

Curriculum vitae

Stephen Robert Stern, Ph.D.

Assistant Professor, Colorado Mesa University

Department of Biological Sciences,
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Education and Experience:

August 2011- present: Tenure-track professor, Colorado Mesa University, Grand Junction, Colorado. I am an active member in the department and have participated on two faculty search committees, serve as the Biology Honors Program advisor, and been a member of numerous departmental committees. Campus-wide I am co-chair of the faculty salary and benefits committee and a member of the Mission Criterion Committee for HLC accreditation.

August 2005- May, 2011: Ph.D. Candidate, Department of Biology, University of Utah. *Dissertation title:* Systematics of *Solanum* section *Micracantha*. Winner of the Riser Award for Outstanding Research in the Biology Department. Dissertation Committee: Lynn Bohs (Chair), Dale Clayton, Lissy Coley, Dinah Davidson, Leigh Johnson, and John Sperry. *Defended and received Ph.D. May 23, 2011.*

August 2001- December 2004: B.S. in Biology, *Summa Cum Laude*, The University of North Carolina at Asheville. I received the Bernhardt-Perry Award for Excellence in Undergraduate Research in Biology, Distinction as a University Research Scholar, and Departmental Distinction in Biology. *Undergraduate thesis title:* Biogeographical Investigation Using Florulas for Seven Sites in Northern South America. Undergraduate advisor: David Clarke

May 2001: Graduated second in class from The Asheville School with awards in Biology, English, and Mathematics.

Teaching Experience:

Colorado Mesa University

Professor of **General Human Biology** lecture and lab (Biol 101 & 101L), **Principles of Plant Biology** lecture and lab (Biol 107 & 107L), **Plant Systematics** lecture (Biol 320), **Taxonomy of Grasses** lecture and lab (Biol 321 & 321L), **Plant Identification** lecture and lab (Biol 322 & 322L), **Topics in Biology** (Biol 396), guest lecturer on **Tropical**

Field Biology (Biol 407), **Senior Thesis** lecture (Biol 483) and various **research and internship classes** (Biol 387, Biol 487, Biol 493, Biol 495, and Biol 499).

University of Utah

Teaching Assistant **Molecular Biology of DNA** (lead instructor for laboratory), **Field Botany** (co-lead instructor for laboratory), **Plant Systematics** (co-lead instructor for laboratory), **Form, Function, and Adaptation of Plants** (co-lead instructor for laboratory), **Evolution and Diversity of Life** (lead instructor for discussion section). **Developmental Biology** (co-lead instructor for laboratory, lead for discussion section).

Research Interests

My primary interest lies in understanding the biodiversity and the evolution of vascular plants through both taxonomic and phylogenetic approaches. I have investigated these questions on a species level in my monograph of *Solanum* section *Micracantha*, at the genus level in molecular phylogenetic studies across the genus *Solanum*, and at a community level using floras from various sites across northern South America.

Publications:

S. Stern & L. Bohs. *In press.* An eight marker phylogenetic analysis of *Solanum* section *Micracantha*. *Systematic Botany*.

S. Stern. 2014. A new species of spiny *Solanum* (Solanaceae) from Peru. *Phytokeys* 39:27-34.

S. Stern. 2014. Book Review for “Colorado Rocky Mountain Wildflowers. App for Apple and Android.” *Plant Science Bulletin* 60: 108-109.

S. Stern, L. Bohs, & J. Keeling. 2014. New species and combinations in *Solanum* section *Androceras* (Solanaceae). *Botanical Research Institute of Texas* 8: 1-7.

S. Stern et al. 2013. Solanaceae Treatment *in* Flora de Argentina: Flora Vasculare de la República Argentina Vol. 13.

S. Stern, L. Bohs, L. Giacomini, J. Stehmann, & S. Knapp. 2013. A revision of *Solanum* section *Gonatotrichum* (Solanaceae). *Systematic Botany*. 38: 471-496.

M. Vorontsova, **S. Stern**, L. Bohs, and S. Knapp. 2013 African Spiny *Solanum* (subgenus *Leptostemonum*, Solanaceae): A thorny phylogenetic tangle. *Botanical Journal of the Linnean Society*. 1: 1-18.

S. Stern. 2012. Solanaceae Treatment *in* The Flora of Oregon. available online at <http://www.oregonflora.org/flora.php>

- S. Stern** & L. Bohs. 2012. An explosive innovation: Phylogenetic relationships of *Solanum* section *Gonatotrichum* (Solanaceae) *Phytokeys* 8:83-98.
doi:10.3897/phytokeys.8.2199.
- S. Stern**, M.F. Agra, and L. Bohs. 2011. Molecular Delimitation in *Solanum* subgenus *Leptostemonum*. *Taxon*. 60: 1429-1441.
- S. Stern**, T. Weese, and L. Bohs. 2010. A three-gene evolutionary study of *Solanum* section *Androceras*. *Systematic Botany*. 4: 885-893.
- S. Stern** and L. Bohs. 2010. Two new species of *Solanum* (Solanaceae) from the Amotape-Huancabamba Zone of southern Ecuador and northern Peru. *Phytokeys* 1:33-65
doi:10.3897/phytokeys.1.660.
- S. Stern** and L. Bohs. 2009. Two new species of *Solanum* from Ecuador and new combinations in *Solanum* section *Pachyphylla* (Solanaceae). *Journal of the Botanical Research Institute of Texas* 3(2): 503-510.
- S. Stern**, E. Tepe and L. Bohs. 2008. Checklist of *Solanum* of north-central Peru, a hotspot of biological diversity. *Arnoldia* 15:277-284.
- L. Bohs, T. Weese, N. Myers, V. Lefgren, A. Van Wagenen, N. Thomas, and **S. Stern**. 2007. Zygomorphy and heterandry in *Solanum* in a phylogenetic context. In L. Bohs, J. Giovannoni, R. Olmstead, D. Shibata, and D. Spooner [eds.] *Solanaceae VI: Genomics Meets Biodiversity*. Acta. Hort. 745: 201-223.
- S. Stern**. 2005. Biogeographical Investigation Using Florulas for Seven Sites in Northern South America. *UNCA Journal of Undergraduate Research*.
- Manuscripts in preparation:*
- S. Stern** & L. Bohs. A taxonomic revision of *Solanum* section *Micracantha*. For submission in *Systematic Botany Monographs*.
- S. Stern** & T. Middleton. Piecing together the phylogenetic puzzle: new molecular markers help resolve the phylogeny of *Solanum* sect. *Androceras*. For submission in *Phytokeys*.

Awards:

August 2013 & August 2015: BLM research grants: three subgrants totaling \$67,425
August 2012: CMU faculty development grant: \$1822
May 2012: DEAR research grant: \$1900
May 2011: The Riser Award for Outstanding Research in the Dept. of Biology: \$750
August 2010: A. Herbert Gold and Marian W. Gold Scholarship: \$5000 (2 years)

July 2009: American Society of Plant Taxonomists travel grant: \$300
May 2009: University of Utah Graduate School travel grant: \$800
May 2007: ASUU summer travel grant: \$500
May 2006: Seville Flowers Botany Award, University of Utah: \$250
Summer 2004: Joan and Rachel Hunt Summer Scholarship in Field Botany from The Garden Club of America: \$1500
Summer 2004: Summer research grant from UNCA's Department of Undergraduate Research: \$2000
Summer 2003: Joan and Rachel Hunt Summer Scholarship in Field Botany from The Garden Club of America: \$1500
Summer 2003: Summer research grant from UNCA's Department of Undergraduate Research: \$2000

Presentations & Posters:

S. Stern. "Systematics of *Solanum*: Incorporating Undergraduates in the Lab and Herbarium. Botany 2014 (American Society of Plant Taxonomists), July 26-30 Boise.

S. Stern & **Ellen Garcia.** "Sequencing the Secrets of *Solanum*" Botany 2013 (American Society of Plant Taxonomists), July 27-31, 2013 New Orleans.

S. Stern & **Marcus Hooker.** "Genetics of two *Astragalus* species endemic to Colorado and Utah" Botany 2013 (American Society of Plant Taxonomists), July 27-31, 2013 New Orleans.

S. Stern "Prickly Phylogenies: An overview of the spiny solanums. International Botanical Congress 2011, July 23-30 2011 Melbourne, Australia.

S. Stern "A thorny tangle in the genus *Solanum*: Phylogenetic study of *Solanum* subgenus *Leptostemonum*," Botany 2010 (American Society of Plant Taxonomists), July 31- Aug. 1, 2010 Providence, Rhode Island.

S. Stern "A spiny situation in the genus *Solanum*: Delimiting sections in subgenus *Leptostemonum*," Botany 2009 (American Society of Plant Taxonomists), July 25-29, 2009 Snowbird, Utah.

S. Stern "Systematics of *Solanum* section *Androceras*," Evolution Meeting (Society for Systematic Biology), June 13-16, 2009 Moscow, Idaho.

S. Stern "Systematics of *Solanum* section *Gonatotrichum*" Evolution Meeting (Society for Systematic Biology), July 20-24, 2008 Minneapolis, Minnesota.

J.C. Granados, L. Bohs, N. Myers, and **S. Stern** "Trees for Troublesome Taxa: A molecular phylogeny of *Solanum* section *Geminata*" 6th International Solanaceae Conference, July 23-27, 2006 Madison, Wisconsin.

Field Experience:

June 2014: Plant Identification field course in various habitats throughout western CO.

July- August 2012: Plant Identification field course in various habitats throughout western CO.

May-June, 2012: Guest lecturer and collection for CMU field course in Ecuador.

July 2011: Plant collecting in Queensland, Australia.

May-July 2010: Visits to major herbaria in Paris, London, Geneva, Brussels, Munich, and Vienna.

January-February 2009: Ecuador. Plant collecting in Manabí, Pichincha, Los Rios, and Napo provinces and herbarium visits to QCNE and QCA in Quito.

December 2008: Plant collecting in Guyana and Trinidad and Tobago.

August 2008: Brazil. Plant collecting in northeastern state of Paraiba and herbarium visit to JPB in João Pessoa, Paraiba.

November 2007- December 2007: Peru. Plant collecting in Ancash, Amazonas, Cajamarca, and San Martin departments, and herbarium visits to USM in Lima and TRUJ in Trujillo.

April 2007- May 2007: Bolivia. Plant collecting in Santa Cruz, Cochabamba, and Beni departments, and herbarium visits to USZ in Santa Cruz and BOLV and COCH in Cochabamba.

June 2006- July 2006: Organization for Tropical Studies Plant Systematics course at field stations and herbaria throughout Costa Rica.

July 2005: Tropical Botany course with Dr. Walter Judd of the University of Florida in collaboration with the Fairchild Tropical Botanical Garden

May 2004- August 2004: Guyana. Plant collecting expedition with Dr. H. David Clarke to Mt. Marigma, near Mt. Roraima on the Brazil border.

May 2003- August 2003: Guyana. Plant collecting expedition with Dr. H. David Clarke to Mt. Wokomung, Pakaraima Mountains.

February 2003- May 2003: Volunteer for the National Forest Service at the Southern Research Station doing fruit and seed analysis as well as organizing their herbarium.

January 2002- May 2002: Volunteer for the North Carolina Arboretum.

Languages:

Basic knowledge of written and spoken Spanish and German. Hungarian as maternal language.

Research Experience:

August 2006-present: Taxonomic and systematic study of the genus *Solanum* (Solanaceae).

August 2004- December 2004: Analysis of florulas of Northern South America to investigate plant diversity and distribution.

February 2003- December 2004: Identification of Guyana plant collections at the Smithsonian National Museum of Natural History.

Professional Memberships

American Society of Plant Taxonomists
Botanical Society of America
Colorado Native Plant Society
International Association of Plant Taxonomists
Society of Systematic Biologists
Association of Southeastern Biologists
Utah Native Plant Society

Student Mentoring (selected CMU Students):

Colorado Mesa University

Ellen Garcia- Ellen conducted research in my lab over four semesters, including a summer Saccomanno Research Fellowship. She presented her research at the 2012 and 2013 CMU Student Showcase and won first prize for her talk at the 2013 Tri-Beta Society Colorado meeting. She presented at the Botany 2013 meeting in New Orleans and will be co-author on an upcoming paper. She is now a Ph.D. student at Virginia Tech.

Marcus Hooker- I informally mentored Marcus Hooker in the lab the summer after he graduated on a phylogenetic research project working with local species in the genus *Astragalus*. Marcus presented this research at the national Botany conference in New Orleans in 2013. He is currently a Ph.D. student at Washington State University.

Evan Cunningham & Adriana Ramos- These students took research credits in 2013 and learned lab skills including DNA extraction, PCR amplification, DNA sequencing, and phylogenetic analysis.

Orianna Rubin- Orianna conducted herbarium and field work with me in 2014 for my BLM grant to study the flora of McInnis Canyon National Conservation Area.

Mariah Weinke- Mariah began laboratory research in January 2014 and is conducting phylogenetic research. She was awarded a Saccomanno Research Fellowship in 2014, presented and won best talk in her track at the 2015 CMU Student Showcase.

Tawni Middleton- Tawni is conducting phylogenetic research in my lab and learned lab skills including DNA extraction, PCR amplification, DNA sequencing, and phylogenetic analysis. Tawni was awarded a \$500 research grant from Beta Beta Beta, presented at the 2015 Student Showcase and was awarded a NSF-REU at Cornell in the summer of 2015.

Community Involvement

Summer 2014-present: American Society of Plant Taxonomists Awards and Honors Committee.

Summer 2014- present: Colorado Native Plant Society Awards Committee.

Fall, 2011-present: Board member for the non-profit “Desert Ecosystem Analysis and Restoration”. This includes evaluating grant proposals and educating the general public about desert of the Colorado Plateau. We have presented to an estimated 480 elementary and middle school classes both in the classroom and on field trips.

Fall, 2011-present. Colorado Native Plant Society Plateau Chapter president. I have organized numerous workshops, field trips, and events.

Summer 2012 and 2013: Guest speaker at the Colorado River State Park discussing the local ecosystem to visitors

Fall, 2010-present: Online mentor for the Botanical Society of America’s Planting Science program. This involves mentoring groups of students online and guiding them through experiments using plants.

External References:

(please feel free to contact any of my references)

Lynn Bohs (Thesis Advisor)

Professor, Department of Biology, University of Utah

bohs@biology.utah.edu, 801-585-0420

Sandra Knapp (Collaborator on the PBI: *Solanum* project)

Botany Research Team, Natural History Museum, London

s.knapp@nhm.ac.uk, +44 (0) 207942 5171

John Sperry (Dissertation Committee Member)

Professor, Department of Biology, University of Utah

j.sperry@utah.edu, 801-585-0379