

SOUTHERN CALIFORNIA PLANT NOTES—II.*

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Unless otherwise indicated all specimens cited in this paper are in the C. F. Baker Herbarium of Pomona College.

- ✓ *Cupressus Forbesii* Jepson. Madrona 1:75. 1922.

Our native cypress of Southern California differs from *C. guadalupensis* Wats. in having ascending branches without drooping branchlets. The foliage is juniper-green and not glaucous, the bark is cinnamon-brown rather than grayish-brown. This cypress, for which three stations have been published, all of them in San Diego Co. (Jepson, l. c.; Parish, Bull. So. Cal. Acad. Sci. 13:11-13. 1914 is to be reported also from Orange County. Here it grows abundantly on the west side of the Santa Ana Mts., in the second large side-canyon south of the Orange-Riverside County line, which is crossed as one drives down the Santa Ana River Canyon. Specimens from this canyon are: *W. M. Pierce*. March 10, 1922; *Munz & Johnston* 5566; and *Munz* 7327. The trees grow in alluvial soil on the canyon bottom and on the upper slopes of the canyon, and extend over a distance of at least a mile and a half. In habit and choice of habitat, the colony agrees well with Parish's description of the grove at Tecate Mt. (Parish, l. c.; Saunders, Bull. So. Cal. Acad. Sci. 15:21. 1916). The largest tree seen was between 30 and 40 feet high; the crown is usually conic and peaked. The branches begin near the base and are slightly ascending, and form a crown from two-thirds to three-fourths as broad as high. The wood is brittle and splits easily. On May 18, 1922 the trees were with abundant fruit. Several years previous to this visit a fire had killed most of the trees in the upper and more narrow parts of the canyon, and at the time of the visit, the old dead trees were still standing and holding cones. However, seedling trees, many of which were five or six years old and as many feet high, occurred in great numbers.

- ✓ *Orcuttia californica* Vasey. Bull. Torrey Bot. Club 13:219. 1886.

The first collection for Southern California, and the third for the species, was made in Menifee Valley, 10 miles northeast of Murietta, Riverside County, in May 1922, *Munz & Johnston* 5375. The grass was locally abundant and covered an area of about an acre on the bottom of a dessicating winter pool.

- ✓ *Allium obtusum* Lemmon. Pittonia 2:69. 1890.

A form of this onion is locally abundant on gentle stony slopes on the north edge of Thomas or Garner Valley in the San Jacinto Mts., about two miles north-west of Kenworthy, *Munz & Johnston* 5512, First collection south of the Tehachapi Pass, according to Dr. Abrams, who kindly identified the collection (Illus. Flora Pac. States 1:388. 1923). The plant is distinguished from the other montane *Alliums* of Southern California by its broad, oblong and obtuse perianth lobes.

- ✓ *Calochortus flexuosus* Wats. Am. Nat. 7:303. 1873.

Specimens with the characteristic sinuous stems of the species, were found by M. French Gilman on rocky slopes in a high gorge in the Chuckwalla Mts. on the Colorado Desert, *Munz & Keck* 4838. This collection extends the range southward some 200 miles, the nearest known station being in the Death Valley Region.

*The first paper in this series appeared in the Bull. So. Calif. Acad. Sci. 22:7-11, March 1923.

Nolina Parryi Wats. Proc. Am. Acad. 14:247. 1879.

Locally abundant in the chaparral of the coastal slopes of the Santa Ana Mts.; Santa Ana River Canyon, *Munz & Johnston* 5315, & *Munz* 7329; Modjeska's Ranch, *Munz* 7728; and extending on south into Trabuco Canyon. Reported from the eastern slopes of the same range by Parish (*Muhlenbergia* 7:73. 1911, and *Erythraea* 7:90. 1899). These plants of Orange County tend to have a less well developed claw on the perianth-lobes and shorter style than do plants from the desert. These characters, however, seem too inconstant for nomenclatorial recognition. In fruit and habit of growth, the coastal and desert plants seem quite similar.

- ✓ *Eriogonum nodosum* Small. Bull. Torrey Bot. Club 25:49. 1898.

Not only in the eastern parts of the Mohave Desert as given by Jepson (Fl. Calif., 416. 1914), but common for miles in the desert region along the north base of the San Gabriel Mts., growing on open stretches and ascending the washes to 4,500 ft. alt., as at Sheep Creek, *Munz* 7720, where it grows with *E. Heermannii* D. & H. It was blooming abundantly on Sept. 1, 1923 with a characteristic growth-habit of erect stems and storied horizontal branches bearing white flowers.

- ✓ *Tetragonia expansa* Murr. Comm. Goetting 6:13, t. 5. 1783.

Well established on the beaches of Los Angeles and Orange Counties, as at Hermosa Beach, *Feudge* 52, and Laguna Beach, *Munz* 7321. Previously reported from Santa Barbara by Parish (Bull. So. Cal. Acad. Sci. 19:15. 1920).

- ✓ *Silene verecunda* Wats. Proc. Am. Acad. 10:344. 1875.

Jepson (Fl. Calif., 508. 1914) refers to the northern *S. verecunda* much of our southern material. Study of our plants in the field leads me to follow his treatment and to refer to the species such plants as are low and compact in growth, mostly not more than 2 dm. high, with fairly compact inflorescence, and with leaves from 2-6 mm. wide. For the most part such plants occurring in Southern California have a purplish cast, and the petal-blades are frequently almost as broad as long. Here I would refer such collections as the following: Little Baldy, San Gabriel Mts., at 9,500 ft., *Munz* 6119; Mt. San Antonio, at 9,000 ft., *Johnston* 1671, at 9,250 ft., *Peirson* 2284; Ontario Peak at 8,000 ft., *Johnston* 1528; Blue Ridge, Swartout Valley, at 8,450 ft., *Munz* 7683; and San Gorgonio Peak, from 11,000 to 11,500 ft., *Munz* 7596. The collections by Johnston and by Munz from Mt. San Antonio and Blue Ridge are quite canescent; the others all heavily glandular.

- ✓ *Silene verecunda* var. *platyota* (Wats.) Jeps. Fl. Calif., 509. 1914.

To the var. *platyota* belong the more slender and open light green plants, ranging from 2-5 dm. high, and with leaves mostly 2-3 mm. wide. The petal-blades are usually distinctly much longer than wide. These plants frequent lower altitudes for the most part and extend further south: Mt. Pinos, 7,000 ft., *Munz* 7045; Vincent Gulch, San Gabriel Mts., 6,500 ft., *Munz* 6842; Swartout Valley, 6,700 ft., *Munz* 7704; Bear Valley, San Bernardino Mts., 6,500 ft., *Harwood* 4316; Deep Creek, *Abrams* 2039; South Fork of Santa Ana River, 8,200 ft., *Munz* 6246; Tamarack Valley, San Jacinto Mts., 9,200 ft., *Munz* 6401; Idyllwild, 5,400 ft., *Spencer* 1607 July 9, 1921, and 2184; Keen Camp, 5,000 ft., *Munz* 5772; Santa Rosa Mts., 6,500 ft., *Munz* 5844; Pine Hills, San Diego Co., 4,200 ft., *Spencer* 1607, June 24, 1920; Santa Ana Mts., 5,000 ft., *Munz & Keck* 7074; Cuyamaca Mts., 5,000 ft., *Munz & Harwood* 7278.

- ✓ *Glaucium flavum* Crantz. Stirp. Austr. 2:131. 1763.

This immigrant can now be reported from California. On May

22, 1923, it was found well established on the south side of Lake Elsinore, Dr. H. Baer.

✓ *Diploxys tenuifolia* (L) DC. Syst. 2:632. 1821.

Santa Ana, Orange Co., *Johnston* 1927 in May, 1918; and between Tustin and Santa Ana, *J. Vaile* in Jan., 1924. Growing as a vigorous weed with 12 to 20 stalks from one root. Reported by Parish for Los Angeles Co. (Bull. So. Cal. Acad. Sci. 19:18. 1920).

✓ *Eruca sativa* Mill. Gard. Dict. Ed. 8, No. 1. 1768.

A few plants on a vacant lot on "H" St., San Bernardino, April 8, 1923, *J. B. Feudge*. First Southern California record.

✓ *Parnassia californica* (Gray) Greene. Pittonia 2:102. 1890.

Occasional in the San Bernardino Mts., in wet meadows along the South Fork of the Santa Ana River, at about 8,000 ft. alt., *Munz* 6269. An excellent match for material from the Sierras, and quite distinct from *P. cirrata* Piper, our other southern species, in lack of fringe on the petals and in the larger flowers and oblong rather than subcordate leaves. I have seen specimens of *P. cirrata* from both the San Bernardino Mts. (Vivian Creek, *Munz* 7615) and San Gabriel Mts. (Coldbrook, *F. Grinnell Jr.* in 1917).

✓ *Sibbaldia procumbens* L. Sp. Pl. 284. 1753.

The first record for Southern California is from the Foxesee Creek in the San Bernardino Mts., at 9,000 ft. alt., *F. W. Peirson* 3492.

✓ *Polygala Fishiae* Parry. Proc. Davenport Acad. Nat. Sci. 4:39. 1884.

Apparently widely distributed over the coastal drainage in scattered stations. Aside from the localities mentioned for Ventura and Los Angeles Counties by Abrams (Fl. Los Ang., 211. 1917) and Davidson & Moxley (Fl. So. Calif., 216. 1923), I have seen material from several additional stations: West Fork, Matilija Canyon, Ventura Co., *Hall* 7843 (Univ. Calif. Herb. & Pomona); Rincon Creek, Ventura Co., *Baer* in 1922; Temecula Canyon, Riverside Co., *Munz* 7127; Dulzura, San Diego Co., *Valentine* in 1903, *Stokes* in 1901, and *Mrs. Hagenbock* (all three at Univ. Calif.).

✓ *Ceanothus papillosus* T. & G. Fl. No. Am. 1:268. 1838.

Locally abundant in dense chaparral at about 3,250 ft. alt. on the trail from Holy Jim Canyon to Santiago Peak, on the Orange County side of the Santa Ana Mts., *F. W. Peirson* 3492. The previously reported range of this species is from the Santa Lucia Mts. northward. Our material agrees well with that from the north, though somewhat less pubescent.

✓ *Cornus Nuttallii* Audubon. T. & G. Fl. No. Am. 1:652. 1840.

This species has a wider distribution in Southern California than is commonly realized. It is credited to the San Bernardino Mts. in many references (Abrams, Bull. N. Y. Bot. Gard. 6:429. 1910; Parish, Pl. World 20:247. 1917; Davidson & Moxley, Fl. So. Calif., 267. 1923; Sargent, Man. Trees No. Am., 788. 1922). Others add to this range the San Jacinto Mts. (Sudworth, Forest Trees Pac. Slope, 415. 1908; Jepson, Univ. Calif. Mem. 2:271. 1910; Hall, U. C. Pub. Bot. 1:99. 1907). It can now be reported from the San Gabriel Mts., where two trees were found in Cascade Canyon at 4,400 ft. alt., *I. M. Johnston*, June 28, 1924. In the Palomar Mts. it is common in Doane Valley, *Munz* 8245, and in the Cuyamaca Mts. it occurs on the trail to Cuyamaca Peak, at 6,200 ft., *Munz* 7257.

✓ *Pyrola asarifolia* var. *incarnata* (Fisch.) Rhodora 6:178. 1904.

A large colony, with its plants scattered over perhaps half an

acre, was found on Aug 22, 1923 by F. W. and Mabel Peirson and myself; it occurred on the wet banks of a springy hillside at 8,000 ft. on Vivian Creek in the San Bernardino Mts., *Munz* 7593. First record for Southern California.

✓ *Pyrola minor* L. Sp. Pl. 396. 1753.

First found in Southern California in moist places along the stream below Dollar Lake, San Bernardino Mts., *Peirson* 2587 in 1920. It occurs there fairly plentifully at 8,900 ft., *Munz* 6239, and along the edge of wet meadows on the South Fork of the Santa Ana River at 8,700 ft., *Munz* 6189. Occasional also in the San Jacinto Mts., at the base of trees and on moist banks at the edge of the meadow in Round Valley, *Munz* 6049 and 6395.

✓ *Pyrola secunda* L. Sp. Pl. 396. 1753.

This *Pyrola* can also be reported from Southern California, having been collected, as long ago as 1906, at 6,700 ft. on Lost Creek in the San Bernardino Mts., *J. & H. H. Grinnell* 330 (Cal. Acad. Herb.). It occurs sparingly in Round Valley in the San Jacinto Mts., at 9,000 ft. on the raised edge of a wet meadow, *Jaeger* 1171 and *Munz* 6396.

✓ *Trichostema lanatum* Benth. Lab. Gen. & Sp. 659. 1835.

The typical form of the species, as pointed out by Abrams (Bull. Torrey Bot. Club 34:265. 1907) is a coastal plant. Coming from the north into our range, it extends south at least into San Diego Co. and is characterized by a narrow woolly thyrsum, with flowers 10-15 mm. long and stamens 30-40 mm. long, and by a tendency to a heavy white tomentum on the under side of the leaves. It is represented from Southern California by such specimens as: Sespe Creek, Ventura Co., *Dudley & Lamb* 4787; Saugus, *Hall & Chandler* 7404; Mint Canyon, *Peirson*, 176; Topango Canyon, *Munz & Harwood* 3997 and *Hitchcock* 12; Santa Ana River Canyon, Orange Co., *Munz* 7328; Del Mar, *Spencer* 2266; and San Diego Co., *Brandegee* in 1898.

✓ *Trichostema lanatum* var. *denudatum* Gray Syn. Fl. 2:459. 1886.
T. Parishii Vasey. Bot. Gaz. 6:173. 1880.

The inland form, the var. *denudatum*, has a more open and less woolly inflorescence, with flowers 8 to 10 mm. long, stamens 17-24 mm. long and the leaves scarcely or not woolly below. It ranges from the San Gabriel Mts. eastward and southward, and in its extreme form is quite distinct from the species. A study of a series of specimens convinces me that it is only varietal in rank, many plants approaching the species in one or more characters, for example such collections as: San Antonio Canyon, *Johnston* 2041; Cajon Pass, *Munz, Johnston & Harwood* 4079; Foxesee Creek, San Bernardino Mts., *Munz* 6315; San Jacinto Mts., *Hall* 2155; Warners Springs, *Mrs. Coombs* in 1915. More typical of the variety are: City Creek, San Bernardino Mts., *Johnston & Williams* 2936; Mill Creek, *Crawford*; Hemet Valley, San Jacinto Mts., *Munz* 5819; Santa Rosa Mts., *Munz* 5825; Laguna Mts., *Spencer* 155; Ramona, *Purpus* in 1899; between Jacumba and Campo, *Abrams* 3692; Alpine, *Munz & Harwood* 7149.

✓ *Mimulus Clevelandi* Brandegee. Gard. & For. 8:134. 1895.

Though this has been known only from the mountains in eastern San Diego County, it is common along trails and in cleared places on dry slopes in the chaparral belt of the Santa Ana Mts. The plant is extremely viscid and is only very slightly frutescent. On the Orange County slopes it is common at from 3,200 ft. to 5,200 ft. along the trail from Holy Jim Canyon to Santiago Peak, *Munz* 7768. On the Riverside County slopes it is common at about the same elevations on the Glen Ivy trail to Santiago Peak, *Munz* 7062.

✓ *Pedicularis semibarbata* Gray. Proc. Am. Acad. 7:385. 1868.

This species, which is so common in the pine belt of our mountains, has interesting ecological relations. On August 31, 1923 along the high ridge between Swartout Valley and the Prairie Fork of the San Gabriel River, I had opportunity to make some observations on its habits. At that season whenever the leaves were plucked from a plant, they all came off together and apparently had been cut off from the fleshy caudex. This was true of plant after plant; the cut ends were brown and healed over, and in most cases the rather thick leaves had not yet wilted.

Great numbers of seedlings were everywhere visible, having cotyledons and from one to three leaves. Careful digging of these showed a remarkable development of root-system for one season, the rather fleshy whitish roots going into the soil, almost without branching for some 8 to 10 inches, and generally ending in a firm attachment to roots of *Pinus ponderosa* or *Abies concolor*. Search failed to reveal many plants at any distance from pines or firs, indicating apparently that its distribution is determined partly at least by its opportunity to form the semiparasitic relations with the conifers.

✓ *Penstemon Clevelandi* Gray var. *Stephensi* (Brandege) Munz & Johnston. Bull. Torrey Bot. Club 49:41. 1922.

The varietal status of *P. Stephensi* Brandege (Bull. Torrey Bot. Club 50:215. 1923) as insisted on by Munz & Johnston (Bull. So. Cal. Acad. Sci. 23:36. 1924) is supported by specimens recently received from Mr. E. C. Jaeger, collected by him in 1923 at Keyes Ranch in the Little San Bernardino Mts. It will be remembered that *Stephensi* is known only from the eastern part of the Mohave Desert and *Clevelandi* from the western edge of the Colorado Desert. These specimens coming from the border line between the two deserts are intermediate in character. They agree with the former in the grayish cast of the plant, in the size and color of the flowers, and in the jagged-serrate condition of the leaves. They are like typical *Clevelandi* in the absence of connate-perfoliate leaves; and like the var. *connatus* in having a bearded sterile filament. The whole inflorescence is much more strongly glandular-pubescent than in any other specimens that I have seen for the whole group. Representing a combination of characters as they do, they confirm me in my opinion that *P. Stephensi* is not a distinct species.

✓ *Parishella californica* Gray Bot. Gaz. 7:94. 1882.

A rarely collected plant, but apparently fairly well distributed on the Mohave Desert. The type locality is Rabbit Springs. A fine collection was made in May, 1922, two miles south of Crutts Postoffice, where it was locally abundant in gravelly soil, Johnston 6576.

✓ *Anaphalis margaritacea* (L) B. & H. Gen. 2:303. 1873.

Hall, reviewing the reported occurrence of this species in Southern California, was forced to the conclusion that all such reports were based on misdeterminations (U. C. Pub. Bot. 1:115. 1907). It was reported in 1922 from Barton Flats, San Bernardino Mts., by Davidson (Bull. So. Cal. Acad. Sci. 21:27). We also now have undoubted specimens from a narrow side-canyon which is tributary to Mill Creek Canyon in the San Bernardino Mts. This canyon is on the south side of Mill Creek and about one mile east of Forest Home. It is very narrow and precipitous and in its upper parts has much loose talus. It was in such a situation at about 6,200 ft., that *A. margaritacea* was found by F. W. and Mabel Peirson and myself in August 1923, Munz 7603. It occurred in a few scattered colonies and had the fairly narrow, revolute ascending leaves of the typical form.

✓ *Lepidospartum latisquamum* Wats. Proc. Am. Acad. 25:133. 1890.

L. striatum Coville. Proc. Biol. Soc. Wash. 7:73. 1892 and Contr. U. S. Nat. Herb. 4:140. pl XI. 1893.

This species can now be reported from our region, two collections having recently been made: Swartout Valley, San Gabriel Mts., at 6,650 ft., Sept. 1, 1923, *Munz* 7,700; and Lone Pine Canyon, San Gabriel Mts., at 5,300 ft., *W. M. Pierce on Oct.* 15, 1923. It forms a broom-like, irregularly tufted, erect shrub, 5 to 6 ft. high, and grows in dry, rather gravelly places with such plants as *Artemisia tridentata* and *Chrysothamnus nauseosus* var. *viridulus* Hall.

✓ *Lygodesmia spinosa* Nutt. Trans. Am. Phil. Soc. N. S. 7:444. 1841.

The first report of this species in Southern California can now be made. A small plant, not in flower, but with the characteristic tuft of wool at the base, was collected by Peirson in 1922 in the Swartout Valley region. A visit on Aug. 30 and 31, 1923 to the same region by Peirson and myself, resulted in our finding it fairly abundant on dry slopes and ridges both north (at 7,300 ft. *Munz* 7665) and south (at 8,450 ft., *Munz* 7670) of Swartout Valley. On the north ridge it was associated with such plants of the pine belt as *Eriogonum microthecum* Nutt. (*Munz* 7661), *E. umbellatum* var. *stellatum* Jones, *Galium multiflorum* Kell. var. *parvifolium* Parish. On the south ridge occur *Eriogonum pusillum* T. & G. (*Munz* 7676) and *E. Parishii* Wats. (*Munz* 7680), both unknown previously in the San Gabriel Mts.

✓ *Senecio occidentalis* (Gray) Greene. Pittonia 4:122. 1900.

The first collection made in Southern California was by F. W. and Mabel Peirson and myself, *Munz* 7590, near the summit of San Gorgonio Peak in August 1923. There it is locally abundant about rocks from 11,000 ft. to 11,400 ft. along the trail from Vivian Creek. Det. by Greenman.

