NEVADA: Densmore Camp, Hunte Creek Canyon, 1800 m. alt., *Kennedy 1606* in pt. (UC); Peterson's Ranch near Reno, 1894, *Hillman* (UC); Peavine Foothills, 1895, *Hillman* (UC); Charleston Mts., *Purpus 6077* (UC). CALIFORNIA: Mt. Stanford, 2640 m. alt., 1886, *Sonne* (UC, ISOTYPE); Castle Peak near highest point, *Heller 7079* (G); Tahoe, 1901, *Boring* (UC); Lake Tahoe Region, 1901, *Setchell & Dobie* (UC); Luthers Pass, 2340 m. alt., *Abrams 4759* (G); Yosemite Valley, 1200–1350 m. alt., *Abrams 4379* in pt. (G); dry situations, Yosemite Valley, *Brewer 6284* (UC); Alta Meadows, 1905, *K. Brandegee* (UC); Andrews Camp above Bishop, 1913, *K. Brandegee* (G, UC); sawmill, Mt. Pinos, 2490 m. alt., *Hall 6523* (UC); rocky ground under pines, Prairie Fork of San Gabriel River, 2100 m. alt., *Johnston 2071* (G); on flats, Kelly's Cabin, Ontario Peak, 2460 m. alt., *Johnston 1620* (G, UC); dry ridge east of Ontario Peak, 2520 m. alt., *Munz 6076* (UC); Coldwater Fork of Lytle Creek, 1725 m. alt., *Johnston 2057* in pt. (G); Mare Flat, 2400 m. alt., *Crawford 934* (G); Little Green Valley, 2160 m. alt., *Hall 24* (UC).

This characteristic species has been greatly misunderstood, and repeatedly confused with *C. ambigua* and *C. intermedia.* It grows in dry sunny clearings in the Yellow Pine belt of the California mountains usually in the company of *C. simulans*, *C. affinis* and *C. Torreyana*.

Ser. X. MOHAVENSES. Nutlets 4, smooth, oblong-ovate or lanceolate-ovate or lanceolate, clearly angled at the sides, decidedly homomorphous; style usually equalling height of nutlets or shorter than latter.

Corolla conspicuous; style clearly surpassing the nutlets, these 2–2.5 mm. long.....42. *C. mohavensis.*
Corolla inconspicuous; style about equalling the nutlets in height or a trifle surpassed by them; nutlets 1.2–2 mm. long.....43. *C. Watsoni.*

42. **C. mohavensis** Greene. Ascendingly branched herb 1–4 dm. tall; stems usually freely branched, short-hispid to hispid strigose; leaves linear or lance-linear, 1–4 cm. long, 1–3 mm. broad, appressed-hispid or strigose, minutely and densely pustulate, obtusish, upper ones reduced; spikes ternate or geminate, usually crowded, 2–6 cm. long, naked; corolla conspicuous, 4–7 mm. broad; fruiting calyces oblong-ovate, 3–5 mm. long, ascending, becoming obscurely biserial, symmetrical, base rounded, deciduous, pedicels ca. 0.5 mm. long; mature calyx-lobes lanceolate, connivent above, midrib somewhat thickened and frequently sparsely hirsute, margins usually more or less silky strigose; nutlets 4, homomorphous, smooth and shiny, rarely obscurely granulate, oblong-ovate or lance-ovate, 2–2.5 mm. long, back low-convex or flattish, margins definitely angled especially towards the apex, groove closed above but forked below and opened at the fork to form a small triangular areola; gynobase columnar-subulate, about ¾ height of nutlets; style clearly surpassing tips of

nutlets.—Pittonia i. 120 (1887). *Krynitzkia mohavensis* Greene, Bull. Calif. Acad. Sci. i. 207 (1885).

Southern Sierra Nevada of California, best known from the vicinity of Tehachapi Mountains.

CALIFORNIA: Andrews Camp, mountains above Bishop, 1913, *K. Brandegee* (G, UC); sand hills near Pampa Station, *Heller 7642* (G); Water Canyon, Tehachapi Mts., 1800 m. alt., *Abrams & McGregor 474* (G); between Mohave and Cameron, 1905, *K. Brandegee* (UC); Mohave Desert, 1884, *Curran* (G, ISOTYPE).

In habit quite similar to *C. oxygona*, and like that species much suggesting *C. muricata* in gross aspect. Although having smooth, wingless nutlets it seems very closely related to *C. oxygona*.

43. **C. Watsoni** (Gray) Greene. Slender strictly branched hispid herb 1–3 dm. high; stems solitary, sparsely to loosely branched, spreading short-hispid; leaves linear to oblanceolate, 1–4(–5) cm. long, 1–4(–5) mm. wide, obtuse or rounded, ascending, hispid and rarely pustulate; spikes solitary or geminate, 1–4(–6) cm. long, occasionally leafy-bracted below; corolla inconspicuous, ca. 1 mm. broad; fruiting calyx ovate or oblong-ovate, 2–3.5(–4) mm. long, subsessile, rounded at base, early deciduous, oldest ones becoming distant; mature calyx-lobes lanceolate, tips usually connivent, midrib hispid and scarcely thickened, margins appressed short-hispid; nutlets 4, homomorphous or practically so, lanceolate, 1.5–2 mm. long, ca. 0.8 mm. broad, smooth, shiny or at times dulled by minute granulations, back nearly flat, margins definitely angled, groove closed or nearly so and forked at base; gynobase subulate, ca. $\frac{2}{3}$ height of nutlets; style equalling nutlets or a trifle surpassed by them.—Pittonia i. 120 (1887). *Krynitzkia Watsoni* Gray, Proc. Am. Acad. xx. 271 (1885). *C. vinctens* Nels. & Macbr. Bot. Gaz. lxii. 143 (1916).

Eastern Washington to western Montana, southward to Nevada and northern Colorado.

MONTANA: Canyon Ferry, 1898, *Brandegee 30* (UC). WYOMING: steep slopes of river banks, Yellowstone River near Junction Butte, *Nelson 5761* (G); Centennial Hills, *Nelson 1684* (G, UC); Point of Rocks, *Nelson 3080* (G, UC); Gorfield Peak, *Nelson 672* in pt. (UC); Rocky Mts., *Nuttall* (G). COLORADO: along railroad tracks near Hot Sulphur Springs, Middle Park, 2280 m. alt., *Ramaley & Robbins 3575* (UC). IDAHO: loose disturbed soil near road, Challis, 1620 m. alt., *Macbride & Payson 3222* (G); dry granite slopes, Mackay, 1750 m. alt., *Nelson & Macbride 1527* (G, UC); sandy slopes New Plymouth, 660 m. alt., *Macbride 81* (G, UC). UTAH: Wasatch Mts., 1800 m. alt., *Watson 858* (G, TYPE of *K. Watsoni*). NEVADA: canyon on southwest base of Mt. Grant, 1410 m. alt., *Heller 10905* (G, UC); Mesia near Goldfield, *Heller 10970* in pt. (G, UC); Tonopah, 1800 m. alt., *Shockley 81* (UC). WASHINGTON: junction of Crab and Wilson creeks, 390 m. alt., *Sandberg &*

Leiberg 249 (G, UC). OREGON: dry ground, Narrows, *Peck 3587* (G); Juniper Springs, 1350 m. alt., *Leiberg 2271* (G, UC); rocky slopes, Mathew Valley near Harper's Ranch, 1100 m. alt., *Leiberg 2235* (G, TYPE of *C. vinctens*; UC, ISOTYPE); clay banks, Mathew Butte, 750 m. alt., *Leiberg 2041* (G).

An interesting species characterized by its four, lanceolate, angled nutlets and well developed style. Although it has been confused with *C. gracilis* it is really quite distinct from that plant in the angling and number of nutlets, length of style, and shape and pubescence of calyx. *Cryptantha vinctens* is a peculiar form of this species having somewhat appressed-pubescent and inconspicuously hispid calyces. The segregate is not separated geographically, and appears to be merely an extreme form whose characters of pubescence are rather completely obliterated by transitional forms clearly referable to *C. Watsoni.*

Ser. XI. GRACILES. Nutlets 1 or rarely 2, smooth, lanceolate, laterally rounded or obtuse, subhomomorphous, axial one always developing and in general slightly larger than the second nutlet when that develops; style reaching to ⅔–¾ height of nutlet.

44. **C. gracilis** Osterh. Slender erectly branched herb 1–2 dm. high; stems usually solitary, sparsely branched, densely spreading short-hispid; leaves not numerous, linear to narrowly oblanceolate, 1–3 cm. long, 1–3 mm. broad, obtuse or rounded, ascendingly short-hispid, usually minutely pustulate, upper leaves reduced; spikes solitary or geminate, usually dense, 1–2 cm. long, naked; corolla inconspicuous, limb 0.6–1 mm. broad; fruiting calyx ovate, divaricate, 2–2.8 mm. long, promptly deciduous, base decidedly conical, sessile; mature calyx-lobes lanceolate, rather densely appressed tawny hispid-villous, tips erect, midrib slightly thickened and inconspicuously short-hispid; nutlets 1 or rarely 2–3 and then more or less unequally developed, lanceolate, 1.5–2 mm. long, ca. 0.8–1 mm. broad, smooth and shiny, acute, back nearly flat, sides rounded at least towards apex, groove usually opened to above middle and scarcely forked below; gynobase ca. ½ height of nutlet; style reaching to ⅔–¾ height of nutlet.—Bull. Torr. Bot. Cl. xxx. 236 (1903). *C. Hillmanii* Nels. & Kenn. Proc. Biol. Soc. Wash. xix. 157 (1906). *C. gracilis*, var. *Hillmanii* Munz & Johnston, Bull. Torr. Bot. Cl. xlix. 39 (1922).

Southern Idaho and eastern Colorado to northern Arizona and southeastern California.

IDAHO: plains of the Snake River, *Palmer 72* (G, UC); without locality, *Henderson 2561* (G). COLORADO: Glenwood Springs, 1920, *Osterhout* (G); dry mesa among junipers, Nucla, 1800 m. alt., *Payson 395* (G). UTAH: