

Curriculum Vitae
Shana R. Welles

University of Arizona
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Research Interests

Evolution of weedy and invasive species, population genetics, hybridization, polyploidy, genome size evolution, detecting genomic signatures of selection

Education and Training

- 2015-Present Postdoctoral Researcher, University of Arizona
Adviser: Katrina M. Dlugosch
- 2010-2015 PhD Plant Biology, University of California, Riverside (183 units completed)
Committee: Norman C. Ellstrand (Chair). Maureen Stanton, Jodie S. Holt
- 2004-2008 BS Evolution, Ecology and Biodiversity, University of California, Davis (208 units completed)
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Awards and Fellowships

- 2014 W.W. Thomson Award for Outstanding Research, Department of Botany and Plant Science, University of California Riverside (\$1000 prize)
- 2011 Graduate Research Fellowship, National Science Foundation (\$132,000)
- 2010 Chancellor's Distinguished Fellowship, University of California, Riverside (\$28,700)
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Publications

* Author for correspondence
^Undergraduate author

Welles SR and NC Ellstrand *In Review*. Evolution of increased fitness associated with allopolyploidization in the newly formed weed species *Salsola ryanii*. *Proceedings of the National Academy of Sciences*

Welles SR* and NC Ellstrand (2016). Rapid range expansion of a newly formed allopolyploid weed in the genus *Salsola*. *American Journal of Botany*, 103(4): 663-667.

Press: Newsweek, Science, Capital Public Radio, Phoenix Public Radio, Sciencenews.org, Takepart.com, Mother Nature Network, Atlas Obscura, KSEE 24

Welles SR* and NC Ellstrand (2016). Genetic structure reveals a history of multiple independent origins followed by admixture in the allopolyploid weed *Salsola ryanii*. *Evolutionary Applications*, 9(7): 771-787.

Holt JS, **SR Welles***, K Silvera, IM Heap, SM Heredia, A Martinez-Berdeja, KT Palenscar, LC Sweet, and NC Ellstrand (2013). Taxonomic and life history bias in herbicide resistant weeds: implication for deployment of resistant crops. *PLoS ONE*, 8(9): E71916.

Chavez NB[^], JJ Flores [^], J Martin[^], NC Ellstrand, R Guadagnuolo, S Heredia, and **SR Welles** (2012). Maize x teosinte hybrid cobs do not prevent crop gene introgression. *Economic Botany*, 66: 132-137.

Teaching Experience

Spring 2015 **Adjunct Professor**, University of Redlands, Redlands, CA

Developed and instructed an upper-division course for biology majors entitled "Population Ecology" at University of Redlands, a private liberal arts university. This course included content on population theory and population genetics. Course activities included field trips and a term paper.

Winter 2011 **Teaching Assistant**, University of California, Riverside, CA

Served as the teaching assistant and laboratory instructor for a non-majors biology course. This course covers a wide range of topics including physiology, ecology and evolution with an emphasis on humans.

2008-2010 **San Joaquin Regional Coordinator**, Center for Land-Based Learning, Winters, CA
Coordinate a habitat restoration education program for high school students. Focus is on hands on place-based learning about the process of restoration, sustainable agriculture and leadership.

Guest Participation in Courses

California's Cornucopia: A non-majors plant biology course (UC Riverside, spring 2011, spring 2013, spring 2014): Lead tours of the Citrus Variety Collection

Freshman Advising Seminar: Freshman Scholars Learning Community (UC Riverside, Fall 2012): Organized and led a panel on getting research experience during undergraduate education

Undergraduate Mentorship

Students who pursued group or independent research under my supervision.

*Primary author on publication

[^]Author on publication

Jose Tinejaro (Biochemistry, UC Riverside; continued to Doctor of Pharmacy, UCSF)

Ramiro Briseno (Biology, UC Riverside)

Melissa Guerrero (Biology, UC Riverside)

Nancy Chavez* (Education, UC Riverside; continued to Masters of Science in speech-language pathology, University of Redlands;)

Jose Flores^ (Psychology, UC Riverside; continued to Doctor of Psychology, Azusa Pacific University)

Joseph Martin^ (Biology, UC Riverside; continued to Doctor of Medicine, St. George's University of London)

Undergraduate Advising

2007-2008 Academic Adviser, College of Letters and Sciences Dean's Office, University of California, Davis, CA

2004-2007 Resident Adviser, Student Housing, University of California, Davis, CA

Grant Writing Activity

Save the Redwoods League Education grant of \$4500 awarded in both 2010 and 2011 to Center for Land-Based Learning: I was the sole author of both of these grants with input from other staff.

United States Fish and Wildlife Service Schoolyard Habitat Program grant of \$8000 awarded in 2011 to EARTHS Magnet School I participated with a team in writing this grant.

Service

Reviewer: *American Journal of Botany, Molecular Ecology, Heredity, Evolutionary Applications*

Chair, Botany Graduate Student Association, UC Riverside (2012-2013)

Graduate Student Representative, Education Advisory Committee, UC Riverside, Plant Biology Graduate Program (2012-2013)

Organizer and Panelist, How to Get Into Graduate School Workshop, UC Riverside, Career Center (2013, 2014, 2015)

Outreach

Volunteer, **EARTHS Magnet School** (elementary school in Conejo Valley Unified School District), Newbury Park, CA: Assisted with acquiring funding for school gardens, designing and planting school gardens, annual educational presentations to all second grade classes, development of science curriculum (specifically a unit on scientific inquiry and experimental design). (2009-present)

Member, **California Invasive Plant Council:** Educate the public about the effects of invasive plants and how they can prevent the spread of invasive plants with booths at public events

Judge, **San Joaquin County Science and Engineering Fair,** Stockton, CA (2009, 2010)

Professional Societies

Botanical Society of America, Society for the Study of Evolution, American Society of Naturalists

Presentations

Welles SR and KM Dlugosch (2016) Genome size variation in an invasive plant. Presented at Evolution 2016, Austin, TX.

*Welles SR and NC Ellstrand (2016) Genetic structure indicated history of multiple origins in the allopolyploid weed *Salsola ryanii* Presented at Plant and Animal Genome, San Diego, CA.

*Welles SR (2015) Evolutionary ecology of the allopolyploid neospecies *Salsola ryanii*. Presented to University of Arizona, Department of Ecology and Evolutionary Biology, Tucson, AZ.

Welles SR and NC Ellstrand (2014) Characterization of invasiveness of an allopolyploid neospecies, *Salsola ryanii*. Presented at Botany 2014, Boise, ID.

Welles SR and NC Ellstrand (2013) Evolutionary origins of *Salsola ryanii*, a novel allopolyploid weed. Presented at the annual meeting of the Botanical Society of America, New Orleans, LA.

*Invited talk
