottesville, VA
Jan. – May 2012

Blandy Experimental Farm, University of Virginia

Hilary Wayland, NSF Research Experience for Undergraduates Program Boyce, VA
May – July 2011

Service and Administration

Entomological Society of America

Member, *Lymantria dispar* Common Name Working Group Annapolis, MD
Jul. – Dec. 2021

SUNY Student Assembly Albany, NY
Graduate Representative, Doctoral Granting Institutions Apr. 2018 – May 2019
Committees: State Operated Campuses, Sustainability, Graduate
Recognition: February 2019 Representative of the Month
Resolution Passed: #1819-08 Indigenous Land Acknowledgment

SUNY – ESF Graduate Student Association Syracuse, NY
Vice President of Research Aug. 2018 – May 2019
Committees: Academic Governance Research Council, Spotlight on Student Research
Planning, Discovery Challenge Advisory Group
Recognition: GSA Excellence in Public Service 2019 Annual Award
Vice President of Communications Aug. 2017 – May 2018
Chair: GSA *Ad hoc* Committee on Graduate Income and Taxation
Committees: GSA Grants and Awards, Academic Governance Library Council
Founder, GSA Graduate-Undergraduate Research Mentorship Page August 2017

Professional Memberships

The Society for Conservation Biology January 2022
The Entomological Society of Canada April 2020
The Ecological Society of America April 2013
The Entomological Society of America April 2013
The Lepidopterists' Society May 2012

Publications and Manuscripts – Peer Reviewed

Horne, G., **R. Manderino**, and S. Jaffe. Doesn't Hurt to Ash: Reduced growth and survival of ash-specialist hawkmoth on non-native oleaceous plants. *In prep.* Planned submission: Conservation Biology.

Manderino, R., P. Tobin, and D. Parry. Environmental-influenced parasitism of native giant silk moth caterpillars (Lepidoptera: Saturniidae) by the biocontrol agent, *Compilura concinnata* (Meigan)(Diptera: Tachinidae). *In prep.* Planned submission: Ecology.

Czarnecki, C., **R. Manderino**, and D. Parry. Reduced avian predation on UV fluorescing caterpillar models. *The Canadian Entomologist. Accepted:* May 2021.

Manderino, R. 2021. Student Life: Including Field Work on Public Land as Part of Your Research. *American Entomologist.* 67(2): 6.

Wayland, H., **R. Manderino**, T. O. Crist, and K. J. Haynes. 2015. Microbial pesticide application during defoliator outbreaks may reduce loss of regional forest beetle richness. *Ecosphere*. 6: 1-14.

Manderino, R., T. Crist, K. Haynes. 2014. Lepidoptera-specific insecticide used to suppress gypsy moth outbreaks may benefit non-target forest Lepidoptera. *Agricultural and Forest Entomology*. 16: 359-368.

Other Publications

Manderino, R. 2020. *The Weird and Wonderful World of Bugs: A Book About Beetles, Butterflies, and Other Fascinating Insects*. Calisto Media, Rockridge.

Manderino, R. 2018. Giant Silkmoths in Northeast Forests. *The New York Forest Owner*. 56: 23-27.

Manderino, R. Photograph: *Giant Swallowtail*. 2014. Coastal Virginia Wildlife Observatory 2013 Annual Field Research Report, pg 29.

Manderino, R. Letter to the Editor: "Voices: E. O. Wilson." 2006. *National Geographic*. 210: 9.

Reviewer for Societies and Peer-Reviewed Journals

Ecological Society of America Annual Meeting, 2020

International Journal of Pest Management

Frontiers in Ecology and the Environment

Ecosphere

Journal of Forest Science

Presentations: Invited

Manderino, R., P Tobin, and D Parry. Re-evaluating the gypsy moth biocontrol agent, *Compsilura concinnata*, as the cause of giant silk moth decline in the Northeast United States. **Annual Gypsy Moth Review** 2019 Annual Meeting. Seattle, WA. November 6, 2019

Manderino, R., P Tobin, and D Parry. Re-evaluating the *Compsilura* hypothesis for explaining declines of native giant silk moths (Saturniidae). **Entomological Society of America, ESA, ESC, and ESBC Joint Annual Meeting**. Vancouver, BC, Canada. November 13, 2018.

Manderino, R, and J E Bova. Creepy and charismatic: Using the ubiquitous presence of insects to discuss ecology on "Relax, I'm an Entomologist". **Ecological Society of America**, 103rd Annual Meeting. New Orleans, LA. August 7, 2018.

Bova, J E, and **R Manderino**. Science communication and the social media echo chamber. **Entomological Society of America**, Entomology 2017. Denver, CO. Nov. 7, 2017.

Bova, J E, and **R Manderino**. Relax, I'm an entomologist: A Facebook page to discuss pertinent topics in entomology and science. **International Congress of Entomology, ICE 25th Quadrennial Meeting**. Orlando, FL. Sept. 30, 2016.

Manderino, R, T Crist, and K Haynes. Lepidoptera-specific insecticide used to suppress gypsy moth outbreaks may benefit non-target forest Lepidoptera. **Annual Gypsy Moth Review 2014 Annual Meeting**. Louisville, KY. Nov. 5, 2014.

Manderino, R, T Crist, and K Haynes. The effects of gypsy moth defoliation and BT suppression on forest Lepidoptera diversity and abundance. **United States Department of Agriculture 2014 Research Forum on Invasive Species**, Annapolis, MD. Jan. 10, 2014.

Presentations: Contributed

Manderino, R, P Tobin, and D Parry. Spatially variable parasitism of giant silk moth (Saturniidae) by the rogue biological control agent, *Compsilura concinnata*, across a forest compositional gradient. **Ecological Society of America**, 103rd Annual Meeting. New Orleans, LA. August 10, 2018.

Czarnecki, C, **R Manderino**, D Hanley, and D Parry. Ultraviolet Coloration of Caterpillars and Avian Predation. **Ecological Society of America**, 103rd Annual Meeting. New Orleans, LA. August 9, 2018.

Manderino, R, P Tobin, and D Parry. Northern Hardwood Forests as a Refuge for Giant Silk Moths Threatened by Non-Target Biological Control. **International Congress of Entomology, ICE 25th Quadrennial Meeting**. Orlando, FL. Sept. 30, 2016.

Manderino, R, T Crist, and K Haynes. Effects of gypsy-moth defoliation and *Bacillus thuringiensis* var. *kurstaki* treatments on native forest moth diversity and abundance. **Entomological Society of America**. Eastern Branch 85th Annual Meeting. Williamsburg, VA March 17, 2014

Manderino, R, T Crist, and K Haynes. Effects of gypsy-moth defoliation and *Bacillus thuringiensis* var. *kurstaki* treatments on native forest moth diversity and abundance.

Ecological Society of America 98th Annual Meeting. Minneapolis, MN Aug. 9, 2013

Wayland, H, **R Manderino**, T Crist, and K Haynes. The effects of gypsy moth defoliation and *Bacillus thuringiensis* on Coleoptera diversity in Shenandoah National Park, Virginia.

Ecological Society of America 97th Annual Meeting Portland, OR. Aug. 6, 2012

Outreach and Communications

Relax. I'm an Entomologist

Content Moderator, Facebook Science Communication Page

Fredericksburg, VA

August 2015 – Present

Notable posts: “The misguided intentions of the Cheerio's seed campaign”, “Let's talk about the GM American Chestnut”, “What is the role of the future scientist?”, “Long-jawed orb-weavers”

SUNY Student Assembly

Workshop Presenter, Spring Conference

Saratoga Springs, NY

April 5/6, 2019

“Time Management Tips and Tools”, “Systematic Understanding of Higher Ed: Becoming an Informed Agent of Change”

Spectrum News – Central NY

Contributor, Local broadcast news

Syracuse, NY

Oct. 5, 2017

“Experts: Now's the best time to spot monarchs Upstate”

Circle High School

Invited Speaker, Biology I, II, Advanced

Towanda, KS

Sept. 28/29, 2017

“Field Ecology and Field Stations”

Invited Speaker, Advanced Biology

Sept. 28, 2012

“Research Science”

Richmond Reason and Naturalist Association

Presenter, Topical Tuesday

Richmond, VA

Aug. 1, 2013

“Invasive species in North America”

Washington Area Secular Humanists

Speaker, Fredericksburg Secular Humanists

Fredericksburg, VA

Oct. 9, 2011

“Historical Scientists”

Certifications

Syracuse University Graduate School Future Professoriate Program

Certificate in University Teaching

Syracuse, NY

Sept. 20, 2020

Professional Experience

Denison University

Granville, OH

GIS Technician, Mujic Working Group

Nov. 21, 2020 – March 18, 2021

- Researched and mapped 19th-century student locations for three universities in the United States.

United States Department of Agriculture

Baltimore, MD

Port Identifier Biological Technician, APHIS PPQ

Aug. 11, 2014 – Aug. 19, 2015

- Organized, maintained and databased over 8000 specimens (including 7000 pinned specimens, 520 insect taxa on slides, 540 insects in alcohol, and 230 snails in alcohol) in the port collection.
- Slide-mounted over 500 scale insects for identification.

Recognition: USDA Certificate of Appreciation

Northern Virginia Regional Park Authority

Arlington, VA

Assistant Naturalist, Potomac Overlook Regional Park

April 17 – Aug. 2, 2014

- Led park tours, introducing visitors to relevant plants and animals in the park.
- Handled visitor center reptiles for visitor demonstrations.
- Updated visitor center displays.
- Co-lead weekly school summer camps.

Coastal Virginia Wildlife Observatory

Cape Charles, VA

Monarch Biologist, Monarch Watch

Sept. 15 – Nov. 2, 2013

- Toured state and federal properties to catch, tag, and release 174 tagged monarch butterflies.
- Conducted dawn and dusk butterfly roost counts.

Department of Pathology, University of Chicago Hospitals

Chicago, IL

Work/Study Lab Technician, Hans Schreiber Lab

Sept. 2005 – Nov. 2007

Internships and Volunteer Activities

National Moth Week

Boyce, VA; Arlington, VA; Redwood, NY; Cranberry Lake, NY

Trapper and Identifier, Organized BioBlitz

June 2012 – 2019

Blandy Summer Research Forum

Boyce, VA

Judge, Tom Callahan Award for Undergraduate Research

July 31, 2013

Sedgwick County Zoo

Wichita, KS

Volunteer Intern, Amphibians and Reptiles House

June – Sept. 2007