

ALEXANDRA ELLE SEGLIAS

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Education

M.S. **Northwestern University and the Chicago Botanic Garden.** Evanston, Illinois
Plant Biology and Conservation. March 2017
Committee: Andrea Kramer (advisor), Kayri Havens-Young, and Evelyn Williams
“Germination ecology of forb species native to the Southwest U.S.: Implications for restoration”

University of Pennsylvania. Philadelphia, Pennsylvania
Post-baccalaureate student in College of Liberal and Professional Studies. 2013-2014

B.S. **Dickinson College.** Carlisle, Pennsylvania
Biology, German (minor). *Cum laude*. 2012

Professional and Research Experience

- 2017 - Present **Seed Conservation Research Assistant**
Denver Botanic Gardens, Denver, CO
- Collect seed of native Colorado flora, with a focus on rare and threatened taxa
 - Prepare seeds for long-term *ex situ* conservation in seed banks
 - Germination trials to study the seed ecology of native species
- 2016 **Seed Collector**
The Chicago Botanic Garden Dixon National Tallgrass Prairie Seed Bank,
Glencoe, IL
- Identified native plant populations, collected seed, herbarium, and DNA voucher specimens
 - Recorded detailed plant and habitat information for each collection
 - Followed Seeds of Success collecting protocols
- 2015 - 2016 **Paleobotany Lab Research Assistant**
The Chicago Botanic Garden, Glencoe, IL
- Identified and organized vegetative and reproductive plant part fossils under a microscope from the Early Cretaceous of Mongolia in bulked lignite samples
- 2015 **Seed Lab Technician**
The Chicago Botanic Garden Dixon National Tallgrass Prairie Seed Bank,
Glencoe, IL
- Cleaned, weighed, counted, and x-rayed seeds of native plant species
 - Organized and databased collections

- 2014 **Seasonal Horticulturist**
 Morris Arboretum of the University of Pennsylvania, Philadelphia, PA
- Worked primarily in the natural areas of the Arboretum, including woods, meadows, and wetlands to manage invasive plant species, plant native and cultivated plants, and maintain accessioned trees and shrubs
 - Worked with volunteers in the tasks stated above
- 2013 - 2014 **Plant Protection Intern**
 Morris Arboretum of the University of Pennsylvania, Philadelphia, PA
- Designed and conducted an independent research project on germination requirements and greenhouse growth success of the endangered aquatic species, *Eriocaulon parkeri*, and wrote and developed a Resource Recovery Plan for the Pennsylvania Department of Conservation and Natural Resources
 - Coordinated the daily operation and staffing of the Plant Clinic, providing diagnostic services to the public about horticultural problems
 - Monitored the living collection and greenhouse plants to detect and track pest and disease problems, and determined adequate and effective control methods
- 2012 **Seed Lab Intern**
 BASF Agricultural Center, Crop Science Division. Limburgerhof, Germany
- Conducted independent research on the efficacy of the bacterium, *Paenibacillus*, in combating a pathogenic fungus, white mold (*Sclerotinia*), on soybean.
 - Preparation and evaluation of greenhouse trials, studying the efficacy of seed coat fungicides against pathogenic fungi, *Fusarium* and *Rhizoctonia* on corn, wheat, and soybean
 - Presented findings to the associated research labs at BASF

Teaching Experience

- Spring 2016 **Teaching Assistant**, Biochemistry
 Northwestern University, Evanston, IL
- Winter 2016 **Teaching Assistant**, Cell Biology
 Northwestern University, Evanston, IL

Grants and Awards Received

- 2018 American Public Gardens Association, Tree Gene Conservation Partnership –
 Scouting/Collecting Trip for *Quercus sadleriana*, \$5760
- 2017 Northwestern University, Plant Biology and Conservation Travel Award, \$250
- 2016 Natural Areas Association, John W. Humke Student Scholarship to attend the 2016
 Natural Areas Conference, \$1,071
- 2016 Native Plant Society of New Mexico Research Grant, \$450
- 2015 Northwestern University, Plant Biology and Conservation Research Award, \$1,000
- 2015 Northwestern University, Plant Biology and Conservation Travel Award, \$500
- 2014 – 2015 Chicago Botanic Gardens Robert D. Hevey and Constance M. Filling Fellowship

2012 DAAD (Deutscher Akademischer Austausch Dienst) Scholarship. RISE Professional grant from the German Federal Ministry for Education and Research (BMBF)

Publications

Seglias A. E., E. Williams, A. Bilge, and A. T. Kramer. *Accepted*. Phylogeny and source climate impact seed dormancy and germination of restoration-relevant forb species. PLOS ONE.

Presentations

- Hufft R. and A. Seglias. October 2017. "Ecological stewardship: restoration at Denver Botanic Gardens Chatfield Farms." Poster presentation – Natural Areas Conference 2017. Fort Collins, CO.
- Seglias A., E. Williams, and A. T. Kramer. September 2017. "Seed ecology of restoration-relevant forb species native to the Southwest United States: phenology and climate influence inter- and intraspecific variation in germination." Oral presentation – The Native Seed Science, Technology and Conservation Initial Training Network Conference 2017. Royal Botanic Gardens Kew, Richmond, Surrey, UK.
- Seglias A. and A. T. Kramer. February 2017. "Does frozen storage change the germination performance of native southwestern forb species?" Oral presentation – National Native Seed Conference 2017. Washington, D.C.
- Seglias A. January 2017. "Germination ecology of forb species native to the Southwest U.S.: Implications for restoration." Master's Thesis Defense oral presentation – The Chicago Botanic Garden.
- Seglias A. and A. T. Kramer. October 2016. "Is species identity or source climate a better predictor of seed germination for native forbs in the Southwest U.S.?" Webinar presentation – Colorado Plateau Native Plant Program Monthly Meeting.
- Seglias A. and A. T. Kramer. October 2016. "Is species identity or source climate a better predictor of seed germination for native forbs in the Southwest U.S.?" Oral presentation – Natural Areas Conference 2016. Davis, CA.
- Seglias A. and A. T. Kramer. March 2016. "Understanding among- and within-species variation in seed germination requirements to inform seed sourcing decisions in the Colorado Plateau." Poster – Colorado Plateau Native Plant Program Annual Meeting 2016. Page, AZ.
- Seglias A. and A. T. Kramer. April 2015. "Understanding among- and within-species variation in seed germination requirements to inform seed sourcing decisions in the Colorado Plateau." Poster presentation – National Native Seed Conference 2015. Santa Fe, NM.
- Seglias A. April 2014. "A resource recovery plan for Parker's pipewort (*Eriocaulon parkeri*) in Pennsylvania. Oral presentation. Morris Arboretum of the University of Pennsylvania.
- Seglias A. December 2013. "The efficacy of the bacterium, *Paenibacillus*, in combating a pathogenic fungus, white mold (*Sclerotinia*), on soybean". Oral presentation – BASF. Limburgerhof, Germany.

Non-Peer Reviewed Publications

- Seglias, A. 2017. Germination ecology of forb species native to the Southwest U.S.: Implications for restoration. Master's Thesis. Northwestern University and the Chicago Botanic Garden.
- Seglias, A. E. 2014. Resource Recovery Plan for Parker's pipewort (*Eriocaulon parkeri* B.L. Rob.) in Pennsylvania. Final Independent Project Reports. Morris Arboretum Internship Program.

University of Pennsylvania, Business Services. http://www.business-services.upenn.edu/arboretum/pdf/Complete-Intern_book_2014.pdf

Media

- Seglias A. November 2017. "Seed conservation of rare plants in Colorado." International Network for Seed-Based Restoration. <http://ser-insr.org/news/2017/11/6/seed-conservation-of-rare-plants-in-colorado>
- Seglias A. January 2016. "60-Second Science: Dormancy and Germination." my Chicago Botanic Garden blog. http://my.chicagobotanic.org/science_conservation/60-second-science-dormancy-and-germination/

Outreach

- 2017 – 2018 Science Chats. Science Pyramid, Denver Botanic Gardens
- 2016 Meet the Scientists: Monarchs, Milkweeds, and Seeds. World Environment Day, Chicago Botanic Garden, Glencoe, IL
- 2015 Meet the Scientists: Seeds of Success. World Environment Day, Chicago Botanic Garden, Glencoe, IL
- 2014 Philadelphia Science Festival, Science Café Presentation. "Ecological Traps: The Effects of Exotic Plants on Songbirds." Philadelphia, PA

Professional Society Memberships

Botanical Society of America

Skills

Microsoft Office Suite

R Programming Language for statistical analysis and data visualization

ArcGIS and use of GPS equipment

Ability to use dichotomous keys, and identify native flora of the Southwest, Midwest, and Eastern United States

Proficient in the German language