

## *Calochortus nitidus* Dougl.

broad-fruit mariposa  
Liliaceae (Lily Family)

**Status:** State Endangered, USFWS Species of Concern  
**Rank:** G3S1

**General Description:** A perennial herb from a deep seated bulb; stem erect, 8-16 inches tall, usually with a single reduced leaf about midway; basal leaf broad and flat; 1-4 large, showy lavender flowers, each petal >1 1/4 inches, not fringed or ciliate, with a deep purple crescent above a triangular to crescent shaped gland; fruit an erect capsule, oval to nearly circular in outline, with 3 distinct wings.

**Identification Tips:** Within its range *C. nitidus* can be confused with *C. macrocarpus* var. *macrocarpus*, which is also lavender. The ovaries and fruits of the latter species, however, are linear and not winged. It may also be confused with *C. eurycarpus*, which has a purple blotch rather than a crescent on the petals. Other species within its range have either non-lavender petals or nodding fruits.

**Phenology:** Stems emerge from the ground in June and undergo rapid elongation in late June and early July, by which time the basal leaf has begun to wither and die. Floral buds open in the first half of July and remain open for 7-10 days. The petals drop off within about 2 weeks of peak anthesis. The fruits mature during July and August.

**Range:** Endemic to the Palouse grasslands of eastern Washington and adjacent Idaho in the Blue Mountains and Columbia Basin physiographic provinces.

**Habitat:** Historically known from the greater Palouse area, including both grasslands and the moist swales between the adjacent hills. The soils of these areas are primarily loess and alluvium. Slope varies from flat to moderately steep. Elevation: 1500-6400 feet. Historically the vegetation was dominated by perennial bunchgrasses and deciduous shrubs. Associated species include Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass (*Agropyron spicatum*), prairie junegrass (*Koeleria cristata*), and prairiesmoke (*Geum triflorum*). In Idaho, *C. nitidus* is also known from open woodlands bordering the Palouse grasslands.

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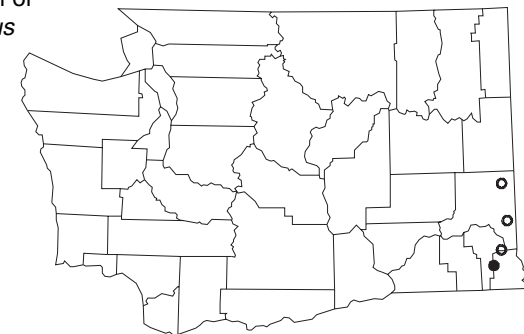
broad-fruit mariposa



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Known distribution of  
*Calochortus nitidus*  
in Washington

- Current (1980+)
- Historic (older than 1980)



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**Ecology:** *C. nitidus* prefers sites that are in good ecological condition, i.e., areas that have had only light to moderate or infrequent grazing by domestic livestock. This species appears to be at a competitive disadvantage to annual grasses and other weedy species. The species' response to fire is not known.

**State Status Comments:** There is only one currently known extant population in Washington, located within the Umatilla National Forest. Attempts to relocate historically known sites in WA have been unsuccessful.

**Inventory Needs:** Inventories should be conducted in appropriate habitats within its range, particularly in Whitman, Garfield and Asotin counties.

**Threats and Management Concerns:** Conversion of the Palouse grasslands to agricultural crop land is presumed to have resulted in the loss of a significant amount of habitat in Washington state. Livestock grazing has led to habitat degradation in much of the area that is not tillable. If any additional populations are found, the physical integrity of the sites should be maintained.

### **References:**

Hitchcock, C.L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1969. *Vascular Plants of the Pacific Northwest, Part 1: Vascular Cryptogams, Gymnosperms, and Monocotyledons*. University of Washington Press, Seattle. 914 pp.