CENTER FOR PLANT CONSERVATION

Report on Globally Rare California Plant Rescue Seed Collections Made in 2016

Calochortus dunnii. Photo by Joe Davitt.

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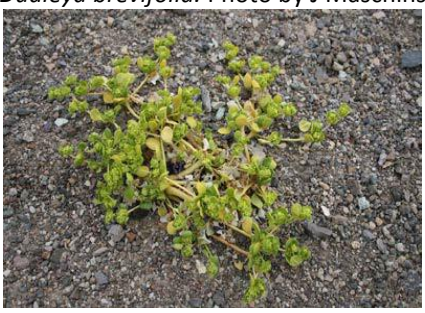
Salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*). Photo by Heather Schneider

Stacy Anderson and Joe Davitt collect *Dudleya brevifolia.* Photo by J Maschinski.



Gilmania luteola in flower. Photo by Loraine Washburn.

Horkelia wilderae in flower. Photo by Naomi Fraga.

California Plant Rescue (CaPR) is a collaborative project with a mission to secure the future of California's native flora by collecting seeds of California native plant species for long term preservation in secure regional seed banks (*ex-situ* conservation) and by assessing wild population status to support *in-situ* conservation. We are working to secure and preserve seeds for all California native plant taxa, but in 2016 our work concentrated on collections of California's rarest plant species, as determined by the California Native Plant Society and the U.S. Fish and Wildlife Service. Through this program we are also sharing and implementing best practices in seed collecting, processing and storage, and are working to advance *ex-situ* conservation measures as a whole.

With funding support from Kew Foundation America, the Center for Plant Conservation (CPC) distributed funding to our CaPR partners to affect significant seed collecting of rare plants for long-term banking. Collectively CaPR partners made 40 collections of 27 globally rare species in 8 California counties (Table 1). CaPR partners also collected common species, which are not reported here. Specific details about collections are included in the attached excel file.

In partnership with the Millennium Seed Bank all collections made in 2016 have been stored according to CPC and international standards. The collections have been made using CPC Best Practice Guidelines, where maternal lines were separated so that the potential genetic diversity of the collection may be recorded, and where no more than 10% of seed produced within the population was collected. Each collection was subdivided; an active seed collection has been kept at the CPC institution to research seed viability

Dicranostegia orcuttiana. Photo by Anna Bennett.

Fremontodendron mexicanum capsules and seeds. Photo by Joe Davitt.

Mimulus pictus in flower. Photo by Nick Jensen

germination, while backup and base collections have been housed at two seed repositories: at Rancho Santa Ana Botanic Garden or San Diego Zoo Global and a duplicate at the US Department of and Agriculture National Laboratory for Genetic Resources Preservation in Ft. Collins, CO, USA. The Institutions collecting for CaPR this year included: San Diego Zoo Global, Rancho Santa Ana Botanic Garden, UC Santa Cruz Arboretum, Santa Barbara Botanical Garden and the California Native Plant Society.

Our CaPR partners enlisted the help of volunteers and interns to collect, clean, and curate seed collections. Much of the labor force comes from students who are eager to learn about seed biology. This year's interns and student volunteers came from local colleges and universities including Santa Barbara City College, University of California campuses at Santa Barbara, Santa Cruz, and San Diego, and Hillsdale College, MI.

We gratefully acknowledge Kew Foundation America for supporting this great endeavor to protect the rarest plant species for future generations.

Table 1. CaPR Seed Collections made in 2016. All species are have few populations, few numbers of individuals, small distributions, and high risk of extinction. G1 have 5 or fewer populations, G2 have 5-15 populations. LE =U.S. Endangered LT = U.S. Threatened

Global Status	Pops Collected	Collecting Organization	Name of Taxon
G1	2	San Diego Zoo Global	*Acmispon prostratus*
G2 LE	1	Santa Barbara Botanic Garden	*Arctostaphylos confertiflora*
G2	1	UC, Santa Cruz Arboretum	*Arctostaphylos luciana*
G2	2	San Diego Zoo Global	*Arctostaphylos otayensis*
G2	1	Rancho Santa Ana Botanic Garden	*Astragalus monoensis*
G2	4	San Diego Zoo Global	*Bloomeria clevelandii*
G1	1	Santa Barbara Botanic Garden	*Bloomeria humilis*
G1	1	California Native Plant Society	*Brodiaea matsonii*
G2	3	San Diego Zoo Global	*Calochortus dunnii*
G2 LE	1	Santa Barbara Botanic Garden	*Castilleja mollis*
G1	2	San Diego Zoo Global	*Ceanothus otayensis*
G2 LE	1	Santa Barbara Botanic Garden	*Cirsium fontinale var. obispoense*
LT	1	Santa Barbara Botanic Garden	*Crocanthemum greenei*
G2	1	San Diego Zoo Global	*Dicranostegia orcuttiana*
G2	2	San Diego Zoo Global	*Dudleya brevifolia*
G1 LT	1	Santa Barbara Botanic Garden	*Dudleya nesiotica*
G2	3	San Diego Zoo Global	*Dudleya variegata*
G1	1	San Diego Zoo Global	*Fremontodendron mexicanum*
LE	1	Santa Barbara Botanic Garden	*Gilia tenuiflora ssp. hoffmannii*
G2	3	Rancho Santa Ana Botanic Garden	*Gilmania luteola*
G2	1	Rancho Santa Ana Botanic Garden	*Hesperocyparis nevadensis*
G2	1	Rancho Santa Ana Botanic Garden	*Horkelia wilderae*
G2	1	San Diego Zoo Global	*Lepichinia ganderii*
LE	1	Santa Barbara Botanic Garden	*Malacothamnus fasciculatus var. nesioticus*
G2	1	Rancho Santa Ana Botanic Garden	*Mimulus pictus*
G1	1	San Diego Zoo Global	*Monardella viminea*
G1	1	Rancho Santa Ana Botanic Garden	*Plagiobothrys parishii*