Erin C. Riordan, PhD
Postdoctoral Research Associate
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University of Arizona
Laboratory of Tree Ring Research
Desert Laboratory on Tumamoc Hill

EDUCATION

2019 Graduate Certificate in Geographic Information Science (GIS)
School of Natural Resources and the Environment, University of Arizona
2013 Ph.D. Biology. Dept. Ecology & Evolutionary Biology, University of California, Los Angeles
2004 B.S. Ecology, Behavior & Evolution. University of California, Los Angeles
Departmental and Latin Honors *summa cum laude*

EMPLOYMENT

07/2019–present Postdoctoral Research Associate
Laboratory of Tree Ring Research, University of Arizona
Southwest Center, University of Arizona
01/2016–present Assistant Project Scientist
Dept. Ecology & Evolutionary Biology, University of California Los Angeles
11/2014–07/2018 Postdoctoral Intern
Riverside-Corona Resource Conservation District
01/2013–03/2014 Postdoctoral Scholar
Dept. Ecology & Evolutionary Biology, University of California, Los Angeles

GRANTS & AWARDS

2016 Pacific Southwest Research Station Internal Grant, USDA Forest Service (PI: JL Beyers; collaborators: EC Riordan, AM Montalvo) ($5,420)
2015 Pacific Southwest Research Station Internal Grant, USDA Forest Service (PI: JL Beyers; collaborators: EC Riordan, AM Montalvo) ($45,550)
2015 Research Grant, Center for the Study of the Force Majeure ($7,500)
2012 Multi-campus Research Opportunity Fund Award, University of California Office of the President's Office of Research and Graduate Studies ($19,903)
2011 University Fellowship, UCLA ($27,000)
2010 Alumni Association Graduate Fellowship, UCLA Foundation ($15,000)
2008 Research Fellowship, Organization for Tropical Studies ($3,000)
2007 Field Research Grant, UCLA Latin American Institute ($2,000)
2007 Vavra Research Grant, UCLA Department of Ecology and Evolutionary Biology ($1,000)

PUBLICATIONS

In Review

Nabhan, GP, **EC Riordan**, L. Monti, AM Rea, BT Wilder, E Ezcurra, J Mabry, J Aronson, GA Barron-Gafford, JM García10, A Búrquez, TE Crews, Paul Mirocha, and WC Hodgson. An Aridamerican model for agriculture in a hotter, water-scarce world. In Review. *Plants, People, Planet.*

Technical Reports

Riordan EC and PW Rundel. **2019.** Evaluating the future role of the University of California Natural Reserve System for sensitive plant protection under climate change. Report prepared for the University of California Natural Reserve System. 62 p. Available online https://escholarship.org/uc/item/3jn1q3d8

Riordan EC, AM Montalvo, and JL Beyers. **2018.** Using species distribution models with climate change scenarios to aid ecological restoration decision making for southern California shrublands. Res. Pap. PSW-RP-270. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 130 p. https://www.fs.fed.us/psw/publications/documents/psw_rp270/psw_rp270.pdf

Peer-Reviewed Articles

Riordan EC and GP Nabhan. **2019.** Trans-situ conservation of crop wild relatives in the United States-Mexico Borderlands. *Crop Science* 59:2387–2403. https://doi.org/10.2135/cropsci2019.06.0356

Evans MEK, PF Gugger, AM Lynch, CH Guiterman, JC Fowler, S Klesse, and **EC Riordan. 2018***.* Insight into tree adaptation to climate by linking genotypes to tree-ring phenotypes in the common garden. *New Phytologist* 218:401–403. https://doi.org/10.1111/nph.15094

Morueta-Holme N, MF Oldfather, RL Olliff-Yang, AP Weitz, CR Levine, MM Kling, **EC Riordan**, C Merow, SN Sheth, AH Thornhill, and DD Ackerly. **2018***.* Best practices for reporting climate data in ecology. *Nature Climate Change* 8:92–94. https://doi.org/10.1038/s41558-017-0060-2

Sork VL, **EC Riordan**, PF Gugger, S Fitz-Gibbon, X Wei, and J Ortego. **2016.** Phylogeny and introgression of California scrub white oaks (*Quercus* sect. *Quercus*). *International Oaks* 27: 61–74.

Riordan EC, PF Gugger, J Ortego, C Smith, K Gaddis, P Thompson, and VL Sork. **2016.** Association of genetic and phenotypic variability with geography and climate in three southern California oaks (Fagaceae). *American Journal of Botany* 103:73–85. https://doi.org/10.3732/ajb.1500135

Riordan EC, TW Gillespie, L Pitcher, SS Pincetl, and D Jenerette. **2015.** Threats of future climate change and land use to vulnerable tree species native to Southern California. *Environmental Conservation* 42:127–138. https://doi.org/10.1017/S0376892914000265

Ortego J, PF Gugger, **EC Riordan,** and VL Sork. **2014.** Influence of climatic niche suitability and geographic overlap on hybridisation patterns among southern Californian oaks. *Journal of Biogeography* 41:1895–1908. https://doi.org/10.1111/jbi.12334

Riordan EC and PW Rundel. **2014.** Land use compounds habitat losses under projected climate change in a threatened California ecosystem. *PLoS ONE* 9:e86487. https://doi.org/10.1371/journal.pone.0086487

Rovzar C, TW Gillespie, K Kawelo, M McCain, **EC Riordan,** and S Pau. **2013.** Modeling the potential distribution of endangered, endemic *Hibiscus brackenridgei* on Oahu to assess the impacts of climate change and prioritize conservation efforts. *Pacific Conservation Biology* 19:156–158. https://doi.org/10.1071/PC130156

Ortego J, **EC Riordan**, PF Gugger, and VL Sork. **2012.** Influence of environmental heterogeneity on genetic diversity and structure in an endemic Californian oak. *Molecular Ecology* 21:3210–3223. https://doi.org/10.1111/j.1365-294X.2012.05591.x

Graham EA, **EC Riordan**, EM Yuen, D Estrin, and PW Rundel. **2010.** Public Internet-connected cameras used as a cross-continental ground-based plant phenology monitoring system. *Global Change Biology* 16:3014–3023. https://doi.org/10.1111/j.1365-2486.2010.02164.x

Riordan EC and PW Rundel. **2009.** Modeling the distribution of a threatened habitat: the California sage scrub. *Journal of Biogeography* 36:2176–2188. https://doi.org/10.1111/j.1365-2699.2009.02151.x

Riordan EC, PW Rundel, CB Brigham, and J Tiszler. **2008.** Morphological traits and invasive potential of the alien *Euphorbia terracina* (Euphorbiaceae) in coastal southern California. *Madroño* 55:52–59. https://doi.org/10.3120/0024-9637(2008)55[52:MTAIPO]2.0.CO;2

Conference Proceedings and Popular Publications

Riordan EC. 2014. Connecting the dots: Linking UC resources to better understand future climatic change. *The Jepson Globe* 24(1):2.

Riordan EC and PW Rundel. **2013.** The future of California sage scrub in an era of increasing urbanization and global climate change. *Fremontia* 41:2–7.

Riordan EC, EA Graham, EM Yuen, D Estrin, and PW Rundel. **2010.** Utilizing public internet connected cameras for a cross-continental plant phenology monitoring system*. 2010 IEEE International Geoscience and Remote Sensing Symposium*, Honolulu, HI. p. 1501–1504. https://doi.org/10.1109/IGARSS.2010.5652847

Decision-Support Materials

Montalvo AM, **EC Riordan**, and JL Beyers. **2018.** Plant Profile for *Eriogonum fasciculatum.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2018.** Plant Profile for *Heteromeles arbutifolia.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2018.** Plant Profile for *Prunus ilicifolia.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Acmispon glaber* (=*Lotus scoparius*). Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Adenostoma fasciculatum.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Beyers. 2017. Plant Profile for *Artemisia californica.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for the Woody *Diplacus* of Southern California*.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Eriodictyon crassifolium.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Erioodictyon trichocalyx.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Lasthenia californica* and *L. gracilis.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Lepidospartum squamatum.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Malosma laurina.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Rhus ovata.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Salvia apiana.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

Montalvo AM, **EC Riordan**, and JL Beyers. **2017.** Plant Profile for *Salvia mellifera.* Native Plant Recommendations for Southern California Ecoregions. Riverside-Corona Resource Conservation District and U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Riverside, CA.*

*All Native Plant Profiles are available Online: http://rcrcd.org/#Plant_Materials

PRESENTATIONS

Invited Talks and Seminars

2017. Informing ecological restoration in southern California shrublands under climate change. University of Arizona Herbarium, Tucson, AZ.

2017. California's flora under threat: incorporating climate change into natural resource planning. University of California Santa Cruz Arboretum and Ray Collect Rare and Extraordinary Plants Lecture Series, Santa Cruz, CA.

2016. Forecasting climate change impacts on rare plants in the University of California Natural Reserve System. Southern California Botanists Symposium, Claremont, CA.

2015. UC Natural Reserve System: on the front lines of climate change. Lunch and Learn Lecture Series. University of California Office of the President, Oakland, CA.

2015. Threats of climate change to Eastern Sierra plant communities. Public Lecture Series. Sierra Nevada Aquatic Research Laboratory (SNARL), Mammoth Lakes, CA.

2015. The role of the UC Natural Reserve System in a changing world. Walking Ecology and Public Lecture Series. Sedgwick Reserve, Santa Ynez, CA.

2014. Preserving California's biodiversity under climate change: Evaluating the future role of the UC Natural Reserve System. UC Natural Reserve System Annual Managers Meeting. Yosemite, CA.

2014. Modeling an uncertain future for CSS: potential impacts of 21st century climate change and land use. Bio-monitoring in Coastal Sage Scrub Workshop. Rancho Santa Ana Botanic Garden, Claremont, CA.

2014. Assessing the vulnerability of the UC Natural Reserve System to projected climate change. Geospatial Innovation Facility, University of California, Berkeley, CA.

2014. Evaluating the effectiveness of the UC Natural Reserve System in protecting California's rare plants under climate change. Jepson Herbarium, University of California, Berkeley, CA.

2013. Predicting the future of California sage scrub under 21st century land use and climate change. Science Friday Lecture Series. Irvine Ranch Conservancy, Irvine, CA.

Conferences

2016. Modeling climate change impacts on habitat suitability to inform restoration of southern California shrublands. Natural Areas Conference, Davis, CA.

2016. Challenges and applications of species distribution models: forecasting climate change impacts on rare plants in the University of California Natural Reserve System. Natural Areas Conference, Davis, CA.

2015. Effectiveness of a reserve network in protecting California's rare endemic plants under climate change. California Native Plant Society Conservation Conference, San Jose, CA.

2012. An uncertain future for California sage scrub: implications of land use and climate change for a threatened plant community. Ecological Society of America Conference, Portland, OR. [Poster]

2012. Climate change implications for a threatened plant community, the California sage scrub. California Native Plant Society Conservation Conference, San Diego, CA.

2011. Modeling the distribution of a threatened habitat: predicting the future distribution of the California sage scrub under climate change. Mediterranean Ecosystems (MEDECOS) XII Conference, Los Angeles, CA.

2011. Threats of climate change and land use on two vulnerable tree species native to southern California. Mediterranean Ecosystems (MEDECOS) XII Conference, Los Angeles, CA. [Poster]

2010. Utilizing public Internet connected cameras for a cross-continental plant phenology monitoring system. IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Honolulu, HI. [Poster]

2009. Leveraging Internet-connected cameras to create a transcontinental plant phenology monitoring system. Ecological Society of America Conference, Albuquerque, NM. [Poster]

2009. Bioclimatic envelope modeling in California sage scrub. California Native Plant Society Conservation Conference, Sacramento, CA.

2008. Climate modeling in California sage scrub: defining the bio-climatic niche. Southern California Academy of Sciences Annual Meeting, Carson, CA.

2007. Patterns of species abundance and diversity in tropical hemiepiphytic plant communities. Ecological Society of America Conference, San Jose, CA. [Poster]

2007. Ecology and ecophysiology of tropical hemiepiphytes. Association of Tropical Biology and Conservation, Morelia, Mexico. [Poster]

RESEARCH EXPERIENCE

2019–present Postdoctoral Research Associate. Laboratory of Tree Ring Research, University of Arizona. *Spatial scaling of climate sensitivities derived from tree-ring time series data.* Advisor: Margaret Evans

2019–present Postdoctoral Research Associate. Southwest Center, University of Arizona. *Conserving crop wild relatives of the Sonoran Desert*.
Advisor: Gary Paul Nabhan

2014–2018 Postdoctoral Intern. Riverside-Corona Resource Conservation District (RC-RCD). *Refining provisional seed transfer guidelines for southern California shrubland restoration species*. Advisors: Arlee Montalvo (RC-RCD), Jan Beyers (USFS Pacific Southwest Research Station)

2013–2014 Postdoctoral Scholar. University of California, Los Angeles. *Evaluating the effectiveness of the UC Natural Reserve System (NRS) under future climate change.* Advisors: Peggy Fiedler (NRS), Phil Rundel (UCLA), David Ackerly (UC Berkeley)

2006–2013 PhD dissertation. *Modeling the uncertain future of a threatened habitat: climate change and urban growth in California sage scrub.* Advisor: Phil Rundel

2006–2010 Graduate Student Researcher. NSF Center for Embedded Networked Sensing, University of California, Los Angeles. *Comparison of ground camera-based and satellite-based phenology monitoring methodologies at local to continental scales.*
Advisor: Eric Graham

2005 Research Technician. La Selva Biological Research Station, Costa Rica. *Diversity, distribution, and ecophysiology of tropical forest epiphytes and hemiepiphytes*.

TEACHING EXPERIENCE

2010–2011 Teaching Assistant. Department of Ecology and Evolutionary Biology, University of California, Los Angeles. Plant Evolution and Systematics (EEB103)

2009 Teaching Assistant. Friday Harbor Laboratories Research Apprenticeship Program, University of Washington. Pelagic Ecosystem Function (OCEAN 496)

2010 Instructor. NSF Pan-American Advanced Studies Institute (PASI) Workshop. Expanding the Frontier in Tropical Ecology through Embedded Sensors (August 16-31, 2010)

2006 Teaching Assistant. Long Marine Laboratory, University of California, Santa Cruz. Ecology and Conservation of Marine Birds and Mammals (OCEA 158)

TRAINING & WORKSHOP PARTICIPATION

2015 An Overview of Climate Smart Conservation. U.S. Fish and Wildlife Service, National Conservation Training Center, Sacramento, CA.

2014 Southern California Climate Adaptation Project Focal Resources Workshop. EcoAdapt & USDA Forest Service, San Dimas, CA.

PROFESSIONAL SERVICE & SKILLS

Peer reviewer for *American Journal of Botany, Biological Conservation, Diversity and Distributions, Global Change Biology, Global Ecology & Biogeography, Instrumentation Science & Technology, Land, Landscape Ecology*

Memberships: Arizona Native Plant Society, California Native Plant Society, Natural Areas Association, Society for Conservation GIS, Southern California Botanists

Software Proficiency: ArcGIS, ArcGIS Pro, GeoDa (spatial analysis and geovisualization software), Maxent (species distribution modeling), Microsoft Office, R

Languages: Introductory Spanish (written & spoken)