

***Calochortus rustvoldii* Callahan (Liliaceae), A new species from Los Angeles and Ventura Counties, California**

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ABSTRACT

A new species of *Calochortus*, *C. rustvoldii* Callahan is described from Los Angeles and Ventura counties, California, and a comparison is made with *Calochortus obispoensis* and the *Calochortus C. weedii* complex. Published on-line www.phytologia.org *Phytologia* 97(4): 282-285 (Oct 1, 2015). ISSN 030319430.

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On 7 November 2005, while botanizing south of Placerita Canyon Road, Los Angeles County, CA, Ed Rustvold collected some bulbs in steep chaparral terrain east of Santa Clarita. It was well past the flowering season so he was unable to identify the species. As a botanist and grower of geophytes, Rustvold suspected that the bulbs might be *Calochortus weedii* because the site was within the range of that species. The following year, after the plants flowered in his garden, he realized that it might be an undescribed species. This led him to send bulbs to me, in addition to Sean Lake of Navato, California, an avid hybridizer of *Calochortus*.

After growing the bulbs, I compared my specimens with other putatively, closely related species and determined they exhibited intermediate morphology between *Calochortus obispoensis* and yet other taxa within the *C. weedii* complex (*C. fimbriatus*, *C. plummerae*, *C. weedii* and varieties).

The most striking trait shared between Rustvold's specimens and *C. obispoensis* is the perianth, which is somewhat rotate and has flat perianth segments. Conversely, the perianth of *C. weedii* is campanulate (cup shaped), with petals that are broader at the distal end. In addition to the rotate perianth, which is uncommon in the genus, the other obvious feature in common between *C. obispoensis* and *C. rustvoldii* are the sepals which are longer than the petals. The petals of *C. rustvoldii* differ from *C. obispoensis*, however, in that they are broadly wedge-shaped with serrate to fimbriate margins; in contrast, the petals of *C. obispoensis* are much reduced, taper distally to a point, and exhibit very long trichomes along the margin. In commonality, the bulbs of *C. weedii*, *C. obispoensis* and *C. rustvoldii* all share the feature of having coarse reticulate hairs, thus grouping these species in Ownbey's (1940) Section III of Cyclobothera.

On 1 June 2013 Ed Rustvold, Sean Lake and I collected several more bulbs at the site of Rustvold's original discovery. No plants were in flower. As such, my description is based on cultivated plants from the wild-collected bulbs. Rustvold and Lake later collected bulbs off Goodenough Road, north of Fillmore in Ventura County, California. These collections, when later grown were found to be *C. rustvoldii*. There is an approximate air distance of 23 miles, (37 km) between the Goodenough Road and Placerita Canyon Road sites. Several other *Calochortus* species share the same habitat zone, including *C. plummerae*, *C. fimbriatus*, and *C. clavatus* var. *clavatus*.

***Calochortus rustvoldii* Callahan sp. nov. Fig. 1.**

Type: USA, California: Los Angeles Co., Santa Clarita, Placerita Canyon Road, San Gabriel Mountains 34° 22' 25.16" N, 118° 29' 03.04" W, 488 m., 1 June 2013, *Callahan CR-PC-1-2013* (HOLOTYPE: OSC 243403 is from garden grown bulb, collected at given site one year earlier)

Bulbs: coat fibrous-reticulate, 2 cm in diameter. Stems: 30-60 cm, slender, 3-6 branched, bulblets none. Leaf: basal 30 cm long x 1.5-2 cm wide, withering, cauline 2-6 to 7 cm long. Flowers: erect, 3-6, perianth rotate, sepals to 3 cm, narrowly lanceolate, often inrolled, petals to 2-2.5 cm long x 1.3 cm wide, broadly wedge shaped. Petal claw with fine carmine pencilings, nectary yellow, rounded at base with long trichomes tapering to a point. Long yellow trichomes cover 2/3 of the petal surface with a carmine color band on the transverse petal apex with same-colored trichomes. Petal tips serrate/fimbriate. Filaments: 9 mm, dilated at base. Anthers: 9 mm, oblong, brown. Fruits: capsule erect, 6-7 cm x 6 mm. Seeds: flat, net-like surface. Note: carmine colors fade purple on dried herbarium specimen (Fig. 2).

Calochortus rustvoldii differs from *C. obispoensis* in petal shape and trichomes. *Calochortus rustvoldii* has broadly wedge-shaped petals while *C. obispoensis* has triangular-shaped petals that form a strong point at the petal apex. The petal apex of *C. rustvoldii* is serrate with few fimbriate margins, whereas the petals of *C. obispoensis* bear long trichomes and the non-serrate margins are highly fimbriate, especially near the tip. *Calochortus obispoensis* is the most floriferous of the genus, with counts as high as 100 flowers and bulbs can exceed 3 cm in diameter. *Calochortus rustvoldii* peaks at 6 blooms (in cultivation), with bulbs up to 2 cm in diameter. The filaments are not dilated at the base, 6-7 mm long, and anthers are 3-4 mm long for *C. obispoensis* versus having dilated filaments of equal length and anthers approximately 9 mm long for *C. rustvoldii*.

Calochortus rustvoldii differs from the rest of the *C. weedii* complex with its smaller flowers and rotate perianth. All other members of this complex exhibit strongly campanulate flowers. Both the filaments and anthers in this complex are larger (filaments 12-15 mm long and anthers 8-10 mm long) than those of *C. rustvoldii* (filaments and anthers approximately 9 mm long). My search of all California herbariums (personal visits) showed no collections that conform to *Calochortus rustvoldii*.

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LITERATURE CITED

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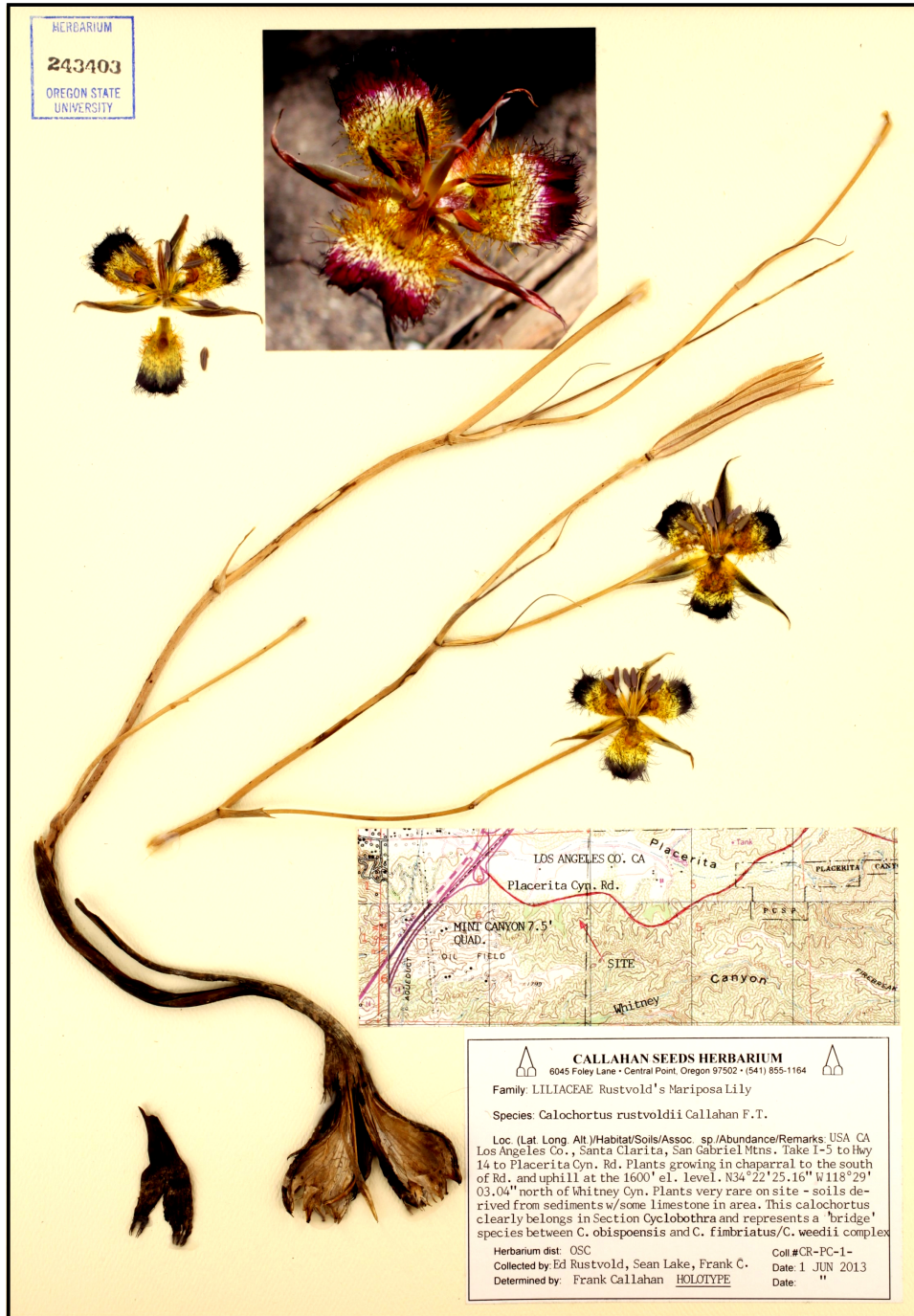


Figure 1. Holotype of *Calochortus rustvoldii*.



Figure 2. *Calochortus rustvoldii* flower. Note the rotate perianth.