

# CALIFORNIA FUCHSIA

## *Epilobium canum* (Greene) P.H. Raven

Plant Symbol = EPCA3

*Common Names:* hummingbird trumpet, hummingbird-flower, wild fuchsia, zauschneria, firechalice, kolibritrumpet.

*Scientific Names:* *Zauschneria californica*

*Subspecies Names:* *E. canum* ssp. *canum* (Greene) P.H. Raven, *E. canum* ssp. *angustifolium* (D.D. Keck) P.H. Raven, *E. canum* ssp. *latifolium* (Hook) P.H. Raven, *E. canum* ssp. *garrettii* (A. Nelson) P.H. Raven.

### Description

**General:** California fuchsia (*Epilobium canum*) is a slender stemmed, highly branched herbaceous perennial subshrub native to the southwestern states in the US. It has toothed, green to white, lanceolate to ovate leaves that have a densely spreading-hairy and glandular pubescence. The lower leaves are generally opposite while the upper leaves are mostly alternate. The species ranges considerably in size and form in its native populations. It grows from 1-3 feet tall and spreads from the base due to a rhizomatous root system. The flowers are scarlet to red-orange on short axillary stems, tubular-funnel form in shape with a basal bulge which gives the flower its resemblance to a trumpet, with four two-cleft petals (Calflora, 2013;Hoch, 2016). There are eight stamens and one pistil per flower, exerted. The blooming period generally runs from August to October in its native setting. Once pollinated the plants produce pods that contain the seeds. The pods range in size from 0.75 to 1 inch depending on the number of pollen tetrads that are deposited in the flower during pollination (Snow, 1986). They are green during development and when the seeds are mature the pods begin to brown and dry. These pods are a dehiscent fruit, and split laterally along the sides, releasing the seeds which have a feathery appendage for wind dispersal. Since the flowering period is very long there will often be flowers, developing pods, and mature seeds being released throughout the blooming season. The subspecies share these traits with the major morphological differences manifested in the foliage of the plants. The subspecies tend to intergrade, especially in Southern California (Hoch, 2016).

*E. canum* ssp. *canum* has linear to lanceolate leaves that are less than 0.23 in. wide, often only 0.08 in. wide that are usually clustered densely on the stem and appear grey-green to grey from tomentose hairs. The flowers also are often longer than other subspecies. This subspecies is endemic to California and is found on dry slopes mostly below 2000 ft. (Baldwin *et al.*, 2012, Munz, 1959)

*E. canum* ssp. *garrettii* has widely ovate leaves that are prominently toothed, more so than the other subspecies, and are greater than 0.23 in. wide with conspicuous lateral veins. It grows on dry rocky slopes up to 5500 ft. in elevation (Baldwin *et al.*, 2012, Munz, 1959).

*E. canum* ssp. *latifolium* has leaves that are lanceolate to ovate and are entire to toothed, but the lateral veins are obscured. The leaves range from green to grey-green. This subspecies is found primarily at the highest elevations, 7000-10000 ft., but some are found as low as 3500 ft. (Baldwin *et al.*, 2012, Munz, 1959).

*E. canum* ssp. *angustifolium* is noted for having linear densely tomentose-canescant leaves, but can be difficult to distinguish from other subspecies. It is the most geographically limited being endemic to California, and only having been found on dry slopes near the coast at elevations no higher than 2000 ft. (Baldwin *et al.*, 2012, Munz, 1959).

**Distribution:** *Epilobium canum* is found in most of the western and southwestern states including California, Oregon, Nevada, Idaho, Utah, New Mexico, Arizona, and Wyoming, mainly in the arid and mountainous areas of these states. There are four subspecies including *E. canum* ssp. *angustifolium* and *E. canum* ssp. *canum* which are endemic to California. *E. canum* ssp. *latifolium* is almost exclusively found in California with a few populations found beyond the states borders. *E. canum* ssp. *garrettii* has the most extensive range being found across the Western states. All of these are native to similar habitats but with different geographical distributions and adaptations to microclimate conditions. These various subspecies



Figure 1. California fuchsia producing its characteristic red trumpet shaped blooms and showing its grey green foliage. Photo by Jesse Lundgren (2013) Lockeford Plant Materials Center.

have the same red trumpet shaped flowers, but are characterized by their varying growth forms and different chromosome numbers (Ford and Gottlieb, 2007). For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

*Habitat:* California fuchsia grows at elevations of up to 10,000 ft., in dry areas, rocky slopes and cliffs, and montane coniferous forest, and coastal scrub (Baldwin et al. 2012).

### **Adaptation**

California fuchsia is found throughout the western and southwestern states, primarily on well-drained and rocky slopes at elevations up to 10,000 ft. It can tolerate low moisture and nutrient poor soils, and prefers a near neutral soil pH (Baldwin et al., 2012; Hoch, 2016; Ladybird Johnson Native Plant Database, 2013).

### **Uses**

*Wildlife:* California fuchsia is an important nectar source for hummingbirds in the western US due to its late season blooms that persist through the hot dry summers while most other nectar sources are scarce. The plant often has over 250 blooms per flower blooming at one time, with varying amounts of nectar production to reinforce pollinator activity (Boose, 1997)

*Landscaping:* California fuchsia can be used for environmental enhancement and erosion control. The plants are extremely drought tolerant and withstand sun, heat, and wind, making them ideal plants for dry sunny slopes. They are also unpalatable for deer, which is a requirement for successful establishment in many areas.

### **Ethnobotany**

*Epilobium canum* was used as a decoction of the plant by the Costanoan's as a treatment for infected sores, to lower infant's fevers, to treat urinary tract problems, and as a general wellness remedy (Bocek, 1984). The Miwok used a decoction of the leaves as a cathartic, as a treatment for kidney and bladder problems and for syphilis and as a treatment for tuberculosis. Miwok women used this plant as a treatment for hemorrhages following childbirth (Barret and Gifford, 1952). The Karuk would also use it as a nectar source, sucking the sweet nectar from the flowers (Schenck and Gifford, 1952).

### **Status**

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**

Seed of California fuchsia is collected by hand or purchased from a reputable seed company or nursery. Seed should be refrigerated for storage at a temperature between 40 and 60 °F in sealed containers. Sow seed into flats with drainage holes, filled with a medium of 1.5 parts vermiculite, 1 part coarse perlite, 1 part sterile sand, and 2 parts peat moss. Thoroughly water trays after sowing and keep moist during the stratification and germination phases (Decker, 2013). The seeds can be naturally stratified outdoors over fall and winter. Seedlings can be grown in a shade house from March to October depending on the region. After emerging, but still in the cotyledon stage plants are transplanted to D 40 (2 in. diameter by 10 in. depth) pots filled with the media used to germinate the seeds. It is important to transplant at this stage to prevent root deformation. At transplanting a time release fertilizer can also be incorporated. Seedlings should be hand watered throughout the growing season until well established. During active growth, irrigation is delayed until containers are almost dry to help harden plants while growing. Once the seedlings are mature, they are transferred to larger containers, or planted. (Decker, 2003)

### **Management**

A single mowing of established plants in the winter minimizes woody build up and promotes new growth in spring and summer. Although California fuchsia is a drought tolerant plant, irrigation during dry periods prolongs the bloom period.

### **Pests and Potential Problems**

All of the subspecies of *E. canum* are susceptible to slug and snail damage, common rusts and fungal spots, and powdery mildew. Maintaining healthy growing conditions, helps prevent diseases. Make sure soil is well drained and do not over water. In cases where damage is escalating use common pest control methods to manage any signs of damage or disease.

### **Environmental Concerns**

Two of the subspecies of *Epilobium canum*, *ssp angustifolium* and *ssp canum*, are endemic to California and have very limited populations and distributions. These two subspecies are at risk from environmental changes such climate change and habitat loss due to human encroachment.

### Seeds and Plant Production

Mature seeds are produced 8-10 weeks after pollination occurs. The capsules holding the seeds dry and dehisce releasing the seeds that are then wind transported to new locations. Seeds of *Epilobium canum* retain 100% viability when dried to 15% moisture content and stored at a relative humidity of 15% at -4 °F for 30 days. The seeds are very small, the average 1000 seed weight is 0.017 ounce but have a high germination rate, reaching 100% germination under laboratory conditions (Decker, 2003). California fuchsia is easily propagated from cuttings taken near the tip with several leaves included. Plant division is a good method for large growing specimens; they can be divided in fall and winter into stems with roots and rhizomes that can be planted in a new location (Rideout, 2011).



Figure 2. California Fuchsia in bloom and showing the pods splitting open and feathery appendages on the wind disbursed seeds. Photo Lockeford Plant Materials Center (2016).

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

The wide distribution, ease of vegetative propagation and successful production from seed results in locally adapted plant materials being available from local nurseries. There are also several named cultivars including: *Epilobium canum* 'Armstrong' An upright herbaceous perennial subshrub to 2 feet tall by equal width with narrow olive-green foliage and bright red-orange flared tubular flowers from early summer until first frost (Theodore Payne, 2014). *Epilobium canum* 'Berts Bluff' An upright herbaceous perennial subshrub to 3 feet tall by equal width with narrow grey green foliage and bright red-orange tubular flowers. From Santa Margarita in Southern California and does well in coastal scrub, tolerates a variety of soil types and drought conditions (Wilson, 2013). *Epilobium canum* 'Bowman's hybrid'. An upright herbaceous perennial/subshrub to 2 feet tall by equal width with narrow olive-green foliage and bright red-orange flared tubular flowers from early summer until first frost. Best in full sun in a well-drained soil and, while drought tolerant, looks best with occasional to infrequent irrigation in summer but only if soil drains well. Developed in a garden in San Jose, from a UC Program with California fuchsia (California Flora Nursery, 2016; San Marcos Growers, 1996). *Epilobium canum* 'Catalina,' Soft long silver gray-green foliage on red-tinted branches that reach 3 to 4 feet tall and becomes woody at the base. Bright orange-red tubular flowers have four deeply bi-lobed petals. This plant was selected by Mike Evans of Tree of Life Nursery from the Middle Ranch area of Catalina Island in 1987. (California Flora Nursery, 2016; San Marcos Growers, 1996). *Epilobium canum* 'Cloverdale' Robust growth habit, 2-4 ft. high by 4 feet wide, upright at first then cascading. Olive-green fuzzy leaves with orange-scarlet blooms Selected from Squaw Rock along the Russian River North of Cloverdale by the UC Arboretum, Santa Cruz. (California Flora Nursery, 2016; Theodore Payne, 2014). *Epilobium canum* 'Eel River White' Green foliage, grows about 8 inches tall and to 3 feet diameter, with a soft draping form. Leaves are bright green and tubular flowers are pink. Requires partial shade, will grow along the coast, and should be protected from frost. Selected from a plant growing along the Eel River in Northern California (Wilson, 2013). *Epilobium canum* 'Marin Pink' Green foliage, upright herbaceous perennial/subshrub 2 feet tall and to 3 feet diameter, leaves are bright green and tubular flowers are white. Not drought tolerant and requires partial shade, will grow along the coast, should be protected from frost. (California Flora Nursery, 2016; Wilson, 2013). *Epilobium canum ssp latifolium* 'Everett's choice' A low-growing vigorous ground-hugging sub-shrub that remains under 6 inches tall by up to 4 to 5 feet wide with fuzzy gray-green lance-shaped small leaves that are covered with long whitish hairs. Vivid red-orange tubular flowers with flared lips. Believed to be derived from the plants in Berkeley, or possibly in Lincoln northeast of Sacramento (San Marcos Growers, 1996). 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.

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### Citation

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