

GREAT VALLEY PHACELIA

Phacelia ciliata Benth.

Plant Symbol = PHCI2

Common Names: *P. ciliata* var. *opaca*, is also known as Merced phacelia

Scientific Names: *Phacelia acanthominthoides* Elmer

Subspecies: *P. ciliata* var. *ciliata* and *P. ciliata* var. *opaca* J.T. Howell

Description

General: Great Valley phacelia is a native annual forb in the Hydrophyllaceae (Boraginaceae) family (USDA, NRCS PLANTS, 2018; Walden et al. 2013). The stems are generally erect, simple or branched at the base, covered with downy or short hairs and with or without glands. The plants are variable in height up to 2 feet. Leaves have a petiole and blade, and are oblong to ovate and compound subdivided into smaller leaflets which are toothed or lobed, length is variable up to 6 inches.



Great Valley phacelia in bloom, February 2018. Photo: Brightny Spears, Lockeford Plant Materials Center.

The flower has five sepals that are ovate to lanceolate and opaque to translucent, the five petals are pale blue with a tunnel to bell shaped corolla, fused to the purple or white filaments of the five anthers, the style is cleft (Walden et al., 2013). Great Valley phacelia blooms from January through March, and is one of the earliest blooming members of the *Phacelia* genus. After the seed matures the plant dies off and rapidly breaks down (Calflora, 1997; Lundin et al., 2017). The fruits are ovoid and generally contain four pitted seeds (Walden et al., 2013). The plants are tap rooted with branched fibrous roots.

Subspecies: *P. ciliata* var. *opaca* is distinguished by lanceolate, opaque calyx lobes, it has a limited distribution on clay soils in the San Joaquin Valley near Merced.

Distribution: The genus *Phacelia* consists of approximately 200 species in North and South America. The center of diversity is in California where 93 taxa occur, of which 39 are endemic (Gilbert et al., 2005; Raven and Axelrod 1978). *Phacelia ciliata* is found only in California and Baja California in Mexico. Within California distribution includes the Northern Coastal Ranges, the Sacramento Valley including Sutter Buttes, the San Joaquin Valley, the San Francisco Bay, the Southern Coast Ranges and South West California, but excluding the Channel Islands. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat: Great Valley phacelia is found associated with Coastal Sage Scrub, Northern Oak Woodland, Foothill Woodland and Valley Grassland.

Adaptation

Great Valley phacelia is drought tolerant and grows well in areas given 7 to 18 inches of annual precipitation. It grows on a range of soil types from clays to sandy loams to gravelly slopes and tolerates moderate salinity. It is found at elevations from seal level up to 5,000 feet (Calflora, 1997; Walden et al. 2013).

Uses

Pollinator and beneficial insects Plants in the *Phacelia* genus are excellent pollinator plants providing abundant nectar and pollen and Great Valley phacelia is recommended as one of the twelve best pollinator plants for native and European honey bees (May et al., 2017), The abundant early bloom of Great Valley phacelia, makes it an effective component of cover crop plantings where year-round bloom is recommended (Earnshaw, 2018). Almonds are a crop of major importance in California, the trees bloom early typically starting in mid- February and are insect pollinated, requiring imported honey bees to get a good crop. Early blooming cover crops are important to provide additional floral resources, ideally before, during and after bloom, to increase the health of the bees. Harvesting of almonds requires a “clean” floor with no plant residues. Great Valley

phacelia is a desirable plant for cover cropping in almond orchards, due to its early bloom, drought tolerance, and ability to break down completely by almond harvest while reseeding the following year (Lundin et al., 2017).

Ethnobotany

There are no ethnobotany uses recorded for this plant.

Status

Threatened or Endangered: The subspecies *P ciliata* var. *opaca*. Merced phacelia, is endemic to California and listed by the California Native Plant Society Rare Plant Bank as 3.2. This listing includes plants rare, threatened, or endangered in California but for which more information is needed.

Please consult the PLANTS Web site (<http://plants.usda.gov/>) and your state's Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Planting Guidelines

Seeding is the recommended way to establish this plant, in fall prior to fall rains, The seed may be drilled into a firm seed bed at a seeding rate of 4 lbs./acre, at no more than ¼ inch depth. The broadcast seeding rate is 8 lbs./acre and it is important to ensure that there is good seed to soil contact for a successful planting.

Management

Great Valley phacelia dies off after seed matures, and seeds germinate with fall rains. Terminate prior to seed set, whether by mowing, cultivation or herbicide to prevent regeneration the following year.

Pests and Potential Problems

There are no known pests for this species.

Environmental Concerns

No known environmental concerns.

Control

Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area and how to use it safely. Always read label and safety instructions for each control method.

Seeds and Plant Production

For seed production plant at 4 lb/acre in rows. Harvest is conducted by cutting the plants at the base once bloom is ending and laying them onto tarps to dry out and release the seeds. There are approximately 280,000 seeds/lb.

Cultivars, Improved, and Selected Materials (and area of origin)

There are no cultivars available at this time. Cultivars should be selected based on the local climate, resistance to local pests, and intended use. Consult with your local land grant university, local extension or local USDA NRCS office for recommendations on adapted cultivars for use in your area.

Literature Cited

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