CURRICULUM VITAE

|  |  |
| --- | --- |
| **SUSAN J. MAZER**Professor of Ecology and EvolutionField Director, the *California Phenology Project*Western U.S. Field Coordinator, *Project Baseline*Department of Ecology, Evolution & Marine BiologyUniversity of CaliforniaSanta Barbara, CA 93106Telephone: (805)-893-8011FAX: (805)-893-4724e-mail: mazer@lifesci.lscf.ucsb.edu<http://www.lifesci.ucsb.edu/eemb/faculty/mazer/> |  |

**BIRTHDATE**: November 20, 1958; New York, NY

**EDUCATION**:

1981; B.S. Biology (with honors); Yale University; New Haven, Connecticut

1983; M.S. Botany; University of California, Davis

1986; Ph.D. Botany; University of California, Davis

**FOREIGN LANGUAGE PROFICIENCY**: Spanish, French

**EMPLOYMENT:**

**2011 – present**. Western U.S. Field Coordinator, *Project Baseline: a national seed bank for evolutionary research*

**2008 – present**. Field Director, *California Phenology Project*

January 2004 - December 2005. Program Director, Population and Community Ecology Program, Division of Environmental Biology, National Science Foundation, Arlington, VA.

**July 1999 – present**. **Full Professor of Ecology and Evolution**; Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara.

July 1993 – June 1999. Associate Professor; Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara.

July 1988 - June 1993. Assistant Professor; Department of Biological Sciences, University of California, Santa Barbara.

February 1991 - May 1993 and July 1988 - September 1989. Research Collaborator; Departments of Botany and Paleobiology, respectively; National Museum of Natural History, Smithsonian Institution, Washington, D. C.

January 1987 - June 1988. Smithsonian Post-Doctoral Fellow; Department of Paleobiology; National Museum of Natural History, Smithsonian Institution, Washington, D. C.

**RESEARCH INTERESTS:**

**The process and outcome of evolution in stressful environments**, particularly the strength and direction of natural selection on physiological, life history, floral, and mating system traits in wild plant populations. *Is the direction of natural selection on these traits within taxa consistent with the patterns of divergence between taxa?*

**Causes and consequences of phenological variation in wild plants**. By conducting long-term monitoring of the life cycle transitions of individual plants and plant populations across environmental gradients in California, we are examining how wild species respond to climate in ways that may affect their reproductive success and long-term survival. *Do species in a Mediterranean climate respond to inter-annual changes in climate similarly to those adapted to other biogeographic regions?*

**The application of quantitative genetic approaches to the study of genetic vs. environmental variation and covariation in fitness-related traits**, including seed mass, gender, floral development, life-history traits, and phenotypic plasticity in plants and animals. *What are the relative influences of genetic vs. environmental variation on the expression of fitness-related traits in wild species? Do genetic correlations among ecologically functional and reproductive traits influence their independent evolution?*

**Comparative ecological and evolutionary analyses** of hundreds of species in order to detect the role of natural selection in molding life history and reproductive traits in tropical and in temperate forests. *Can the long-term effects of ecological sorting and evolutionary adaptation be detected in the comparative analysis of the joint distribution of plant traits and habitat preferences?*

**Restoration ecology in the context of local adaptation**. *How does the process of local adaptation among populations of species occupying heterogeneous environments affect the planning of restoration efforts that rely on wild-collected seeds?*

**COURSES TAUGHT:**

Pollination Ecology in Khao Nan National Park (a graduate course funded by Thailand’s Biodiversity Research & Training program)

Rainforest Ecology (visiting instructor for Organization of Tropical Biology graduate course in Costa Rica)

Rainforest Biodiversity (co-instructor for 3-week course at the Tambopata Wildlife Reserve, Peru, sponsored by the Smithsonian Instititution)

General Biology (Plant Diversity Section): EEMB 3C

Plant Biology & Biodiversity: EEMB 127

Plant Biology & Biodiversity: field, morphology, and anatomy lab: EEMB 127L

Advanced Plant Evolutionary Ecology: EEMB 112

Plant Evolutionary Ecology Field and Computer Lab: EEMB 112L

Population Genetics: EEMB 130

Evolutionary Ecology: EEMB 135

Conservation and Restoration Ecology: EEMB 133

Plant Reproductive Ecology and Evolution: EEMB 194M

Reproductive Ecology and Evolution Graduate Seminar: EEMB 595M

Plant Ecology Graduate Seminar: EEMB 595A

Evolutionary Ecology Graduate Seminar: EEMB 595EV

Special Graduate Seminars

Quantitative Evolutionary Genetics

The Evolutionary Theory of Sex Allocation

The Comparative Method in Evolutionary Biology

Speciation: Theoretical and Empirical Approaches

Phenotypic Plasticity

**FELLOWSHIPS:**

1991. UC Regents Faculty Career Development Award

1990. UC Regents Faculty Career Development Award

1989. UC Regents Junior Faculty Fellowship

1987 - 1988. Smithsonian Post-Doctoral Fellowship; National Museum of Natural History

**RESEARCH AWARDS, GRANTS AND CONTRACTS: (new grants in red font; active grants during the review period in blue font)**

2015-2019. Multicampus Research Program Initiative: Using UC Reserves to Detect and Forecast Climate Impacts (PIs: Barry Sinervo and Laurel Fox, UCSD: **$2,000,000** for 9 campuses and 16 Co-PIs: **$24,969** to date for UCSB GSRs in 2015)

2015-2016. UCSB Academic Senate Faculty Research Award.Predicting responses of wild plant populations to climate change: integrating climatic and biological factors influencing the ecology and evolution of floral attractions **($6800).**

2015. REU (Project Baseline NSF award supplement). The evolutionary significance of variation in flower size and style length: pollen deposition, pollen tube competition, and pollen tube attrition in natural populations ($**7,000**).

2014. REU (Project Baseline NSF award supplement). Geographic variation within and between clarkia sister taxa: Do differences among populations and species reflect genetic correlations within populations? (**$7,162**)

2013. REU (Supplement to NSF award IOS-0718227). Is sex allocation (the pollen:ovule ratio) associated with early flowering in outcrossing *Clarkia* taxa? **($6,000**)

2012-2015. UCSB Faculty Research Assistant Program. $300-$1050 per quarter to support EEMB 199 students enrolled to conduct supervised research in my lab (Total: $2450).

2011-2015. National Science Foundation, Population and Evolutionary Processes program. *Project Baseline: a genomic resource for the detection of future evolutionary change*. $1,199,987 **($311,000 to UCSB**). Co-PIs Julie Etterson (U Minnesota) and Steve Franks (Fordham University).

2011-2015. University of California Office of the President-Research Opportunity Fund. Tracking Spring on a Changing Planet: Phenology and climate change across the University of California Natural Reserve System: *The UCNRS Phenology Network***. $40,000** (including $8K in matching funds from UCSB)

2010-2015. National Park Service, Climate Change Response Program. Assess Climate Change Response and Educate the Public Regarding Climate Change in California’s National Parks Through Establishment of the California Phenology Network”, **$430,436** to UCSB.

2007-2013. National Science Foundation, Integrative Organismal Systems (IOS-0718227). The joint evolution of mating system, life history, and drought-tolerance in *Clarkia*: do genetic correlations constrain adaptive evolution? **$596,389** including supplemental Research Experience for Undergraduate awards) + $253,000 to Collaborators Simon Emms and Amy Verhoeven at St. Thomas University.

2012. National Park Service, *Parks as Classrooms* program. Funding to design and to lead two 3-day professional development workshops for secondary school, high school, and adult education teachers to train them in the protocols and educational opportunities offered by the USA National Phenology Network. **$23,000**. <http://www.usanpn.org>

2011-2012. National Science Foundation, Structural Systems program. Research Opportunity Award supplement to ongoing NSF award: The evolution of life history, physiological, and floral traits in *Clarkia*: do genetic correlations affect mating system? **$27,790** (Co-PI, Chris Ivey, Chico State University).

2010-2013. National Science Foundation. Renovation of Research greenhouses at UC Santa Barbara for ecological, evolutionary and developmental studies. **$1,725,740**. Co-PIs Scott Hodges and Ruth Finkelstein (UCSB).

2010-2011. USGS and California Cooperative Ecosystem Studies Unit. Phenology Literacy: Understanding through Science and Stewardship (PLUSS). **$49,999**.

2007-2012. National Science Foundation, Research Coordination Grant. USA-National Phenology Network. **$499,000** to design and to implement the first effort to provide nationwide recording and monitoring of seasonal and annual biological events. Co-PIs: Dr. Jake Weltzin, USGS and Dr. Mark Schwartz, University of Wisconsin – Milwaukee.

2009. Conservation Research Foundation. Sustainable agriculture along a protected forest edge in Thailand: promoting ecosystem services to motivate forest conservation in rural communities. (**$5000**: Co-PIs Susan Mazer & David Greenberg)

2008-2009. U.S. Fish & Wildlife Service. Connecting People with Nature Through Integration of Climate Change Research and Education: the link between phenology and climate change. (**$40,000**)

2006- 2007. University of California Pacific Rim Research Grant. Planning grant to initiate studies of ecosystem services provided by protected rainforest habitats in Thailand. (Co-investigators: Dr. David Woodruff [UCSD] & Dr. David Greenberg: $15,000).

2006. University of California Pacific Rim Research Grant. Mini-grant to co-teach rainforest Biodiversity & Research Training course to graduate students at Walailak University, Nakkom Sri Thammarat, Thailand, May 2006 ($3000).

2002 - 2004. National Parks Foundation Postdoctoral Fellowship Sponsor (postdoctoral fellow: Dr. Kristina Hufford): Molecular genetic and ecological differentiation among Channel Island and mainland wild populations of California native perennial grasses: implications for restoration ($150,000).

2003 - 2004. National Center for Ecological Analysis and Synthesis. "Beyond hand-pollinations — Linking pollen limitation to plant population biology" Working Group (Co-PI's Drs. Tia-Lynn Ashman, Tiffany Knight, and Martin Morgan: $64,720).

2001 - 2003. National Center for Ecological Analysis and Synthesis. "Comparative ecology of functional and life history traits among neotropical rainforest species" Working Group (Co-PI's Drs. David Ackerly, Horacio Paz and Miguel Martinez-Ramos: $53,000).

2002. Vandenberg Air Force Base: Factors influencing the successful restoration of Native Grasslands at Vandenberg Air Force Base, Santa Barbara County, California ($22,500)

2001. UCSB Committee on Research (intramural grant: $19,000), Molecular genetic evidence for gene flow and hybridization between resident and alien populations of California native perennial grasses at the UC Sedgwick Ranch Reserve.

2001. Pearl Chase Conservation Fund (intramural grant awarded by UCSB; $17, 634), Local Adaptation, Conservation, and Restoration of California Grasslands.

2000-2001. National Science Foundation Population Biology Panel, Small Grant for Exploratory Research. Gene Flow and Hybridization Between Introduced and Endemic Populations of Three Native Perennial Grass Species. Co-PI, O. James Reichman. ($22,464).

2001. Research Experiences for Undergraduates Award. National Science Foundation, Program in Population Biology and Physiological Ecology ($10,000).

1999 – 2001. Vandenberg Air Force Base Conservation Fund. Restoration of Native Grasslands at Vandenberg Air Force Base, Santa Barbara County, California. ($90,000).

2000 – 2001. California State Department of Fish and Game. Molecular genetic variation within and among populations of two federally endangered species: *Arenaria paludicola* (Caryophyllaceae) and *Rorippa gambelii* (Brassicaceae) ($36,000).

1999 – 2000. UC Agriculture and Natural Resources. Seed Preparation, Cultivation and Preservation of Two Endangered Spcies, *Rorippa gambelii* and *Arenaria paludicola* ($1800).

1998 – 1999. Vandenberg Air Force Base Conservation Fund. Restoration of Native Grasslands at Vandenberg Air Force Base, Santa Barbara County, California. ($20,000).

1999 – 2003. National Science Foundation Population Biology Panel. The evolution of sex ratio and gender in selfing vs. outcrossing Clarkia spp. (Onagraceae): testing components of sex allocation theory. Collaborative grant with Dr. Veronique Delesalle (Gettysburg College). (Total award: $308,000; award to Susan Mazer/UCSB: $223,000).

1999 – 2000. California State Department of Fish and Game. Restoration and recovery of *Arenaria paludicola* (Caryophyllaceae) and *Rorippa gambelii* (Brassicaceae): two endangered species. ($24,000).

1998 - 1999. California State Department of Fish and Game. Restoration and recovery of *Arenaria paludicola* (Caryophyllaceae) and *Rorippa gambelii* (Brassicaceae): two endangered species. ($11,200).

1999 - 2000. Vandenberg Air Force Base. Effects of grazing on the diversity and relative abundances of California native perennial grass species in a serpentine grassland ($24,000).

1998 - 1999. Vandenberg Air Force Base. Restoration of native grasslands at Vandenberg Air Force Base, Record Number 08981080 ($30,000).

1997 – 1998. University of California, Santa Barbara, Committee on Research Grant. Gender allocation in wild plant species: testing assumptions and predictions. ($5,000)

1998 - 1999. University of California, Santa Barbara, Committee on Research Grant. Sex allocation and gender expression in *Clarkia unguiculata* vs. *C. exilis*: testing assumptions of sex allocation theory ($4,000).

1999 – 2000. University of California, Santa Barbara, Committee on Research Grant. Testing the assumptions of sex allocation theory in *Clarkia* species ($5,000)

1991 - 1997. National Science Foundation Presidential Young Investigator Award in recognition of research and teaching accomplishments. $25,000/year + $37,500/year available in matching funds from the National Science Foundation (a total of $291,251 was awarded from NSF, in addition to matching funds from several sources [below]).

1995 - 1996. Variation in Siring Success in *Clarkia unguiculata*. NSF Dissertation Improvement Award (with Steve Travers). ($1827)

1995. Centre National de Recherche Scientifique (France). One-year Poste-Rouge sabbatical fellowship as an Associate Research Director in the Laboratoire d’Evolution et Systematique des Végétaux, Université de Paris-Sud XI, Orsay, France.

1995. Research Experiences for Undergraduates Award. National Science Foundation, Program in Population Biology and Physiological Ecology ($4,000). To provide undergraduate research assistantships for the project, "Sex Allocation and Gender in Wild Populations of *Spergularia marina* (the sand-spurrey: Caryophyllaceae): An examination of the assumptions of theoretical models."

1994. Research Experiences for Undergraduates Award. National Science Foundation, Program in Population Biology and Physiological Ecology ($5,000). To provide undergraduate research assistantships for the project, "Sex Allocation and Gender in Wild Populations of *Spergularia marina* (the sand-spurrey: Caryophyllaceae)"

1993 - 1994. National Geographic Society, "Ecological Consequences of Forest Fragmentation on an Amazonian Palm Community" ($37, 024, including matching funds from the National Science Foundation [Presidential Young Investigator Award])

1993 - 1994. Grant from Glaxo Pharmaceuticals, Inc. for the "Collection of Vegetative and Reproductive Botanical Specimens from Rainforest Species of Southeastern Peru for Medicinal Testing" and for the publication of a photographic Guide to the Fruits and Seeds of Lowland Tropical Rainforest Species of Madre de Dios. ($150,000: including matching funds from the NSF PYI Award)

1993 - 1994. The Nature Conservancy, "Distribution, Abundance, and Reproductive Biology of Field and Greenhouse Populations of Gambel's Watercress (*Rorippa gambellii*: Brassicaceae) and Marsh Sandwort (*Arenaria paludicola*: Caryophyllaceae). ($46,282: including matching funds from the NSF Presidential Young Investigator Award)

1992 - 1994. National Science Foundation. Program in Population Biology and Physiological Ecology ($85,000. Co-PI Dr. Veronique Delesalle, Emory University). Sex Allocation and Gender in Wild Populations of *Spergularia marina* (the sand-spurrey: Caryophyllaceae): An examination of the assumptions of theoretical models.

1992 - 1993. California State Department of Fish and Game. ($81,628: including matching funds from the National Science Foundation). Demography and Reproductive Biology of Field and Greenhouse Populations of Kern mallow (*Eremalche kernensis*: Malvaceae), Woolly threads (*Lembertia congdonii*: Asteraceae), and Jewelflower (*Caulanthus californicus*: Brassicaceae), three endangered species of California.

1991 - 1992. Competitive Research Award. Smithsonian Institution National Museum of Natural History BIOLAT Research Program. $3500 grant to continue the study of seed dispersal, seed accumulation and the seed flora in Manu National Park, Peru .

1992 - 1993. California State Department of Fish and Game. ($10,000: including matching funds from the National Science Foundation). Reproductive Biology of the Rare *Astragalus lentiginosus* var. *piscinensis* from (Leguminosae) Fish Slough Natural Area, Bishop, California.

1991 - 1993. National Science Foundation Grant for Improving Doctoral Dissertation Research ($8000, with Charles T. Schick). Program in Population Biology and Physiological Ecology. “Causes of Geographic Variation in Flower Size in *Nemophila menziesii* H. & A. (Hydrophyllaceae).

1992 - 1993. Faculty General Research Grant ($3000; University of California, Santa Barbara). Support of ongoing research project, “Quantitative genetics and evolutionary implications of gender variation in *Spergularia marina*”.

1991 - 1992. Faculty General Research Grant ($4000; University of California, Santa Barbara). Support of ongoing research project, “Constancy of genetic parameters of life history and reproductive traits in *Raphanus sativus*”.

1990 - 1991. Competitive Research Award. Smithsonian Institution National Museum of Natural History BIOLAT Research Program. $5000 grant to continue the study of seed dispersal, seed accumulation and the seed flora in Manu National Park, Peru.

1990 - 1991. Faculty General Research Grant ($4000; University of California, Santa Barbara). Support of ongoing research project, “Constancy of genetic parameters of life history and reproductive traits in *Raphanus sativus*”.

1990 - 1991. Hoover Trust and Hardman Fund. With Charles T. Schick ($1000) to conduct dissertation research on geographic variation in flower size in *Nemophila menziesii*.

1990 - 1991. American Philosophical Society. $4000 to continue study, “Seed dispersal and accumulation within and among habitats of a neotropical rainforest (Manu National Park, Peru)”.

1989 and 1990. Competitive Research Awards. Smithsonian Institution National Museum of Natural History BIOLAT Research Program. $2500 and $2765 grants to continue the study of the ecology of seed dispersal in Manu National Park, Peru.

1989. Faculty General Research Grant ($4000; University of California, Santa Barbara). Support of ongoing research project in Manu National Park, “Comparative seed ecology in a neotropical rainforest: seed dispersal and accumulation in four habitats”.

1988. Faculty General Research Grant ($5000; University of California, Santa Barbara). Support of pilot study, “Genetic and environmental influences on components of reproduction in *Raphanus raphanistrum* (wild radish): effects of population density on estimates of genetic parameters”.

1988. Smithsonian Institution Research Opportunities Fund ($1500); seed money to initiate a longterm study of seed dispersal in the lowland tropical Amazonian rainforest of Manu National Park, Peru as a participating ecologist and research associate in the collaborative Peruvian/North American Smithsonian BIOLAT program.

1984 - 1985. Co-author and co-investigator of an ecological consulting contract with the Northern California Power Agency ($50,000): “The reproductive biology, life history and boron-tolerance of *Streptanthus morrisonii* (Brassicaceae)”.

**INVITED INTERNATIONAL SYMPOSIA & WORKSHOPS:**

2010-2011. (Meetings in May 2010 and December 2010). National Center for Ecological Analysis and Synthesis. Workshop: Forecasting Phenology: Integrating ecology, climatology, and phylogeny to understand plant responses to climate change.

2007. Wenner-Gren Foundation (Stockholm, Sweden), symposium on Mating System Evolution, held at the Kristineberg Marine Research Station.January, 2006. Second Field Ecology Symposium in Biodiversity Management, King Mongkut's University of Technology-Thonburi, Bangkok, Thailand. “Pollen-limited seed initiation in *Etlingera littoralis* (Zingiberaceae), in Khao Nan National Park, Nakhon Si Tammarat Province, Thailand”.

2006. Second Field Ecology Symposium in Biodiversity Management, King Mongkut's University of Technology-Thonburi, Bangkok, Thailand. “Pollen-limited seed initiation in *Etlingera littoralis* (Zingiberaceae), in Khao Nan National Park, Nakhon Si Tammarat Province, Thailand”.

2005. NSF-DFG United States – Germany Conference on Biodiversity, American Association for the Advancement of Science. Title: “Seed size, adult abundances and habitat preferences in neotropical rainforests: alternative approaches to the study of morphological diversity”

2005. Abdul Salam Institute of Theoretical Physics, Trieste, Italy, “Interspecific scaling of seed size and adult abundances of neotropical woody species within and across habitats: is size destiny?”

2004. Botanical Congress of Mexico, Oaxaca, Mexico. “Seed size, habitat preference, and adult abundances of neotropical woody species”

2004. University of Lausanne, Switzerland, Pollination Biology Graduate Workshop. “Mating system, pollen competition in selfing vs. outcrossing taxa: novel predictions for the comparative study of pollen tube growth rates”

2004. Association for Tropical Biology Symposium: Morphology and life history of tropical woody species. “Seed size, germination syndrome, segregation among habitats, and adult tree population densities in neotropical communities”

1999. International Botanical Congress, St. Louis, Missouri. “Ecology and evolution of plant reproductive traits” (symposium organizers: Susan J. Mazer and Christophe Thébaud)

1995. Jacques Monod Conference on Genetics and Adaptation, Centre National de Recherche Scientific, Aussois, France. “Sex allocation, variation, and covariation in floral and gender-related traits: evolutionary predictions and preliminary observations.”

**INVITED NATIONAL SYMPOSIA:**

2014. Botanical Society of America Symposium, “The ecology and evolution of pollen performance”, Boise, Idaho. Title of presentation: “Winning in style: do longer styles intensify selection on male gametophyte performance in outcrossing *Clarkia* species?” **S. J. Mazer** and A. A. Hove.

2014. Botanical Society of America Symposium, “Evolutionary insights from studies of geographic variation: establishing a baseline and looking ahead to future change”, Boise, Idaho. Title of presentation: “Predicting the effects of climate change on life history and floral traits of selfing and outcrossing *Clarkia* taxa.” H. Schneider and **S. J. Mazer**.

2011. Botanical Society of America Symposium, “Plant reproductive strategies under environmental stress”, St. Louis, Missouri. Title of presentation: “Physiological performance in selfing vs. outcrossing *Clarkia*: does phenotypic selection predict species divergence and temporal change in physiological rates?”

2002. Penn State University Plant Physiology Symposium, *Plant Reproduction 2002*. Title of presentation: "Fickle Sex Expression in Selfing and Outcrossing *Clarkia* (Onagraceae): the evolution of interspecific variation in ontogenetic trajectories."

1997. Symposium on Adaptive Genetic Variation in the Wild, Ecological Society of America meetings, Albuquerque, New Mexico. Title of presentation: "Geographic variation in flower size in *Raphanus raphanistrum* (wild radish: Brassicaceae): the potential role of pollinators as selective agents in flower size evolution. "

1991. National Symposium Organized by Dr. Robert Wyatt and sponsored by the Center for Continuing Education at the University of Georgia. Symposium Title: “Ecology and Evolution of Plant Reproduction: New Approaches”; Chapter Title: “Environmental Modification of Gender Allocation in Wild Radish: consequences for natural and sexual selection.” Symposium contributions have been published by Chapman & Hall.

1989. National meetings of the Society for the Study of Evolution; Penn State University. Invited Symposium Speaker; symposium title: “Phylogenetic approaches to the study of evolutionary innovation”; presentation title, “Comparative approaches to the study of seed size evolution within and among angiosperm taxa.”

1986. Symposium on the Causes and Consequences of Seed Weight; Botanical Society of America; AIBS meetings; Amherst, Massachusetts; “Causes and consequences of seed weight variation in wild radish.”

**INVITED RESEARCH SEMINARS (1995 – 2015):**

May, 2015. Rancho Santa Ana Botanic Garden (Claremont, CA). “The California Phenology Project: species-specific phenological responses to winter rainfall and temperature among wild plant species”

February, 2015. Michigan State University, Department of Plant Biology: “The joint evolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): genetic correlations and the evolution of risky mating behavior in the context of rapid climate change”

December, 2014. Hawkesbury Institute for the Environment, Western Sydney, Australia, “The joint evolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): genetic correlations and the evolution of risky mating behavior in the context of rapid climate change”

October, 2014. Chenshan Shanghai Botanic Garden, “The joint evolution of mating system, physiology, life history, and floral traits in farewell-to-spring (*Clarkia*: Onagraceae): the potential role of genetic correlations”

October, 2014. College of Life Sciences, Nanjing Agricultural University, Jiangsu Province, China, “The joint evolution of mating system, physiology, life history, and floral traits in farewell-to-spring (*Clarkia*: Onagraceae): the potential role of genetic correlations”

September, 2014. College of Natural Resources and Environmental Science, Nanjing Agricultural University, Jiangsu Province, China, “The California Phenology Project: species-specific effects of climatic variation on the phenological schedules of wild woody species”

September, 2014. Department of Biology, Zhejiang University, Hangzhou, China, “The joint evolution of mating system, physiology, life history, and floral traits in farewell-to-spring (*Clarkia*: Onagraceae): the potential role of genetic correlations”

September, 2014. College of Natural Resources and Environmental Science, Nanjing Agricultural University, Jiangsu Province, China, “The joint evolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): the potential role of genetic correlations”

October, 2012. Department of Biology, University of Toronto, “The coevolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): why do selfers fare well?”

August, 2012. Department of Biology, University of Stellenbosch, South Africa.

April, 2012. Department of Biology, University of Massachusetts, “The coevolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): why do selfers fare well?”

March 2012. Redwood National Park, “Climate change and the onset of spring: *The California Phenology Project* in Redwood National Park”

January 2012. The Desert Institute, Joshua Tree National Park, “Climate change and the onset of spring: *The California Phenology Project* in Joshua Tree National Park”.

November, 2011. The joint evolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): does selection on life history drive the evolution of selfing? Research seminar series, Sequoia and Kings Canyon National Parks, Three Rivers Headquarters, CA.

May, 2011. The joint evolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): how do selfers fare well? National Center for Ecological Analysis and Synthesis, Santa Barbara, California

October, 2011. The Desert Institute, Joshua Tree National Park, “*The California Phenology Project*: citizen science and the effects of climate change on native California plants in Joshua Tree National Park”.

September, 2011. University of California Natural Reserve System’s Annual Reserve Directors’ Meeting (at Sedgwick Ranch Reserve), “Implementing *The California Phenology Project* in the UCNRS: how citizen science can help to detect the effects of climate change on native California plants.

February, 2010. School of Biological Sciences, Washington State University, Pullman. “The joint evolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): adaptation in a changing world”

October 2008. Department of Biology, University of Calgary, Annual Departmental Retreat. “The joint evolution of mating system, physiology, and life history in farewell-to-spring (*Clarkia*: Onagraceae): how do selfers fare well?”

April 2008. Santa Barbara Audubon Society, Santa Barbara Museum of Natural History. “Timing is Everything: Developing a national (and local!) phenology network to detect the links between climate change and phenology”

March 2008. Department of Ecology and Evolution, Iowa State University. “Mating system evolution within and between species of *Clarkia*: evidence for contrasting genetic constraints in selfers vs. outcrossers”.

September 2007. Department of Biology, Washington State University. “Mating system evolution within and between species of *Clarkia*: evidence for genetic constraints”.

May 2006. Department of Geography, UCSB. “The relationship between seed size, abundance, and habitat preferences among neotropical rainforest species: ecological and evolutionary approaches”.

April, 2006. Northern Arizona University. “Seed size, tree abundances, and habitat preferences among neotropical rainforest species: is seed size neutral?”

July, 2005. Smithsonian Institution, National Museum of Natural History: “Seed size, abundances, and habitat preferences in Peruvian and Ecuadorian rainforests: ecological and evolutionary approaches”

May, 2005. University of Hawaii, Manoa. “Seed size, tree abundances, and habitat preferences among neotropical rainforest species: seeing the forest and the trees”

March, 2005. University of Connecticut, Storrs. “Seed size, tree abundances, and habitat preferences among neotropical rainforest species: seeing the forest and the trees”

October, 2004. Instituto de Investigaciones en Ecosystemas, Universidad Nacional Autonoma de Mexico (Morelia, Mexico). “Seed size, germination syndrome, adult tree abundances, and habitat preferences in neotropical rainforests: seed size and fate”

July, 2004. Blandy Experimental Station, University of Virginia. “Mating system evolution in farewell-to-spring (*Clarkia*: Onagraceae): developmental, ecological, and evolutionary consequences of selfing in annual wildflowers”

July, 2003. National Science Foundation, Arlington, Virginia. “Novel genetic and developmental tests of sex allocation evolutionary theory in selfing vs. outcrossing *Clarkia* taxa.”

January, 2003. University of Michigan, Ann Arbor. “ Evolutionary trade-offs between the sexes: Reponses to selection in *Spergularia marina* (Caryophyllaceae) and future directions in sex allocation research”

November, 2002. Washington University, St. Louis. “ Sex allocation in theory and in practice: Reponses to selection on primary sexual traits in *Spergularia marina* (Caryophyllaceae): the battle between the sexes” and “Detecting natural selection at multiple scales: populations, communities and higher taxa”

February 2002. Cancer Workshop: “The Genomic/Proteomic Revolution and Cancer”, sponsored by Johnson & Johnson, organized by Dr. Raymon Ruddon, and convening in Naples, Florida.

January, 2002. University of Oregon, Department of Biology. “Detecting natural selection at multiple scales: populations, communities and higher taxa” and “Sex allocation in theory and in practice: Reponses to selection on primary sexual traits in *Spergularia marina* (Caryophyllaceae): the battle between the sexes”

February, 2001. Colorado State University, Department of Biology. “Sex allocation in theory and in practice: Reponses to selection on primary sexual traits in *Spergularia marina* (Caryophyllaceae): the battle between the sexes”

January, 2000. University of Toronto, Department of Botany, “Sex allocation in theory and in practice: Reponses to selection on primary sexual traits in *Spergularia marina* (Caryophyllaceae): the battle between the sexes”

November, 1999. University of Colorado, Boulder, Department of Ecological, Population, and Organismal Biology, “Sex allocation in theory and in practice: Reponses to selection on primary sexual traits in *Spergularia marina* (Caryophyllaceae): the battle between the sexes”

October, 1999. California State University, Chico. "Responses to selection on male and female investment in an annual plant (*Spergularia marina*, the sand-spurrey: Caryophyllaceae): the battle between the sexes."

April, 1999. University of Kentucky, Lexington, Department of Ecology and Evolution, “Responses to selection on gender-related traits in *Spergularia marina* (Caryophyllaceae): the battle between the sexes”

November, 1998. University of Connecticut, Storrs, Department of Ecology and Evolution, “Reponses to selection on gender-related traits in *Spergularia marina* (Caryophyllaceae): the battle between the sexes”

November, 1998. University of Arizona, Tucson, Department of Ecology and Evolution, “Reponses to selection on gender-related traits in *Spergularia marina* (Caryophyllaceae): the battle between the sexes”

January, 1998. Santa Barbara Cancer Foundation Workshop on the Biology of Cancer. Population biology of cancer: an evolutionary prospective.

November, 1997. University of California, Irvine, Department of Ecology and Evolution. “Floral trait variation and covariation in *Spergularia marina* (Caryophyllaceae): a test of the assumptions of sex allocation theory”

November, 1997. University of California, Irvine, Department of Ecology and Evolution. “Geographic variation in flower size in *Raphanus sativus* and the potential role of pollinators in population differentiation”.

November, 1997. University of Chicago, Department of Ecology and Evolution. “Genetic correlations among floral traits in a selfing annual plant: a maladaptive battle between the sexes?”

December, 1995. Centre d’Ecologie Fonctionelle et Evolutive, Centre National de Recherche Scientifique, Montpellier, France. “Implications of ecological, taxonomic, and life history correlates of seed size among Indiana Dune angiosperms: a comparative study”

October, 1995. Université de Montpellier II, Montpellier, France.  **“**Genetic correlations among sexual traits in selfing and outcrossing species: evolutionary predictions and observations”

September, 1995. Centre National de Recherche Scientifique, Gif, France.  **“**Quantitative genetic variation and covariation within and among floral traits in *Spergularia marina* (Caryophyllaceae): empirical observations and theoretical predictions”

July, 1995. University of Paris-Sud XI. Laboratoire d’Evolution et Systematique des Végétaux. Quantitative genetic variation and covariation within and among floral traits in Spergularia marina (Caryophyllaceae): empirical observations and theoretical predictions.

July, 1995. University of Grenoble (France). Quantitative genetic variation and covariation within and among floral traits in *Spergularia marina* (Caryophyllaceae): maternal family correlations and responses to selection.

June, 1995. University of Paris VI (Jussieu, Laboratoire d’Ecologie). The evolution of fruit size and shape in bird-dispersed tropical fruits: allometric patterns and implications at different ecological levels.

March, 1995. San Diego State University. Fruit size and shape in bird-dispersed tropical fruits: allometry in a nutshell.

**Recent Public Outreach Presentations, Lectures, and Workshops**

|  |  |  |
| --- | --- | --- |
| **Month/Yr** | **Title** | **Meeting/Place** |
| June, 2015 | Full-day Professional Development Workshop for Educators*: Phenological monitoring as an educational tool in the Sierra Foothills*  | Sequoia and Kings Canyon National Parks, Ash Mountain Visitors Center |
| May, 2015 | Full-day workshop: *The California Phenology Project*: *tracking the effects of* *climate change on the seasonal cycles of plants in the Santa Monica Mountains* | Santa Monica Mountain National Recreation Area, Black Rock Canyon Visitors Center |
| April, 2015 | Full-day workshop: *The California Phenology Project*: *tracking the effects of* *climate change on the seasonal cycles of plants at Joshua Tree National Park* | Joshua Tree National Park, Black Rock Canyon Visitors Center |
| January, 2015 | Half-day workshop: Establishing monitoring for the *California Phenology Project* at the Santa Barbara Botanic Garden  | Santa Barbara Botanic Garden, Santa Barbara, CA |
| January, 2015 | Full-day Workshop, Madroña March Preserve: *The California Phenology Project*: *the fingerprint of* *climate change and the seasonal cycles of plants and animals* | Los Angeles, California |
| January, 2015 | Full-day Workshop, California Native Plant Society: *The California Phenology Project*: *the fingerprint of* *climate change and the seasonal cycles of plants and animals* | San Jose, California |
| November, 2014 | Introduction to the *California Phenology Project*: tracking the effects of climate change on native plant phenology at the Santa Barbara Botanic Garden  | Santa Barbara Botanic Garden, Santa Barbara, CA |
| October, 2014 | Two-hour presentation for MA and PhD students: *Steps and guidelines for success in ecological research and publishing*  | College of Natural Resources and Environmental Sciences, Nanjing Agricultural University |
| September, 2014 | Full-day Workshop Tejon Ranch Conservancy, for California Master Naturalist Program: *The California Phenology Project*: *tracking the effects of climate on native plants at Tejon Ranch* | Tejon Ranch, Lebec, CA |
| April, 2014 | Full-day Workshop, Santa Monica Mountains National Recreation Area: *The California Phenology Project*: *the fingerprint of* *climate change and the seasonal cycles of plants and animals* | Santa Monica Mountains National Recreation Area Headquarters  |
| April, 2014 | Full-day Workshop, Redwood National and State Parks for National Park **rangers, educators, and resource managers**: *The California Phenology Project*: *tracking the effects of climate change on the native flora of Redwood National Park* | Arcata, California  |
| April, 2014 | Full-day Workshop, for California Educators in the Sierra Nevada foothills: *The California Phenology Project*: *the fingerprint of* *climate change and the seasonal cycles of plants and animals* | Sequoia and Kings Canyon National Park  |
| April, 2014 | Evening Public Presentation, Visalia Chapter of the National Audubon Society: *The California Phenology Project*: *the fingerprint of* *climate change and the seasonal cycles of plants and animals* | Visalia, California  |
| January, 2014 | Full-day Workshop, Joshua Tree National Park **rangers, educators, and resource managers**: *The California Phenology Project*: *the fingerprint of* *climate change and the seasonal cycles of plants and animals* | Joshua Tree National Park  |
| September, 2013 | Full-day Workshop Yosemite National Park **rangers, educators, and resource managers**: *The California Phenology Project*: *the fingerprint of* *climate change and the seasonal cycles of plants and animals* | Yosemite National Park  |
| August, 2013 | Full-day Training workshop for **Field Science Educators**, NatureBridge Residential Outdoor School: *The California Phenology Project*: *the fingerprint of* *climate change and the seasonal cycles of plants and animals* | Golden Gate National Recreation Area, Marin Headlands, CA  |
| August, 2013 | Full-day Professional Development Workshop for **High School teachers**: *Climate change and the seasonal cycles of plants and animals* | Adolfo Camarillo High School, Oxnard, CA  |
| July, 2013 | Four-hour Workshop for **Botanical Professionals**: *Climate change and the seasonal cycles of plants and animals: an introduction to the California Phenology Project* | National meetings of the Botanical Society of America, New Orleans, Lousiana |
| March, 2013 | Five-hour Training Workshop for **Master Naturalists**: *Climate change and the seasonal cycles of plants and animals: an introduction to the California Phenology Project* | Santa Barbara Botanic Garden |
| October, 2012 | Full-day Workshop for **environmental educators**: *Climate change and the seasonal cycles of plants and animals: an introduction to the California Phenology Project* | North American Association for Environmental Educators, annual meetings, Oakland, CA |
| October, 2012 | Full-day Follow-up Professional Development Workshop for **Middle and** **High School teachers**: *Climate change and the seasonal cycles of plants and animals* | Santa Monica Mountains National Recreation Area, Satwiwa Ranch Reserve. |
| June, 2012 | Professional Development Workshop for **High School teachers**: *Climate change and the seasonal cycles of plants and animals* | Instructor, UCSB Extension class, June 29 and June 30.  |
| June, 2012 | Professional Development Workshop for **Middle School teachers**: *Climate change and the seasonal cycles of plants and animals* | Instructor, UCSB Extension class, June 22 and June 23.  |
| June, 2012 | Introduction to the *California Phenology Project* and the *USA-National Phenology Network*: monitoring the effects of climate change on the seasonal cycles of wild species | Instructor, 6-hour workshop, Lassen Volcanic National Park |
| June, 2012 | Introduction to the *California Phenology Project* and the *USA-National Phenology Network*: monitoring the effects of climate change on the seasonal cycles of wild species | Instructor, 6-hour workshop, Lava Beds National Monument |
| May, 2012 | Introduction to the *California Phenology Project* and the *USA-National Phenology Network*: monitoring the effects of climate change on the seasonal cycles of wild species | Instructor, 6-hour workshop, Ken Norris Rancho Marino UC Natural Reserve |
| April, 2012 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of California plants – introduction, protocols, and field practice | Instructor, 6-hour workshop, annual meetings of the *Association for Environmental and Outdoor Educators*, Camp Hess Kramer, Malibu, CA |
| March, 2012 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of California plants | Instructor, 2 3-hour workshops, Redwood State and National Parks |
| January, 2012 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of California plants | Presentation at the annual meeting of the California Native Plant Society, San Diego, CA |
| January, 2012 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of California plants – introduction, protocols, and field practice | Instructor, 6-hour workshop, Division of Education and Interpretation, Joshua Tree National Park, CA |
| January, 2012 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of California plants – introduction, protocols, and field practice | Instructor, 2-hour evening seminar, The Desert Institute, Joshua Tree National Park, CA |
| November, 2011 | The *California Phenology Project* at John Muir National Monument: monitoring the effects of climate change on the seasonal cycles of California plants  | 1 full-day training workshop at John Muir National Monument |
| October, 2011 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of native plants in the UC Reserves – introduction, protocols, and field practice | Instructor, 3-hour workshop at the annual retreat for the UC Natural Reserve Managers, held at Sedgwick Ranch Reserve, UCSB |
| October, 2011 | The *California Phenology Project* at Joshua National Park: monitoring the effects of climate change on the seasonal cycles of native desert plant species – introduction, protocols, and field practice | Presentation for The Desert Institute seminar series, Joshua Tree National Park, Twenty-Nine Palms, CA |
| September, 2011 | The *California Phenology Project* at the Santa Monica Mountains National Recreation Area: monitoring the effects of climate change at Sandstone Peak – establishing long-term phenological monitoring and field practice | 1 full-day training workshop at Sandstone Peak, Santa Monica Mountains National Recreation Area |
| September, 2011 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of widespread California plant species – introduction, on-line resources, protocols, and field practice | Presentation at the annual meetings of the California Native Plant Society |
| July, 2011 | The *California Phenology Project* at Joshua National Park: monitoring the effects of climate change on the seasonal cycles of native desert plant species – introduction, on-line tools protocols, and field practice | 1 full-day training workshop at Lassen Volcanoes National Park, CA |
| July, 2011 | The *California Phenology Project* at Sequoia and Kings Canyon National Parks: monitoring the effects of climate change on the seasonal cycles of Sequoia & Kings Canyon native plants – introduction, on-line tools, protocols, and field practice | 1 full-day training workshop at Sequoia and Kings Canyon National Park, CA |
| June, 2011 | The *California Phenology Project* at Golden Gate National Recreation Area: monitoring the effects of climate change on the seasonal cycles of native species in Golden Gate Park – introduction, protocols, and field practice | 1 full-day training workshop at Golden Gate National Recreation Area, San Francisco, CA |
| June, 2011 | The *California Phenology Project* at Redwood State and National Parks: monitoring the effects of climate change on the seasonal cycles of native plants species in Redwood National Park – introduction, on-line tools, protocols, and field practice | 1 full-day training workshop at Redwood State and National Parks |
| May, 2011 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of native plant species in the Santa Monica Mountains  | 3 full-day training workshops at Santa Monica Mountains National Recreation Area, Thousand Oaks, CA |
| April, 2011 | The *California Phenology Project*: monitoring the effects of climate change on the seasonal cycles of native plant species in Joshua Tree National Park  | 1 full-day training workshop at the Desert Institute at Joshua Tree National Park, 29 Palms, CA |
| August 14, Sept 10, September 18, and October 1, 2010 | **Four Workshops: Planting the Seed for Citizen Science**: Climate Change and Phenology Workshops for Educators and Scientists in Southern California | Santa Monica Mountains National Recreation Area |

**RECENT CONTRIBUTED PAPERS:**

March, 2015. Species-specific phenological responses to climatic conditions: results from the California Phenology Project. Parks for Science meetings, National Park Service, Oakland, CA

January, 2015. Phenological responses to climatic variation among California native plants: inter-annual and spatial patterns detected by the California Phenology Project. California Native Plant Society annual meetings, Special Session California’s Changing Climate: Conservation in the Age of Uncertainty, San Jose, CA

August, 2014. Phenological patterns along biogeographic gradients: a case study from the California Phenology Project. K. Gerst, A. Evenden, and **S. J. Mazer.** Ecological Society of America, Sacramento, CA.

August, 2014. Associations between outcrossing rate and photosynthesis within populations of two mixed-mating *Clarkia* species. C. T. Ivey, L. S. Dudley, A. A. Hove, S. K. Emms, and **S. J. Mazer.** Ecological Society of America, Sacramento, CA.

August, 2014. Evidence for nanoparticle induced photoxicity in a soil-grown wildflower. J. R. Conway, S. J. Mazer, and A. A. Keller. American Chemical Society, San Francisco, CA.

August, 2013. *Project Baseline*: a living genome bank to capture evolution in action. J. Etterson, S. Franks, **S. J. Mazer**, R. Shaw, A. Weis, M. Jahnke, K. Updegraff, and N. Gordon. Ecological Society of America, Minneapolis, MN.

July, 2013. Instantaneous and long-term water use efficiencies in two pairs of *Clarkia* taxa with contrasting mating systems. L. A. Dudley, S. K. Emms, A. A. Hove, A. Verhoeven, and **S. J. Mazer**. Botanical Society of America, New Orleans, Louisiana.

July, 2013. Natural selection on phenological traits across the biogeographic range of a California annual wildflower: independent effects on fitness of first flowering date and flowering synchrony

B. P. Haggerty and **S. J. Mazer**. Botanical Society of America, New Orleans, Louisiana.

June, 2013. Are photosynthetic rates and outcrossing rates associated within populations?  A test using two mixed-mating *Clarkia* taxa. C. T. Ivey, L. S. Dudley, A. A. Hove, S. K. Emms, **S. J. Mazer.** Society for the Study of Evolution, Snowbird, Utah.

January, 2013. The California Phenology Project: a case study of public participation in scientific research. K. Gerst, E. M. Matthews, **S. J. Mazer**, A. Evenden, C. Brigham, A. Forrestel, B. Haggerty, S. Haultain, J. Hoines, S. Samuels, and F. Villalba. George Wright Society Conference, Denver, CO.

October, 2012.Spectral expressions of phenology: an exploratory data analysis of plant-level

observations in a Mediterranean climate ecosystem**.** K. L. Roth, D. A. Roberts, **S. J. Mazer,** and C.

D'Antonio. Phenology 2012, Milwaukee, Wisconsin.

August, 2012. Building a phenological monitoring network in California as a model for the nation. Matthews, E., **S. Mazer**, A. Evenden, K. Gerst, C. Brigham, J. Coles, S. Fritzke, B. Haggerty, S. Haultain, J. Hoines, S. Samuels, K. Thomas, F. Villalba and J. Weltzin. Ecological Society of America, Portland, OR.

August, 2012. Implementing a regional phenology network: the California Phenology Project. Gerst, K., E. Matthews, **S. Mazer**, A. Evenden, C. Brigham, J. Coles, S. Fritzke, B. Haggerty, S. Haultain, J. Hoines, S. Samuels, F. Villalba and J. Weltzin. Ecological Society of America, Portland, OR.

August, 2012. Predicting species presence-absence as a function of edaphic variation: implications for restoration of California native grasslands. K. L. Hufford, J. Schimel and **S. J. Mazer**. Ecosummit meeting, Portland, OR.

2012. The California Phenology Project: Tracking nature’s pulse to assess climate

change response across California landscapes and national parks. Liz Matthews, **Susan J. Mazer**, Angela Evenden, Christy Brigham, and Sylvia Haultain. California Native Plant Society, San Diego, CA.

2011. Linking species to science in a phenology monitoring project: The California Phenology Project case study. Kathryn Thomas, Jake Weltzin, Angela Evenden, **Susan J. Mazer**, Liz Matthews, Abe-Miller Rushing. Ecological Society of America, Austin, TX.

2011. From elegant to slender, does phenotypic selection on leaf physiological traits predict the divergence between *Clarkia sister species, C. unguiculata and C. exilis?* Leah S. Dudley, **Susan J. Mazer**, Alisa A. Hove. Society for the Study of Evolution, St. Louis, MO.

2011. Physiological Impact of Metal Oxide Nanoparticles in Soil-Grown Clarkia (Onagraceae). Jon R. Conway, Beng Joo Reginald Thio, **Susan J. Mazer**, Arturo A. Keller. 241st  National Meeting of the American Chemical Society, Anaheim, CA.

2009. A phenological assessment of California: Integrating multiple data sources and the implications for statewide analyses. (authors: Keely L. Roth, Brian P. Haggerty, Eliza S. Bradley, Michael Toomey, **Susan J. Mazer**, Dar A. Roberts). American Geophysical Union, San Francisco, CA.

2009. Bats and fruits: ecological association or mutual evolution. Tatyana A. Lobova and **Susan J. Mazer**. North American Society of Bat Research, Portland, OR

2009. Sustainable agriculture along the forest edge: ecosystem services and forest conservation at Kaeng Krachan National Park, Thailand. David Greenberg, **Susan Mazer**, Wallapak Polasub, Adcharaporn Pagdee. Association for Tropical Biology and Conservation, Morelia, Mexico

2007. Association for Tropical Biology and Conservation, Morelia, Mexico: “The relationship between breeding system and seed size in a neotropical flora: testing evolutionary hypotheses.”

2006. Association for Tropical Biology and Conservation, Kunming, China: “The relationship between breeding system and seed size in a neotropical flora: dioecious species have larger seeds than their hermaphroditic counterparts.”

2006. Society for the Study of Evolution, Stony Brook, NY: “Evolutionary trajectories in the gunsite *Clarkia*: independent evolution or genetic constraints?”

2005. Association for Tropical Biology and Conservation, Uberlandia Brazil: “Seed size, abundances, and habitat preferences in Peruvian and Ecuadorian rainforests: explaining the maintenance of seed size variation”

1. Sex expression in selfing vs. outcrossing *Clarkia* species; developmental variation. International meeting of the Society for the Study of Evolution. Chico State University, California.

2002. Fickle sex expression in selfing vs. outcrossing *Clarkia* species: the evolution of ontogenetic trajectories for floral traits. International meeting of the Society for the Study of Evolution, Champaign-Urbana, Illinois

2001. The evolution of winged seeds in *Spergularia marina* (Caryophyllaceae): to wing or not to wing? International meeting of the Society for the Study of Evolution, Knoxville, Tennessee.

1998. Does the neighborhood matter? The effects of neighbors on gender expression in *Spergularia marina* (Caryophyllaceae). (with Dr. Veronique Delesalle). Ecological Society of America meetings, Baltimore, Maryland.

1998. Size-dependent sex allocation in Clarkia unguiculata (Onagraceae): changes within and among genotypes. International meeting of the Society for the Study of Evolution, Vancouver, British Columbia.

1998. Response to selection on primary sexual investment in *Spergularia marina* (Caryophyllaceae): the accessory traits. (with Dr. Veronique Delesalle). Society for the Study of Evolution meetings, Vancouver, British Columbia.

1997. Genetic constraints on the evolution of sex allocation in plants: responses to selection on gamete production in *Spergularia marina* (Caryophyllaceae). Society for the Study of Evolution meetings, Boulder, Colorado.

1996. Nutrient levels and salinity affect gender and floral traits in the autogamous *Spergularia marina*. With Dr. Veronique Delesalle, Ecological Society of America meetings.

1995. Phenotypic and Genetic Variation Within and Among Floral and Gender Traits in Spergularia marina (Caryophyllaceae): ontogenetic and population effects. Petit Pois Deridé National Population Biology Meetings, Lyon, France.

1994. Variation and Covariation among Floral and Gender Traits in Spergularia marina (Caryophyllaceae): ontogenetic and population effects. Society for the Study of Evolution, Athens, Georgia.

1994. Floristic Composition, Soil Quality and Litter Decomposition within and among Terra Firme and Floodplain Habitats in Manu National Park, Peru. Association for Tropical Biology, Guadalajara, Mexico.

**PROFESSIONAL SOCIETY MEMBERSHIPS:**

|  |  |
| --- | --- |
| American Association for the Advancement of Science American Institute of Biological SciencesAmerican Society of NaturalistsAssociation for Tropical Biology  | Botanical Society of America Ecological Society of AmericaSociety for the Study of EvolutionEuropean Society of Evolutionary Biology |

**REVIEWS FOR SCIENTIFIC JOURNALS and FUNDING AGENCIES (last 3 years):**

*American Journal of Botany*, *Evolution*, *Evolutionary Ecology*, *International Journal of Plant Sciences*, *Philosophical Transactions of the Royal Society, Proceedings of the Royal Society, B*. Also, ~4 reviews per year for the National Science Foundation Population and Ecological Processes Program Panel and Ecology Program Panel.

**OTHER RECENT PROFESSIONAL CONTRIBUTIONS & ADMINISTRATIVE DUTIES**

International

2014-2015 Special Issue Editor, American Journal of Botany, co-editing (w/Dr. Joseph Williams, University of Tennessee) a special issue on The Ecology and Evolution of Pollen Performance.

2013 - Editor, *International Journal of Plant Sciences*

2003 - 2006 Editorial Board Member, *Madroño*

1999 - 2001 Executive Vice-President and Council Member, Society for the Study of Evolution

1997 - 2000 Editorial Board Member, *Journal of Evolutionary Biology*

1997 Served on “Habilitation” promotional committee of Dr. Isabelle Dajoz (University of Paris VI, Jussieu, Laboratoire d’Ecologie, Paris, France).

1998 Served on Ph.D. Committee of Horacio Paz, a student at the Universidad Nacional Autonoma de Mexico.

1997 Served on “Habilitation” promotional committee of Dr. Jacqui Shykoff (University of Paris VI, Jussieu, Laboratoire d’Ecologie, Paris, France).

2000 Served on “Habilitation” promotional committee of Dr. John D. Thompson (Centre d’Ecologie Fonctionelle et Evolutive, Centre National de Recherche Scientifique, Montpellier, France

1995 – 1998 Served on Ph.D. Committees of five students at the Université de Paris XI, the Université of Montpellier, and the Université Joseph Fourier, Grenoble: Luc Gigord, Laurence Affre, Nathalie Escaravage, Agnes Mignot, and Claudie Doums

National Committees

2012 Chair, National Science Foundation, Division of Environmental Biology (DEB), Committee of Visitors, charged with evaluating and reporting on the last three years of programming, review practices, management and funding of the DEB.

2012 National Science Foundation, Division of Environmental Biology, Community Ecology Program; served on pre-proposal review panel.

2012-present National Ecological Observation Network. Plant Phenology Working Group: technical working group with diverse experience in plant phenological measurements, analysis, process-based modeling and scaling is necessary to inform the development of science design, protocols, workflows, quality assurance and quality control procedures, and data products resulting from NEON measurements. The PPWG provides a bridge to and a conduit for input from the broader scientific and technical community in ecological research and specifically related to plant phenology research. The overarching objective is to ensure that the design of plant phenology component of the observatory is based upon a sound scientific rationale.

2010-present Member, Advisory Committee of the National Phenological Network, organizing a nationwide effort to monitor seasonal changes in the flowering times of widespread and local plant species, and their responses to climate change.

2007-2009 Vice Chair, Executive Committee of the National Phenological Network, designing and organizing a nationwide effort to monitor seasonal changes in flowering time of widespread and local plant species, particularly in response to climate change.

2007-2009 Co-Director, Education, Citizen Science, and Outreach Committee of the National Phenology Network, designing and supervising a national effort to integrate phenological studies into curricula from K-12 through the university level.

Mar 2007. Search committee member for the nationwide search for the Executive Director of the U.S. National Phenology Network.

Feb 2007. Workshop co-organizer (NSF funded): *Project Baseline*: a plan for the collection and preservation of seeds for future evolutionary studies to monitor evolutionary change.

Nov 2006. Workshop participant: Data Center Planning & Development for the archiving of ecological data and metadata. National Center for Ecological Analysis and Synthesis.

Oct 2006. Workshop participant: U.S. National Phenology Network to design and plan a coast-to-coast network for the monitoring of phenological progression.

Apr 2006. Served on Advisory Panel to evaluate the Science Plan of the National Science Foundation’s proposed National Ecological Observatory Network (NEON).

March 2006. Workshop participant: U.S. National Phenology Network to design and plan a coast-to-coast network for the monitoring of phenological progression.

Aug 2005. Workshop observer for the National Science Foundation: U.S. National Phenology Network to design and plan a coast-to-coast network for the monitoring of phenological progression.

Nov 2003. Served on Advisory Panel for Evolutionary and Population Ecology competition of the National Science Foundation.

June 2002 Participated in a 4-day writing conference for “Teaching about the Nature of Science and Biological Evolution” at the Biological Sciences Curriculum Study in Colorado Springs, Colorado. This conference developed text for three teaching modules for the high school and freshman college levels, illustrating the concepts and process of evolution by natural selection.

2000 - 2002 Serving on NSF-supported workshop to evaluate desirability and appropriateness of funding an Evolutionary Synthesis Center

2000 - Advisory Board for the American Institute of Biological Sciences' BioOne initiative to provide electronic access to journals of societies that are members of the BioOne Consortium

July 2000. Served on NSF's Committee of Visitors Panel to evaluate activities and fairness of the Systematics and Population Biology Programs from 1996 -1999.

May 1999. Served on Advisory Panel for the Integrated Research Challenge grant competition of the National Science Foundation.

October 1997. Served on the Population Biology Advisory Panel of the National Science Foundation.

June 1996. Participated in a Site Visit with the Research Training Grant Advisory Panel for the Program in Population Biology of the National Science Foundation

October 1994. Served on the Population Biology Advisory Panel of the National Science Foundation.

1992 Served on U. S. national subcommittee of the “Steering Committee for the Systematics Agenda 2000”, investigating research trends and priorities within systematic biology.

University Committees

2012-2013 Vice Chair, UCSB Committee on Diversity and Equity

2015-present Member, Executive Board, Institute for the Study of Ecological and Evolutionary Climate Impacts, Multicampus Research Program Initiative (University of California Office of the President)

2007-2009 Chair, Committee on Committees (charged with populating all UCSB Academic Senate Committees)

2008-2009 Chair, EEMB Undergraduate Curriculum Committee

2008-2009 Chair, EEMB Undergraduate Curriculum Reform & Restructuring Committee

2008-2009 Member, Advisory Board, Network for Experimental Research on Evolution (NERE), a University of California Multicampus Research Program

2007 Fall quarter, Member, Faculty Legislature of UCSB’s Academic Senate

2002 Advisory Committee on Pay Equity at UCSB

2001 Chair, Committee to Evaluate the Risk of Exotic Species at UCSB Natural Reserves.

2000 -2002 Chancellor's Advisory Committee on the Status of Women

1996 Member, Committee on Organizational Structure (to find ways to reduce campus-wide expenses while increasing efficiency in the following activities: Computing, Shops, Publication, Library)

1991 - 1994 Chair, Advisory Committee for the Coal Oil Point Natural Reserve

1992 - 1994 Member, Faculty Legislature - Area V

1993 - 1994 Member, UCSB Student Affairs Council

1990 - 1994 Member, UCSB Campus Wetlands Committee

1989 - 1994 Member, UCSB Natural Reserve System Advisory Committee

1992 Participant in UC-wide Conference on the Report of the University Task Force on Faculty Rewards (Pister Report)

Departmental (Ecology, Evolution & Marine Biology)

2014-2015 Member, EEMB Resources Committee

2013-2015 Chair, EEMB/MCDB Greenhouse Committee

2006-present Curator of Botany, Cheadle Center for Biodiversity & Ecological Restoration

2013-2015 Diversity/Equal Opportunity Committee

2013-2015 Storeroom Oversight Committee

2007-2010 Vice Chair, Department of Ecology, Evolution & Marine Biology

2008-2009 Chair, EEMB Undergraduate Curriculum Committee

2008-2009 Chair, EEMB Undergraduate Curriculum Reform & Restructuring Committee

2008-2012 Member, EEMB Greenhouse Development Committee

2005-2012 Member, EEMB Greenhouse Oversight Committee

2007-2009 EEMB Chair’s Advisory Committee

2007-2012 Member, Cheadle Center for Biodiversity & Ecological Restoration; Oversight Committee member

1997 - 1999 Chair and Organizer of Weekly Research Seminar Series

1997 - 1999 Life Sciences Computer Facility Committee

1996 - 1999 Committee for the Evaluation and Appointment of Adjunct Faculty

1993 - 1995 Department of Biological Sciences Resources (Budget and Space) Committee

1993 - 1994 Departmental Introductory Course Committee

1993 - 1995 Departmental Advisor and Liaison for Forestry/Agriculture

1993 Departmental Reorganization Committee (Administering the Split between Ecology, Evolution & Marine Biology and Cell, Developmental & Molecular Biology)

1992 - 1997 Greenhouse Oversight Committee

1993 New Department of Ecology, Evolution and Marine Biology Instructional Planning Committee

1992-1993 Organization and Steering Committee of the Life Sciences Computing Facility

1991-1992 Departmental Operations and Services Planning Committee

**CURRENT Graduate Degree Committees**

**PhD Committees**

|  |  |  |  |
| --- | --- | --- | --- |
| **Student** | **Yr Deg.****Compl.** | **Chair/****Member** | **Optional Info****(e.g., Current Employment)** |
| Jon Conway | Expected 2015 | Member | Bren School of Environmental Policy and Management, PhD student |
| Kristen Peach | Expected 2018 | Chair | EEMB PhD student |
| Brian Haggerty | Exp. 2016 | Chair | EEMB PhD student |
| Nathan Derieg | Exp. 2015 | Member | EEMB PhD student |

**PEER-REVIEWED PUBLICATIONS:**

1. **Mazer, S. J**. and B. H. Tiffney. 1982. Fruits of *Wetherellia* and *Palaeowetherellia* (?Euphorbiaceae) from Eocene sediments in Virginia and Maryland. Brittonia 34: 300-333.

2. **Mazer, S. J.** , A. A. Snow and M. L. Stanton. 1986. Fertilization dynamics and parental effects upon fruit development in *Raphanus raphanistrum*: consequences for seed size variation. American Journal of Botany 73: 500-511.

3. **Mazer, S. J.** 1987. Parental effects on components of seed development and seed yield in *Raphanus raphanistrum*: implications for natural and sexual selection. Evolution 41: 355-371.

4. **Mazer, S. J.** 1987. The quantitative genetics of life-history characters in *Raphanus raphanistrum*: ecological and evolutionary consequences of seed weight variation. American Naturalist 130: 891-914.

5. **Mazer, S. J.** 1987. Maternal investment and male reproductive success in angiosperms: parent-offspring conflict or sexual selection? Biological Journal of the Linnean Society 30: 115-133.

6. Snow, A. A. and **S. J. Mazer**. 1988. Gametophyte selection in *Raphanus raphanistrum*: a test for heritable variation in pollen competitive ability. Evolution 42: 1065-1075.

7. Nakamura, R. R., M. L. Stanton and **S. J. Mazer**. 1989. Effects of mate size and mate number on male reproductive success in plants. Ecology 70: 71-76.

8. **Mazer, S. J.** 1989. Ecological, taxonomic, and life history correlates of seed mass among Indiana Dune angiosperms. Ecological Monographs 59: 153-175.

9. **Mazer, S. J.** 1989. Genetic associations among life history and fitness components in wild radish: controlling for maternal effects on seed weight. Canadian Journal of Botany 67: 1890-1897.

10. **Mazer, S. J.,** R. R. Nakamura and M. L. Stanton. 1989. Seasonal changes in components of male and female reproductive success in *Raphanus sativus* L. (Brassicaceae). Oecologia 81: 345-353.

11. **Mazer, S. J.** 1990. Seed mass variation of Indiana Dune genera and families: taxonomic and ecological correlates. Evolutionary Ecology 4: 326-358.

12. Byrne, M. and **S. J. Mazer**. 1990. The effect of position on fruit characteristics, and relationships among components of yield in *Phytolacca rivinoides* (Phytolaccaceae). Biotropica 22: 353-365.

13. **Mazer, S. J.** and C. T. Schick. 1991. Constancy of population and genetic parameters for life-history and floral traits in *Raphanus sativus* I. Norms of reaction and the nature of genotype by environment interactions. Heredity 67: 143-156.

14. **Mazer, S. J.** and C. T. Schick. 1991. Constancy of population and genetic parameters for life-history and floral traits in *Raphanus sativus* II. Effects of planting density on phenotype and heritability estimates. Evolution 45: 1888-1907.

15. **Mazer, S. J.** 1992. Environmental modification of gender allocation in wild radish: consequences for sexual and natural selection. In Robert Wyatt, ed.), Ecology and Evolution of Plant Reproduction: New Approaches. Chapman and Hall. pp. 181-225.

16. Wing, S. L., W. A. DiMichele, **S. J. Mazer**, T. L. Phillips, W. G. Spaulding, R. E. Taggart, and B. H. Tiffney. 1992. Ecological characterization of fossil plants. In, The ETE Consortium (eds.) The Evolutionary Paleoecology of Terrestrial Plants and Animals, University of Chicago Press, Chicago. pp. 139-180.

17. **Mazer, S. J.** and L. M. Wolfe. 1992. Density influences the expression of genetic variation in seed mass in wild radish (*Raphanus sativus*: Brassicaceae). American Journal of Botany 79: 1185-1193.

18. **Mazer, S. J.** and U. Hultgård. 1993. Variation in gender allocation and covariation among floral characters within and among four species of northern European *Primula*. American Journal of Botany 80: 474-485.

19. **Mazer, S. J.** and N. T. Wheelwright. 1993. Fruit size and shape: allometry at different taxonomic levels in bird-dispersed plants. Evolutionary Ecology 7: 556-575.

20. Delesalle, V. A. and **S. J. Mazer**. 1995. The structure of phenotypic variation in gender and floral traits within and among populations of *Spergularia marina* (Caryophyllaceae). American Journal of Botany 82: 798-810.

21. Tiffney, B. H., and S. J. Mazer. 1995. Angiosperm growth habit, dispersal, and diversification reconsidered. Evolutionary Ecology 9: 93-117.

22. Delesalle, V. A., and **S. J. Mazer**. 1996. Nutrient levels and salinity affect gender and floral traits in the autogamous *Spergularia marina* (Caryophyllaceae). International Journal of Plant Sciences 157: 621-631.

23. **Mazer, S. J.,** and D. L. Gorchov. 1996. Paternal effects on progeny phenotype: distinguishing genetic and environmental causes. Evolution 50: 44-53.

24. **Mazer, S. J.** and V. A. Delesalle. 1996a. Temporal instability of genetic components of floral trait variation trait: maternal family and population effects in *Spergularia marina* (Caryophyllaceae). Evolution 50: 2509-2515.

25. **Mazer, S. J.** and V. A. Delesalle. 1996b. Covariation among floral traits in *Spergularia marina* (Caryophyllaceae): geographic and temporal variation in phenotypic and among-family correlations. Journal of Evolutionary Biology 9: 993-1015.

26. **Mazer, S. J.** and V. A. Delesalle. 1996c. Floral trait variation in *Spergularia marina* (Caryophyllaceae): ontogenetic, maternal family, and population effects. Heredity 77: 269-281.

27. **Mazer, S. J.** 1996. Floristic composition, soil quality, litter accumulation, and decomposition in terra firme and floodplain habitats near Pakiza, Peru. Pp. 89-125, In D. E. Wilson and A. Sandoval (eds.), Manu: The biodiversity of Southeastern Peru (Smithsonian Institution Press, Washington, D. C. 679 pp.

28. Machon, N. , M. Lefranc, I. Bilber, **S. J. Mazer**, and A. Sarr. 1997. Allozyme variation in *Ulmus* species from France: analysis of differentiation. Heredity 78:12-20.

1. **Mazer, S. J**. and V. A. Delesalle. 1998. Contrasting variation within and covariation between gender-related traits in autogamous versus outcrossing species: alternative evolutionary predictions. Evolutionary Ecology 12: 403-425.
2. **Mazer, S. J.** and L. M. Wolfe. 1998. Density-mediated maternal effects on seed size in wild radish: genetic variation and its evolutionary implications. p. 323 - 343, In T. A. Mousseau and C. W. Fox (eds.), Maternal Effects as Adaptations, Oxford University Press, New York.
3. Paz, H. , **S. J. Mazer**, and M. Martínez-Ramos. 1999. Effects of seed mass and environmental factors on seedling emergence in seven species of *Psychotria* (Rubiaceae). Ecology 80: 1594-1606.
4. **Mazer, S. J**., V. A. Delesalle, and P. Neal. 1999. Responses of floral traits to selection on primary sexual investment in *Spergularia marina* (Caryophyllaceae): the battle between the sexes. Evolution 53: 717-731**.**
5. Machon, N., M. Mousseau, B. Godelle, **S. J. Mazer**, and C. Andalou. 1999. Parental environmental effects on vegetative and life history traits in *Arabidopsis thaliana* L. (Brassicaceae). New Phytologist, 142: 173-184.
6. **Mazer, S. J.** and G. L. Lebuhn. 1999. The genetic basis of life history traits in plants: heritability within and genetic differentiation among populations. Pp. 85-171, In P. Mutakainin and T. Vuorisalo (eds), Life History Evolution in Plants, Kluwer Academic Publishers, Dordrecht, The Netherlands.
7. **Mazer, S. J.** and D. A. Meade. 2000. Geographic variation in flower size in wild radish: the potential role of pollinators in population differentiation. Pp. 157-186, In T. A.Mousseau and B. Sinervo, Adaptive Genetic Variation in the Wild, Oxford University Press.
8. Travers, S. E. and **S. J. Mazer**. 2000. The absence of cryptic self-incompatibility in *Clarkia unguiculata* (Onagraceae). American Journal of Botany87: 191-196.
9. **Mazer, S. J.** and K. A. Dawson. 2001. Size-dependent sex allocation in *Clarkia unguiculata* (Onagraceae): ontogenetic and genetic variation. American Journal of Botany 88: 819-831.
10. **Mazer, S. J.** and J. D. Damuth. 2001. The evolutionary significance of variation: within populations, pp. 3-15, In Charles Fox, Daphne Fairbairn, and Derek Roff, Evolutionary Ecology: Perspectives and Synthesis, Oxford University Press.
11. **Mazer, S. J.** and J. D. Damuth. 2001. The evolutionary significance of variation: among populations, pp. 16-28, In Charles Fox, Daphne Fairbairn, and Derek Roff, Evolutionary Ecology: Perspectives and Synthesis, Oxford University Press.
12. Travers, S. E. and **S. J. Mazer**. 2001. Trade-offs between components of male and female reproduction associated with the phosphoglucose isomerase locus in an annual plant. Evolution 55: 2421-2428.
13. Scheiner, S. M., K. Donohue, L. A. Dorn, **S. J. Mazer**, and L. M. Wolfe. 2002. Reducing environmental bias when measuring natural selection. Evolution 56: 2156-2167.
14. Delesalle, V. A and **S. J. Mazer**. 2002. The neighborhood matters: Effects of neighbor number and sibling (or kin) competition on floral traits in *Spergularia marina* (Caryophyllaceae). Evolution 56: 2406-2413.

43. Machon, N., P. Bardin, **S.J. Mazer**, J. Moret, B. Godelle & F. Austerlitz. 2003. Relationship between genetic structure and seed and pollen dispersal in the endangered orchid *Spiranthes spiralis*. New Phytologist. 157: 677-687.

1. Hufford, K. and **S. J. Mazer**. 2003. Plant ecotypes: Genetic differentiation in the age of ecological restoration. Trends in Ecology & Evolution. 18: 147-155.

45. **Mazer, S. J.,** D. E. Lowry, and T. Hansen. 2003. Effects of nutrient availability on primary sexual traits and their response to selection in *Spergularia marina* (Caryophyllaceae). Journal of Evolutionary Biology 16: 767-778.

46. **Mazer, S. J**. and D. E. Lowry. 2003. Genetic, environmental and seed mass effects on the production of winged seeds in *Spergularia marina* Functional Ecology 17: 637-650.

1. Ashman, T. L., T. M. Knight, J. Steets, P. Amarasekare, M. Burd, D. R. Campbell, M. R. Dudash, M. O. Johnston, **S. J. Mazer**, R. J. Mitchell, M. T. Morgan, and W. G. Wilson. 2004. Pollen-limitation of plant reproduction: ecological causes and consequences. Ecology 85: 2408-2421.
2. **Mazer, S. J.,** H. Paz and M. D. Bell. 2004. Life History, Floral Development, and Mating System in *Clarkia xantiana* (Onagraceae): Do floral and whole-plant rates of development evolve independently? American Journal of Botany 91: 2041-2050.
3. Wolfe, L. M. and **S. J. Mazer**. 2005. Patterns of phenotypic plasticity and their fitness consequences in wild radish (*Raphanus sativus*: Brassicaceae). Int. J. Plant Sci. 166: 631-640.
4. Paz, H., **S. J. Mazer**, and M. Martinez-Ramos. 2005. Comparative ecology of seed mass in *Psychotria* (Rubiaceae): within- and between-species effects of seed mass on early performance. Functional Ecology 19: 707-718.
5. Knight, T. M., J. A. Steets, J. C. Vamosi, **S. J. Mazer**, M. Burd, D. R. Campbell, M. R. Dudash, M. O. Johnston, R. J. Mitchell, T. L. Ashman. 2005. Pollen Limitation of Plant Reproduction: Pattern and Process. Annual Reviews of Ecology, Evolution and Systematics 36: 467-497.
6. Vamosi, J. C., T. M. Knight, J. A. Steets, **S. J. Mazer**, M. Burd, and T-L Ashman. 2006. Pollination decays in biodiversity hotspots. Proceedings of the National Academy of Sciences 103: 956-961.
7. Wright, I., D. D. Ackerly, F. Bongers, K. E. Harms, G. Ibarra-Manriquez, M. Martinez-Ramos, **S. J. Mazer**, H. C. Muller-Landau, H. Paz, N. C A. Pitman, L. Poorter, M. R. Silman, C. F Vriesendorp, C. O. Webb, M. Westoby, and S. J. Wright. 2007. Relationships among key dimensions of plant trait variation in seven neotropical forests. Annals of Botany, 99: 1003-1015.
8. Dudley, L. S., S. J. Mazer, and P. Galusky. 2007. The joint evolution of mating system, floral traits and life history in *Clarkia* (Onagraceae): genetic constraints vs. independent evolution. J. Evolutionary Biology 6: 2200-2218.
9. Hufford, K. M., **S. J. Mazer**, and M. D. Camara. 2007. Local adaptation and effects of grazing in seedlings of two native California bunchgrass species: implications for restoration, Restoration Ecology, 16: 59-69.
10. **Mazer, S. J.,** V. A. Delesalle, and H. Paz. 2007. The evolution of mating system and the genetic covariance between male and female investment in *Clarkia* (Onagraceae): selfing opposes the evolution of trade-offs. Evolution 61: 83-98.
11. Forget, P.–M., A. J. Dennis, **S. J. Mazer**, P. A. Jansen, S. Kitamura, J. E. Lambert and D. A. Westcott. 2007. Seed allometry and disperser assemblages in tropical rain forests: a comparison of four floras on different continents. Pp. 5-36, In Dennis, A. J.,,R. Green, E. Schupp, and D. A. Westcott (Eds.) *Frugivory and Seed Dispersal: theory and its application in a changing world*, CAB, International Publishing, Wallingford.
12. Hufford, K. M., **S. J. Mazer**, and M. D. Camara. 2008. Local adaptation and effects of grazing in seedlings of two native California bunchgrass species: implications for restoration, Restoration Ecology 16: 59-69.
13. Delesalle, V. A., **S. J. Mazer**, and H. Paz. 2008. Temporal variation in the pollen:ovule ratios of Clarkia (Onagraceae) taxa with contrasting mating systems: field populations. Journal of Evolutionary Biology 21: 310-323.
14. Vamosi, S. M., **S. J. Mazer** and F. Cornejo. 2008. The relationship between breeding system and seed size in a neotropical flora: testing evolutionary hypotheses. Ecology 89: 2461-2472.
15. Poorter, L., S.J. Wright, H. Paz, D.D. Ackerly, R. Condit, G. Ibarra-Manríquez, K.E. Harms, J.C. Licona, M. Martínez-Ramos, **S. J. Mazer**, H. Muller-Landau, M. Peña-Claros, C.O. Webb, and I.J. Wright. 2008. Are functional traits good predictors of demographic rates? Evidence from five neotropical forests. Ecology 89: 1908-1920.
16. Franks, S. J., J. C. Avise, W. E. Bradshaw, J. K. Conner, J. R. Etterson, **S. J. Mazer**, R. G. Shaw, and A. E. Weis. 2008. The resurrection initiative: storing ancestral genotypes to capture evolution in action. BioScience 58: 870-873.
17. Le Cadre, S., T. Thomas, **S. J. Mazer**, J.-B. Ferdy, J. Moret and N. Machon. 2008. Allee effects within small populations of *Aconitum napellus* L. ssp. *lusitanicum* Rouy, a protected subspecies in Northern France. New Phytologist 179: 1171-1182.
18. Queenborough, S. A., **S. J. Mazer**, S. M. Vamosi, N. Garwood, R. Valencia and R. P. Freckleton. 2009. Seed mass, abundance, and breeding system among tropical forest species: do dioecious species exhibit compensatory reproduction or abundances? Journal of Ecology, 97: 555-566
19. Delesalle, V. A. and **S. J. Mazer**. 2009. Size-dependent pollen:ovule ratios and the allometry of floral sex allocation in *Clarkia* (Onagraceae) taxa with contrasting mating systems. American Journal of Botany 96: 1-11.
20. Burd, M., T.-L. Ashman, D. R. Campbell, M. R. Dudash, M. O. Johnston, T. M. Knight, **S. J. Mazer**, R. J. Mitchell, J. A. Steets, and J. C. Vamosi. 2009. Ovule number per flower in a world of unpredictable pollination. American Journal of Botany, 96: 1159-1167.
21. Haggerty, B. and **S. J. Mazer**. 2009. *The Phenology Handbook: a guide to phenological monitoring for teachers, families, students and naturalists*. USA-National Phenology Network, on-line educational resource — [**http://www.usanpn.org/node/10062**](http://www.usanpn.org/node/10062)
22. **Mazer, S. J.,** L. S. Dudley, V. A. Delesalle, H. Paz, and P. Galusky. 2009. Stability of pollen-ovule ratios in pollinator-dependent versus autogamous *Clarkia* sister taxa: testing evolutionary predictions. New Phytologist, 183: 630-648**.**
23. **Mazer, S. J**., A. Hove, B. Miller, and M. Barbet-Massin. 2010. The coevolution of mating system and pollen performance: predictions regarding male gametophytic evolution in selfers vs. outcrossers. Perspectives in Plant Ecology, Evolution & Systematics 12: 31-41.
24. Sritongchuay, T., Bumrungsri, S., Meesawat U., and **Mazer, S. J.**. 2010. Stigma closure and re-opening in *Oroxylum indicum* (Bignoniaceae) in southern Thailand: Causes and consequences. American Journal of Botany, 97: 136-143.
25. **Mazer, S. J**., L. S. Dudley, A. A. Hove, S. K. Emms, and A. S. Verhoeven. 2010. Physiological performance in *Clarkia* sister taxa with contrasting mating systems: do early-flowering autogamous taxa aoid water stress relative to their pollinator-dependent counterparts? International Journal of Plant Sciences 171: 1029-1047.
26. Guo, H., **S. J. Mazer**, and G. Du. 2010. Geographic variation in primary sex allocation per flower within and among 12 species of *Pedicularis* (Orobanchaceae): proportional male investment increases with elevation. American Journal of Botany 98: 1334-1341.
27. Guo, H., **S. J. Mazer**, and G. Du. 2010. Geographic variation in seed mass within and among nine species of *Pedicularis* (Orobanchaceae): effects of elevation, plant size and seed number per fruit. Journal of Ecology 98: 1232-1242.
28. Guo, H., **S. J. Mazer**, and J. Weiner. 2011. Reproductive allometry in *Pedicularis* species changes with elevation. Journal of Ecology 100: 452-458.
29. Hufford, K. and. **S. J. Mazer**. 2012. Local adaptation and the effects of grazing on the performance of *Nassella pulchra*: implications for seed sourcing in restoration. Restoration *Ecology*, doi:10.1111/j.1526-100X.2011.00843.x.
30. Dudley, L. S., A. A. Hove, and **S. J. Mazer**. 2012. The evolution of physiological rates in closely related *Clarkia* taxa: does selection explain phenotypic divergence between taxa? American Journal of Botany, 99: 488-507*.*
31. Diez, J., I. Ibanez, **S. J. Mazer**, T. Crimmins, M. Crimmins, and A. Miller-Rushing. 2012. Forecasting phenology: from species variability to community patterns. Ecology Letters 15: 545-553.
32. Wolkovich, E. M., B. I. Cook, J. M. Allen, T. M. Crimmins, J. L. Betancourt, S. E. Travers, S. Pau, J. Regetz, T. J. Davies, N. J. B. Krat, T. R. Ault, K. Bolmgren, **S. J. Mazer,** G. J. McCabe, B. J. McGill, C. Parmesan, N. Salamin, M. D. Schwartz, and E. E. Cleland. 2012. Experimental warming underestimates plant responses to climate warming. Nature 485: 494-497.
33. Cook, B. I., E. M. Wolkovich, T. J. Davies, T. R. Ault, J. L. Betancourt, J. M. Allen, K. Bolmgren, E. E. Cleland, T. M. Crimmins, N. J. B. Kraft, L. T. Lancaster, **S. J. Mazer**, G. J. McCabe, B. J. McGill, C. Parmesan, S. Pau, J. Regetz, N. Salamin, M. D. Schwartz, and S. E. Travers. 2012. Sensitivity of spring phenology to warming across temporal and spatial climate gradients in two independent databases. Ecosystems 15: 1283-1294. DOI: 10.1007/s10021-012-9584-5.
34. Davies, T. J., E. M. Wolkovich, N. Kraft, N. Salamin, J. M. Allen, T. R. Ault, J. L. Betancourt, K. Bolmgren, E. E. Cleland, B. I. Cook, T. M. Crimmins, **S. J. Mazer**, G. J. McCabe, S. Pau, J. Regetz, M. D. Schwartz, and S. E. Travers. 2013. Phylogenetic conservatism in plant phenology. Journal of Ecology 101: 1520-1530. DOI:10.1111/1365-2745.12154
35. De Beurs, K. M., R. B. Cook, **S. Mazer**, B. Haggerty, A. Hove, G. M. Henebry, L. Barnett, C. L. Thomas, and B. R. Pohlad. 2013. Phenology in Higher Education: ground-based and spatial analysis tools. In M. D. Schwartz (ed.), *Phenology: An Integrative Environmental Science*, Chapter 31. Springer Science+Business Media B. V.
36. Haggerty, B., E. R. Matthews, K. L. Gerst, A. G. Evenden, and **S. J. Mazer**. 2013. The California Phenology Project: tracking plant responses to climate change. Madroño 60: 1-3.
37. Hove, A. A. and **S. J. Mazer**. 2013. Pollen performance in *Clarkia* taxa with contrasting mating systems: implications for male gametophytic evolution in selfers and outcrossers. Plants 2: 248-278.
38. **Mazer, S. J.,** S. E. Travers, B. I. Cook, T. J. Davies, K. Bolmgren, N. J. B. Kraft, N. Salamin, and D. W. Inouye. 2013. Flowering date of taxonomic families predicts phenological sensitivity to temperature: implications for forecasting the effects of climate change on unstudied taxa. American Journal of Botany 100: 1-17.
39. Matthews, E. R., K.L. Gerst, **S. J. Mazer**, C. Brigham, A. Evenden, A. Forrestel, B. Haggerty, S. Haultain, J. Hoines, S. Samuels, and F. Villalba. 2013. California Phenology Project: Report on pilot phase activities, 2010-2013. Natural Resource Report NPS/PWRO/NRR—2013/743. National Park Service, Fort Collins, Colorado.
40. Haggerty, B., A. Hove, **S. Mazer**, L. Barnett. 2013. Flight of the pollinators: plant phenology from a pollinator’s perspective. Chapter 9, In Trautmann, Fee, Tomasek and Bergey, *Citizen science: 15 lessons that bring biology to life, 6-12*. National Science Teachers Association, Arlington, VA.
41. Hufford, K. M., **S. J. Mazer**, and S. A. Hodges. 2014. Genetic variation among mainland and island populations of a native perennial grass used in resoration. Annals of Botany Plants 6: plt044 doi:10.1093/aobpla/plt055
42. Matthews, E. R., K. L. Gerst, **S. J.** **Mazer, C.** Brigham, A. Evenden, A. Forrestel, B. Haggerty, S. Haultain, J. Hoines, S. Samuels, and F. Villalba. 2014. California Phenology Project (CPP) plant phenological monitoring protocol: Version 1. Natural Resource Report NPS/PWR/NRR—2014/763. National Park Service, Fort Collins, Colorado.
43. Hufford, K. M., **S. J. Mazer**, and J. P. Schimel. 2014. Soil heterogeneity and the distribution of native grasses in California: Can soil properties inform restoration plans? Ecosphere 5: 1 – 14.
44. Elmendorf, S., K. Jones, B. Cook, J. Diez, C. Enquist, M. Jones, R. Kao, S. Mazer, A. Miller-Rushing, D. Moore, M. Schwartz, and J. Weltzin. 2015. National Ecological Observatory Network. TOS Science Design, Plant Phenology. NEON Doc. #: NEON.DOC.000917vA.. 30 pp.
45. Dudley, L. S., A. A. Hove, S. K. Emms, A. Verhoeven, and **S. J. Mazer**. 2015. Seasonal changes in physiological performance in wild *Clarkia xantiana* (Onagraceae) populations. Implications for the evolution of a compressed life cycle and self-fertilization. American Journal of Botany, 102: 1-11.
46. **Mazer, S. J**., K. L. Gerst, E. R. Matthews, and A. Evenden. 2015. Species-specific phenological responses to winter temperature and precipitation in a water-limited ecosystem. Ecosphere, 6(6):98. http://dx.doi.org/10.1890/vES14-00433.1
47. **Mazer, S. J.,** A. Moghaddasi, A. K. Bello, and A. A. Hove. 2015. Winning in style: longer styles receive more pollen but do not intensify gametophytic competition in wild *Clarkia* populations. American Journal of Botany, in revision.
48. Schneider, H. E. and **S. J. Mazer**. 2015. Geographic variation in climate as a proxy for climate change: forecasting evolutionary trajectories from species differentiation and genetic covariance. American Journal of Botany, in revision.
49. Conway, J. R., A. L. Beaulieu, N. L. Beaulieu, **S. J. Mazer**, and A. A. Keller. 2015. Environmental stresses increase photosynthetic disruption by metal oxide nanomaterials in a soil-grown plant. American Chemical Society Nano, submitted
50. Ivey, C. T., L. S. Dudley, A. A. Hove, S. K. Emms, and **S. J. Mazer**. 2015. Outcrossing and photosynthetic rates vary independently within two *Clarkia* species: implications for mating system evolution. Annals of Botany, submitted.
51. Etterson, J. R. S. J. Franks, **S. J. Mazer**, R. G. Shaw, N. Soper Gorden, H. Schneider, J. J. Weber, K. Winkler, and A. E. Weis. 2015. Project Baseline: an unprecedented resource to study plant evolution in space and time. American Journal of Botany, submitted.

**BOOK REVIEWS/COMMENTARY:**

1. **Mazer, S. J.** 1987. The Heavy Metal-Tolerant Flora of Southcentral Africa, by R. R. Brooks and F. Malaisse. The American Scientist 75: 85-86.
2. **Mazer, S. J.** 1991. Plant Population Genetics, Breeding, and Genetic Resources (A. H. D. Brown, M. T. Clegg, A. L. Kahler, and B. S. Weir, eds.), Sinauer Associates, Mass. *Evolution* 45: 1536-1538.
3. **Mazer, S. J.** 1997. Alternative Approaches to the Analysis of Comparative data: Compare and Contrast. A review of Plant Life Histories: Ecology, Phylogeny, and Evolution. Silvertown, Jonathan, Miguel Franco, and John L. Harper (eds.), Cambridge University Press, Cambridge, United Kingdom. 1997. 312 pp. American Journal of Botany 85: 1194-1199.
4. Mazer, S. J. 1998. Rainforest plants protect their investments. Trends in Ecology and Evolution 13: 471 – 473.
5. **Mazer, S. J.** 1999. Plants, from start to finish. A review of *The Evolutionary Biology of Plants*, by Karl J. Niklas, The University of Chicago Press, Chicago, 1997, xix + 449 pp., illus. Journal of Evolutionary Biology 12: 190-191.
6. **Mazer, S. J.** 1999. To emerge or not to emerge. A review of *Seeds: Ecology, Biogeography, and Evolution of Dormancy and Germination*, by Carol C. Baskin and Jerry M. Baskin, Academic Press, New York, 1998, xiv + 666 pages. Science 283: 334.
7. **Mazer, S. J.** 2005. Palm Reading. A review of *Evolution and Ecology of Palms*, by Andrew Henderson, The New York Botanical Garden, New York, 2002, 259 pages. Tropinet 16(2): 4-5.
8. **Mazer, S. J.** 2007. Fruits of their labour. A review of *Status of pollinators in North America*, by the Committee on the Status of Pollinators in North America, National Research Council of the National Academies, The National Academies of Press. Nature 450: 1162-1163.

**REPORTS FOR STATE AGENCIES:**

1. **Mazer, S. J**. and S. Travers. 1992. Reproductive Biology of the Rare *Astragalus lentiginosus* var. *piscinensis* from (Fish Slough Milk Vetch, Leguminosae) Fish Slough Natural Area, Bishop, California. Report to the California State Department of Fish and Game, Sacramento, California. 102 pp. + 50-page Appendix.
2. **Mazer, S. J.** and L. M. Wolfe. 1992. Reproductive Ecology and Population Biology of the Endangered Species, *Caulanthus californicus* (California Jewelflower, Brassicaceae) from the Carrizo Plain, California. California State Department of Fish and Game, , Contract FG 1461, Sacramento, California. 250 pp.
3. **Mazer, S. J**. and B. Hendrickson. 1992. Demography, Reproductive Ecology and Population Biology of the Endangered Species, *Lembertia congdonii* (Woolly Threads; Asteraceae) from the Carrizo Plain and Kern County, California. California State Department of Fish and Game, Contract FG 1460, Sacramento, California. 200 pp.
4. **Mazer, S.J.,** G. Lebuhn, and D. Meade. 1993. Demography and Reproductive Biology of Kern Mallow (*Eremalche kernensis*, Malvaceae). California State Department of Fish and Game, Natural Heritage Program, Contract FG 1460, Sacramento, California. 300 pp. + 150-page Appendix.
5. **Mazer, S.J.,** and T. Waddell. 1994. Distribution, Abundance, and Reproductive Biology of Field and Greenhouse Populations of Gambel's Watercress (*Rorippa gambellii*: Brassicaceae) and Marsh Sandwort (*Arenaria paludicola*: Caryophyllaceae): recommendations for management and recovery. California State Department of Fish and Game, Natural Heritage Program. 141 pp. + 200-page Appendix.
6. **Mazer, S. J.** 2000. Restoration activities for Field and Greenhouse Populations of Gambel's Watercress (*Rorippa gambellii*: Brassicaceae) and Marsh Sandwort (*Arenaria paludicola*: Caryophyllaceae. California State Department of Fish and Game, Natural Heritage Program. 141 pp. + 200-page Appendix.

**ON-LINE RESOURCES:**

1. Haggerty, B. P. and **Mazer, S. J**. 2011. Flora of the University of California Natural Reserve System: On-line resource for botanical research:<http://nrs.ucop.edu/reserves/flora/flora.htm>
2. **Mazer, S. J.**, B. P. Haggerty & A. S. Hove. 2011. *Phenological Literacy: Understanding through Science and Stewardship*, Lesson plans (linked to fulfillment of California State Science Standards), herbarium research guide, phenology garden construction, and outdoor activities for primary, secondary, and university students in formal and informal science education settings. <http://www.usanpn.org/cpp/education>

**MANUSCRIPTS IN PREPARATION:**

Hove, A. A., L. S. Dudley and **S. J. Mazer**. 2014. Sources of variation in ecophysiological and life history traits in selfing and outcrossing *Clarkia xantiana* subspecies: variation among populations and within taxa. *International Journal of Plant Sciences*, in preparation.

Hove, A., **S. J. Mazer**, and C. T. Ivey. 2014. Seasonal variation in pollen limitation and seed set differs between two outcrossing *Clarkia* species: implications for mating system evolution. *Journal of Ecology*, in preparation.