

Molly Nepokroeff, Ph.D.
Curriculum vitae

Head Curator, Natural History Collections
Denver Botanic Gardens
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Denver, CO 80206
molly.nepokroeff@botanicgardens.org

PROFESSIONAL EXPERIENCE:

Head Curator, Natural History Collections, Denver Botanic Gardens, June 2025-present
Senior Instructor, Department of Integrative Biology. University of Colorado-Denver, Aug. 2017-June 2025
Co-Director, Denver Metro Science and Engineering Fair (Aug. 2017-Feb. 2018)
Lecturer, Department of Integrative Biology. University of Colorado-Denver, Jan. 2016-Aug. 2017
Associate Professor & Herbarium Curator, University of South Dakota, Department of Biology. Aug. 2006-May 2012
Visiting McBryde Researcher, National Tropical Botanical Garden, Jan.-May 2008.
Assistant Professor and Herbarium Curator, University of South Dakota, Department of Biology. Aug. 2001-Aug. 2006
Postdoctoral Fellow, Smithsonian Institution, National Museum of Natural History and Laboratory of Molecular Systematics (Oct. 1998-Aug. 2001). Advisors: Dr. Elizabeth Zimmer and Dr. Warren Wagner.

EDUCATION

Ph.D. August, 1997. University of Wisconsin, Madison. Major: Botany, Minor: Zoology. Advisor: Kenneth J. Sytsma.

M.S. August, 1992. University of Wisconsin, Madison. Major: Botany. Advisor: Kenneth J. Sytsma

B.A. May, 1987. Macalester College, St. Paul, Minnesota. Major: Biology
Minor: Spanish

GRANTS

- 2014 National Park Service: Assess Genetic Diversity, Ecological Niches and Climate Change Vulnerability of Niobrara NSR Aspens. \$381,439.81. PI Molly Nepokroeff, Co-PIs: Jeannine Cavender-Bares (University of Minnesota; now Director, Harvard University Herbaria) and Mark Dixon (University of South Dakota). Note: J. Cavendar-Bares assumed lead PI responsibility of this award as of 6/2014.
- 2009 National Science Foundation, Biological Research Collections, DBI-0847960, “Development of a Multi-Herbarium Web-Accessible Database of the Vascular Plants from the Missouri Plateau, U.S.A.”. PI Mark L. Gabel, Curtis L. Card, Grace Kostel, Black Hills State University. Subaward to M. Nepokroeff. University of South Dakota. \$26,000. 9/1/09 -8/31/12.
- 2009 National Science Foundation, Major Research Instrumentation, DBI 0923419. “MRI: Aquisition of Genetic Instrumentation for a New Core Facility at the University of South Dakota”. Co-PI with J. Kerby (PI), Alicia Paulson, Kaius Helenurm, Hugh Britten. \$317,500.
- 2006 National Science Foundation, Biological Research Collections, “Herbarium Improvement & Development of a Consolidated Vascular Plant Database for Western SD, and Eastern WY”. PI Mark Gabel, Black Hills State University. Subaward to M. Nepokroeff, University of South Dakota. \$26,189. 4/1/06-3/31/07.
- 2005-2009 National Science Foundation, Systematic Biology and Biotic Inventories/Population and Evolutionary Processes: “Phylogeography of Hawaiian Schiedea: A multigene, coalescent approach”, Lead PI Molly Nepokroeff, co-PI Lisa Wallace. \$356,100.
- 2002 National Science Foundation, Major Research Instrumentation: “Acquisition of Genetic Analyzer by University of South Dakota Evolutionary Genetics Research Group.” Lead PI. Molly Nepokroeff. Co-PIs: Hugh Britten, Kaius Helenurm, and John Swallow. \$135,000.
- 2002 University of South Dakota Center for Instructional Design and Delivery Technology Enrichment Award: \$500
- 2001, 2003 University of South Dakota Office of Research Proposal Incentive Award: \$5,000 (2001) and \$3000 (2003)
- 2001 University of South Dakota Office of Research Travel Award: \$500

- 1999 XIV International Botanical Congress, St. Louis, MO: \$300 Registration waiver award for young investigators
- 1999 Smithsonian Scholarly Studies Award, \$68,000: "Phylogeny of subfamily Alsinoideae: Evolution of a divergent Hawaiian lineage", co-PI with Warren Wagner, Elizabeth Zimmer, Steven Weller and Ann Sakai.
- 1998 Smithsonian Postdoctoral Fellowship: \$27,000 stipend, \$2000 research
- 1995 National Science Foundation Doctoral Dissertation Improvement Award: \$10,000
- 1995 Garden Club of America/ World Wildlife Fund Scholarship in Tropical Botany: \$5,500-awarded to two or three individuals nationwide annually
- 1993 American Society of Plant Taxonomists Grant for Graduate Student Research \$700

AWARDS:

- 2011 Richard and Sharon Cutler Award in Liberal Arts for excellence in teaching and research, USD
- 2005, 2006, 2012: Nominated for USD Belbas Larson Teaching Award
- 2005 USD Student Association Professor of the Year, Mortar Board Society Awards
- 1995 University of Wisconsin Chancellor's Excellence in Teaching Award \$1000

TEACHING EXPERIENCE:

- 2016-2025: University of Colorado Denver: Flora of Colorado with lab, Plant Science/Plant Structure and Development with lab, Plant Diversity, and FYS Plants and Food: Sustainability, Health and Security (freshman seminar); Introduction to Evolution
- 2001-2012: Courses taught at University of South Dakota: Survey of Biology II (for non-majors), Plant Systematics, Plants and Civilization, Introduction to Cellular and Molecular Biology, Biogeography, Molecular Ecology and Evolution, Introduction to Bioinformatics, DNA Sequencing Techniques, graduate topical seminars in molecular ecology and evolution, phylogeography, and adaptive radiations on islands.

PUBLICATIONS

- Wallace, L.E., T.M. Culley, S.G. Weller, A. Kuenzi, T. Roy, A.K. Sakai, W.L. Wagner & M. Nepokroeff. 2012. Asymmetrical gene flow in a hybrid zone of Hawaiian *Schiedea* (Caryophyllaceae) species with contrasting mating systems. PLoS ONE 6(9): e24845. doi:10.1371/journal.pone.0024845
- Willyard, A., L.E. Wallace, W.L. Wagner, S.G. Weller, A.K. Sakai, & M. Nepokroeff. Estimating the species tree for Hawaiian *Schiedea* (Caryophyllaceae) from multiple loci in the presence of reticulate evolution. 2011. Molecular Phylogenetics and Evolution, 60:29-48
- Harbaugh, D.T., M. Nepokroeff, R.K. Rabeler, J. McNeill, E.A. Zimmer and W.L. Wagner. 2010. A new lineage based tribal classification of the family Caryophyllaceae. International Journal of Plant Science 171 (2): 185-198.
- Wallace, L.E., S.G. Weller, Warren L. Wagner, A.K. Sakai and M. Nepokroeff. 2009. Phylogeographic patterns and demographic history of *Schiedea globosa* (Caryophyllaceae) on the Hawaiian Islands. American Journal of Botany 96: 958-967.
- Eggens, F., M. Popp, M. Nepokroeff, W.L. Wagner, and B. Oxelman. 2007. The origin and number of introductions of the Hawaiian endemic *Silene* species (Caryophyllaceae). American Journal of Botany 94: 210-218.
- Sakai, A. K., S.G. Weller, W.L. Wagner, M. Nepokroeff, T.M. Culley. 2006. Adaptive radiation and evolution of breeding systems in *Schiedea* (Caryophyllaceae), and endemic Hawaiian genus. Annals of the Missouri Botanical Garden 93: 49-63.
- Applequist, W. L., W.L. Wagner, E.A. Zimmer and M. Nepokroeff. 2006. Molecular evidence resolving the systematic position of *Hectorella* (Portulacaceae). 2006. Systematic Botany. Systematic Botany 31(2):310-319.
- Sakai, A., S.G. Weller, W.L. Wagner, M. Nepokroeff and T.M. Culley. 2006. Adaptive radiation and evolution of breeding systems in endemic Hawaiian *Schiedea* (Caryophyllaceae). Annals of the Missouri Botanical Garden. 93 (1): 49-63.

- Nepokroeff, M., W. L. Wagner, P. S. Soltis, S. G. Weller, D. E. Soltis, A. K. Sakai, & E. A. Zimmer. 2005. Phylogeny of *Schiedea*, in Wagner, Weller and Sakai, Monograph of *Schiedea* (Caryophyllaceae subfam. Alsinoideae). Systematic Botany Monographs 72: 13-20.
- Sytsma, K.J., A. Litt, M.L. Zjhra, J.C. Pires, M. Nepokroeff, E. Conti, Jay Walker, and P.G. Wilson. 2004. Clades, clocks, and continents: historical and biogeographical analysis of Myrtaceae, Vochysiaceae, and relatives in the southern hemisphere. International Journal of Plant Sciences 165 (4 Suppl.): S85-S105.
- Nepokroeff, M., K. J. Sytsma, W.L. Wagner and E. A. Zimmer. 2003. Reconstructing ancestral patterns of colonization and dispersal in the Hawaiian understory shrub genus *Psychotria* (Rubiaceae): A comparison of parsimony and likelihood approaches. Systematic Biology 52(6):820-838. (See review at Faculty of 1000: <http://www.f1000biology.com/article/14668119/evaluations>).
- Levin, R., M. Nepokroeff, J. C. Pires, W. H. Wagner, P. C. Hoch, E. Zimmer & K. J. Sytsma. 2003. Family-level relationships of Onagraceae based on chloroplast *rbcL* and *ndhF* data.. American Journal of Botany 90: 107-115.
- Sytsma, K.J., J. Morawetz, J. C. Pires, M. Nepokroeff, E. Conti, M. Zjhra, J. C. Hall, and M. W. Chase. 2002. Urticalean rosids: circumscription, rosid ancestry, and phylogenetics based on *rbcL*, *trnL-F*, and *ndhF* sequences. American Journal of Botany 89: 1531-1546
- Nepokroeff, M. and E.A. Zimmer. 2002. Angiosperms. In: *Biology*, Macmillan Reference, USA.
- Nepokroeff, M. 2002. Eudicots. In: *Biology*, Macmillan Reference, USA.
- Nepokroeff, M., B. Bremer and K. J. Sytsma. 1999. Re-organization of the genus *Psychotria* (Rubiaceae) and tribe Psychotrieae inferred from ITS and *rbcL* sequence data. Systematic Botany 24(1): 5-27.
- Nepokroeff, M. and K. J. Sytsma. 1999. Speciation in cloud forest members of *Psychotria* section *Notopleura* (Rubiaceae). Monteverde: Ecology and conservation of a tropical cloud forest. Nalini Nadkarni and Nathaniel Wheelwright, eds. Oxford University Press.

INVITED BOOK REVIEWS:

- Nepokroeff, M. 2002: Seeing the forest for the (gene) trees: Phylogenetic analysis made easy: A how-to manual for molecular biologists. Barry G. Hall, 2001. Sinauer Associates. Bioscience 52: 531-534.

THESES

- Doctoral Thesis: Systematics of *Psychotria* L. (Rubiaceae): Evolution, speciation and breeding systems in Hawaii.
- Master's Thesis: Relationships among *Psychotria* section *Notopleura* and related taxa in the tribe Psychotrieae (Rubiaceae): determining monophyletic groups based on ITS sequence data.

INVITED INTERNATIONAL SYMPOSIA

- Nepokroeff, M. And K. J. Sytsma. 1999. Breeding system evolution in the Hawaiian and Pacific radiation of *Psychotria* (Rubiaceae). Symposium on: Adaptive aspects of plant evolution on islands. XIV International Botanical Congress, St. Louis, MO.
- Nepokroeff, M., L. Wallace, W.L. Wagner, S. G. Weller and A.K. Sakai. 2005. Phylogeography of Hawaiian *Schiedea*: A multigene, coalescent approach. Botany 2005, Austin, TX. Symposium on: Patterns and mechanisms of evolution in island plants. Co-sponsored by Botanical Society of America Genetics and Systematics sections and American Society of Plant Systematists.

INVITED TALKS

- 2011: Kansas State University, University of Nebraska-Lincoln
- 2008: National Tropical Botanical Garden, Lawai, HI
- 2007 : University and Jepson Herbaria, UC Berkeley;
Museum of Vertebrate Zoology, UC Berkeley
- 2006: Western Washington University, Bellingham, WA.
University of Nebraska-Omaha, Omaha, NE.
- 1999: National Museum of Natural History, Smithsonian Institution Department of Botany, Washington, D.C.

SELECTED PRESENTATIONS FROM SCIENTIFIC MEETINGS:

- Nepokroeff, M. L. Riley, A. Willyard, B. Jacobs, S. Weller, A. Sakai, W. Wagner & L. Wallace. 2011. Comparing histories of three sympatric lineages of the endemic plant genus *Schiedea* on Kauai: the role of geographic barriers and hybridization in diversification of an adaptive radiation. Evolution of Life on Pacific Islands and Reefs Symposium. Honolulu, Hawai'i, 26-29 May 2011.
- Nepokroeff, M. L. Riley, A. Willyard, B. Jacobs, S. Weller, A. Sakai, W. Wagner & L. Wallace. 2010. Comparative phylogeography of the endemic Hawaiian plant genus *Schiedea* (Caryophyllaceae) on Kauai. Evolution 2010 Meetings, Portland, OR.
- Kuenzi, A. T. Culley, L. Wallace, & M. Nepokroeff. 2010. Interspecific hybridization and introgression in *Schiedea salicaria* and *S. menziesii* and implications for sexual dimorphism. Botany 2010 Meetings, Providence, RI. (presented by Nepokroeff)
- Willyard, A., L.M. Wallace, S.G. Weller, A.K. Sakai, W.L. Wagner and M. Nepokroeff. 2009. Estimating the species tree for Hawaiian *Schiedea* (Caryophyllaceae) from multiple loci in the presence of reticulate evolution. Botany 2009 Meetings, Snowbird, UT. (presented by Nepokroeff)
- Wallace, L.M. S.G. Weller, A.K. Sakai, W.L. Wagner and M. Nepokroeff. 2006. Merging distinct histories from different genes to tell a story: phylogeography of *Schiedea globosa* (Caryophyllaceae) on the Hawaiian Islands. Botany 2006 Meetings, Chico State University, Chico, CA. (presented by Nepokroeff)
- Wallace, L.M. S.G. Weller, A.K. Sakai, W.L. Wagner and M. Nepokroeff. 2006. Phylogeography of the Hawaiian endemic plant *Schiedea globosa*: gene flow vs. ancestral polymorphisms in shaping genetic structure. Evolution 2006 meetings, Stony Brook University, Long Island, NY. (presented by Nepokroeff)

DISSERTATION/THESIS COMMITTEES (*Chair for those students marked by an asterisk)

Chelsea Pretz, PhD, 2022, CU Boulder.

James Robertson*, M.S. candidate, started fall 2011

John Zaborsky*, PhD candidate, 2010-2011.

Erica Mize, Ph.D. 2012.

Tilottama Roy*, M.S. 2008.

Bridget Jacobs*, M.S. 2010.

Alyssa Kiesow, Ph.D. 2008.

Amanda Ervin, Ph.D. 2012

Lynn Riley, Ph.D. 2012

Katie Solberg*, M.A. 2004

Sandee Dingman, M.S. 2004

Rustan Vote, M.S. 2004

Jody Ramsey, PhD 2002.

Genevieve Dailey*, undergraduate honors thesis current, May 2011. Honors with highest distinction.

Amber Holmes, undergraduate honors thesis current, May 2012.

Tyler Miiller, undergraduate honors thesis current, May 2011.

Alicia Schieffer, undergraduate honors thesis current, May 2011.

Alaina Mudder, undergraduate honors thesis, May 2010.

Calvin Krogman*, undergraduate honors thesis May 2007.

Holly Huse*, undergraduate honors thesis May 2006.

Bridget Jacobs*, undergraduate honors thesis, May 2005. Currently M.S. student in Biology at USD.

Joanna Mehling*, undergraduate Honors thesis. Graduated May 2003. Currently enrolled in Ph.D. program in Microbiology at University of Iowa.

Annie Horner, undergraduate honors committee, 2005.

Monica Ottenbacher, undergraduate honors committee. 2004.

*chair of committee

UNDERGRADUATE RESEARCH MENTEES

Amanda Sieck, 2011

Genevieve Knox Dailey, 2010-2011

Marie Koster, 2010

Stephanie Boehnke, 2007-2008
Jeffrey Engemann, 2006
Tina Clausen, 2005
Robert Walsh 2003-2004
Bridget Jacobs, 2002-2003
Casey Griffith, 2002
Joanna Mehling 2002-2003
Calvin Krogman** 2002 (high school student, USD Research Apprentice Program) & 2005 (USD Honors student)
Sonya MacCauley** (2001-2002)
Maya Van Horn 2000
Marie Trest 1997
**Indigenous researcher

POSTDOCTORAL FELLOW MENTEES

Dr. Lisa E. Wallace (currently Professor, Department of Biological Sciences, Old Dominion University)
Dr. Ann Willyard (Currently Professor emeritus, Department of Biology, Hendrix College, Conway, AR)

COMMITTEES AND PROFESSIONAL SERVICE

National:

Associate Editor, *Systematic Botany* (2010-2012).

Ad hoc reviewer for journals: *Brittonia* (1997, 1999), *Sida* (2004), *Molecular Ecology* (1998), *American Journal of Botany* (1999, 2001, 2002, 2003, 2006), and *Evolution* (2001, 2002, 2005, 2007); *Molecular Phylogenetics and Evolution* (2000, 2001, 2003, 2004, 2005, 2010), *Organisms, Diversity and Evolution* (2000), *Plant Systematics and Evolution* (2000), *Sida* (2004), *Taxon* (2009, 2010), *Systematic Botany* (2007), *PhyloCode* (2009).

Ad hoc reviewer for grant proposals: National Science Foundation Systematic Biology Program (1997, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2010); NSF Population and Evolutionary Processes Program (2005); National Geographic Research and Exploration (2006).

Panel member, NSF Major Research Instrumentation Awards. 2003; NSF Population and Evolutionary Processes (2005); NSF ATOL (Assembling the Tree of Life, 2006); NSF PhyloBiogeography, (2008); NSF Advancing Digitization of Biological Collections (2011).

Chair, Membership Committee, American Society of Plant Taxonomists (2010-2011), committee member in 2008, 2009, 2010
Elections Committee (2010-2013), Botanical Society of America.

Councilor, Society of Systematic Biologists (2007-2010) International society, elected position.

Councilor, American Society of Plant Taxonomists (2011-2014), elected position.

Nominations Committee, American Society of Plant Taxonomists. (2006).

Judge, 2003 Ernst Mayr Awards, Evolution 2003 Meetings, Graduate Student Presentations, Society for the Study of Evolution;

Judge, 2009: Cooley Award, American Society of Plant Taxonomists

Judge, Hamilton Awards, 2010 Evolution Meetings

Colloquium co-organizer for Botany 2002 meetings (with Dr. Richard Rabeler, University of Michigan, Ann Arbor).

“Systematics and evolution of the Caryophyllaceae: a model family for integrating taxonomic and population studies”.

University, College and Departmental and Community:

UC Denver Department of Integrative Biology Diversity, Equity and Inclusion Committee (2024-current)

UC Denver Department of Integrative Biology Merit Review Committee (2019- current)

UC Denver Department of Integrative Biology (2023), chair, *ad hoc* committee to develop undergrad Organisms to Ecosystems track

UC Denver College Level Disabilities Committee (2018-2019)

UC Denver University Level Academic Personnel Committee (2018-2019)

UC Denver Department of Integrative Biology Mentoring Committee (2018-2019)

UC Denver Department of Integrative Biology Teaching Effectiveness Committee (2020-2021)

Volunteer Coordinator, Kyffin Elementary School, Environmental Learning for the Future (ELF) program: 2012-2013

Belbas Larson Teaching Award Selection Committee 2009, 2010

Lawrence Brothers Science Camp Faculty Participant, 2010

Governor's Camp Faculty Participant, 2011

University Libraries Planning Committee (2009-2012), Chair in 2011-2012

University Honors Committee (2011-2012)

USD Native American Essay Competition Judge 2009
EEO Representative for Search Committees (2004-2012)
Graduate Steering Committee, University of South Dakota (2001-2012).
USD Biology Department Travel Committee, Chair (2011-2012)
USD Space Committee, University of South Dakota (2003-2012).
Herbarium Curator and Director, University of South Dakota (2001-2012)
Director, USD Sequencing Facility, 2002-2012
Chair, Bioinformatics Graduate Program Curriculum Development, 2004
IdeaFest Committee, Undergraduate Research Symposium, University of South Dakota (2002, 2003)
Bush Foundation, University of South Dakota Faculty Development Center, Undergraduate Research Mentor (2002-2003)
Faculty Search Committee, Plant molecular development search, (2005), Earth Sciences Search (2005-2006), I.D. Weeks
Metadata and Cataloging Librarian Search (2010), Integrative Biologist (2011-2012)
College of Arts and Sciences Honors Committee, University of South Dakota (Spring 2005)
College of Arts and Sciences Library Committee (2004-2005, chair 2005)
College of Arts and Sciences, Advisory Committee, Math and Science Division Chair (elected fall 2006)
Missouri River Institute, Board of Directors (2003-2012)
College of Arts and Sciences Representative to the Graduate Council (2005)

RECENT WORKSHOPS AND PROFESSIONAL DEVELOPMENT

Learning Assistance Alliance online courses (fall 2024)
Inclusive Pedagogy Academy participant and certificate, CU Denver Spring 2024
University of Colorado Denver Center for Teaching and Learning workshop on Teacher Empathy, Spring 2024
Student Experience Project Inclusive Teaching Workshop (summer 2021)
UC Denver Office of Digital Education, Online Skills Workshop, (summer 2020)

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Colorado Native Plant Society
Society of Herbarium Curators
American Society of Plant Taxonomists
Botanical Society of America

RESEARCH AND PROFESSIONAL INTERESTS

Plant systematics and evolutionary biology, biogeography and phylogeography, island biology, ancestral character reconstruction and comparative method, speciation, evolution of plant breeding systems, conservation and molecular conservation genetics, bioinformatics, floristics, collections management and development, and biodiversity studies.