

NAOMI S. FRAGA

Rancho Santa Ana Botanic Garden • 1500 North College Avenue • Claremont, CA 91711-3157
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EDUCATION

In Progress PhD Candidate in Botany, Claremont Graduate University; Dissertation: Taxonomy, Reproductive Biology, Phylogeography, and Conservation of the *Mimulus palmeri* lineage (Phrymaceae).

Advisor: Dr. Lucinda McDade

May 2005 MS Botany, Claremont Graduate University; Thesis: A Vascular Flora of the Owens Peak Eastern Watershed, southern Sierra, Kern County, California. Advisor: Dr. J. Travis Columbus

June 2002 BS Botany & Biology, California State Polytechnic University, Pomona; Senior Thesis: A Short Flora of Short Canyon, Kern County, California. Advisor: Dr. Curtis Clark.

PROFESSIONAL EXPERIENCE

2008-Present Conservation Botanist, *Rancho Santa Ana Botanic Garden (RSABG)* - Serve as lead field botanist and provide programmatic leadership and management; responsible for preparation of contract and grant proposals, planning and conduction of fieldwork, report preparation, budget management, training and supervision of staff and interns, dissemination of research through publishing of scientific papers and presentations at professional meetings, coordination and collaboration with complementary activities of other RSABG programs.

2003-2008 Botanical Field Studies Coordinator, *RSABG* – Title changed to Conservation Botanist in 2008.

2000-2003 Herbarium Curatorial Assistant, *RSABG* - Data entry, maintenance, and development of the RSA–POM specimen database, as well as day-to-day operations of the RSA–POM Herbarium.

TEACHING EXPERIENCE

UCLA Extension– Lecturer for the Certificate in Gardening and Horticulture Program

General Botany for Gardeners (Fall 2005, 2006)

Introduction to Plant Identification and Taxonomy (Spring 2006)

Huntington Botanic Garden– Lecturer for the Naturalist Series

Collecting Ethics and Protocols (June 2007)

Rancho Santa Ana Botanic Garden– Instructor for Community Education Course

Introduction to Mojave Desert Wildflowers (March 2008)

VOLUNTEER EXPERIENCE

2000 *Long Beach Aquarium of the Pacific, Long Beach, CA*– Education Volunteer. Completed volunteer training in basic marine biology, and interpretation techniques. Assisted with interpretive stations and activities for school and public audiences.

2000 *RSABG, Claremont, CA*– Herbarium Volunteer. Assisted with retrospective data entry of herbarium label data for rare plant species of California.

2007-Present *Maturango Museum, Ridgecrest, CA*– Annual Wildflower Show. Assist with Plant ID

FELLOWSHIPS AND GRANTS RECEIVED

Robert and Patricia Switzer Foundation Fellowship (2010)

American Society of Plant Taxonomists Graduate Student Research Grant (2010)

Nevada Native Plant Society Margaret Williams Research Grant (2010)

California Desert Research Fund, The Community Foundation (2009)

Torrey Botanical Society Student Fellowship Award (2008)

California Native Plant Society (CNPS) Education Grant (2007)

CNPS Bristlecone Chapter, Mary DeDecker Botanical Grant Program (2003, 2008)

Native Plant Conservation Initiative, National Fish and Wildlife Foundation (2006)

CNPS Helen Sharsmith Grant (2004)

Southern California Botanists Graduate Student Award (2002, 2003, 2004, 2012)

J. Paul Getty Multicultural Undergraduate Internship (2001)

AWARDS

California Botanical Society Graduate Student Meeting: *Best Student Presentation* (2010)
U.S. Fish and Wildlife Service Certificate of Appreciation (2008)

FIELD EXPERIENCE

Mexico: Baja California. United States: Arizona, California (physiographic regions: Central Coast, Great Basin Desert, Mojave Desert, Peninsular Ranges, Sonoran Desert, southern and central Sierra Nevada, Transverse Ranges), Nevada, Hawaiian Islands (Hawaii, Maui, Molokai)

PUBLICATIONS

In preparation/revision

Fraga N.S., Gross L.J., Bell D.S., Mistretta O., Wood J. & Stoughton T.S. 2011. The Vascular Flora of the Upper Santa Ana River Watershed, San Bernardino Mountains, California. In revision for *Crossosoma*.
Nesom, G.L., **Fraga, N.S.** Tulig, M. (in preparation) *Mimulus* In: Flora of North America, North of Mexico. Vol. 17. Oxford Univ. Press, New York, Oxford.
Fraga N.S., Gross L.J., Kempton E.A., and Bell D.S. Reappearance of the vanishing buckwheat. A status review of *Eriogonum evanidum* (Polygonaceae). In revision for *Madroño*

Published

Fraga N.S. 2008. Conservation Status of *Mimulus shevockii* Heckard & Bacig. (Phrymaceae). *Crossosoma* 34: 50–56.
Fraga N.S. 2008. The Vascular Flora of the Owens Peak Eastern Watershed, southern Sierra Nevada, California. *Aliso* 25: 1-26.
Fraga, N.S. 2007. A Conservation Plan for *Mimulus shevockii* Heckard & Bacig. (Phrymaceae). Rancho Santa Ana Occasional Publications #7. 22 p.fs
Fraga N.S. 2006. A short flora of Short Canyon, Kern County, California. *Crossosoma* 32: 1–30.
Porter J.M. and **Fraga N.S.** 2005. A Quantitative analysis of pollen variation in two southern California perennial *Helianthus* (Heliantheae: Asteraceae). *Crossosoma* 31: 1–12.
Fraga N.S., and Porter J.M. 2004. Noteworthy collection of *Saltugilia latimeri* T.L. Weese & L.A. Johnson (Polemoniaceae). *Madroño* 51: 313.
Fraga N.S. 2004. The Vascular Flora of the Owens Peak Eastern Watershed: A Review of Progress. *Crossosoma* 29:41–43.

SELECTED TECHNICAL REPORTS/PUBLICATIONS

Fraga, N.S. and Kietzer, K. 2009. A conservation strategy for *Trichostema austromontanum* subsp. *compactum* (Hidden Lake blue curls; Lamiaceae), submitted to USFWS. 38 p.
Fraga, N.S. and Nickerman J. 2009. Species management guide for *Astragalus lentiginosus* var. *antonius* (Fabaceae), San Antonio milkvetch, Angeles National Forest. 39 p.
Fraga, N.S. 2008. Conservation assessment of vernal wetland species on the Mountain Top District of the San Bernardino National Forest. Prepared for Scott Eliason, San Bernardino National Forest, USDA Forest Service, Fawnskin, California
Fraga, N.S. 2005. Surveys of historical occurrences of federally listed species on Joshua Tree National Park. Prepared for Tasha LaDoux, Joshua Tree National Park, National Park Service, Twentynine Palms, California.

INVITED SPEAKER

Southern California Botanists, Fullerton, CA 2010
CNPS Kern County Chapter, Bakersfield, CA 2010
CNPS San Gabriel Mountains Chapter, Pasadena, CA, 2004, 2010
University Club, Claremont, CA 2009
CNPS Bristlecone Chapter, Bishop, CA, 2008
Maturago Museum, Ridgecrest, CA, 2006, 2007
CNPS Riverside/San Bernardino/Mojave Chapter, Joshua Tree National Park, CA 2006

ORAL PRESENTATIONS

- Fraga N.S. 2012. *Mimulus* (Phrymaceae) and the California Flora: centers of richness and rarity. CNPS 2012. San Diego, California.
- Fraga N.S. 2011. Examining diversity in Western *Mimulus* (Phrymaceae): Evidence from morphological and molecular data reveals hidden species. Botany 2011. St. Louis, Missouri.
- Fraga N.S. 2010. The vascular flora of the upper Santa Ana River Watershed, San Bernardino Mountains, California. Southern California Botanists Symposium; *Southern California Mountains: You Say Coastal I say Cismontane*. California State University, Fullerton, California.
- Fraga N.S. 2010. Cryptic species diversity in the *Mimulus palmeri* clade (Phrymaceae). Evolution 2010. Portland, Oregon.
- Fraga N.S. 2010. California's miniature monkeyflowers: small plants with big problems. CNPS Kern County Chapter. Bakersfield, California.
- Fraga N.S. 2010. California's miniature monkeyflowers: small plants with big problems. CNPS San Gabriel Mountain Chapter. Pasadena, California.
- Fraga N.S. 2009. California's miniature monkeyflowers: an example of cryptic species diversity. University club of Claremont. Claremont, California.
- Fraga N.S. 2009. Unraveling the *Mimulus montioides* species complex (Phrymaceae). Botany 2009; Snowbird, Utah.
- Fraga N.S. 2009. *Mimulus shevockii* (Phrymaceae): A conservation plan in action. CNPS Conference, Sacramento, California
- Fraga N.S. 2009. A conservation strategy for *Trichostema austromontanum* subsp. *compactum* (Lamiaceae). CNPS Conference, Sacramento, California
- Fraga N.S. 2009. The trials and tribulations of studying minute monkeyflowers. Volunteer Enrichment, Rancho Santa Ana Botanic Garden, Claremont, California.
- Fraga N.S. 2007. Studies in *Mimulus*: an overview of the *Mimulus palmeri* clade (Phrymaceae). CNPS Bristlecone Chapter, Bishop, California
- Fraga N.S. 2007. Conservation of the Kelso Creek monkeyflower (Phrymaceae). Maturango Museum, Ridgecrest, California
- Fraga N.S. 2006. The vascular flora of the Owens Peak Eastern Watershed. Maturango Museum, Ridgecrest, California
- Fraga N.S. 2005. A conservation plan for *Mimulus shevockii* (Phrymaceae). California Botanical Society Graduate Student Meeting, Tiburon, California
- Fraga N.S. 2004-05. The vascular flora of the Owens Peak Eastern Watershed. CNPS, San Gabriel Mountains Chapter. Pasadena, CA San Bernardino/Mojave Chapter, Joshua Tree, CA & Botany 2004; Snowbird, Utah.

POSTER PRESENTATIONS

- Pilapil J., Fraga N.S., Bell D.S., Higgins, T. 2012. Modeling Habitat for *Astragalus tricarinatus* (Fabaceae). CNPS 2012. San Diego, California.
- Fraga, N.S. 2011. An Overview of the *Mimulus montioides* and *Mimulus palmeri* species complexes (Phrymaceae): Hidden Species Revealed. Northern California Botanists Symposium, Chico, California
- Fraga, N.S. and M. Wall. 2009. Conserving the Narrow Endemic *Trichostema austromontanum* subsp. *compactum* (Lamiaceae). Center for Plant Conservation Conference. Louis, Missouri
- Fraga, N.S. 2009. Exploring species boundaries in the *Mimulus palmeri* clade (Phrymaceae). CNPS 2009 Conservation Conference: Strategies and Solutions. Sacramento, California. [pdf](#)
- Soza, V.L., L. Gross, S. Boyd, N.S. Fraga. 2006. The Vascular Flora of the Verdugo Mountains and San Rafael Hills, Los Angeles County, California. Botany 2006; Chico, California.
- Fraga N.S. 2005. A Species Management Guide for *Astragalus lentiginosus* var. *antoni* and *Linanthus concinnus*. Botany 2005; Austin, Texas.
- Vanderplank S., S. Boyd, N.S. Fraga, B. Tutt. 2005. Rancho Santa Ana Botanic Garden Herbarium (RSA-POM) Specimen Database; a critical resource for the conservation of California. Botany 2005; Austin, Texas
- Fraga, N.S. 2003. The Vascular Flora of The Owens Peak Eastern Watershed. Botany 2003; Mobile, Alabama.

PROFESSIONAL SERVICE

CNPS Southwest Region Reviewer (2004-Present)

Southern California Botanists; Board Member (2002-Present), Webmaster (2001-present), Vice President (2004, 2007, 2008, 2009), President (2006).

INTRAMURAL SERVICE

Center for Plant Conservation, Conservation Officer; RSABG. (2006-Present).

Rancho Santa Ana Botanic Garden—Website Committee Chair (2007), Website Committee (2006-2010) Research

Webmaster (2007-2009), Field Vehicle Committee (2006 –Present), Graduate Student Chair (2009-2010)

Claremont Graduate University—Graduate Student Council Botany Representative (2008-2009).

REVIEWED MANUSCRIPTS

Aliso

Biological Conservation

Crossosoma

Madroño

PROFESSIONAL ASSOCIATIONS

American Society of Plant Taxonomists

Botanical Society of America

California Botanical Society

California Native Plant Society (Bristlecone and San Gabriel Mountains chapters)

Nevada Native Plant Society

Southern California Botanists