

1.5–2 mm. long, smooth or very finely granulate, usually shiny, back convex, sides obtusish, groove simple or forked at very base; gynobase elongata, ca.  $\frac{2}{3}$  height of nutlets; style reaching to nutlet-tips or definitely surpassing them.—*Pittonia* i. 118 (1887). *C. leiocarpa*, var. *hispidissima* Macbr. Contr. Gray Herb. n. s. xlviii. 43 (1916).

West of and in the Coast Ranges of California, from San Francisco to Point Conception and doubtfully to near Los Angeles.

CALIFORNIA: San Francisco, 1888, *Greene* (G); grassy slopes, Lake Merced, 30 m. alt., *Tracy 1809* (G); Siersville, *Mann* (G); in sand, Gigling Station east of Del Monte, *Heller 6711* (G); Del Monte, *Elmer 3561* (G, UC); Cypress Point, Monterey, *Eastwood 86* (G); Seaside, Monterey, *Eastwood 161* (G); Monterey, 1900, *Eastwood* (G); sand hills beyond Castroville, *Heller 8493* (G); Point Pinos, *K. Brandegee* (UC); Pacific Grove, *Davy 7491* (UC); Gigling Station, 1908, *K. Brandegee* (UC); San Lucia Mts., *Summers 898* (UC); San Lucia Mts., *Summers 589* (UC); Hathaway Hill, 1888, *Summers*, (UC); Salinas River, 1885, *Curran* (G); Lemmon Ranch, Cholame, 1887, *Lemmon 4606* (G); Cholame, 1887, *Lemmon 4613* (G); Lemmon Ranch, 1887, *Lemmon 4559* (G); Casmilla Station, *K. Brandegee* (UC); Surf, 1909, *K. Brandegee d* (UC); Redondo, 1903, *Grant 5500* (UC).

Obviously related to *C. Clevelandii*, var. *florosa* and perhaps not to be kept specifically distinct, although differing in general range and length of style.

48. *C. microstachys* Greene. Erect slender herb 1–5 dm. high; stems commonly with numerous ascending simple or rebranched laterals, hirsute or rarely more or less strigose; leaves linear, obtuse or rounded, 1–6 mm. long, 1.5–5(–8) mm. broad, broadly sessile or the lower ones with a contracted base, hispid or hirsute, rarely somewhat strigose or pustulate; spikes slender, solitary or geminate, naked, 2–8 cm. long, frequently somewhat crowded towards the end of the stem and apparently paniculate; corolla inconspicuous, usually 0.4–1 mm. or rarely even 2.5 mm. broad; fruiting calyces ovate or oblong-ovate, 1.5–3 mm. but commonly 1.5–2 mm. long, sessile, strict or ascending, asymmetrical with the abaxial lobe the longest and most hirsute; mature calyx-lobes linear or linear-lanceolate, connivent above with the tips somewhat spreading, usually united below to form a short siliceous tube, midrib slightly thickened and divaricately short-hirsute, margins ciliate; ovules 4; nutlets 1 or rarely 2, next the abaxial calyx-lobe, acute-ovate to lanceolate, 1.5 mm. long, smooth and shiny, back and sides rounded, groove closed and simple or forked at very base; gynobase very short,  $\frac{1}{4}$  or less height of nutlet; style about as long as gynobase and commonly attaining about  $\frac{1}{2}$  height of nutlet or when two nutlets develop reaching to beyond their middle.—*Pittonia* i. 116 (1887). *Krynitzkia microstachys* Greene in Gray, Proc. Am. Acad. xx. 269 (1885).

Coast Ranges of middle California and the coastal drainage of Southern California.

CALIFORNIA: gravelly slope east of Alder Springs, Glenn Co., *Heller 11444* (G); Colusa County, 1884, *Curran* (G); Wildcat Canyon, *Davy 7046* (UC); Mt. Diablo, 1886, *Greene* (UC); shelving gravelly slope, Mitchell Canyon, Mt. Diablo, *Baker 2810* (G); Salinas road near Del Monte, *Heller 6698* (G); Lewis Creek, 1893, *Eastwood* (UC); Estrella, *Jared* (UC); San Luis Obispo and Monterey counties, 1899, *Jared 2* (G); Santa Barbara, *Elmer 3797* (G); Painted Cave Ranch, *Eastwood 67a* (G, UC); Santa Inez Mts., 1888, *Brandegee* (UC); Fort Tejon, *Xantus 84* (G, TYPE); Tehachapi, 1889, *Brandegee* (G); at roadside, Topango Canyon, *Crawford & Hiatt 995* (G); Topango, 1898, *Barber* (UC); Eagle Rock Canyon, *Grant 241* (UC); Los Angeles, 1884, *Nevin 57b* and *57c* (G); Pasadena, *Grant 239* (UC); San Gabriel Canyon, *Eastwood 8956* (G); Evey Canyon, 900 m. alt., *Johnston 2019* (G); San Antonio Canyon, *Baker 3698* (G); hills near Claremont, *Baker 4779* and *4780* (G); Arrowhead Hot Springs, 480 m. alt., *Spencer 1305* (G); San Bernardino, *Parish 3645* (G, UC); desert slope of San Jacinto Mts., 1020 m. alt., *Jaeger 1873* (G); burn in chaparral, 8 km. northeast of Murietta, 450 m. alt., *Munz & Johnston 5346* (UC); Linda Vista, *Macbride & Payson 797a* (G); Potrero, *Orcutt 1277* (G); San Diego, 1882, *Pringle* (G); Mission Hills, San Diego, *Abrams 3415* (G).

This species is very closely related to *C. Clevelandi* from which it differs in its coarser habit, shorter style, and usually fewer nutlets. The forms most suggestive of that species come from Southern California and have more or less closely appressed pubescence and calyces becoming 2-3 mm. long. These forms are few, however, most specimens being conspicuously bristly and having calyces only 1.5-2 mm. long.

49. *C. nemaclada* Greene. Slender much-branched erect herb 1-3 dm. tall, minutely and sparsely strigose, finely hispid; leaves linear, rather few, 1-3 mm. long, 1-2 mm. broad, obtuse, somewhat appressed, finely hispid, very minutely pustulate; spikes solitary or geminate, slender, naked, becoming loosely flowered, 2-9 cm. long; corolla inconspicuous, less than 1 mm. broad; fruiting calyx oblong-ovate, strictly ascending, 2-4 mm. long, deciduous, obscurely biserial, sessile by an obliquely conic base; mature calyx-lobes linear, connivent above with the slender tips spreading, midrib thickened and more or less abundantly hirsute but near the tip retrorsely setulose, margins sparsely strigose; ovules 4; nutlets 1-4, lanceolate to ovate-lanceolate, smooth, 1.7-2 mm. long, back convex, sides obtuse, the one next the abaxial calyx-lobe always developing, groove opened or closed but usually open at the broad forking; gynobase slender, about  $\frac{1}{2}$  the length of the nutlets; style reaching to about  $\frac{3}{4}$  the height of the nutlets.—*Pittonia* i. 118 (1887).

Coast Ranges of California from Tehachapi to Colusa County; rare.