

SOUTHERN CALIFORNIA PLANT NOTES—IV*

PHILIP A. MUNZ

Unless otherwise indicated all specimens cited in this paper are in the Herbarium of Pomona College, Claremont, California.

✓ **Delphinium Parryi** Gray var. **montanum** Munz, n. var.
Caulis et folia glabra. Type, Vincent Gulch, San Gabriel Mts., at 6600 ft., *Munz* 6846, Pomona College Herbarium No. 18068. Ranging at 5000 to 7500 ft. in the San Gabriel and San Bernardino Mts. and at Mt. Pinos. In its smoothness this plant resembles *D. decorum* F. & M., but the leaf-divisions are narrower and the seeds are sharply angled as in *D. Parryi*.

✓ **Delphinium Parryi** Gray var. **subglobosum** (Wiggins) Munz, n. comb.

Delphinium subglobosum Wiggins, Contr. Dudley Herb. Stanford Univ. 1:99. pl. 7. 1929.

Stems glabrous, glaucous; leaves long-pubescent; follicles 6-11 mm. long. Eastern San Diego Co. (Banner, San Felipe, Montezuma Valley, Campbells). Differing from *D. Parryi* which has pubescent stems and follicles 10-15 mm. long, but intergrading with it.

✓ **Delphinium Parishii** Gray var. **pallidum** Munz, n. var.

Flores pallidi, fere albidii; sepalis 6-7 mm. longis. Type, from Seymour Creek, Mt. Pinos, at 5900 ft., June 10, 1923, *Munz* 6954, Pomona College Herbarium No. 20509. I have seen other collections from Mt. Pinos and one from Holcomb Valley in the San Bernardino Mts., *Munz* 10659. The plants here included have been variously treated and bear a superficial resemblance to *D. cuyamaca* Abrams of San Diego Co., but differ from that species by their pubescent follicles. They differ from *D. Parryi* and agree with *D. Parishii* in the possession of a loose cellular coat about the seeds. In *D. Parishii* of lower altitudes the flowers are more definitely blue and the sepals are 8-10 mm. long.

✓ **Sisymbrium diffusum** Gray var. **Jaegeri** Munz, n. var.

Perennis, diffusa, cinereo-tomentosa, 3-5 dm. alta; caulibus foliosis; foliis inferioribus 5-8 cm. longis, cinereis, profunde sinuato-dentatis vel lobatis, cum petiolis brevibus et alatis; foliis superioribus reductis, sessilibus; racemis 5-10 cm. longis; pedicellis porrectis, 4-7 mm. longis, sepalis 2.5-3.5 mm. longis; petalis albis, 3.5-4 mm. longis; capsulis lente porrectis, pubescentibus, 1.5-2 cm. longis, vix 1 mm. crassis, subtorulosis, cum rostro tenue 1.5-2 mm. longo; seminibus circa 0.6 mm. longis.

Type from Westgaard Pass, Inyo Co., *M. E. Jones in July*, 1928, Pomona College Herbarium No. 173484. I have seen also material from Clark Mts. in the eastern Mohave Desert, collected by *Jaeger*, and from Coso Mts., *Coville & Funston* (Gray Herbarium at Harvard). It is a pleasure to name this variety for Mr. E. C. Jaeger whose many years of collecting on the deserts of California have produced such interesting results. The variety differs from typical *S. diffusum* of southern Arizona, New Mexico and Texas by having the leaves more sharply dentate, the sepals 2.5-3.5 mm. long instead of 2 mm. long, and the petals 3.5-4 mm. long instead of 2-3 mm.

*The third paper of this series appeared in the Bull. So. Calif. Acad. 24:47-51, 1925.

Cardamine oligosperma Nutt., T. & G., Fl. N. Am. 1:85. 1838.

This annual crucifer, hitherto known from Monterey Co. northward, and from Topango Canyon, *Hasse*, has recently been collected in San Dimas Canyon, San Gabriel Mts., *Louis C. Wheeler* 506.

✓ **Lesquerella bernardina** Munz, n. sp.

Perennis, omnino argenteo-stellata; caulibus compluribus, ascendentibus, 1-2 dm. altis; laminis foliorum infimorum ovatis aut oblongis, 5-20 mm. longis, integris, obtusis, in petiola longiora subito angustatis; foliis caulium anguste oblanceolatis, 4-12 mm. longis, cum petioliis brevibus; sepalis stellato-puberulentis, 6 mm. longis; petalis aureis, spatulatis, 9-10 mm. longis; pedicellis fructiferis 8-11 mm. longis, ascendentibus vel porrectis et sigmoideis; capsulis subglobosis, 5 mm. crassis, stellato-pubescentibus; stylis 6-9 mm. longis; seminibus 2 in cella utraque, brunneis, compressis, 2-2.5 mm. crassis, non alatis.

Type, from rocky ground under pines, north side of Bear Lake, at the east end of Bear Valley, San Bernardino Mts., *Peirson* 4600, May 16, 1924, Pomona College Herbarium 49820. Other collections from the same region have been made: *Jones* in 1900 and *Johnson* in 1924. The proposed species is nearest to *L. Kingii* Wats. of the Panamint and Providence Mts. and adjacent Nevada and has passed as that species, but *L. Kingii* has petals 6-7 mm. long and style 3-5 mm. long.

✓ **Thysanocarpus laciniatus** Nutt., ex T. & G., Fl. N. Am. 1:118. 1838.

In the typical form of the species the capsules are glabrous, reticulate, broadly elliptic to orbicular, ca. 3 mm. wide including the broad, subentire, greenish or purplish wing which lacks well defined rays. In Southern California it is common on grassy slopes, in washes, etc. below 3500 ft. in the coastal drainage, and is occasional on the Mohave Desert in a green-winged form with broad leaves (Granite Well, Shepherd Canyon, etc.). There is free intergradation with the following varieties:

✓ Var. *crenatus* (Nutt.) Brew. (Bot. Calif. 1:49. 1876). Wing rayed and notched or perforate between the rays. Growing with the species.

✓ Var. *ramosus* (Greene) Munz, n. comb. (*T. ramosus* Greene, Bull. Calif. Acad. 2:390. 1887). Capsule larger, 4 mm. or more wide, including the wings. Santa Rosa, Santa Cruz, and San Clemente Islands.

✓ Var. *affinis* (Greene) Munz, n. comb. (*T. affinis* Greene, Pittonia 4:311. 1901). Capsule 3-3.5 mm. wide, pubescent. Catalina Island and adjacent mainland, to Claremont, Santa Ana Canyon, and Santa Barbara.

✓ Var. *Hitchcockii* Munz, n. var. Capsula conferta, luteo-virida, 2.5-3 mm. lata, scabrella, cum capillis parvis clavatisque. Type, from Dante's Point, Death Valley, P. A. *Munz & C. L. Hitchcock* 11016, April 6, 1928, Pomona College Herbarium No. 145825. Well distributed on the western Mohave Desert, as at Cushenberry, Hesperia, Willow Springs, Mohave, etc.

✓ Var. *rigidus* Munz, n. var. Plantae rigidae, compactae, 3-12 cm. altae, subpurpureae; foliis pinnatifidis; pedicellis porrectis, non recurvatis; capsulis glabris, 2.5 mm. latis, subcrenatis. Type, Laguna Camp, Laguna Mts., San Diego Co., May 16, 1925, *Munz* 9701, Pomona College Herbarium No. 82645. Another collection is from 50 miles southeast of Tecate, Lower California, *Munz* 9572.

✓ **Arabis Shockleyi** Munz, n. sp.

Perennis, cum caudice crasso simpliceque; caule non ramoso, 1-2 dm. alto, stellato-canescente; foliis albidis, stellato-canescentibus; foliis infimis confertis, oblanceolatis vel spatulatis, laminis 1-1.5 cm. longis, 3-5 mm. latis, subintegris, obtusis, in petiola alata et 5-10 mm. longa, angustatis; foliis caulium lanceolato-ovatis, sessilibus; amplexantibus,

acuminatis, 1-2 cm. longis; floribus confertis, 15-25; pedicellis fortibus, stellato-canescens, ascendentibus aut subporrectis, 8-10 mm. longis; calyce laxo stellato, ca. 5 mm. longo, subroseo; corolla subrosea, 1 cm. longa; petalis vix 1 mm. latis, oblanceolato-linearis, erectis; capsulis ascendentibus vel porrectis, subarcuatis, glabris, 5-7 cm. longis, 1.5-2 mm. latis, sine stylis persistentibus; seminibus in 2 ordinibus et 1 mm. longis.

Type, Mellin Mt., near Candelaria, Nevada, *Shockley* 366, May 1884 (Gray Herbarium). Another collection is from a dry canyon on the north slope of the San Bernardino Mts., May 1882, *S. B. & W. F. Parish* 1302 (Gray). Referred to *A. Beckwithii* Wats. by Robinson (Syn. Fl. N. Am. vol. 1, pt. 1:165. 1895), but differing from that species in the more canescent and broader leaves and narrower petals, the type of *Beckwithii* at Gray having petals 14 mm. long with the claw 3-4 mm. wide and cauline leaves very crowded, greenish and about 4 cm. long. Except for the spreading pods, the proposed species superficially resembles *A. subsinuata* Wats.

✓ *Arabis dispar* Jones, Contr. Western Bot. 8:41. 1898.

A. nardina Greene, Leaflets Bot. Obs. 2:70. 1910.

This species seems to have been overlooked to a considerable extent. It is a caespitose perennial, stellate-canescens, with basal leaves tufted, 1 cm. long, 2-3 mm. wide; stems 1-2 dm. tall; petals pinkish, 5-6 mm. long; fruiting pedicels ascending, 3-10 mm. long; capsules erect or ascending, 4-7 cm. long, 3-4 mm. wide, scarcely if at all beaked with a persistent style; seeds nearly in 1 row, broadly margined.

I have seen material from Panamint Mts., *Jones in 1897*, *Munz in 1932*; from Cactus Flat above Cushenberry Canyon, *Jones in 1926*; and from Quail Springs in the Little San Bernardino Mts., *Munz & Johnston* 5214.

✓ *Arabis Johnstonii* Munz, n. sp.

Perennis, caespitosa, stellato-canescens; caulibus ascendentibus, 1-2 dm. longis; foliis infimis spatulatis, circa 1 cm. longis, subintegris, cum petiolis longioribus; foliis caulium oblongo-lanceolatis, subsessilibus, 8-15 mm. longis, 2-3 mm. latis; pedicellis ascendentibus, 6-8 mm. longis; petalis roseis, 8-10 mm. longis, 1.5 mm. latis; calycibus 4-5 mm. longis; capsulis 3-5 cm. longis, 2-2.5 mm. latis; stylis persistentibus, filiformibus, 1-2 mm. longis; seminibus 1.5 mm. latis, alatis.

Type from Kenworthy, San Jacinto Mts. at 4500 ft., *Munz & Johnston* 5485, May 19, 1922, Pomona College Herbarium No. 13275. Very much like *A. dispar* Jones, but with larger flowers and definite persistent styles.

✓ *Arabis maxima* Greene var. *Hoffmannii* Munz, n. var.

Folia viridia, dorsale glabra; petalis albis, 1 cm. longis. Type, from sea-cliff east of Dicks Harbor, Santa Cruz Island, *Hoffmann* 653, Pomona College Herbarium No. 179251; isotype at Santa Barbara Museum. Mr. Hoffmann has one or two additional collections from Santa Cruz I. in the Santa Barbara Museum of Natural History. This plant differs strikingly from *A. maxima* Greene of the mainland in which the leaves are grayish, stellate-pubescent, and the petals are rose, 8-10 mm. long. It is necessary to take up Greene's name for our common cismontane plant of low altitudes instead of *A. arcuata* (Nutt.) Gray, (Proc. Am. Acad. 6:187. 1864) as the name *arcuata* had been used earlier (Shuttlw., ex Godet, Fl. Jura 1:38. 1852). It is characterized by its arcuate spreading capsules which are 5-8 cm. long, by its coarse tall stems (5-8 dm.), and by the basal leaf-blades being 3-5 cm. long.

✓ **Echeveria lagunensis** Munz, n. sp.

Perennis, glauca; caulibus floriferendis fortibus, 2-5 dm. altis, glaucis, subrubris; foliis inferioribus obovatis aut spatulatis, acutis aut acuminatis, 5-15 cm. longis, 3-5 cm. latis, glaucis; foliis caulium amplexantibus, 8-30 mm. longis, 6-20 mm. latis, subrubris, glaucis; paniculis 5-12 cm. latis; pedicellis fortibus, glaucis, 5-15 mm. longis; calycibus glaucis, 5-7 mm. longis, lobis lanceolatis et 3-5 mm. longis; corollis 12-14 mm. longis, subrutillis, lobis 4.5-6 mm. longis, subglaucis.

Type from dry stony slopes, Campbell Ranch, Vallecito Valley, eastern San Diego County, *Munz and Hitchcock* 12612, April 3, 1932, Pomona College Herbarium No. 179249. Another collection is from Vallecito Canyon, Laguna Mts., *Munz* 9864. This species is common between 2000 and 4000 ft. on the desert slopes of the Laguna and Cuyamaca Mts. It is closely related to the more coastal *E. pulverulenta* Nutt. in its glaucous condition, broad leaves in the basal rosette and rather large suborbicular leaves of the stems. But the color of the flowers is brick-red instead of deep red, and the plant as a whole is glaucous rather than pulverulent. It seems to differ from *Dudleya arizonica* Rose (*Addisonia* 8:35, pl. 274, 1923) by the narrower calyx-lobes and lighter red of the petals.

✓ **Ribes amarum** McClatchie, *Erythea* 2:79. 1894.

This shrub from the south face of the San Gabriel and San Bernardino Mts. is characterized by a berry 12-18 mm. thick, subglabrous, and with the spines of the fruit crowded, equal, gland-tipped, 1-2 mm. long.

✓ Var. *Hoffmanni* Munz, n. var. Bacca manifeste pubescens, cum spinis non confertis, inaequalibus, 1-3.5 mm. longis. Type, Gaviota Canyon, April 28, 1926, *M. E. Jones*, Pomona College Herbarium No. 122692. This variety ranges in the canyons from Gaviota to Carpenteria, and is represented by such collections as *Elmer* 3753 from Santa Barbara; *Munz* 9328 from Mountain Drive, Santa Barbara; and *Jones* in 1929 from Carpenteria. It is named for Mr. Ralph Hoffmann of Santa Barbara, through whose efforts many new things are being added to his region.

Whipplea utahensis Wats., *Amer. Nat.* 7:300. 1873.

Known previously from Utah, Nevada and Arizona. Can now be reported from Clark Mt., eastern San Bernardino County, where it was collected by *E. C. Jaeger* on June 22, 1930.

✓ **Photinia arbutifolia** (Ait.) Lindl., *Trans. Linn. Soc.* 13:103. 1821.

As this species occurs on the mainland, its fruit commonly averages about 6 mm. in diameter. On Catalina and San Clemente Islands the berries are conspicuously larger and finer and there may be recognized.

✓ Var. *macrocarpa* Munz, n. var. Bacca 8-10 mm. longa. Type, from "Lemon Tank" canyon, San Clemente Island, *Munz* 6759, Pomona College Herbarium No. 18981.

✓ **Amelanchier alnifolia** Nutt. var. *venulosa* (Greene) Jeps., *Man. Fl. Pls. Calif.*, 510. 1925.

This is the most common form in Southern California, occurring in the San Gabriel and San Bernardino Mts., Topatopa Mts., and the eastern slopes of the San Jacinto and Laguna Mts. It is characterized by villous-tomentose young growth, leaves elliptic-oblong, 1.5-2.5 cm. long; petals oblanceolate, 8-10 mm. long; fruit purplish, 6-10 mm. long. Near to it but apparently different is

✓ Var. *cuyamacensis* Munz, n. var. Folia oblongo-suborbiculares, 2-4.5 cm. longa; petalis 10-13 mm. longis; fructibus 6 mm. longis. Type, Cuyamaca Lake, *Munz* 8099, Pomona College Herbarium No. 48176. Other collections are French Valley, Palomar Mts., *Munz* 8298; and Cuyamaca, *Spencer* 865; Dark Canyon, San Jacinto Mts., *Munz & Johnston* 8701; Buckmans Springs, *Feudge* 1687.

✓ Var. *nitens* (Tidestrom) Munz, n. comb. (*Amelanchier nitens* Tidestrom, Proc. Biol. Soc. Wash. 36:182. 1823.) Young growth, ovary, calyx, etc. quite glabrous; leaves bright green, shining, 1-2 cm. long, broadly oval to almost round. Described originally from the Charleston Mts. of southern Nevada, this plant occurs in the Old Dad Mts., *Jones* 25392.

✓ **Potentilla Peirsoni** Munz, n. nom.

P. cuneifolia (Rydb.) Wolf, Monog. *Potentilla*, 139. 1908, not Bertol., Misc. Bot. 24:15. 1863. *Drymocallis cuneifolia* Rydb., Monog., 204, pl. 111. 1898.

Since this species must be renamed, it is a pleasure to name it for Mr. F. W. Peirson, whose collections on the desert slopes of the San Gabriel Mts. rediscovered a plant that had not been collected for many years. (See, *Munz & Johnston*, Bull. So. Calif. Acad. 24:25. 1925.)

✓ **Parosela mollis** (Benth.) Heller, Cat. N. Am. Pl. ed. 2:6. 1900.

Calyx 3-4 mm. long; corolla slightly longer. Colorado and eastern (rare) Mohave Deserts.

✓ Var. *mollissima* (Rydb.) Munz, n. comb. (*Parosela mollissima* Rydb., No. Amer. Fl. 24:64. 1919). Calyx 5-8 mm. long; corolla usually included. Mohave and Colorado Deserts to Nevada.

✓ **Petalostemon Searlsiae** A. Gray, Proc. Amer. Acad. 8:380. 1873.

Heretofore known from Nevada, Arizona and Utah. Collected on May 28, 1930 in a wash in Pahrupm Valley in the eastern part of San Bernardino County by *E. C. Jaeger*.

✓ **Astragalus Douglasii** Gray, Proc. Am. Acad. 6:215. 1864.

Perennial, with procumbent stems 3-6 dm. long; leaves short-petioled, 4-10 cm. long; leaflets 15-25, 1-2 cm. long; peduncles 3-5 cm. long; racemes 5-15—flowered, the flowers not crowded; calyx 4-5 mm. long, the lobes subulate, almost as long as the tube; corolla cream-colored, 8 mm. long; pod thin-walled, elongate-ellipsoid, 3-4 cm. long, 1.5-2 cm. thick, strigulose. Dry slopes and plains above 3000 ft. altitude, in Bear Valley and western end of San Gabriel Mts.; San Miguel Island and South Coast Ranges.

✓ Var. *megalophysa* (Rydb.) Munz & McBurney, n. comb. (*Phaca megalophysa* Rydb., No. Amer. Fl. 24:341. 1929). Corolla 10 mm. long; pod 5-6 cm. long. Mescal Creek, San Gabriel Mts. to Bear Valley.

✓ Var. *Parishii* (Gray) Jones, Contr. W. Bot. 8:6. 1898. (*Phaca valli-cola* Rydb., No. Amer. Fl. 24:343. 1929; *P. pseudocarpa* Rydb., l. c. *P. Deaneii* Rydb., l. c., 355.) Fruiting peduncles spreading, arcuate, with racemes 1 dm. long; calyx-lobes short-deltoid, one-third to one-fourth as long as the tube, white-margined with pubescence; pod fairly firm, 4-5 cm. long. Bear Valley; San Jacinto Mts. to Palomar and Laguna Mts.

✓ Var. *perstricta* (Rydb.) Munz & McBurney, n. comb. (*Phaca perstricta* Rydb., No. Amer. Fl. 24:344. 1929). Fruiting peduncles ascending, strict, with racemes 1-2 dm. long; calyx as in var. *Parishii*; pod very thin-walled, 5-6 cm. long. Jacumba and Laguna Mts. to Lower California.

✓ **Astragalus insularis** Kell. var. **Harwoodii** Munz & McBurney, n. var.

Annual, expansa, infra ramosa, 1-3 dm. alta, subpurpurea, canescens; foliis 4-6 cm. longis; pinnis 15-21, strigosis, linearo-oblongis, 9-14 mm. longis; racemis cum floribus paucis; pedunculis 2-4 cm. longis; calycibus albostrigosis, lobis lanceolatis; corollis subpurpureis, 6 mm. longis; capsulis oblique ovoideo-lunatis, subpurpureis, strigosis, 1.5-2 cm. longis, 1 cm. latis, sessilibus.

Type from Blythe Junction, Colorado Desert, *Munz & Harwood* 3592, Pomona College Herbarium No. 7587. Growing on sandy flats; collected also at Desert Center, Riverside County, *Jones* in 1924, and at McCoy Wash, *Hall* 5945. It differs from *A. insularis* of Lower California by its purplish tinge, more ashy pubescence, and larger fruits, though these are shaped as in the species.

✓ **Astragalus Vaseyi** Wats., Proc. Amer. Acad. 17:370. 1882.

Perennial, loosely branched from the base, decumbent, with stems 2-5 dm. long, strigose-canescent throughout; leaves 5-10 cm. long; leaflets oblong to elliptic, 5-20 mm. long, silky-strigose, 9-21; peduncle 5-10 cm. long; calyx silvery-strigose, 5 mm. long, the teeth almost equaling the tube; corolla purple, 7-8 mm. long; pod turgid, oblique-ovoid, sessile, canescent, flattened toward the tip, 10-14 mm. long, 6-7 mm. thick. Dry rocky slopes western edge of Colorado Desert, from Grapevine Springs to Jacumba and Mountain Springs.

✓ Var. *metanus* (*Jones*) *Munz & McBurney*, n. comb. (*A. metanus* M. E. Jones, Proc. Calif. Acad. ser. II, 5:666. 1895). Calyx-hair black, the calyx-teeth tending to be half as long as the tube; pod flattened in upper third. Mountain Springs into northern Lower California.

✓ Var. *Johnstonii* *Munz & McBurney*, n. var. Viridior et glabrior; calyce atro-pubescente, tubo 3-4 mm. longo, dentibus subulatis, 1 mm. longis; capsulis membranaceis, strigulosis, 15-22 mm. longis, 8-9 mm. crassis, in apice vix compressis. Type from Keyes Ranch, Little San Bernardino Mts., *Munz & Johnston* 5271, Pomona College Herbarium No. 13986. Other collections are: Morongo Pass, *Jaeger* in 1921; Keyes Ranch, *Gilman* in 1926; The Pipes, *Jones* in 1927; Desert Queen Mine, *Jaeger* in 1926; Eagle Mts., *Munz* 4935a.

✓ **Astragalus pchnostachyus** Gray var. **lanosissimus** (Rydb.) *Munz & McBurney*, n. comb.

Phaca lanosissima Rydb., No. Amer. Fl. 24:357. 1929.

Along the coast, Los Angeles County, as at Ballona. Differs from *A. pchnostachyus* of coastal central Calif. by being silvery white instead of canescent, and having the calyx-teeth one-fourth to one-third as long as the tube instead of half as long.

✓ **Astragalus Crotalariae** (Benth.) Gray, Proc. Am. Acad. 6:216. 1841.

A. limatus Sheldon, Minn. Bot. Studies 9:126. 1894; not *A. Crotalariae* of most recent authors.

Erect or ascending, perennial, 2-7 dm. high; leaves 1-2 dm. long; leaflets 11-19, oblong to obovate, 1-3 cm. long; peduncles 1-1.5 dm. long; calyx strigose, nigrescent, 7-8 mm. long; corolla reddish-purple, 2 cm. long; pods oblong-cylindric to oblong-ovoid, 1.5-2.5 cm. long, 10-14 mm. wide and thick, subglabrous or strigillose, reticulate-veined, 1-celled, subsessile or with stipe 1-2 mm. long. Common on dry sandy plains, and in washes, Colorado Desert.

✓ Var. *Davidsonii* (Rydb.) *Munz & McBurney*, n. comb. (*Phaca Davidsonii* Rydb., No. Amer. Fl. 24:362. 1929). Corolla 15 mm. long; pod 7-8 mm. wide. Antelope Valley, Mohave Desert.

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Astragalus Antiselli Gray, Bot. Calif. 1:152. 1876.

A. Antiselli var. *phoxus* Jones, Contr. Western Bot. 10:65. 1902. *Homalobus MacGregorii* Rydb., Bull. Torrey Club 50:276. 1923). Perennial, erect, few-stemmed; leaves 5-15 cm. long; leaflets 15-31, oblong to elliptic, often subglabrous above; peduncle 5-20 cm. long, raceme crowded at anthesis; calyx 4-5 mm. long; corolla cream-color, 10-14 mm. long; pod strongly compressed, glabrous; linear-elliptic, with both sutures curved, 2-2.5 cm. long, 5-6 mm. wide, with a strigillose stipe 10-15 mm. long. Dry slopes and hills, from Los Angeles to San Luis Obispo Counties.

Var. *gaviotus* (Elmer) Munz & McBurney, n. comb. (*A. gaviotus* Elmer, Bot. Gaz. 39:54. 1905). Leaves canescent; pods strigose, 6-10 mm. wide, with stipe 6-8 mm. long. Gaviota Pass, Santa Barbara Co. Examples: Gaviota, *K. Brandegee* in 1909; The Sisquoc, *M. S. Baker* in 1895; bluffs 20 miles northwest of Santa Barbara, *Munz*. 9293.

Astragalus trichopodus (Nutt.) Gray, Proc. Amer. Acad. 6:218. 1853.

Perennial, erect, 3-6 dm. tall, sparsely strigose; leaves 1 dm. long; leaflets 25-35, oblong, 1-2 cm. long; peduncle 5-15 cm. long, with shorter racemes; corolla whitish, 10-12 mm. long; pods subglabrous, ellipsoid, 2-3.5 cm. long, 1 cm. wide, 4 mm. thick, with both sutures convex, with strigulose stipe 8-10 mm. long. Common on grassy slopes, Santa Ana Canyon to Whittier; occasional northward to South Coast Ranges.

Var. *capillipes* (Jones) Munz & McBurney, n. comb. (*A. capillipes* M. E. Jones, Revision Astragalus, 117. 1923). Pods 2 mm. thick, upper suture straight. Catalina Island.

Astragalus pachypus Greene, Bull. Calif. Acad. 1:157. 1885.

With heavy woody caudex; stems several, erect, stout, 3-8 dm. tall, silvery-strigose; leaves glabrate, 5-12 cm. long; leaflets 13-21, linear; peduncles 1-2 dm. long; calyx partly black-hairy; corolla whitish, 1.5 cm. long; pod coriaceous, compressed, oblong, almost 2-celled, 2 cm. long, 5 mm. wide, slightly arcuate, with both sutures prominent and cord-like, and with stout stipe 5-7 mm. long. Dry slopes and ridges, from region of Mt. Pinos, Lebec, Tehachapi, etc. northward.

Var. *Jaegeri* Munz & McBurney, n. var. Corolla aurea, 12-13 mm. longa. Type, from dry slopes on divide east of Dripping Springs, Riverside County at 1700 ft., *Munz* 9842, Pomona College Herbarium No. 97119. Other specimens: Temecula, *Parish* 1134; Aguanga, *Jaeger* in 1925; Dripping Spring, *Munz* 5118; Lamb's Canyon near Banning, *Spencer* 1771.

Astragalus Peirsonii Munz & McBurney, n. sp.

Annua, erecta, 3-6 dm. alta, albo-strigulosa; foliis 5-9 cm. longis; rhachibus complanatis, 1-1.5 mm. latis; pinnis 9-13, parvis, oblongis aut linearibus, 2-6 mm. longis, 0.5-1.5 mm. latis, subsericeis; pedunculis 6-10 cm. longis; calycibus 4-5 mm. longis; lobis 1-1.5 mm. longis, lanceolatis aut subulatis; corollis 10-12 mm. longis, subpurpureis aut roseis; capsulis membranaceis, albis, 2-2.5 cm. longis, 1.5 cm. crassis.

Type from sand dunes between Holtville and Yuma, Imperial County, *Munz & Hitchcock* 12132. April 5, 1932. Pomona College Herbarium No. 179,250. Other collections from the same region: *Peirson* 7194, *Gilman* in 1928, *Jones* in 1926. It was Mr. Peirson's collection that first made me realize the distinctness of this plant. It is nearest to *A. Coulteri* Benth. but differs in being annual, in having a flattened rachis, and the leaflets reduced to linear-oblong structures not over 6 mm. long (in *A. Coulteri* they are obovate, 8-12 mm. long), and in the corolla being 10-12 mm. rather than 13-15 mm. long.

Linum puberulum (Engelm.) Heller, Plant World 1:22. 1897.

This yellow-flowered *Linum* can now be added to the flora of the state, having been collected on rocky hills, 30 miles east of Baker, Mohave Desert, on May 25, 1930 by Arthur and French Gilman.

*Polygala subspinos*a Wats., Amer. Nat. 7:299. 1873.

Hitherto known from Nevada and Arizona at the westernmost stations, this is now brought to our borders at Chloride Cliff, Death Valley, *Jaeger* 1101.

✓ *Euphorbia polycarpa* Benth., Bot. Voy. Sulphur., 50. 1844.

Glabrous prostrate perennial; leaves 2-5 mm. long, stipules lanceolate, ciliate, free appendages broader than the purplish glands; capsule 1.5 mm. long; seeds oblong, 4-angled. Frequent on dry slopes and mesas San Diego to Pasadena and Riverside.

1. Var. *appendiculata* (Engelm.) Munz, n. comb. (*E. cinerascens* var. *appendiculata* Engelm., Bot. Mex. Boundary, 186. 1859. *E. polycarpa* var. *vestita* Wats., Bot. Calif. 2:73. 1880. *E. melanadenia* Torr., Pac. R. R. Rep. 4:135. 1857.) Stems ascending; herbage hoary with appressed pubescence. Dry stony hillsides, along south front of Santa Monica and San Gabriel Mts. to Arizona.

✓ *Ceanothus megacarpus* Nutt. var. *insularis* (Eastw.) Munz, n. comb. *C. insularis* Eastw., Proc. Calif. Acad., ser. IV, 16:362. 1927.

Leaves often opposite, 1.5-4 cm. long, 1-1.5 cm. wide; capsules scarcely if at all horned. Catalina, Santa Cruz and Santa Rosa Islands. Differing from *C. megacarpus* of the mainland, which has leaves 1-2 cm. long and capsules with 3 conspicuous divergent horns, but intergrading with it, especially on Catalina Island and in the Santa Monica Mts.

Colubrina californica Johnston, Proc. Calif. Acad., ser. IV, 12:185. 1924.

This Arizona and Lower California species grows in canyons at the southeastern end of the Eagle Mts., Riverside County, *Jaeger* in 1930 and *Johnston* 3788.

Glossopetalon pungens Brandege, Bot. Gaz. 27:445. 1899.

So far as I know this species has been reported only from the Sheep Range of southern Nevada. In June, 1930 it was collected by *E. C. Jaeger* on Clark Mountain, in the eastern Mohave Desert, San Bernardino Co., California.

✓ *Sphaeralcea ambigua* Gray, Proc. Amer. Acad. 22:292. 1887.

Panicles crowded; calyx 6-12 mm. long; petals brick red, 10-20 mm. long. Common in canyons and on dry slopes and mesas, Mohave Desert and western edge of Colorado Desert; to Arizona and Nevada.

Var. *Keckii* Munz, n. var. Panicle laxa; calycibus 12-20 mm. longis; petalis 2-3 cm. longis. Type, from Corn Springs, Chuckwalla Mts., Colorado Desert, *Munz & Keck* 4835, Pomona College Herbarium No. 14103. Common from Needles to Blythe and Salton Sea.

✓ *Gilia Jaegeri* Munz, n. sp.

Humilis, caespitosa, subglanosa; ramis numerosis, 2-5 cm. altis, glanduloso-pubescentis, denso foliosis; foliis fere oppositis, 1-1.5 cm.

longis, cum 3 lobis complanatis, lobo terminale 6-7 mm. longo, lobis lateralis 4-6 mm. longis; floribus confertis, in axillis superioribus solitariis; calycibus 8-9 mm. longis, inter lobis membranaceis; lobis calycis complanatis, inaequalibus, spinosis; corollis manifeste albis, anguste infundibuliformibus, ca. 2 cm. longis, tubis 12 mm. longis, lobis 7-8 mm. longis, late oblanceolatis; staminibus in tubo superiore insertis, in fauce inclusis, parte libera filamentorum 2-3 mm. longa; antheris ca. 0.6 mm. longis; stylis 2 mm. longis; stigmatibus 3 mm. longis; capsulis oblongis, 2 mm. longis; seminibus non visis.

Type, from Tahquitz Peak, San Jacinto Mts., July 1, 1921, collected by Jaeger, sent to Gray Herbarium by Mary F. Spencer under *G. pungens*, No. 1726. This proposed species resembles *Phlox austromontana* in habit, but seems to be a very distinct species of *Gilia* in the section *Leptodactylon*, peculiar in its flattened leaves and low stature.

✓ *Salvia Brandegei* Munz, n. nom.

Audibertia stachyoides var. *revoluta* Brandg., Proc. Calif. Acad., ser. II, 1:216. 1888. *Salvia mellifera* var. *revoluta* Munz, Bull. So. Calif. Acad. 26:23. 1927. Not *S. revoluta* Ruiz & Pavon.

After having seen this species growing on Santa Rosa Island, I am convinced that it possesses characters sufficient to warrant its specific segregation from *S. mellifera* Jeps. The corolla is widely gaping, lavender not bluish, the stamens are scarcely exerted, the corollatube has hair well distributed within and not in a narrow band, the leaves are strongly revolute. In fact the whole appearance of the growing shrub is not suggestive of *S. mellifera*.

✓ *Castilleja miniata* Dougl. var. *oblongifolia* (Gray) Munz, n. comb.

C. oblongifolia Gray, Syn. Fl. N. Am., vol. 2, pt. 1:296. 1878. *C. montana* Congdon, Erythra 7:188. 1900.

A study of the type of *oblongifolia* at Gray Herbarium reveals it to be nothing more than an unusually broad-leaved plant of the southern form of *C. miniata*. Most California material differs from typical *miniata* of the region to the north by a more compact spike and more erect galeas. Our local plants which have been treated by various authors as *C. oblongifolia* should be called *C. Martini* Abrams.

✓ *Solanum Wallacei* (Gray) Parish, Proc. Calif. Acad., ser. III, 2:164. 1901.

This species is characterized by its tawny viscid-villous pubescence, large oblong-ovate leaves; calyx 5-6 mm. long; corolla 2-4 cm. wide; fruit dark purple, 1.5-2.5 cm. thick. It is apparently confined to Catalina Island.

✓ *Solanum Clokeyi* Munz, n. nom.

S. arborescens Clokey, Bull. So. Calif. Acad. 30:60. 1931; not *S. arborescens* Moench.

Like *S. Wallacei* in foliage, somewhat less viscid-villous; calyx 3-4 mm. long; corolla 1.5-2 cm. wide; fruit yellow, 1-1.5 cm. thick. I have seen material from Santa Cruz Island only.

✓ *Solanum Xanti* Gray, Proc. Amer. Acad. 11:90. 1876.

Leaves ovate, the stems short-villous with white, mostly non-glandular hairs; calyx 5-6 mm. long; corolla 1.5-3.5 cm. wide; berry greenish, 6-8 mm. thick. Open places in chaparral, about oaks, etc.. Bouquet

