Adobe-Lily
(Fritillaria pluriflora)


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Legal Status
Federal: None
State: None

CNDDB Rank: G2S2.2: Global rank, G2 = G2 = Imperiled: At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors; State Rank S2 = Same as global rank, but only for the range of the taxa in California; State ranks in California often also contain a threat designation attached to the S-rank, S2.2 = threatened.

CNPS List: 1B.2; 1B: Rare, threatened, or endangered in California and elsewhere. 0.2: Fairly endangered in California.

Recovery Plan: None.

Species Description and Life History

Adobe-lily (*Fritillaria pluriflora*) is a perennial herb with alternate basal leaves that grows from a yellow bulb and is a member of the lily family (Liliaceae) (Hickman 1993; UCANR 2001). This species is distinguished by its entire style and less than 20 mm pinkish-purple, rounded-tipped, perianth segments (Hickman 1993). The leaves are spirally arranged along the stem and the nodding, bell-shaped flowers possess a three-lobed stigma, an unbranched style that is longer than the stamens, and lavendar nectaries with long narrow furrows (Turrill 1950; UCANR 2001; FNA 2007). Adobe-lily generally produces one to three flowers (UCANR 2001) but some of the flowers are often infertile (Witzman 1991).

Habitat Requirements and Ecology

Adobe-lily occurs in chaparral, cismontane woodland, and valley and foothill grasslands (CNPS 2001; CDFG 2007). Known occurrences have been found between 60 and 705 m (196 to 2313 ft) in elevation and are regularly found in relatively flat areas below slopes on fine textured soils (CNPS 2001; UCANR 2001; CDFG 2007). This species blooms from February to April (CNPS 2001). Some of the associate species listed for populations in nearby counties include butter 'n' eggs (*Triphysaria eriantha*), common goldfields (*Lasthenia californica*), bicolor lupine (*Lupinus bicolor*), rancheria clover (*Trifolium albopurpureum*), tomcat clover (*Trifolium willdenovii*), mosquito bills (*Dodecatheon*

hendersonii), Hartweg's buttercup (*Ranunculus canus*), and Douglas' pogogyne (*Pogogyne douglasii*) (CDFG 2007).

Species Distribution and Population Trends

Distribution

Adobe-lily is endemic to California and its known distribution, as defined by Calflora 2007, is based on 154 observations. The range of adobe-lily extends from Tehama, Butte, Glenn, and Colusa counties in the north and east, to Yolo, Solano, and Napa counties in the south, to Mendocino and Napa counties in the west (Calflora 2007). In Yolo County adobe-lily has been documented more recently at several sites on the hills above Lake Davis in the Little Blue Ridge, north of Rumsey in the Capay Hills, and historically at two other sites north of Rumsey and one site in the Blue Ridge Mountains north of Putah Creek (CNDDB 2007).

Population Trends

Population trends of adobe-lily have not been well documented. It is unclear whether this species is in decline. According to the CNPS (2001), occurrences of adobe-lily in California are limited and the species is at risk throughout its range. The Nature Conservancy, which has long term management experience with this species on its Vina Plains Preserve, considers this species to be stable on the preserve and does not consider it to be threatened by extinction currently but that some populations may be subject to extirpation from development and conversion of wildlands to agriculture (NatureServe 2009).

Threats to the Species and Other Conservation Issues

The primary threat to adobe-lily is the loss of grassland, chaparral, and woodland habitats in the range of the species, specifically areas with adobe soils. Other threats include grazing, vehicles, development, mining, and horticultural collecting (CNPS 2001). In contrast to the CNPS threat analysis, TNC has found that grazing is an appropriate management tool for this species on its Vina Plains Preserve and for the large Bear Valley population (NatureServe 2009). Adobe-lily occurs on heavy fine-textured naturally infertile soils and also tend to exist as isolated populations growing in relatively small patches within landscapes where wild fire and soil erosion are important disturbance agents. Research should address the role of disturbance regimes and competition, dispersal vectors and the role of dispersal in maintaining the isolated populations, bulb and seed bank dynamics, potential impacts of feral pigs, the possibility of wild fire acting as a seed germination and flowering cue, and plant breeding system and pollinator requirements. Some of these questions have been partially addressed by Witzman (1991) who did basic studies on bulb longevity and pollination biology.

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