

Courtenay A. Ray

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Education

- 2017-** **University of California, Berkeley** - Ph.D. Candidate, Environmental Science, Policy, and Management; **Advisor:** Dr. Benjamin Blonder; Transferred from Arizona State University with advisor in 2020.
- 2016** **University of California, Santa Cruz**- M.A. Ecology and Evolutionary Biology
Thesis: Invading coastal California's forests: Impacts and best management practices for the perennial grass, *Ehrharta erecta*; **Advisor:** Dr. Ingrid Parker
- 2011** **University of Washington**- Double major B.S. in Biology: Evolution & Ecology and Earth & Space Sciences with emphasis in Biology
- 2006** **Everett Community College**- Associate Degree in Arts and Sciences

Publications

- Franzman, J., Brush, M., Umemura, K., **Ray, C.**, Blonder, B., and Harte, J. Shifting macroecological patterns and static theory failure in a stressed alpine plant community. [Ecosphere](#). (Accepted).
- Blonder, B., **Ray, C.A.**, Walton, J., Castaneda, M., Chadwick, K., Clyne, M., Gaüzère, P., Iversen, L., Lusk, M., Strimbeck, R., Troy, S., and Mock, K. Environmental impacts on mortality and recruitment depend on genotype and ploidy level in quaking aspen. [Ecological Applications](#). (Accepted).
- Gaüzère, P., Morin, X., Violle, C., Capesta, I., **Ray, C.A.**, and Blonder, B. 2020. Vacant yet invisable niches in forest community assembly. [Functional Ecology](#). doi: 10.1111/1365-2435.13614.
- Gallagher, R.V.,..., **Ray, C.A.**, *et al.* 2020. The Open Traits Network: Using Open Science principles to accelerate trait-based science across the Tree of Life. [Nature Ecology & Evolution](#). doi:10.1038/s41559-020-1109-6.
- Kattge, J.,..., **Ray, C.A.**, *et al.* 2020. TRY plant trait database – enhanced coverage and open access. [Global Change Biology](#). doi:10.1111/gcb.14904.
- Weiss, K.C.B. and **Ray C.A.*** 2019. A framework of functional traits for ecological communities: Synthesizing taxonomic divides. [Ecography](#). doi: 10.1111/ecog.04387.
*Shared first authorship. E4 award paper.

Ray, C.A., Sherman, J.J., Godinho, A.L., Hanson, N., and Parker, I.M. 2018. Impacts and Best Management Practices for Erect Veldtgrass (*Ehrharta erecta*). [Invasive Plant Science and Management](#). doi: 10.1017/inp.2018.2.

Thompson M.E., **Ray, C.A.**, and Donnelly, M.A. 2015. Microhabitat use of recently metamorphosed Mexican Treefrogs in Palo Verde National Park, Guanacaste Province, Costa Rica. [Herpetological Review](#). 46:168-170.

Chambers, M., David, G., **Ray, C.**, Leitner, B., and Pyle, P. 2011. Habitats and conservation of molt-migrant birds in southeastern Arizona. [Southwestern Naturalist](#). 56:204-211.

Book Review: CenTREAD Working Group (Cesar, R.G., Cohen, H., Crandall, S.G., Holl, K.D., **Ray, C.A.**, Reid, J.L.). 2013. Restoring Tropical Forests: A Practical Guide by Elliott, S.D., Blakesley, D., and Hardwick, K. [International Forestry Review](#). 15:270.

Fellowships and Awards

- 2021** Rocky Mountain Biological Laboratory: **Jean Langenheim Award:** \$3000
- 2020** Rocky Mountain Biological Laboratory: **Jean Langenheim Award:** \$3000
- 2020** Colorado Native Plant Society: **John Marr Grant:** \$850
- 2019** Arizona State University: **RTI Graduate Student Support:** \$1,928
- 2019** Colorado Mountain Club: **Kurt Gerstle Fellowship:** \$2,000
- 2019** Rocky Mountain Biological Laboratory: **Snyder Endowment Graduate Fellowship:** \$645
- 2019** Arizona State University: **College Graduate Excellence Award**
- 2019** Arizona State University: **Graduate College Travel Award:** \$500
- 2019** Arizona State University: **Graduate College Travel Award:** \$500
- 2019** Arizona State University: **Graduate Student Travel Award:** \$400
- 2018** Arizona State University: **Individual Travel Grant:** \$446
- 2018** Arizona State University: **Graduate Student Travel Award:** \$400
- 2018** Arizona State University: **Graduate College Fellowship:** \$10,000
- 2017** Arizona State University: **Doctoral Recruitment Award:** \$5,000
- 2013** Organization for Tropical Studies: **Post Course Award:** \$500
- 2013** University of California, Santa Cruz: **Chancellor's Graduate Intern**
- 2012-2017** National Science Foundation: **Graduate Research Fellowship:** \$90,000
- 2007-2010** University of Washington: **Husky Promise Student:** Guaranteed full academic support and stipend
- 2006** Association of Women in Science: **E. Robert Winter Memorial Scholarship:** \$1,000

Professional Service

Reviewer for: Ecology and Evolution, Perspectives in Plant Ecology, Evolution and Systematics, IUCN (International Union for Conservation of Nature)

Teaching and Outreach

- 2021** Weekly 7th grade science mentor at middle schools in the Berkeley Unified School District through the “Be a Scientist” program
- 2021** Graduate Student Instructor-Climate Change and the Future of CA, UC Berkeley
- 2018-2019** Instructor at Sky School, an inquiry-based science program which predominantly serves low income public schools, Tucson, AZ
- 2018** Teaching Assistant- Animal Behavior, Arizona State University
- 2017** Teaching Assistant- Introductory Biology Laboratory, Arizona State University
- 2016** STEM Day volunteer at Bradley Elementary, Watsonville, CA
- 2015** Designed biology lessons for Santa Cruz Children’s Museum of Discovery
- 2015** Organized a weed pulling workshop on UC Santa Cruz campus
- 2014** Guest Lecturer in Plant Ecology, UC Santa Cruz
- 2014** Designed and led two workshops for middle school girls on seed dispersal, Expanding your Horizons Conference
- 2014** Lead demonstration on properties of liquid nitrogen-Cesar Chavez MS
- 2014** Teacher Assistant-Intro Biology and Plant Systematics, UC Santa Cruz
- 2013** Westlake Elementary Science Fair Judge, Santa Cruz, CA
- 2013** Santa Cruz County Science Fair Judge
- 2013** Teacher Assistant-Behavioral Ecology, UC Santa Cruz

Presentations

- 2019** British Ecological Society Meeting, Belfast, N. Ireland, Poster
- 2018** Ecological Society of America Meeting, New Orleans, LA, Talk
- 2017** Ecological Society of America Meeting, Portland, OR, Talk
- 2016** Missouri Botanical Garden Seminar, “Factors influencing pampas grass distributions in the Colombian páramos”, November 3rd, Invited talk
- 2016** Ecological Society of America Meeting, Ft. Lauderdale, FL, Talk
- 2016** UCSC Ecology and Evolution Graduate Symposium, Talk
- 2016** Graduate Student Symposium, UCSC, Talk
- 2015** Ecological Society of America Meeting, Baltimore, MD, Poster
- 2014** Graduate Student Symposium, UCSC, Poster
- 2013** University of California, Santa Cruz Plant Symposium, Talk
- 2013** California Botanical Society Centennial Celebration, Berkeley, CA, Talk
- 2013** UCSC Ecology and Evolution Graduate Symposium, Talk
- 2013** CA Invasive Plant Council Symposium, Lake Arrowhead, CA, Poster

Mentorship

Bachelor's thesis students

Emily Xie (UC Berkeley) - 2020-2021

Annika Rose-Person (UC Santa Cruz) - 2015-2016

Anna Godinho (UC Santa Cruz), Winner of Chancellor's Award - 2012-2013

Emilie Winfield (UC Santa Cruz) - 2012-2013

Nicole Hanson (UC Santa Cruz) - 2013-2014

Summer undergraduates

Nicole Smith (University of Michigan), Co-supervisor - 2020

Gavin Belfry (University of Tennessee), Co-supervisor - 2019-2020

Thomas Jenkins (University of Oxford), Main supervisor - 2019

Connie Webb (Western Washington University), Co-supervisor - 2019

Research / lab project students

Brigitte Jaramillo (UC Berkeley) - 2020

Crystal Suazo (Arizona State University) - 2018-2019

Deidra Johnson (Arizona State University) - 2018-2019

Madison Lusk (Arizona State University) - 2019

Noah Weakly (Arizona State University) - 2018-2019

Otis Clyne (Arizona State University) - 2018

High School students

Aidan Wells (Summer field assistant) - 2019-2020

One-on-one weekly science fair mentor (Watsonville High School, CA) - 2012-2013

Previous Research

August 2016-2017

Research Associate, Rogers Lab, **Iowa State University**

Iowa and Mariana Islands

Supervisor: Dr. Haldre Rogers

Responsibilities: helped train and manage field crews in the Mariana Islands; oversaw data entering and organization; cleaned and assembled tidy datasets from long-term data

January-May 2012

Seedling Census Volunteer, **Institute for Tropical Ecosystem Studies**

Luquillo Forest Dynamics Plot, Puerto Rico

Supervisor: Chris Nytch

Research objectives: to examine the effects of land use history and hurricanes on seedling germination, recruitment, and growth in tropical forests

June-October 2011

Independent Research Project, **University of Washington**

Advisor: Dr. Janneke Hille Ris Lambers

Topic: Differences in pollinator regimes along an elevation gradient in sub-alpine meadows in Mt. Rainier National Park

October-December 2011

Intern, **Stanford University**

Robinson Crusoe Island, Chile

Supervisor: Dr. Lis Nelis

Research objectives: to examine synergistic interactions among invasive species across trophic levels

June-October 2011

Intern, **University of Washington**

Mount Rainier National Park Research Project, Washington

Supervisor: Dr. Janneke Hille Ris Lambers

Research objectives: to determine how tree growth, tree mortality, seed production, and recruitment vary across large environmental gradients

March-June 2011

Intern, **Smithsonian Migratory Bird Center**

Island Scrub Jay Project, Santa Cruz Island, California

Supervisors: Dr. Scott Sillett, Michelle Desrosiers

Research objectives: to monitor the stability of island scrub jay populations and determine the frequency of extra-pair mating, the sex ratio and clutch size of nests, nest vegetation preferences, and sources of nest failure

April 2009-April 2010

Intern, **University of Washington**, Ecology of Bird Loss Project, Mariana Islands

Supervisors: Dr. Haldre Rogers, Dr. Joshua Tewksbury, Dr. Janneke Hille Ris Lambers

Research objectives: to quantify the effects birds have on seed dispersal, seedling recruitment, tree species diversity, insect control and herbivory

July-September 2007

Intern, **Institute for Bird Populations**, Molt Migration and Stopover Project, SE Arizona

Supervisor: Peter Pyle

Research objectives: to determine which migratory bird species stopover in the monsoon regions of Arizona and Mexico during fall migration in order to molt

May-July 2007

Intern, **Institute for Bird Populations**, Willow Flycatcher Project, Yosemite National Park

Supervisor: Bob Wilkerson

Research objectives: to determine whether there are still resident populations of Willow Flycatchers in Yosemite National Park

March-May 2007

Intern, **Point Reyes Bird Observatory**, Off-road Vehicles and Bird Populations, Mojave Desert
Supervisor: Christopher McCreedy

Research objectives: to examine the effects of off-road vehicle usage in desert washes on avian species diversity, abundance, and breeding success

September-December 2006

Student Research Assistant, **University of Washington**, Song Sparrow Research, Seattle, WA
Supervisor: Dr. Michael Beecher

Research Objectives: to determine if hatch-year song sparrows enhance their song repertoire by visiting the territories of older birds during their first winter.

March-June 2006

Intern, **Dartmouth College**, Trophic Cascades in Fragmented Coastal Sage Scrub Habitat, Southwest California

Supervisor: Dr. Eric Walters

Research Objectives: to measure the effects of habitat fragmentation on avian nest success, natal dispersal in California towhees, and arthropod abundance

Specialty Courses and Workshops

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| 2019 | Using data provenance to create reproducible, transparent, and well-documented code-British Ecological Society, Belfast, UK |
| 2019 | Stage-based demographic models in ecology, evolution and conservation-Natural Environmental Research Council, Oxford, UK |
| 2017 | A Hands-On Short Course on Species Distribution Modeling in Conservation Using R: From Start to Finish-Ecological Society of America, Portland, OR |
| 2014 | Curso de Actualización en Taxonomía y Sistemática de Cyperaceae (Course on Taxonomic and Systematic Updates in Cyperaceae)-Bogota, Colombia |
| 2013 | OTS Tropical Biology: An Ecological Approach, Costa Rica |
| 2010 | University of Washington: Field Geology, Australian Outback |
| 2010 | University of Washington: Field Geology, Western Montana |

Society Membership

Colorado Native Plant Society