

Alexandra E. Seglias

Denver Botanic Gardens
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EDUCATION

M.S. **Northwestern University and Chicago Botanic Garden**. Evanston, Illinois
Plant Biology and Conservation. March 2017
“Germination ecology of forb species native to the Southwest U.S.: Implications for restoration”

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

APPOINTMENTS

2020 - Present **Seed Conservation Research Associate**
Denver Botanic Gardens, Denver, CO

2017 - 2020 **Seed Conservation Research Assistant**
Denver Botanic Gardens, Denver, CO

2014 **Seasonal Horticulturist**
Morris Arboretum of the University of Pennsylvania, Philadelphia, PA

2013 - 2014 **Plant Protection Intern**
Morris Arboretum of the University of Pennsylvania, Philadelphia, PA

2012 **Seed Lab Intern**
BASF Agricultural Center, Crop Science Division. Limburgerhof, Germany

PUBLICATIONS

Seglias, A. E. & DePrenger-Levin, M. (2024) Can alpine species take the heat? Impacts of increased temperatures on early life stages. *Seed Science Research*. doi:10.1017/S0960258524000096

Seglias, A. E. (2022) Can alpine plant species “bank” on conservation? Using artificial ageing to understand seed longevity. *Applications in Plant Sciences*. doi.org/10.1002/aps3.11493

Philpott, M., et al. (2022) Harnessing the power of botanical gardens: Evaluating costs and resources needed for exceptional plant conservation. *Applications in Plant Sciences*. doi.org/10.1002/aps3.11495

Finch, J., Seglias, A. E., Kramer, A. T., Havens, K. (2022) Recruitment varies among milkweed seed sources for habitat specialist but not generalist. *Restoration Ecology*, doi: 10.1111/rec.13725.

Seglias, A. E., Finch, J., & Kramer, A. T. (2020) Germination behavior of forbs native to the southwestern United States following exposure to short-term seed bank conditions (-20°C). *Seed Science Research*, 30(2), 81-91. doi:10.1017/S096025852000001X

Seglias, A. E., Williams, E., Bilge, A., & Kramer, A. T. (2018) Phylogeny and source climate impact seed dormancy and germination of restoration-relevant forb species. *PLoS ONE* 13(2): e0191931.

GRANTS & AWARDS

2024 Institute for Museum and Library Services: Museums for America Collections Stewardship. “Advancing the *North American Botanic Gardens Strategy for Alpine Plant Conservation*” (MA-255890-OMS-24). Co-PI and Project Manager. \$248,766

2024 Boulder County Parks & Open Space – “Intraspecific differences in stratification requirements along an elevational gradient.” \$3,648

2023	BGCI Forest Service Rare Plant Partnership Grant – “Conservation of rare Colorado plant species.” \$9,600
2022	Center for Plant Conservation, Conservation Champion for the month of March, https://saveplants.org/conservation-champion-alexandra-seglas/
2021	Colorado Native Plant Society, Steinkamp Grant – “How does increased temperature resulting from climate change affect the growth, reproduction, and survival of two rare Colorado alpine plants?.” \$1,025
2021	Participant in Center for Plant Conservation IMLS funded project: “RNA Integrity as a powerful metric of aging in preserved seed collections of wild rare plant species” (MG-245983-OMS-20)
2018	Denver Botanic Gardens Employee Engagement & Wellness, Professional Development Scholarship to attend the 2018 Seed Longevity Workshop. \$491
2018	American Public Gardens Association, Tree Gene Conservation Partnership – “Increasing diversity and resilience in <i>ex situ</i> collections of <i>Quercus sadleriana</i> .” \$5,760
2017	Participant in Cincinnati Zoo and Botanical Garden IMLS funded project: “Establishing the Exceptional Plant Cryo Bank: Collaborative Research for Ex Situ Conservation of Endangered Plants 2018-2020” (MG-30-17-0055-17)
2016	Native Plant Society of New Mexico Research Grant. \$450

SELECTED PRESENTATIONS

2024	“Can alpine species take the heat? Effects of increased temperatures on early life stages of alpine plant species.” Oral presentation – International Botanical Congress. Madrid, Spain.
2023	“Can alpine species take the heat? Effects of increased temperatures on early life stages of alpine plant species.” Oral presentation – Center for Plant Conservation Meeting. Phoenix, AZ.
2022	“Seed Conservation at Denver Botanic Gardens.” Oral presentation – Center for Plant Conservation Meeting. Denver, CO.
2021	“The use of open top chambers to understand the response of two rare alpine species to increased warming.” Oral presentation – Rare Plant Symposium. Trinidad, CO.
2020	“Can alpine species “bank” on conservation?” Oral presentation – Southern Rockies Seed Network Virtual Meeting.
2020	“Can alpine species “bank” on conservation?” Oral presentation – Center for Plant Conservation Virtual Meeting.
2019	“Seed ecology of restoration-relevant forb species: phylogeny and climate influence inter- and intraspecific variation in germination.” Oral presentation – HAR/SER – RM. Fort Collins, CO.
2018	“The effects of frozen storage on seed dormancy and germination patterns of native southwestern forb species.” Oral presentation – Botany 2018. Rochester, MN.
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.
2017	“Does frozen storage change the germination performance of native southwestern forb species?” Oral presentation – National Native Seed Conference 2017. Washington, D.C.
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.

RESEARCH ASSISTANTSHIPS

2016	Seed Collector
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2015 Chicago Botanic Garden Dixon National Tallgrass Prairie Seed Bank, Glencoe, IL
Seed Lab Technician
Chicago Botanic Garden Dixon National Tallgrass Prairie Seed Bank, Glencoe, IL

TEACHING ASSISTANTSHIPS

2016 **Biochemistry** – Northwestern University, Evanston, IL
2016 **Cell Biology** – Northwestern University, Evanston, IL

NON-PEER REVIEWED PUBLICATIONS

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.
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

2024 “The amazing world of alpine plants.” The Science Show.
<https://www.abc.net.au/listen/programs/scienceshow/the-amazing-world-of-alpine-plants/103551584>
2024 “Researchers are studying the impacts climate change may be having on Colorado’s alpine plant population.” Denver7 ABC. <https://www.denver7.com/weather/researchers-are-studying-the-impacts-climate-change-may-be-having-on-colorados-alpine-plant-population>
2022 “Denver Botanic Garden scientists are keeping tabs on how climate will change Colorado’s flora.” Denverite Interview and story by Kevin Beaty.
<https://denverite.com/2022/06/01/denver-botanic-garden-scientists-are-keeping-tabs-on-how-climate-will-change-colorados-flora/>
2022 “Climate change is coming to your backyard garden.” 9News with Kyle Clark.
<https://www.9news.com/video/news/local/next/next-with-kyle-clark/climate-change-is-coming-to-your-backyard-garden/73-4a71af28-3f8b-41a9-a0e9-7f09e6e7ac99>
2021 “How did Soviet scientists lead the way for conservation?” Denver Botanic Gardens Blog.
<https://www.botanicgardens.org/blog/how-did-soviet-scientists-lead-way-conservation>
2021 “Rare alpine plants and the chamber of warming.” Denver Botanic Gardens Blog.
<https://www.botanicgardens.org/blog/rare-alpine-plants-and-chamber-warming>
2020 “Can alpine species ‘bank’ on conservation?” Denver Botanic Gardens Blog.
<https://www.botanicgardens.org/blog/can-alpine-species-bank-conservation>
2019 “The challenges of germinating rare alpine species.” Denver Botanic Gardens Blog.
<https://www.botanicgardens.org/blog/challenges-germinating-rare-alpine-species>
2018 “A good seed can be hard to find.” Denver Botanic Gardens Blog.
<https://www.botanicgardens.org/blog/good-seed-can-be-hard-find>
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>

OUTREACH

2023 Night at the Museum – Denver Botanic Gardens

2019 – 2020 Denver Metro Regional Science and Engineering Fair Judge, Senior Projects – Plant Sciences and Microbiology. Denver, CO

2018 Denver Metro Regional Science and Engineering Fair Judge, Junior Plant Sciences Division. Denver, CO

2017 – 2019 Science Chats. Science Pyramid, Denver Botanic Gardens, Denver CO

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

MANUSCRIPT REVIEWER

Applications in Plant Sciences, Biological Conservation, Botany, Ecological Restoration, Plant Biology, PLoS One, Journal of Plant Growth and Regulation

PROFESSIONAL MEMBERSHIPS

Colorado Native Plant Society, International Society for Seed Science, IUCN Species Survival Commission: Seed Conservation Specialist Group