

# Joseph A. Kleinkopf

Ph.D. Candidate | Marx Lab | University of New Mexico  
Museum of Southwestern Biology | jkleinkopf[at]unm.edu

## Education

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- 2021- **Ph.D., Biology**, University of New Mexico, Albuquerque, NM  
*Committee:* Dr. Hannah Marx, Dr. Mike Andersen, Dr. Ken Whitney
- 2018-2019 **M.Ed., Secondary Science Education**, University of Massachusetts, Boston, MA
- 2016-2018 **M.S., Plant Biology**, Washington State University, Pullman, WA  
*Committee:* Dr. Eric Roalson, Dr. Larry Hufford, Dr. Joanna Kelley, Dr. Warren Wagner
- 2011-2015 **B.A., MCDB and Japanese**, University of Colorado, Boulder, CO

## Research Projects

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- 2023- **Systematics of Erigeron (Asteraceae; Astereae)**, Marx Lab, University of New Mexico  
*Reconstructing phylogenetic relationships in Erigeron to test hypotheses of alpine plant origins*
- 2022- **Silica-Dried Plant Tissue Infrastructure**, UNM Herbarium, University of New Mexico  
*Developing a standardized protocol for storing and digitizing silica-dried plant tissues.*
- 2021- **Drivers of Alpine Plant Community Turnover**, Marx Lab, University of New Mexico  
*Testing hypotheses of alpine plant community turnover across western North America.*
- 2021-2023 **Adaptability of Piñon Pine**, Marx Lab, University of New Mexico  
*Transcriptome assembly and DNA probe design. Project led by Dr. Diana Macias.*
- 2016-2018 **Systematics of Hawaiian *Cyrtandra***, Roalson Lab, Washington State University  
*Phylogenetic analysis and tests for hybridization in Hawaiian *Cyrtandra* using Genome-Wide Data.*
- 2014-2015 **Aberrant Plant Diversity**, Tripp Lab & COLO Herbarium, University of Colorado  
*Genetic differentiation in morphologically aberrant forms of Purgatory plant species.*

## Peer-Reviewed Publications

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4. Lombardi, E.M., B.D. Inouye, **J.A. Kleinkopf**, J.S. Reithel, E.H. Shapiro, J.A. Smith, N. Underwood. In review. *Climate change data in the biology classroom: three assignment sequences leverage long-term field experiments to teach about change in mountain ecosystems.* CourseSource.
3. Ertsgaard, E.W., N.L. Gjording, J.D. Bakker, **J.A. Kleinkopf**, D.E. Giblin. In press. *Geology and climate drive alpine plant compositional variation among peaks in the Cascade Mountain Range.* PLoS One.
2. **Kleinkopf, J.A.**, W.R. Roberts, W.H. Wagner, E.H. Roalson. 2019. *Diversification of Hawaiian *Cyrtandra* (Gesneriaceae) under the influence of incomplete lineage sorting and hybridization.* Journal of Systematics and Evolution. 57(6). DOI: [10.1111/jse.12519](https://doi.org/10.1111/jse.12519)
1. **Kleinkopf, J.A.**, D.A. Clark, and E.A. Tripp. 2017. *Aberrant Plant Diversity in the Purgatory Watershed of Southeastern Colorado and Northeastern New Mexico.* Western North American Naturalist. 77(3). DOI: [10.3398/064.077.0307](https://doi.org/10.3398/064.077.0307)

## Presentations

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- **Kleinkopf, J.A.** July 2024. *The alpine flora of the southern Rocky Mountains: Past, present, and future.* Presentation. New Mexico Native Plant Society Conference, Taos, NM.
- **Kleinkopf, J.A.**, H.E. Marx. June 2024. *Drivers of alpine plant community turnover across Western North America.* Presentation. Botany Conference, Grand Rapids, MI.
- Westerman, J., **J.A. Kleinkopf**, H.E. Marx. June 2024. *Effects of pollination syndromes on alpine plant communities in the Southern Rocky Mountains.* Poster. Botany Conference, Grand Rapids, MI.
- **Kleinkopf, J.A.** February 2024. *The alpine flora of New Mexico.* Presentation, New Mexico Native Plant Society, Albuquerque, NM.
- **Kleinkopf, J.A.** November 2023. *The alpine flora: Where do we go from here?* Seminar. Museum Research Traineeship Seminar Series, Albuquerque, NM.
- **Kleinkopf, J.A.**, H. E. Marx, and D.E. Giblin. July 2022. *Alpine Plant Community Phylogenetics of the Greater Pacific Northwest.* Poster. Botany Conference, Anchorage, AK.

- **Kleinkopf, J.A.**, E.H. Roalson, W.R. Roberts, and W.L. Wagner. March 2018. *Detecting Hybridization in Hawaiian Cyrtandra using Genome-Wide Data*. Poster. Washington State University Biology Graduate Student Symposium, Moscow, ID.

## Teaching Experience

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- 2023 Fall **Instructor of Record**, Department of Biology, University of New Mexico, Albuquerque, NM  
*Co-instructor of General Botany Lecture and Lab (BIOL-360L, 4 credit course)*
- 2019-2021 **Science Teacher**, Salish Middle School, North Thurston Public Schools, Olympia, WA  
*6<sup>th</sup> Grade Earth and Space Science, 6-8<sup>th</sup> Grade Advisory*
- 2018-2019 **Resident Science Teacher**, Boston Teacher Residency, Boston Plan for Excellence, Boston, MA  
*10<sup>th</sup> Grade Biology, 11<sup>th</sup>/12<sup>th</sup> Grade Anatomy and Physiology*
- 2016-2018 **Teaching Assistant**, Washington State University, Pullman, WA  
*General Biology and Lab (General Biology BIOL 102 and Lab BIOL 105; four semesters)*
- 2013 Summer **Undergraduate Teaching Assistant**, Science Discovery, University of Colorado, Boulder, CO  
*K-12 Science Summer Camp Teaching Assistant*

## Research Experience

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- 2024 Fall **Research Assistant**, Marx Lab, University of New Mexico
- 2024 Spring **Research Assistant**, Marx Lab, University of New Mexico  
*DNA extractions and phylogenetic analysis of alpine plants collected in 2022-2023*
- 2022-2023 **Graduate Assistant**, Museum of Southwestern Biology Herbarium, University of New Mexico  
*Inventoried Type specimens, reorganized types by APG IV order.  
Began process of reorganizing the general collections from alphabetical to APG IV.  
Started to develop infrastructure to store and database silica-dried tissue samples.*
- 2021-2022 **Museum Research Training Program Fellow**, University of New Mexico  
*Interdisciplinary program focusing on the best practices and issues in collections-based museums.*
- 2017 Summer **Graduate Assistant**, Hudson Biological Reserve, Washington State University  
*Surveyed floral diversity at the Hudson Biological Reserve at Smoot Hill.*

## Fellowships and Grants

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- 2024 \$500 **NYBG Visiting Scientist Research Award**, New York Botanical Garden  
*Visit to NYBG to sample Erigeron specimens housed at the Steere Herbarium.*
- 2024 \$400 **GRAC Research Award**, BGSA, University of New Mexico  
*Lab consumables for DNA extraction of Erigeron herbarium specimens.*
- 2024 \$1500 **Rogers Research Award**, GPSA, University of New Mexico  
*Lab consumables for DNA extraction of Erigeron herbarium specimens.*
- 2024 \$1200 **Graduate Student Research Grant**, American Society of Plant Taxonomists  
*Origins of the Alpine Flora: Range and Biome Evolution in Conyzinae (Asteraceae: Astereae)*
- 2024 \$2000 **MRT Travel and Research Grants**, NSF Museum Research Traineeship, University of New Mexico  
*Travel to Botany Conference 2024 and museums for Erigeron sampling.*
- 2024 \$1500 **Grove Summer Research Scholarship**, Biology Department, University of New Mexico  
*Materials for DNA extraction and sequencing for Erigeron phylogenetics.*
- 2024 \$500 **Student Research Grant**, GPSA, University of New Mexico  
*Materials for alpine plant DNA extraction.*
- 2023 \$2500 **Lewis and Clark Fund for Exploration and Field Research**, American Philosophical Society  
*Field work to collect alpine plants across the Southern Rocky Mountains, summer 2023.*
- 2023 \$2000 **Grove Summer Research Scholarship**, Biology Department, University of New Mexico  
*Field work to collect alpine plants across the Southern Rocky Mountains, summer 2023.*
- 2023 \$350 **Professional Development Grant**, GPSA, University of New Mexico  
*Registration to attend the Evolution Conference in Albuquerque, NM, June 2023.*
- 2023 \$1500 **Jack & Martha Carter Conservation Fund Grant**, The Native Plant Society of New Mexico  
*Field work to collect alpine plants across the Southern Rocky Mountains, summer 2023.*
- 2022 \$500 **Student Research Grant**, GPSA, University of New Mexico  
*Travel to attend the Botany Conference in Anchorage, AK, July 2022.*

- 2022 \$1800 **Grove Summer Research Scholarship**, Biology Department, University of New Mexico  
*Field work to collect alpine plants across the Southern Rocky Mountains, summer 2022.*
- 2021 \$45750 **NSF Museum Research Training Fellowship**, University of New Mexico  
*Tuition, fees, and stipend. Interdisciplinary program to learn about museum work.*
- 2018 \$2200 **Higinbotham Travel Grant**, Biology Department, Washington State University  
*Field work to collect *Cyrtandra* species on the Hawaiian Islands.*

## Service and Outreach

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### Service

- 2024-  
2024 Fall **Herbarium Faculty-Curator Hiring Committee**, BGSA Representative, University of New Mexico  
**GRAC Grant Proposal Reviewer**, BGSA, University of New Mexico
- 2023-2024 **Graduate Research Allocation Committee (GRAC) Chair**, BGSA, University of New Mexico
- 2022-2023 **Undergraduate Policy Committee Chair**, BGSA, University of New Mexico
- 2023 Spring **GRAC Grant Proposal Reviewer**, BGSA, University of New Mexico
- 2022 Fall **GRAC Grant Proposal Reviewer**, BGSA, University of New Mexico
- 2021 Fall **GRAC Grant Proposal Reviewer**, BGSA, University of New Mexico
- 2020-2021 **Equity Committee Co-Lead**, Salish Middle School, North Thurston Public Schools
- 2019-2020 **Equity Committee**, Salish Middle School, North Thurston Public Schools

### Outreach

- 2024-  
2024 Fall **Alpine Botany Journal Club Organizer**, Virtual monthly meetings  
**Plant Identification Nights**, Museum of Southwestern Biology Herbarium, Albuquerque, NM
- 2023-2024 **Jefferson Middle School Partnership**, Museum of Southwestern Biology, Albuquerque, NM
- 2024 Spring **Plant Identification Nights**, Museum of Southwestern Biology Herbarium, Albuquerque, NM
- 2023 Fall **Plant Identification Nights**, Museum of Southwestern Biology Herbarium, Albuquerque, NM
- 2023 Summer **Night at the Museum (Evolution Conference 2023)**, NMMNHS, Albuquerque, NM
- 2023 Summer **Open House (Evolution Conference 2023)**, Museum of Southwestern Biology, Albuquerque, NM
- 2023 Spring **Plant Identification Nights**, Museum of Southwestern Biology Herbarium, Albuquerque, NM
- 2023 Spring **Open House (Community Outreach 2023)**, Museum of Southwestern Biology, Albuquerque, NM
- 2022 Fall **Herbarium Tour, Biology Undergrad Society**, Museum of Southwestern Biology, Albuquerque, NM
- 2022 Fall **Scientist: Skype-a-Scientist** with Mr. Wessel 12th grade class, Middletown, DE
- 2022 Fall **Scientist: Skype-a-Scientist** with Ms. Kieser's 5th grade class, Osseo, MN
- 2022 Fall **Scientist: Skype-a-Scientist** with Ms. Sanyo's 4th grade class, Akron, OH
- 2022 Fall **Plant Identification Nights**, Museum of Southwestern Biology Herbarium, Albuquerque, NM
- 2021 Spring **Teacher: Skype-a-Scientist** with Jackie Billotte, University of Colorado, Denver, CO
- 2020 Fall **Teacher: Skype-a-Scientist** with Nick Gladstone, University of Tennessee, Knoxville, TN
- 2020 Fall **Teacher: Skype-a-Scientist** with Maia Casna, Leiden University, Leiden, Netherlands
- 2018 Spring **Outdoor Family Fun Day**, BGSA, Washington State University, Pullman, WA
- 2017 Fall **Biology Family Fun Day**, BGSA, Washington State University, Pullman, WA
- 2017 Spring **Outdoor Family Fun Day**, BGSA, Washington State University, Pullman, WA
- 2016 Fall **Biology Family Fun Day**, BGSA, Washington State University, Pullman, WA

### Guest Lectures

- 2023 Spring **Botanical Diversity and Preservation**, BIOL 419/519, University of New Mexico  
Title: *Bias in Natural History Collections*

### Mentored Students

- 2023-  
2022-2024 **Adrian Vigil**, Lab work, Undergraduate, University of New Mexico  
**Jeremiah Westerman**, Field and lab work, University of New Mexico
- 2023 Summer **Brianna Addison**, Field work, University of New Mexico
- 2022 Summer **Lauren Urenda**, Field work, University of New Mexico
- 2017 Summer **Mara Huang**, Field work, Washington State University
- 2017 Summer **Tia Prudholm**, Field work, Washington State University

### **Professional Society Membership**

Botanical Society of America (BSA), American Society of Plant Taxonomists (ASPT), Society for the Study of Evolution (SSE), Society of Systematic Biologists (SSB), New Mexico Native Plant Society (NMNPS)

### **Honors and Awards**

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2023 **1st Place, The Faces of Biology Contest**, American Institute of Biological Sciences

2015 **EBIO Undergraduate Scientist Feature**, University of Colorado-Boulder

2014 **Phi Beta Kappa Honors Society**, University of Colorado-Boulder

### **Professional Development**

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2024 **Biodiversity Data Wrangling Workshop**, Botany Conference, Grand Rapids, MI

2024 **Workshop on Molecular Evolution**, Marine Biological Laboratory, Woods Hole, MA

2023 **Student Experience Project for Equitable Pedagogy**, University of New Mexico, Albuquerque, NM

2023 **RoLE Biodiversity Data Workshop**, Evolution Conference, Albuquerque, NM

2022 **Plant Collection Workshop**, Sevilleta Wildlife Refuge, Socorro, NM

### **Field Work and Herbarium Collections**

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2024 **Alpine Plants**, Pecos Wilderness Area, NM (97 collections @ UNM Herbarium)

2023 **Alpine Plants**, Southern Rocky Mountains, NM & CO (601 collections @ UNM Herbarium)

2022 **Alpine Plants**, Southern Rocky Mountains, NM & CO (551 collections @ UNM Herbarium)

2022 **Sevilleta Wildlife Refuge**, Socorro Co., NM (2 collections @ UNM Herbarium)

2017 **Hudson Biological Reserve**, Whitman Co., WA (42 collections @ WS Herbarium)

2016 **Picket Wire (Purgatoire) Canyonlands**, Las Animas Co., CO

2016 **Comanche National Grasslands BioBlitz**, Las Animas Co., CO

**Total Vouchered Herbarium Collections:** 1293

### **Professional References**

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**Dr. Hannah Marx** | hmarx [at] unmc.edu | Assistant Professor & Herbarium Curator, University of New Mexico

**Dr. David Giblin** | dgiblin [at] uw.edu | Herbarium Collections Manager, Burke Museum, University of Washington

**Dr. Eric Roalson** | eric\_roalson [at] wsu.edu | Professor & Herbarium Director, Washington State University

**Dr. Warren Wagner** | wagnerw [at] si.edu | Research Botanist and Curator of Botany, Smithsonian Institute