Crinite mariposa lily (*Calochortus coxii*)

ENDANGERED

Flower (left), habit (center), and habitat (right) of crinite mariposa lily. Photos by Nancy Fredricks (left) and Susan Carter (center and right). If downloading images from this website, please credit the photographer.

Family
Liliaceae

Plant description
Crinite mariposa lily is a bulbous perennial with a single, more or less erect basal leaf up to 30 cm long and 0.3-0.7 cm wide. The outer surface of the leaf is dark green, shiny, and glabrous, the inner surface densely hairy with rows of blunt-ended hairs on raised veins. The flowering stem is erect to flexuose, 15-25 cm tall, with one to several bracts 2.5-3 cm long. Stalks bear 1-7 three-petaled, cup-shaped flowers on erect pedicels. Sepals are ovate acuminate, approximately 2 cm long by 0.8 cm wide. Petals are densely hairy, broadly obovate, 2.5 cm long or more, and white with pinkish-red striations from base to gland. The gland is deeply impressed, green at the inner base, with a membranous scale covered with minute translucent rod-like hairs. Petal hairs are yellow just above the gland and grade to white at the petal tips. Petal edges are fringed and hairy. Anthers are apiculate, 0.3-0.7 cm long and reddish brown; filaments are approximately 0.7 cm long. Capsules are nodding, elliptic elongate, 3-winged, and 3-4 cm long by 1.5 cm or more wide, with a 0.4 cm recurved "style."

Distinguishing characteristics
Calochortus tolmiei is the only species of *Calochortus* known to co-occur with crinite mariposa lily. This more common and widespread species has an earlier flowering time (March to early May), glaucous inner and outer leaf surfaces, purple to pink hairs above the petal gland, and pale lavender anther color that distinguish it from the endangered crinite mariposa lily. Although *Calochortus umpquaensis*, another endangered mariposa lily, overlaps in range with crinite mariposa lily, the two species are not known to co-occur within the same sites. *Calochortus umpquaensis* is distinguished from its congener by its dark purple to black petal spot.

When to survey
Surveys for crinite mariposa lily should be performed when the species is flowering and is more readily discerned amidst associated vegetation. Flowering time varies with

elevation, beginning earlier at lower elevation sites in early June and ending later at higher elevation sites around mid-July.

Habitat
Crinite mariposa lily occurs only on serpentine soils, inhabiting grasslands, open woodlands, and forest margins on gentle to moderately steep slopes, from mid-slope to ridge-top at 256-849 m (840-2780 ft) in elevation. Sites are dry and are either open or have filtered sunlight.

Overstory species that commonly occur with crinite mariposa lily include *Pinus jeffreyi*, *Pseudotsuga menziesii*, *Calocedrus decurrens*, and *Arbutus menziesii*. Associated grasses include *Vulpia octoflora*, *V. microstachys*, *Koeleria cristata*, *Festuca rubra*, *Danthonia californica*, *Aira caryophyllea*, *Trisetum canescens*, *Melica geyeri*, and *Stipa lemmonii*. Associated forbs are *Perideridia oregana*, *Lomatium nudicaule*, *Madia madioides*, *M. elegans*, *Achillea millefolium*, *Cryptantha intermedia*, *Minuartia douglasii*, *Silene hookeri*, *Cerastium viscosum*, *Lotus micranthus*, *Luzula campestris*, *Epilobium minutum*, *Aspidotis densa*, *Githopsis specularioides*, *Ranunculus occidentalis*, *Sedum stenopetallum*, *Mimulus guttatus*, *Collinsia grandiflora*, *Castilleja tenuis*, *Toxicoscordion venenosum*, *Plectritis congesta*, *Phacelia capitata*, and *Viola hallii*.

Range
Crinite mariposa lily is a localized endemic with scattered populations restricted along a narrow 30-mile-long serpentine ridge system in southwestern Oregon. There are approximately eight known occurrences of the species occupying a total range of less than 30 square miles.

Oregon counties
Douglas

Federal status
Species of Concern

Threats
Crinite mariposa lily is threatened by succession and fire exclusion, which lead to the encroachment of woody species and the alteration of mariposa lily habitat. Invasion by exotic weeds, including yellow starthistle (*Centaurea solstitialis*), has been documented in or near crinite mariposa lily sites and also causes habitat degradation. Past logging practices resulting in major soil disturbances and replanting of dense closed canopy forests have negatively impacted crinite mariposa lily. Study results indicate that livestock grazing of mariposa lily leaves results in reduced size and reproduction in the species; predation of buds, flowers, and capsules by insects and native wildlife also has a significant impact on reproduction. Although no known mining activities have occurred within crinite mariposa lily sites, the serpentine soils the species inhabits are mineral rich, and mining is thus considered a threat to this species, as well as to other serpentine endemics. Road construction, off-road vehicle use, and bulb collection also threaten crinite mariposa lily.

Conservation planning
A Conservation Agreement (pdf document, 2.50 MB) to protect crinite mariposa lily and its habitat on lands managed by the Roseburg District Bureau of Land Management was developed in 2004.

Did you know?
Crinite mariposa lily was discovered relatively recently in 1988. Its scientific name honors its discoverer, Douglas county resident Marvin Cox.

References
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