Jason P. Sexton

Science and Engineering 1, Room 231
School of Natural Sciences
5200 North Lake Rd.
University of California, Merced
Merced, CA 95343, USA

jsexton2@ucmerced.edu
sexton.jp@gmail.com
office: (209) 228-2426
https://sites.google.com/site/sextonjp/

CURRENT POSITION

01/2014-present Assistant Professor
School of Natural Sciences
University of California, Merced

EDUCATION AND TRAINING

12/2010 Ph.D., Ecology, University of California, Davis
Ecology Graduate Group
Dissertation advisors: Dr. Kevin Rice; Dr. Sharon Strauss

Dissertation title: Adaptation at the Range Edge and the Causes of Range Limits in *Mimulus laciniatus*: The Roles of Gene Flow and Selection

05/2000 M.S., Organismal Biology & Ecology, University of Montana, Missoula
Thesis advisor: Dr. Anna Sala

Thesis title: Invasive Potential of *Tamarix ramosissima* in Continental Climates of North America.

08/1997 B.S., Environmental Biology, Humboldt State University, Arcata, California

EMPLOYMENT AND ADDITIONAL RESEARCH EXPERIENCE

2011-2013 **Postdoctoral Fellow**; *US National Science Foundation,* hosted by Dr. Ary Hoffmann at University of Melbourne. Investigated plants restricted to the Australian Alps and focused on species range size and the role of gene flow on the processes of adaptation and tolerance to rapidly changing environments. The performance of alpine plants were tested under a variety of conditions representing different types of environmental stress. This comparative study included a variety of alpine Australian plant groups, including native grasses, sedges, and forbs.

2001-2004 **Assistant Director**; *Sweeney Granite Mountains Desert Research Center, University of California, Riverside*; Coordinated and managed scientific and educational programs for natural reserve, including databases, herbarium, museum, library, and research. Managed facilities, improvements, and reserve use. Hosted symposia and coordinated meetings for regional scientific and resource management efforts among university, non-profit, governmental, and tribal groups.

1999 **Fire-effects Crew Member**; *Saguaro National Park, Tucson, Arizona*; Supervisor: Kathy Schon, M.S.; Long-term monitoring and plot establishment. Plant identification and herbarium specimen preparation.

1997 **Pollination Biology Intern**; *Biology Department, University of Miami, Florida*; Principle Investigator: Dr. Theodore Fleming; Collected data on bat, bird, and insect pollinators of columnar cacti flowers and conducted mist net surveys in Organ Pipe National Monument.

1996 **Plant Ecology Field Crew Member**; *Department of Biology, University of New Mexico, Albuquerque*; Principle Investigators: Dr. Bruce Milne and Dr. Robert Parmenter; Identified plants and collected long-term transect data at Sevilleta Long Term Ecological Research site (LTER).

1996 **Mammalian Ecology Field Crew Member**; *Museum of Southwestern Biology, University of New Mexico, Albuquerque*; Principle Investigator: Dr. William Gannon; Conducted bat mist netting, acoustic call sampling, and site habitat description for diversity survey throughout New Mexico.

1996 **Wildlife Preserve Host**; *Bureau of Land Management, Palm Springs-South Coast Resource Area, California;* Resided as natural history docent at Big Morongo Canyon Preserve. Conducted bird surveys and management of Brown-headed Cowbirds and Starlings.

1995 **Wildlife Technician**; *National Biological Service, University of New Mexico, Albuquerque*; Principle Investigator: Dr. Michael Bogan; Conducted bat mist netting, radio telemetry, and surveys of plant communities. Conducted rodent and salamander surveys. Prepared museum specimens and catalogued individuals.

1994 **Plant Ecology Technician**; *Biology Department, University of Nevada, Las Vegas;* Principle Investigator: Dr. Richard Hunter; Identified plants and collected life-history data at Nevada Test Site long-term succession plots. Trapped rodents and conducted blood sampling for *Hantavirus*.

1994 **Plant Ecophysiology Research Assistant**; *Biology Department, University of Nevada, Las Vegas;* Principle Investigators: Dr. Stanley Smith, Dr. Dale Devitt, and Dr. Anna Sala; Collected evapotranspiration rate data from riparian plants on the Virgin River, NV.

HONORS AND FELLOWSHIPS

2011-2014	National Science Foundation Postdoctoral Research Fellowship in Biology (PRFB), Broadening Participation in Biology Program**.** "Gene flow and niche breadth in novel environments: Adaptation under predicted climate change in Australian alpine plants." (Hosted by Dr. Ary Hoffmann at University of Melbourne) ($189,000)
2011-2014	National Science Foundation International Research Fellowship Program (IRFP). Jointly awarded with NSF PRFB Fellowship ($50,000)
2010	University of California, Berkeley Chancellor's Postdoctoral Fellowship (offered)
2010	University of California President's Postdoctoral Fellowship Program Finalist
2010	National Science Foundation Responding to Rapid Environmental Change (REACH) IGERT Bridge RAship. ($30,000). "Biodiversity hotspots under global change: human and ecosystem adaptive potentials for reducing impacts."
2009	Member of Phi Sigma Honor Society, UC Davis Chapter
2008-2009	National Science Foundation Alliance for Graduate Education and the Professoriate Advantage Fellow
2008; 2009	University of California, Davis Block Grant Fellowship (three quarters of support) ($16,700)
2006-present	Center for Population Biology Affiliate, UC Davis
2006	National Science Foundation Graduate Research Fellowship Program, Honorable Mention
2004-2006	National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT), Biological Invasions, UC Davis. ($60,000)
2004-2008	McDonald Graduate Student Fellowship, Plant Sciences Department, UC Davis. ($90,000)
2003	Professional Development Award, University of California, Riverside ($1,300)

RESEARCH AWARDS

2009-2010	United States Department of Agriculture, Forest Service, NFN3 Native Plant Materials Program. "Assessing climate change potential in Sierra Nevada native plants." ($22,000)
2009	UC Davis Graduate Student Association Travel Award

2009	UC Davis Plant Sciences Graduate Student Travel Award
2007-2009	Center for Population Biology Research Award, UC Davis ($5,350)
2008	National Science Foundation Doctoral Dissertation Improvement Grant, NSF-DEB # 0808607. "The role of selection, gene flow, and range limits in determining adaptive phenotypes." (Primary author; CO-PI Dr. Kevin Rice). ($11,975)
2008	UC Davis & Humanities Graduate Research Fellowship ($1,500)
2008	California Native Plant Society Travel Grant
2006-2008	Jastro Shields Research Fellowships, UC Davis ($4,740)
2007	Biological Impacts of Climate Change in California program travel award
2007	Summer Institute in Statistical Genetics, Tuition Scholarship, University of Washington ($1,000)
2007	NSF Biological Invasions IGERT Research Grant, UC Davis ($7,400)
2006-2007	California Native Plant Society Research Grants ($1,300)
2006	UCLA Institute of the Environment Travel Grant

PUBLICATIONS

Accepted, in press, or published

Grossenbacher, D.L., Veloz, S.D., and **J.P. Sexton**. *Accepted.* Niche and range size patterns suggest that speciation begins in small, ecologically diverged populations in North American monkeyflowers (*Mimulus* spp.). *Evolution.*

Sexton, J.P., Hangartner, S.B., and A.A. Hoffmann. (2014). Genetic isolation by environment or distance: which pattern of gene flow is most common? *Evolution.* 68(1):1-5

Sexton, J.P., Ferris*, K.G., and S.E. Schoenig. (2013). The fern-Leaved monkeyflower (Phrymaceae), a new species from the northern Sierra Nevada of California. *Madroño.* 60(3): 236–242.
*Graduate student author

Slatyer*, R.A., Hirst*, M., and **J.P. Sexton**. (2013). Niche breadth predicts geographical range size: a general ecological pattern. *Ecology Letters.* 16(8): 1101-1114.
*Graduate student author

Peterson*, M.L., Rice, K.J., and **J.P. Sexton**. (2013). Niche partitioning between close relatives suggests trade-offs between adaptation to local environments and competition. *Ecology and Evolution.* 3(3): 512–522.
*Former undergraduate mentee.

Sexton, J.P. (2012) Species range limits. *in* C.M. Hogan, C.J. Cleveland, editors. Encyclopedia of Earth. Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment. http://www.eoearth.org/article/Species_range_limits?topic=49480

Sexton, J.P., Strauss, S.Y., and K.J. Rice. (2011) Gene flow increases fitness at the warm edge of a species' range. *Proceedings of the National Academy of Sciences of the United States of America.* 108(28): 11704-11709.
-Selected as a "must read" article by Faculty of 1000.

Sexton, J.P. and A.B. Griffith. Evolutionary conservation under climate change. *in* T.L. Root, K.R. Hall, M. Herzog, C.A. Howell, editors. Linking Science and Management to Conserve Biodiversity in a Changing Climate. University of California Press. Invited chapter.

Sexton, J.P., Schwartz, M.W. and B. Winterhalder. (2010) Incorporating sociocultural adaptive capacity in conservation hotspot assessments. *Diversity and Distributions.* 16(3): 439-450.

Epanchin-Niell*, R.S., Hufford*, M.B., Aslan*, C.E., **Sexton*, J.P.**, Port*, J.D., and T.M. Waring*. (2010) Controlling invasive species in complex social landscapes. *Frontiers in Ecology and the Environment*. 8(4): 210-216.
*All authors were graduate students at time of publication.

Sexton, J.P., McIntyre, P.J., Angert, A.L., and K.J. Rice. (2009) Evolution and ecology of species range limits. *Annual Review of Ecology, Evolution, and Systematics.* 40: 415–436.

Aslan, C.E., Hufford, M.B., Niell, R.S., Port, J.D., **Sexton, J.P.**, and T.M. Waring. (2009) Practical challenges in private stewardship of rangeland ecosystems: yellow starthistle control in Sierra Nevadan foothills. *Rangeland Ecology and Management.* 62: 28-37.

Sexton, J.P., Sala, A. and K. Murray. (2006) Occurrence, persistence, and expansion of saltcedar (*Tamarix* spp.) populations in the Great Plains of Montana. *Western North American Naturalist*. 66(1): 1-11.

Bower, M., **Sexton, J.P.** and V. Carne-Cavagnaro. (2006) Agricultural invaders, pests, and disease in California's changing climate. Chapter 7. In Cavagnaro, T.R., Jackson, L.E. and Scow, K.M., eds. Climate Change: Challenges and Solutions for California Agricultural Landscapes. CEC-500-2005-189-SF.

Sexton, J.P., McKay, J.K. and A. Sala. (2002) Plasticity and genetic diversity may

allow saltcedar to invade cold climates in North America. *Ecological Applications.* 12(6): 1652-1660.

CONFERENCE PROCEEDINGS, NEWSLETTERS, AND OTHER PUBLICATIONS

Niell, R.S., Aslan C.E., Hufford, M.B., Port, J.D., **Sexton, J.P.**, and T.M. Waring. 2007. Yellow starthistle symposium: The need for regional approaches to invasion management in Sierra Nevada foothill rangelands. ***Noxious Times***. 8(3):4-5

Aslan, C.E., Hufford, M.B., Niell , R.S., Port, J.D., **Sexton , J.P.**, and T.M. Waring. 2007. The need for increased cooperation and coordination in yellow starthistle invasion management in Sierra Nevada foothill rangelands. ***Proceedings of the California Invasive Plant Council Symposium***. 10:9-11.

Sexton, J.P. 2003. Knowing your weeds: Sahara mustard. 10 exotic plants in the Mojave Desert—part 5. ***California Native Plant Society Newsletter***, Mojave Desert Chapter 3(5): 1-3.

Sexton, J.P. 2002. Knowing your weeds: tamarisk. 10 exotic plants in the Mojave Desert—part 2. ***California Native Plant Society Newsletter***, Mojave Desert Chapter 3(3): 1-2.

Sexton, J.P., Davenport, S., Bogan, M.A. and T. J. O'Shea. 1996. Status and trends of bat populations in the Jemez Mountains at Bandelier National Monument and Los Alamos National Laboratory, New Mexico. Report to U.S. Department of the Interior and Los Alamos National Laboratories.

INVITED PAPERS FOR SYMPOSIA AND PROFESSIONAL MEETINGS

12/2012	Plant Pollination and Mate Choice Symposium, Ecological Society of Australia meeting, Melbourne
12/2011	Inaugural Centre of Excellence for Environmental Decisions (CEED) Conference, University of Melbourne
06/2008	National Park Service Pacific West Region Natural Resources Workshop, Bodega Bay, CA
10/2007	Biological Impacts of Climate Change in California program meeting, Stanford University
10/2007	Mimulus Frontiers in Integrative Biological Research meeting, National Evolutionary Synthesis Center, Durham, North Carolina
12/2006	Rangeland Watershed Program Workgroup, UC Davis
02/2006	Mimulus Frontiers in Integrative Biological Research meeting, Duke University

CONTRIBUTED CONFERENCE PAPERS *Presenter underlined

Sexton. J.P., Hangartner, S.B., and A.A. Hoffmann. Gene flow across environmental gradients: patterns and implications for adaptation. Evolution Society Meeting, Snowbird, UT, 2013.

Sexton, J.P., Hufford, M., Bateman, A., Lowry, D., Meimberg, H., Willis, J., Strauss, S.Y., and K.J. Rice. Patterns of gene flow and genetic variation inform mechanisms underlying climatic limits of a species' range. Ecological Society of America meeting, Portland, OR, 2012.

Sexton, J.P., Hufford, M., Bateman, A., Lowry, D., Meimberg, H., Willis, J., Strauss, S.Y., and K.J. Rice. Diversity, differentiation, and vicariance across the species range in the California Sierran endemic plant, *Mimulus laciniatus*. International Botanical Congress, Melbourne, Australia, 2011.

Sexton, J.P., Rice, K.J., and S.Y. Strauss. Gene flow enhances fitness at low-elevation range limit in a Sierra Nevada monkeyflower. Ecological Society of America meeting, Albuquerque, NM, 2009.

Sexton, J.P., Rice, K.J., and S.Y. Strauss. The role of selection, gene flow, and range limits in determining adaptive phenotypes of *Mimulus laciniatus*. Evolution Society Meeting, Moscow, ID, 2009.

DeMarche, M.L., **Sexton, J.P.**, and K.J. Rice. The effects of competition, adaptation, and hybridization on niche evolution between closely related species (*Mimulus guttatus* and *Mimulus laciniatus*). California Native Plant Society Conference, Sacramento, CA, 2009.

Sexton, J.P., Rice, K.J., and S.Y. Strauss. Assessing climate change adaptive potential in a Sierra Nevada endemic. California Native Plant Society Conference, Sacramento, CA, 2009.

Sexton, J.P., Rice, K.J., and S.Y. Strauss. Assessing climate change adaptive potential in a Sierra Nevada endemic plant. California Climate Change Conference, Sacramento, CA, 2008.

Grossenbacher, D.L., Veloz, S.D., **Sexton, J.P.**, and J.B. Whittall. Niche evolution is related to speciation: A test within the genus Mimulus. Ecological Society of America annual meeting, Milwaukee, WI, 2008.

Niell, R.S., J.E. Wilen, C.E. Aslan, M.B. Hufford, **J.P. Sexton**, J. D. Port, and T.M. Waring. Land division among multiple managers can increase invasion rates by altering managers' control incentives. Ecological Society of America annual meeting, Milwaukee, WI, 2008.

Aslan, C.E., M.B. Hufford, R.S. Niell, J.D. Port, **J.P. Sexton**, and T.M. Waring. Calling for a regional, cooperative response to invasive species: limitations to yellow starthistle control implementation by ranchers. Bay Area Conservation Biology Symposium, Davis CA, February 2008.

Sexton, J.P., Rice, K.J., and S.Y. Strauss. The role of range edges in determining adaptive

climate responses in the cut-leaved monkeyflower (*Mimulus laciniatus*). Ecological Society of America and SER annual meeting, San Jose, CA, 2007.

Aslan, C., Hufford, M., Niell, R., Port, J., **Sexton, J.**, and T. Waring. Limitations to implementation of yellow starthistle control measures by ranchers. Ecological Society of America and SER annual meeting, San Jose, CA, 2007.

Sexton, J.P., Rice, K.J., and S.Y. Strauss. The role of selection, gene flow, and range edges in determining ecological responses to climate warming in the cut-leaved monkeyflower (*Mimulus laciniatus*). Summit on Evolution in Human-altered Environments, UCLA, 2007.

Aslan, C., Hufford, M., Niell, R., Port, J., **Sexton, J.**, and T. Waring. Economic and social influences on yellow starthistle control in Sierra Nevada foothill rangeland. Cal-IPC annual meeting, Rohnert Park, CA, 2006.

Sexton, J.P., McKay, J. and A. Sala. Geographic variation in the functional responses of saltcedar (*Tamarix ramosissima*) to temperature. Ecological Society of America annual meeting, Spokane, WA, 1999.

Sexton, J.P., Sala, A. and J.K. McKay. Ecological genetics of an exotic invasive, *Tamarix ramosissima*. Joint Meeting of the American Society of Naturalists, Society of Systematic Biologists and the Society for the Study of Evolution, Madison, WI, 1999.

ADVISING

Emma Ajay; Honours thesis, University of Melbourne, 2013.
Megan Peterson; Undergraduate thesis, University of California, Davis, 2007-2008.

TEACHING EXPERIENCE (COURSES)

2014	**Primary instructor.** Conservation Biology. UC Merced
2001; 2002	**Primary instructor**. Biology 16-V. Deserts of Southern California: field course. Sierra College, Rocklin, California
2000	**Primary instructor**. Biology 22, Introduction to Botany: introductory undergraduate science course. Sierra College
2000	**Primary instructor**. Biology 16-H. Biology of Point Reyes National Seashore: field course. Sierra College
2000	**Primary instructor**. Biology 16-K, Foothill Ecology of the Sierra Nevada: field course. Sierra College
1998; 1999	**Laboratory Instructor**. Spring. Biology 344. Plant Physiology: upper division course. University of Montana, Missoula
1998	**Laboratory Instructor**. Fall. Biology 250. Rocky Mountain Flora:

	upper division course in plant taxonomy. University of Montana, Missoula
1997	**Laboratory Instructor**. Fall. Biology 122. Introductory Ecology: introductory undergraduate science course. University of Montana, Missoula

INVITED SEMINARS AND COURSE LECTURES

06/2013	Advanced Topics in Genetics, University of Melbourne
03/2013	School of Natural Sciences, UC Merced
08/2011	School of Biological Sciences Seminar, Monash University
05/2011	Botany Department Seminar, Latrobe University
05/2011	Genetics Department Seminar, University of Melbourne
12/2010	Genomic Variation Lab, UC Davis
01/2009	Introduction to Applied Ecological Genetics, UC Davis
06/2008; 05/2009; 05/2010	California Plant Communities, UC Davis
09/2006	General Botany, Mills College, Oakland, California
10/2003	Environmental Biology, Victor Valley College, Victorville, California
11/1997	Introductory Ecology, University of Montana, Missoula

SERVICE AND SYNERGISTIC ACTIVITIES

Ad hoc	Proposal reviewer. National Science Foundation, Division of Environmental Biology, Population and Community Ecology
Ad hoc	Proposal reviewer. BiodivERsA European Joint Call.
2012-present	Royal Botanic Gardens Cranbourne research committee member.
2011-present	Australian Alpine Research Network (TAARN) team member.
2004-present	Science Mentor. Mentored 34 undergraduate student interns in evolutionary ecology and biotechnology.
	2010 Awards Committee Reviewer. Reviewed research proposals for UC Davis Ecology Graduate Group fellowships.
2009-2010	National Science Foundation Responding to Rapid Environmental Change (REACH) IGERT mentor.
08/2009	Discussion Panelist. Participated in discussions with underrepresented undergraduates in science on applying to graduate school. UC Davis Chapter of Collaborative Learning at the Interface of Mathematics and Biology (CLIMB).
05/2009	Discussion Panelist. Participated in discussions with minority

	undergraduates on navigating graduate school successfully. UC Davis Chapter of Strategies for Ecology Education, Development, and Sustainability (SEEDS).
05/2008	Planning Committee Member. Metabolic Theory of Ecology Workshop, UC Davis.
08/2007	Session Moderator and Student Oral Competition Judge. Ecological Society of America Annual Meeting.
09/2006	Coordinator and Discussion Moderator. Yellow Starthistle Symposium, UC Davis.
2005-2006	California Environmental Protection Agency Climate Action Team member.
11/2004	Planning Committee Member. Mojave Desert Science Symposium II, University of Redlands.
11/2003	Coordinator and Moderator. Sweeney Granite Mountains Desert Research Center 25th Anniversary Science Symposium, UC Riverside.

JOURNAL REFEREE

Biology Letters, BMC Evolutionary Biology (2), Ecology, Ecography (2), Ecology Letters (5), Ecological Monographs, Ecology and Evolution, Evolution (3), Evolutionary Applications (2), Global Ecology and Biogeography (2), Heredity, Invasive Plant Science and Management, Journal of Biogeography, Journal of the Torrey Botanical Society, Molecular Ecology (2), New Phytologist (3), Oecologia, Oikos, Plant Biology (2), Proceedings of the Royal Society B, Wetlands

SOCIETY MEMBERSHIPS

Society for the Study of Evolution
Ecological Society of America
California Botanical Society
California Native Plant Society

LANGUAGES

Spanish