

Joseph A. Kleinkopf

[Ph.D. Candidate](#) | Marx Lab | Cornell University
School of Integrative Plant Science | jak566 [at] cornell.edu

Education

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- 2027 **Ph.D., Plant Biology**, Cornell University, Ithaca, NY
Committee: Drs. Hannah Marx (PI), Daniel Anstett, Matt Pennell, Brent Sinclair
- 2019 **M.Ed., Secondary Science Education**, University of Massachusetts, Boston, MA
- 2018 **M.S., Plant Biology**, Washington State University, Pullman, WA
Committee: Dr. Eric Roalson, Dr. Larry Hufford, Dr. Joanna Kelley, Dr. Warren Wagner
- 2015 **B.A., MCDB and Japanese**, University of Colorado, Boulder, CO

Research Projects

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- 2023 - **Biome evolution in *Erigeron* (Asteraceae; Astereae)**, Marx Lab, Cornell University
Reconstructing phylogenetic relationships in Erigeron to test hypotheses of alpine plant origins.
- 2021- **Drivers of alpine plant community turnover**, Marx Lab, Cornell University
Testing hypotheses of alpine plant community turnover across western North America.
- 2022-2025 **Silica-dried tissue collection infrastructure**, UNM Herbarium, University of New Mexico
Developing a standardized protocol for storing and digitizing silica-dried plant tissues.
- 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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6. Faust, H., **J.A. Kleinkopf**, B. Olmeda, and G.L. McCartha. In review. *Updates to the flora of New Mexico (U.S.A.): Notable botanical findings from the next generation of southwestern botanists.* Journal of the Botanical Research Institute of Texas.
 5. **Kleinkopf, J.A.**, H. Faust, D.E. Giblin, M.R. Gostel, C.M. Guilliams, K.E. Hasenstab-Lehman, J.M. Heberling, S.J. Jacobs, B. Legler, R. Levy, A.G. Linan, L.C. Majure, K.D. Pearson, T.F. Rehman, C.J. Rothfels, D.C. Tank, W. Testo, C.M. Tribble, and H.E. Marx. In review. *Building infrastructure for silica-preserved leaf tissue collections in herbaria.* Systematic Botany.
 4. Lombardi, E.M., B.D. Inouye, **J.A. Kleinkopf**, J.S. Reithel, E.H. Shapiro, J.A. Smith, and N. Underwood. 2025. *Climate change data in the biology classroom: three assignment sequences leverage long-term field experiments to teach about change in mountain ecosystems.* CourseSource. 12. [\[Link\]](#)
 3. Ertsgaard, E.W., N.L. Gjording, J.D. Bakker, **J.A. Kleinkopf**, and D.E. Giblin. 2025. *Geology and climate drive alpine plant compositional variation among peaks in the Cascade Mountain Range.* PLoS One. e0317140. [\[Link\]](#)
 2. **Kleinkopf, J.A.**, W.R. Roberts, W.H. Wagner, and 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). [\[Link\]](#)
 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). [\[Link\]](#)

Presentations

- Marx, H. E., **J.A. Kleinkopf**. July 2025. *Diversity and drivers of alpine plant community structure in western North America*. Presentation. Botany Conference, Palm Springs, CA.
- **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*. Oral paper. 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?* Presentation. Museum Research Traineeship Seminar Series, Albuquerque, NM.
- **Kleinkopf, J.A.** October, 2022. *Testing hypotheses of North American alpine plant community assembly*. Presentation. MSB Nights 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

2025 Spring	Teaching Assistant , Department of Biology, University of New Mexico, Albuquerque, NM <i>General Botany (BIOL-464L). Designed lab activities/assignments and assessed student learning.</i>
2023 Fall	Instructor of Record , Department of Biology, University of New Mexico, Albuquerque, NM <i>General Botany Lecture and Lab (BIOL-360L, 4 credit course). Redesigned course materials to be student centered, culturally responsive, and better incorporate our LMS, Canvas.</i>
2019-2021	Science Teacher , Salish Middle School, North Thurston Public Schools, Olympia, WA <i>6th Grade Earth and Space Science, 6-8th Grade Advisory</i>
2018-2019	Science Teacher Resident , Boston Teacher Residency, Boston Plan for Excellence, Boston, MA <i>10th Grade Biology, 11th/12th Grade Anatomy and Physiology</i>
2016-2018	Teaching Assistant , Washington State University, Pullman, WA <i>General Biology and Lab (General Biology BIOL 102 and Lab BIOL 105; four semesters)</i>
2013 Summer	Undergraduate Teaching Assistant , Science Discovery, University of Colorado, Boulder, CO <i>K-12 Science Summer Camp Teaching Assistant</i>

Professional Experience

2025 Summer	Graduate Research Assistant , Marx Lab, Cornell University <i>Alpine plant surveys and analyzing drivers of alpine plant community turnover.</i>
2024	Research Assistant , Marx Lab, University of New Mexico <i>DNA extractions and phylogenetic analysis of alpine plants/Erigeron herbarium specimens.</i>
2022-2023	Graduate Assistant , Museum of Southwestern Biology Herbarium, University of New Mexico <i>Inventory and reorganize Type specimens by APG IV order. Reorganize the general collections from alphabetical to APG IV. Begin development of infrastructure to store and database silica-dried tissue samples.</i>
2021-2022	Museum Research Training Program Fellow , University of New Mexico <i>Interdisciplinary program focusing on the best practices and issues in collections-based museums.</i>
2017 Summer	Graduate Assistant , Hudson Biological Reserve, Washington State University <i>Survey of floral diversity at the Hudson Biological Reserve at Smoot Hill.</i>

Fellowships and Grants

- 2025 \$17831 **USDA-ARS Fellowship**, Buckler Lab AI/CERCA, Cornell University
Using AI tools to explore biome evolution and evolution of cold-tolerance in Erigeron L.
- 2025 \$3500 **Moore Graduate Research Award**, L.H. Bailey Hortorium, Cornell University
Field work to collect alpine plants across the Southern Rocky Mountains.
- 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 herbaria for destructive 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

Service

- 2024-2025 **Herbarium Faculty-Curator Hiring Committee BGSA Representative**, University of New Mexico
- 2024 Fall **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- **Alpine Botany Journal Club Organizer**, Virtual monthly meetings
- 2024 Summer **Native Plant Walk to Williams Lake**, NM Native Plant Society Conference, Taos, NM
- 2024 Fall **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

2025 Fall	Concepts and Techniques in Plant Biology , PLSCI 6831, Cornell University Lecture topic: <i>Homology, sequence alignment, and parsimony</i>
2023 Spring	Botanical Diversity and Preservation , BIOL 419/519, University of New Mexico Lecture topic: <i>Bias in natural history collections</i>

Mentored Students

2022-2025	Jeremiah Westerman ; undergraduate; fieldwork, lab work, writing; University of New Mexico
2023-2024	Adrian Vigil ; undergraduate; lab work; University of New Mexico
2023 Summer	Brianna Addison ; undergraduate; field work; University of New Mexico
2022 Summer	Lauren Urenda ; undergraduate; field work; University of New Mexico
2017 Summer	Mara Huang ; undergraduate; field work; Washington State University
2017 Summer	Tia Prudholm ; undergraduate; 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)

Journals Refereed

Systematic Botany (1), American Journal of Botany (1)

Honors and Awards

2023	1st Place, The Faces of Biology Contest , American Institute of Biological Sciences Cover Image of Bioscience Vol 74, Issue 4 (April 2024) [Link]
2015	EBIO Undergraduate Scientist Feature , University of Colorado-Boulder
2014	Phi Beta Kappa Honors Society , University of Colorado-Boulder

Professional Development

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

Fieldwork and Herbarium Collections

Vouchered Herbarium Specimens (1353 total):

- 2025 **Alpine Plants**, Wheeler Peak Wilderness Area, NM (60 collections, UNM Herbarium)
- 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

Notable Collections:

Carex perglobosa (Cyperaceae): New Mexico state record. Kleinkopf 1182 at UNM.

Phacelia hastata var. *alpina* (Hydrophyllaceae): New Mexico state record. Kleinkopf 976 at UNM.

Professional References

Dr. Hannah Marx | hem73 [at] cornell.edu

Assistant Professor & Director of the L.H. Bailey Hortorium Herbarium, Cornell University

Dr. David Giblin | dgiblin [at] uw.edu

Herbarium Collections Manager, Burke Museum, University of Washington

Dr. Eric Roalson | eric_roalson [at] wsu.edu

Professor & Director of the Ownbey Herbarium, Washington State University

Dr. Warren Wagner | wagnerw [at] si.edu

Research Botanist and Curator of Botany, Smithsonian Institute