

Jessica A. Castillo Vardaro

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Academic Positions

- Assistant Professor** January 2019 - Present
San José State University, Department of Biological Sciences
- University of California President's Postdoctoral Fellow** July 2018 – January 2019
University of California, Department of Integrative Biology and Museum of Vertebrate Zoology
Mentor: Michael Nachman, Director Museum of Vertebrate Zoology
- Postdoctoral Research Associate** October 2015 – July 2018
Princeton University, Department of Ecology and Evolutionary Biology
Mentors: Robert Pringle and Corina Tarnita

Education

- PhD, Wildlife Science** September 2015
Oregon State University, Department of Fisheries and Wildlife
Major professor: Clinton W. Epps
Dissertation Title - *Population genetics of American pika (Ochotona princeps): Investigating gene flow and genetic diversity across multiple, complex landscapes.*
- Graduate Certificate in College and Undergraduate Teaching** June 2015
Oregon State University
- B.S., Conservation and Resource Studies** May 2008
University of California, Berkeley
Honors Thesis - *Endangered Feces: an analysis of predator diets in Carrizo Plain National Monument, California.* Faculty advisor: Justin Brashares.

Professional Development

- Linton-Poodry SACNAS Leadership Institute** July 2018
Society for the Advancement of Chicanos and Native Americans in STEM (SACNAS) and the American Association for the Advancement of Science (AAAS).

Awards and Recognition

- 2013 **Savery Outstanding Doctoral Student Award.** College of Agricultural Sciences, Oregon State University
- 2013 **Student award competition finalist,** International Congress for Conservation Biology, Baltimore MD. Society for Conservation Biology

Scholarships and Awards

- 2010 - 2015 **Graduate Research Fellowship.** The National Science Foundation
- 2014 **Ted Thorgaard Student Research Fund.** Dept. of Fisheries and Wildlife, Oregon State University

- 2011 **Graduate Student Research Grant.** Mazamas Mountaineering Education Organization
- 2011 **Briggs Scholarship in Biogeography.** Dept. of Fisheries and Wildlife, Oregon State University
- 2011 **Gender and Ethnic Diversity Working Group, Professional Development Travel Grant.** The Wildlife Society
- 2010 **University Graduate Laurels Scholarship.** Oregon State University
- 2007 - 2008 **Sponsored Projects for Undergraduate Research (SPUR) Grant.** College of Natural Resources, UC Berkeley

Publications

Peer Reviewed

- Smith, A.B., E.A. Beever, A.E. Kessler, A.N. Johnston, C. Ray, C.W. Epps, H.C. Lanier, R.C. Klinger, T.J. Rodhouse, J. Varner, J.D. Perrine, A. Seglund, L.E. Hall, K. Galbreath, C. MacGlover, P. Billman, G. Blatz, J. Brewer, **J.A. Castillo Vardaro**, A.D. Chalfoun, G. Collins, A. Craighead, C. Curlis, C. Daly, D.F. Doak, M. East, M. Edwards, L. Erb, K.A. Ernest, B. Fauver, K.R. Foresman, K. Goehring, J. Hagar, C.L. Hayes, P. Henry, K. Hersey, S.L. Hilty, J. Jacobson, M.R. Jeffress, T. Manning, A. Masching, B. Maxell, R. McCollough, C. McFarland, E. Miskow, T.L. Morelli, L. Moyer-Horner, M. Mueller, M. Nugent, B. Pratt, M. Rasmussen-Flores, T.H. Rickman, H. Robison, A. Rodriguez, K. Rowe, K. Rowe, M.A. Russello, V. Saab, A. Schmidt, J.A. E. Stewart, J.N. Stuart, L.K. Svancara, W. Thompson, J. Timmins, G. Treinish, M.D. Waterhouse, M.L. Westover, J. Wilkening, L. Yandow. 2019. Alternatives to genetic affinity as a context for within-species response to climate. *Nature Climate Change* 9(10): 787-794. <https://doi.org/10.1038/s41558-019-0584-8>
- Castillo Vardaro, J.A.**, C.W. Epps, B.W. Frable, and C. Ray. 2018. Identification of a contact zone and hybridization for two subspecies of the American pika (*Ochotona princeps*) within a single protected area. *PLOS ONE* 13(7): e0199032. <https://doi.org/10.1371/journal.pone.0199032>
- Rodhouse, T.J., M.R. Jeffress, K.R. Sherrill, S.R. Mohren, N.J. Nordensten, M.L. Magnuson, D. Schwalm, **J.A. Castillo**, M. Shinderman, and C.W. Epps. 2018. Geographical variation in the influence of habitat and climate on site occupancy turnover in American pika (*Ochotona princeps*). *Diversity and Distributions*. DOI: 10.1111/ddi.12791
- Zero, V.H., A. Barocas, D.M. Jochimsen, A. Pelletier, X. Giroux-Bougard, D.R. Trumbo, **J.A. Castillo**, D. Evans Mack, M.A. Linnell, R.M. Pigg, J. Hoisington-Lopez, S.F. Spear, M.A. Murphy, L.P. Waits. 2017. Complementary network-based approaches reveal conservation priorities for two vulnerable ground squirrel species. *Frontiers in Genetics*. DOI:10.3389/fgene.2017.00081.
- Castillo, J.A.**, C.W. Epps, M.R. Jeffress, C. Ray, T.J. Rodhouse, and D. Schwalm. 2016. Replicated landscape genetic and network analyses reveal wide variation in functional connectivity for American pikas. *Ecological Applications* 26:1660-1676.
- Schwalm, D., C.W. Epps, T.J. Rodhouse, W.B. Monahan, **J.A. Castillo**, and C. Ray. 2016. Habitat availability and gene flow influence diverging local population trajectories under scenarios of climate change: a place-based approach. *Global Change Biology* 22:1572–1584.

- Castillo, J. A.**, C. W. Epps, A. R. Davis, and S. A. Cushman. 2014. Landscape effects on gene flow for a climate-sensitive montane species, the American pika. *Molecular Ecology* 23:843-856.
- Epps, C. W., **J. A. Castillo**, A. Schmidt-Kuentzel, P. du Preez, G. Stuart-Hill, M. Jago, and R. Naidoo. 2013. Contrasting Historical and Recent Gene Flow among African Buffalo Herds in the Caprivi Strip of Namibia. *Journal of Heredity* 104:172-181.

Reports and Outreach

- Epps, C. W. and **J. A. Castillo**. 2011. *Pikas in Peril Project Research Objective Brief*. National Parks Service, Upper Columbia Basin Network.
http://science.nature.nps.gov/im/units/ucbn/monitor/pika/pika_peril/docs/PIP_OBJ2-ResourceBrief_May2011.pdf
- Epps, C.W., D. Schwalm, **J.A. Castillo**, et al. 2013. *Analysis of Proposed Rock Quarrying and Trail Improvement Impacts on American Pikas in Grand Teton National Park*. NPS Natural Resource Technical Report (NPS/UCBN/NRTR-2013/756)

Presentations

Invited Seminar

- Coevolution, Competition, and Coexistence: How Diet, Behavior, and Distribution of Resources Influence Communities of Fungus-Growing Termites (Isoptera, Macrotermitinae) in an East African Savannah*. Departmental Seminar, San José State University Department of Biological Sciences. 17 Apr 2019.
- From mountain peaks to flat savannahs: ecology and evolution in spatially structured systems*. Museum of Vertebrate Zoology Evolutionary Biology Seminar Series, University of California Berkeley. 26 Sept 2018.
- From mountain peaks to flat savannahs: ecology and evolution in spatially structured systems*. Department of Biological Sciences, San José State University. 27 November 2017.
- Of mounds and microbes: Exploring the spatial ecology of African fungus-farming termites*. **Jessica Castillo Vardaro** and Chris Baker. Evolution Group Seminar Series, Princeton University. 18 May 2016.
- Pikas in Peril?: Assessing vulnerability to climate change for the American pika*. Graduate Program in Ecology and Evolution Seminar Series, Rutgers, New Jersey. 11 Feb 2016.
- Endangered Feces: an analysis of predator diets in Carrizo Plain National Monument, California*. Museum of Vertebrate Zoology Evolutionary Biology Seminar Series, University of California Berkeley. 2009.

Oral

- Castillo Vardaro, J.A.** 2018. *Coevolution, Competition, and Coexistence: How Diet, Behavior, and Distribution of Resources Influence Communities of Fungus-Growing Termites (Isoptera, Macrotermitinae) in an East African Savannah*. SACNAS National Diversity in STEM Conference. San Antonio, TX.
- Castillo, J.A.**, D. Schwalm, C.W. Epps, W.B. Monahan, N.H. Schumaker, and T.J. Rodhouse. 2015. *An eco-evolutionary IBM improves predictions of future genetic connectivity for American Pikas (Ochotona princeps) in Crater Lake National Park, Oregon*. International Association of Landscape Ecology World Congress, Portland, Oregon. Invited symposium contributor.

- Castillo, J.A.**, C.W. Epps. 2015. *A Survey of genetic diversity and structure across space and time for American pikas*. 3rd Conference of the North American Pika Consortium, Golden, Colorado.
- Castillo, J.A.**, C.W. Epps, M.R. Jeffress, and C. Ray. 2014. *Landscape effects on gene flow of American pika: a comparative landscape genetics study*. Society for Conservation Biology North American Congress for Conservation Biology, Missoula, Montana.
- Castillo, J.A.** and C.W. Epps. 2014. *Landscape effects on American pika dispersal: a comparative landscape genetics study*. The Oregon Chapter of the Wildlife Society Annual Conference, Bend, Oregon.
- Castillo, J.A.** and C.W. Epps. 2014. *Landscape effects on American pika dispersal: a comparative analysis*. Research Advances in Fisheries, Wildlife and Ecology Symposium, Corvallis, Oregon.
- Castillo, J.A.** and C.W. Epps. 2013. *Landscape genetics of American pika at Crater Lake National Park, Oregon: evaluating the use of Mantel tests in a causal modeling framework*. The International Congress for Conservation Biology, Baltimore, Maryland. Student Award Competition Finalist.
- Castillo, J.A.** and C.W. Epps. 2012. *Comparing genetic structure of American pika populations at different elevations: how does the spatial scale of gene flow vary among landscapes?* Society for Conservation Biology North American Congress for Conservation Biology, Oakland, California.
- Castillo, J.A.**, 2009. *Endangered Feces: an analysis of predator diets in Carrizo Plain National Monument, California*. Bay Area Conservation Biology Symposium, Palo Alto, California.
- Witt, C. C., A. B. Johnson, **J. A. Castillo**, J. A. McGuire and R. Dudley. 2008. *Evolution of Hypoxia Resistance in Andean Hummingbirds*. American Ornithological Union 126th Meeting, Portland, Oregon. Presented by C. C. Witt.

Poster

- Castillo, J. A.**, C. W. Epps, and A. R. Davis. 2012. *Modeling connectivity and gene flow of American pikas in National Parks in the Western United States*. The Wildlife Society Annual Conference, Portland, Oregon. Student Research in Progress Poster.

Outreach

- Castillo, J.A.**, C.W. Epps. 2014. *American Pika in the Hart-Sheldon Landscape*. The Oregon Natural Desert Association 2014 Oregon Desert Conference. Bend, Oregon September 2014.
- Castillo, J.A.** and B. Siegel. 2011. *Pikas in Peril? A multi-regional vulnerability assessment of a climate-sensitive sentinel species*. Casual Conversations with Park Researchers, Crater Lake National Park, Oregon.
- Jeffress, M and **J. A. Castillo**. 2010. *Pika Monitoring and "Pikas in Peril": Efforts to better understand our pika populations*. Upper Columbia Basin Network Annual Science Advisory Committee Meeting, John Day, Oregon.

Service

Professional Education and Outreach

- Workshop instructor**, Preparation of Bird and Mammal Museum Study Skins. Oregon State University Student Chapter of the Wildlife Society and American Fisheries Society. Corvallis, OR, April 25-26, 2015.
- Workshop instructor**, Museum Collections and Specimen Vouchers. Society for Northwestern Vertebrate Biology Annual Meeting, Portland, Oregon, 24 Feb. 2015.

Community Outreach

- Panelist**, College of Natural Resources: The Student Experience. (Alumni panel). 13 April 2019. University of California Berkeley.

Panelist, Bay Area Science Festival Women in Science Panel. 27 October 2018. Berkeley, CA.

Judge, Student presentation abstracts and Student Poster Competition. SACNAS National Diversity in STEM Conference. San Antonio, TX. 2018.

Panelist, Ask a Scientist Table at local March for Science event. 22 April 2017. Princeton, NJ.

Judge, Hopewell Elementary School Science Fair, 5th grade. 24 March 2017. Hopewell, NJ.

Instructor, Winter Wonderings Program for local 3rd and 4th grade students. Animal Tracks and Signs. February 22, 2014. Corvallis, OR.

Peer Review

Landscape Ecology; Molecular Ecology; Conservation Genetics; Diversity and Distributions; Ecology and Evolution; Integrative Zoology; Pedobiology.

Professional Affiliations

The Wildlife Society

Society for Conservation Biology

North American Pika Consortium

Society for the Advancement of Chicanos and Native Americans in STEM (SACNAS)

Date: 18 October 2019