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ONE OF CALIFORNIA'S RARE ENDEMICS

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Among the California native plants *Carpenteria californica* is one of the rarest and most interesting. The history of its discovery by General John C. Fremont, under very unusual circumstances, is told in an entertaining manner by Dr. Willis L. Jepson in his *Flora of California* (2: 141-2, 1936) somewhat as follows:

On his 1845 expedition to California General Fremont, on reaching Walker Lake, divided his command, sending his lieutenant, Joseph Walker, south along the east side of the Sierra Nevada to make a winter camp on Kern River and await Fremont's coming in the early spring. Fremont himself crossed the Sierra Nevada at or near Donner Pass on December 5th and obtained supplies at Sutter's Fort. On his way to rejoin Walker, travelling south through the Great Valley, Fremont crossed the San Joaquin River, a full flooded stream emerging from the Sierras, and on meeting the Kings River mistook it for the Kern and made a fruitless attempt in midwinter to breast the most impassable portion of the Sierra Nevada between the San Joaquin and the main Kings.

Without any question, it was while engaged in this adventure, during which he was baffled and turned back to the San Joaquin plain, that he discovered this very rare endemic. His specimens taken so much out of season, show, characteristically, vestiges of flowers, because of the persistence of the petals and other organs.

Carpenteria, as we know, is one of the rarest and most restricted in range of Californian shrubs. Stations may be cited as follows: north bank of the San Joaquin River near Lake Corine; Italian Creek; Backbone Creek and the slope above Auberry; Grapevine Spring (on the headwaters of Big Dry Creek); Big Creek (below the pines). It is in considerable abundance in its district in many places on woodland slopes. Its foliage is bitter and the sheep seldom touch it. The mountainside is often whitened with its blossoms.

It occurs in association with *Quercus Wislizenii, Pinus Sabiniana, Rhus diversiloba, Aesculus californica, Arctostaphylos Mariposa and Umbellularia californica.* It is 8 to 16 feet high with erect stems from near the base. The main stems are 1 to 3 inches in diameter. Bark of the main stems is very smooth and in July exfoliates in broad yellow sheets which greatly resemble a somewhat thin, soft, and pliable leather almost exactly of a light buckskin color.

The shrubs are bush-like in form, characteristic fire-chaparral type, many-stemmed from the ground, forming much-spreading individuals in most cases. The leaves are mostly borne in clusters on the new wood below the

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Plate XVIII—*Carpenteria californica*. Upper figure showing a group of plants growing in a moist ravine, above Tollhouse, Fresno Co., May, 1933. Below, detail of one of these plants with leaf-shape and large white flowers with many yellow stamens. Photos by C. B. Wolf.

inflorescence and hang down, so that this feature imparts a characteristic aspect to this interesting shrub.

In the Pasadena, California area *Carpenteria californica* has been observed in two cultivated locations where it has thrived for many years. A large specimen has been growing in the garden of Mrs. Charles Francis Saunders on North Lake Avenue for over thirty years, where it was planted by Mr. Saunders; and a smaller one in the writer's garden in Pasadena Glen for ten years. Mrs. Saunders advises me that this section of her garden does not receive any summer watering and practically no shade from tall trees. In my garden it is growing in decomposed granite soil in the shade of tall *Quercus agrifolia* in association with *Prunus ilicifolia* and *Camellia japonica*. As the camellias get considerable summer watering from overhead sprinklers, the *Carpenteria* does also, with the result that the leaves remain green and flat. In its native haunts, and in Mrs. Saunders' garden, the leaves dry in early summer and are strongly inrolled.

This evergreen is closely related to *Philadelphus* but has petals of 5 to 8 instead of 4. The exquisite pure white of the petals with the mound of clear yellow stamens makes it an outstanding flowering shrub in the wilds, or any garden. Well grown healthy specimens often have flowers three inches in diameter, which exude a pleasant and delicate fragrance. It is a member of the Saxifrage Family.

Interesting data concerning its resistance to low temperatures were collected in England and published in the Journal of the Royal Horticultural Society in 1916-17. It was slightly hurt in some locations at 12° to 17° Fahrenheit. Other plants were badly hurt at from 7° to 16° and in two cases were cut to the ground at 15°.

In my garden, elevation 1375 feet, in considerable shade, blooming time is usually May 20 to June 10, depending on the season.

Rancho Santa Ana Botanic Garden Superintendent, Percy Everett, tells me it is not difficult to grow from seed, which is very fine and dust-like, if it is planted in chopped sphagnum moss.

The genus was founded and first described by John Torrey in 1853, from the specimen collected by Fremont, and named after a friend who had just died, Prof. Carpenter of Louisiana.

After Fremont's discovery in 1845, although many attempts had been made to discover its locality, it was not until September 4, 1876, that flowering specimens were exhibited by Gustav Eisen at a meeting of the California Academy of Sciences. These were identified by Dr. Albert Kellogg.

So finally the shrub had been rediscovered in the Sierra foothills at Grapevine Spring on the mountain road between Tollhouse and Ockenden in Fresno County.

If planted under the right conditions, this rare California endemic is worthy of a place in any garden and has been cultivated in England since 1885.