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California Miscellany III

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CALIFORNIA MISCELLANY III^aPHILIP A. MUNZ AND JOHN C. ROOS^b

Abbreviations used in citing herbaria are those published by Lanjouw and Stafleu (Regnum Vegetabile 2: 131-144, 1954). We wish to express our gratitude to the curators in charge of the various California herbaria for their kindness in letting us examine material in their charge and of the Gray Herbarium for a loan of South American Nitrophila.

CRYPISIS NILIACEA Fig. & DeNot., Mem. Accad. Torino II. 14: 322, 1854.

C. aculeata of previous California references, not (L.) Ait.

Chase (Hitchcock, Man. Grasses U. S., ed. 2, 433, 1950) lists this introduced grass as being found in the Sacramento and San Joaquin Valleys and in Humboldt, Santa Clara and Los Angeles counties of California. We have seen material also from Johnstonville, Lassen Co., *Hoover* 4680 (UC); Stone Coal Valley, Pitt River, Modoc Co., July 21, 1935, *L. Whitney* 3563 (UC); and farther south: from dry ing mud flats, San Jacinto River bottomland at 1400 feet, June 4, 1952, 1.5 miles southeast of Perris, Riverside Co., *J. C. Roos* 5735 (DS, GH, NY, RSA, UC, US); and mud flat at Cuyamaca Lake, San Diego Co., Sept. 29, 1953, *H. W. Baker* (RSA).

ENNEAPOGON DESVAUXII Beauv., Ess. Agrost. 82, 161, 1812.

Pappophorum wrightii Wats., Proc. Am. Acad. Sci. 18: 178, 1883.

Not previously reported from California, this grass has been known from Utah and Texas to Arizona and South America. It was collected on a limestone slope, south side of Clark Mtn., eastern San Bernardino Co., at 6000 ft., Sept. 3, 1950, *J. C. Roos* 4970 (DS, NY, RSA, UC, US).

LEERSIA ORYZOIDES (L.) Swartz, Prodr. Veg. Ind. Occ., 21, 1788.

Known from many stations in northern California this grass was reported long ago from San Bernardino, where it was collected by *S. B. Parish*, Oct., 1885 no. 1753 (DS) and Oct. 20, 1904, no. 5344 (DS). More recent specimens are from Warm Creek between San Bernardino and Colton, Oct. 14, 1951, *J. C. Roos* 5322 (RSA, US); and at the outlet of Fairmont Park Lake, Riverside, Oct. 24, 1951, *John & Lucille Roos* 5345 (RSA, UC).

ORYZOPSIS MICRANTHA (Trin. & Rupr.) Thurber., Proc. Acad. Nat. Sci. Phila. 1863: 78, 1863.

We have previously reported this species from the Clark and Kingston Ranges of eastern San Bernardino Co. (El Aliso 2:219, 1950). It is now known also from Inyo Co. where it was found at 8800 ft. in Wyman Canyon, White Mts., July 28, 1952, *John & Lucille Roos* 5840 (DS, NY, RSA, UC, US).

^aNumber II of this series appeared in El Aliso, 2: 217-238, 1950.

^bCollege of Medical Evangelists, Loma Linda, California.

Puccinellia parishii Hitchc. Proc. Biol. Soc. Wash. 41:157, 1928.

The figure in Hitchcock (Man. Grasses U. S., 77, ed. 2, 1950 as revised by Chase) shows the panicle with suberect branches. More mature material from the type locality (Rabbit Springs, Mojave Desert, San Bernardino Co.) taken April 26, 1950, *John & Lucille Roos 4768* (NY, RSA, US) shows divaricate to more or less spreading-reflexed branches.

Setaria verticillata (L.) Beauv., Ess. Agrost. 51, 178, 1812.

This introduced grass was reported many years ago from a collection made by Johnston at Upland in western San Bernardino Co. Other California collections seen are: San Diego, *Dr. Blaisdell* (UC); edge of orchard, corner of Iowa Ave. and Eighth St., Riverside, May 14, 1952, *J. C. Roos 5660* (NY, RSA); lemon orchard, Carpinteria, Santa Barbara Co., Aug. 3, 1948, *C. F. Smith 2228* (CAS); Lodi, San Joaquin Co., *M. K. Bellue in 1938* (CAS).

Sporobolus flexuosus (Thurb.) Rydb., Bull. Torrey Bot. Club 32:601, 1905.

A number of localities in the southern part of the state can now be cited for this species: Inyo Co., rocky slope 2 miles east of Skiddoo, *R. Hoffmann*, Sept. 20, 1931 (CAS); San Bernardino Co.: edge of alkali swamp, Saratoga Springs, south end of Death Valley, Oct. 15, 1937, *Munz 15235* (POM); dry sandy slopes, Joshua Tree, at 3000 ft., Oct. 21, 1950, *John & Lucille Roos 5016* (NY, RSA, UC, US); sandy wash, Valley Wells Station, at 3700 ft., Sept. 1, 1950, *J. C. Roos 4949* (NY, RSA, UC, US). Riverside Co.: sandy slope east side of Asbestos Mountain at 3500 ft., Sept. 14, 1946, *J. C. Roos 3021* (RSA, US). Earlier records were given in Munz, Man. So. Calif. Bot., 42, 1935.

Stipa arida Jones, Proc. Calif. Acad. Sci. III, 5:725, 1895.

In addition to the record given by Munz (Leaflets W. Bot. 3:83, 1941) for the Funeral Mts., Inyo Co., we can report this grass from eastern San Bernardino Co.: rocky limestone ridge 1.5 miles southwest of Coliseum Mine, Clark Mts., at 5700 ft., Aug. 5, 1950, *J. C. & A. R. Roos 4894* (CAS, NY, RSA, UC, US).

Nitrophila mohavensis Munz & Roos sp. nov. (Figs. 1-3)

Perennial with extensive heavy underground rootstock and erect subarticulate bushy shoots; stems mostly 0.5-0.8 dm. high, glabrous, pinkish, compactly branched, somewhat angled especially when dry; leaves opposite, amplexicaul, thickish, round-ovate, concave above, 0.2-0.3 cm. long, \pm mucronate-acute, light green with somewhat hyaline margin; flowers mostly solitary in upper leaf-axils, sessile; calyx-lobes oblong-ovate, ca. 2 mm. long, rose-colored when fresh; stamens 5, ca. two-thirds as long as sepals; pistil equaling stamens; seed black, shining, lenticular, ca. 1.2 mm. long and 1 mm. broad. (Perennis; caulibus foliosis, 0.5-0.8 dm. altis, glabris, rosaceis, ramosis, subangulosis; foliis amplexicaulibus, late ovatis, supra concavis, 0.2-0.3 cm. longis, \pm mucronato-acutis; floribus in axillis solitaribus, sessilibus; lobis calycis oblongo-ovatis, 2 mm. longis, roseis; staminibus ca. 1.2 mm. longis; seminibus nigris, lenticularibus, ca. 1.2 mm. longis, 1 mm. latis.)

Type, "locally abundant in heavily alkaline mud with *Cordylanthus tecopenis*, *Distichlis stricta* and *Cleomella brevipes*, open flats of Amargosa Desert, 3 miles northeast of Death Valley Junction, Inyo Co., California on Ash Meadows road," June 13, 1954, at 2050 feet, *J. C. and A. R. Roos 6140*, Rancho Santa Ana Botanic Garden Herbarium sheet no. 89531. The type collection is being distributed as follows: CAS, COLO, DS, GH, K, MO, NY, RM, UC, US, WTU. Additional

collections from the same place are: Nov. 1, 1953, *John & Lucille Roos 6036* (RSA); May 7, 1954, *John & Lucille Roos 6079* (CAS, RSA); July 18, 1954, *J. C. Roos 6194* (CAS, DS, COLO, GH, K, MO, NY, RSA, RM, UC, US, WTU); Sept. 14, 1954, *John & Lucille Roos 6234* (RSA).

The junior author reports the proposed species as apparently restricted to a roughly oval area straddling the Ash Meadows road, extending north-south about 2 miles or more and east-west about 1 mile or more. It is in a very strongly alkaline moist soil and in no place has it been found with *N. occidentalis*, although the latter grew near. It has not been found at Ash Meadows or on the Nevada side of the state line. The bases of many of the stems of the dried plants are surrounded by a ring of white salt.

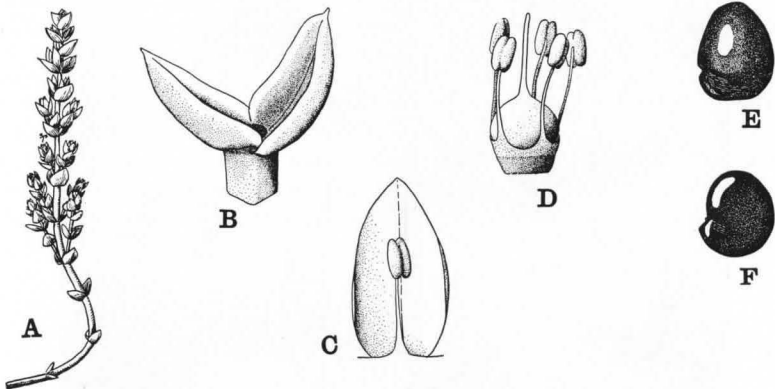


Fig. 1. *Nitrophila mobavensis*. A. Leafy stem, x 1. B. Pair of leaves, x 5. C. Calyx lobe and stamen, x 5. D. Pistil and stamens, x 5. E. Seed, x 10. F. Seed of *N. occidentalis*, x 10.



Fig. 2. *Nitrophila mobavensis*. Habitat, moist alkaline flat in Amargosa Desert. Photo by J. C. Roos.



Fig. 3. *Nitrophila mohavensis*. Tufted plants from underground rootstock. Photo by J. C. Roos.

The genus *Nitrophila* (Chenopodiaceae) is reported (Ulbrich in Engler and Prantl, *Die natuerlichen Pflanzenfamilien*, ed. 2, 16c: 455, 1934) as consisting of 6-7 species. Of these, *N. occidentalis* (Nutt.) Wats. and *N. mexicana* Ulbrich are North American and have linear leaves. *N. mucronata* (Phil.) Ulbrich, *N. atacamensis* (Phil.) Hieron., *N. australis* Chod. & Wilcz., *N. densiflora* (Phil.) Ulbrich and *N. kunzei* Ulbrich are Chilean or Argentinian. Of them *N. mucronata* and *N. densiflora* are described as having oblong-ovate leaves which would not agree with our species; *N. australis* as oblong to subspatulate or sublinear, *N. atacamensis* as fleshy and obovate-oblong, and *N. kunzei* as fleshy and ovate to cuneate. Thus, either in leaf shape or in fleshiness or in both, our plant differs from these South American species, of which only limited material has been available.

PORTULACA PARVULA Gray, Proc. Am. Acad. Sci. 22:274, 1887.

The genus *Portulaca* has had only one species represented in California, namely the introduced weed *P. oleracea* L. Recently two collections have been made of the small desert annual native from Arizona to Mo., Texas, and northern Mexico. It has small yellow petals, which dry reddish, and very small capsules. San Bernardino

Co.: sandy desert wash, Valley Wells, eastern Mojave Desert, at 3700 ft., Sept 1, 1950, *J. C. Roos 4951* (CAS, DS, GH, NY, RSA, UC, US). Riverside County: sandy flats at Hidden Valley Campground, Little San Bernardino Mts., at 4000 ft., Oct. 18, 1952, *John & Lucille Roos 5900* (CAS, DS, NY, RSA, UC, US).

STANLEYA PINNATA (Pursh) Britt. subsp. *inyoensis* Munz & Roos, subsp. nov.

Plant a distinct shrub, 5-15 dm. tall, from a basal trunk 4-8 cm. thick, erect, much branched and bushy above the base, yellow-green throughout and scarcely if at all glaucous, glabrous; leaves coriaceous, the lower 6-10 cm. long, mostly with 1-3 pairs of \pm separate lateral lanceolate entire pinnae 1-2.5 cm. long and with terminal lance-ovate leaflet 3-5 cm. long; upper leaves mostly entire, subsessile to short-petioled, lanceolate, 2-6 cm. long; inflorescence 2-5 dm. long in fruit; pedicels spreading-ascending, 5-7 mm. long; sepals 8-10 mm. long; petals golden yellow, ca. 10 mm. long, the claw villose on inner surface, ca. 5 mm. long, the blade glabrous, oblong, 1.5-2 mm. wide; filaments pubescent at base; stipe 8-15 mm. long; siliques 3-5 mm. long, straight or arcuate, spreading-ascending, glabrous; seeds brown, oblong, flat, wingless, 3-4 mm. long. (Fruticulosa, 5-15 dm. alta, erecta, ramosa, flavo-viridis, vix glauca; foliis coriaceis, inferioribus 6-10 cm. longis, \pm pinnatis; superioribus 2-6 cm. longis, integris, lanceolatis; sepalis 8-10 mm. longis; petalis aureis, ca. 10 mm. longis; siliquis glabris, 3-5 cm. longis.)

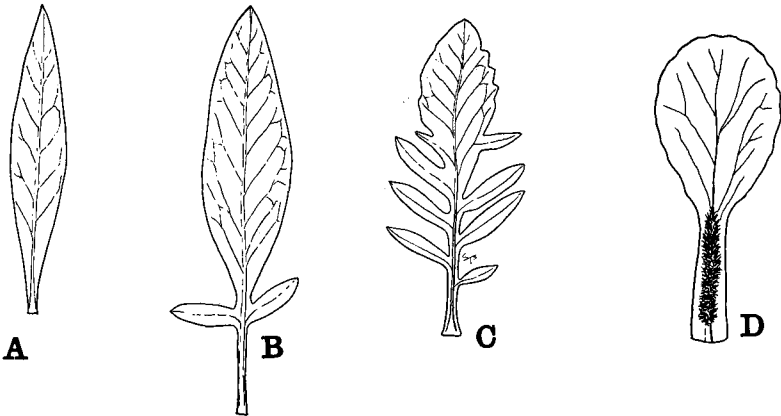


Fig. 4. *Stanleya pinnata* subsp. *inyoensis*. A. Upper leaf, x 1. B. and C. Lower leaves, x 1. D. Petal with pubescence on inner surface of claw, x 4.

Type, from dry sandy slopes and flats at base of sand dunes, with *Dalea polyadenia*, *Cleome sparsifolia*, etc., at 3000 feet, southeast end of Eureka Valley, east of Inyo Mts., Inyo Co., California, June 28, 1954, *John & Lucille Roos 6177*, Rancho Santa Ana Botanic Garden Herbarium no. 89528. Isotypes: CAS, K, NY, UC. Other collections from the same place are: Aug. 13, 1954, *J. C. & A. R. Roos 6209* (RSA) and Sept. 18, 1954, *Munz & Roos 20, 155* (CAS, GH, NY, RSA, US). Many hundreds of plants are growing on the lower dunes and the adjacent dry lake at the north end of the dunes.

In Rollins' treatment of *Stanleya* (*Lloydia* 2:109-127, 1939) this plant would run to *S. pinnata* because of its villose petal-claws and yellow flowers. It would key

out to the typical form of the species, but it is much woodier, less glaucous, has more yellow-green foliage and smaller flowers. Typical *S. pinnata* and *S. elata* grow in the same general region, but were not observed in the immediate vicinity. Seedlings of all three plants and all of the same age on Dec. 15, 1954, as grown from seed collected on Sept. 18, 1954, show all three to be about equally glaucous, but *inyoensis* has definitely more thickish leaves and longer stems than *pinnata* and *elata*.



Fig. 5. *Stanleya pinnata* subsp. *inyoensis*. Habit. Photo by J. C. Roos.

THELYPODIUM JAEGERI Rollins, Contr. Dudley Herb. 3:174-5, 1941.

Originally described from the southern end of Inyo Mts. about 25 miles north of Darwin, where it grew in shaded rock-crevices at 6200 feet. More recently discovered considerably farther north at the Narrows, Marble Canyon, Inyo Mts., June 29, 1954, *John & Lucille Roos* 6185 (NY, RSA, UC) and on Sept. 19, 1954, *Munz & Roos* 20, 175 (RSA). Here it grows in limestone crevices at 7200 feet at the lower edge of a belt of *Pinus flexilis* and *P. aristata*. It is quite fleshy-leaved. Other collections from this same general region are: Marble Canyon, June 11, 1941, *Annie M. Alexander & Louise Kellogg* 2528 (DS, UC) and north slope of Cerro Gordo Peak, *Alexander & Kellogg* at 7800 ft. 3033a (DS, UC).

Lotus yollaboliensis Munz, sp. nov.

(Fig. 6)

Perennial with a heavy almost woody branched root-crown, the stems slender, branched, decumbent, 0.5-1 dm. long; herbage glabrous; stipules membranaceous, ovate, 1-2 mm. long; leaflets 3-5, oblanceolate, petiolulate, acute-mucronulate, 3-10 mm. long; peduncles 2-3 cm. long; bract subtending umbel, 1-3-foliolate; umbels 1-3-flowered; pedicels to ca. 1 mm. long; calyx-tube campanulate, 1.5-2 mm. long, the teeth subequal, triangular to triangular-subulate, 0.5-1 mm. long, \pm finely ciliolate; corolla 7-9 mm. long, yellow, the claws short, mostly included in the calyx; banner oblong-ovate, slightly longer than and reflexed at right angles to the subequal wings and keel; pods brown, straight, 1.8-2.4 cm. long, 1.5-2 mm. wide; seeds narrow-oblong, 2-2.5 mm. long, finely mottled green and black. (Perennis, glabra, base ramosa suffrutescensque; caulibus tenuibus, ramosis, decumbentibus, 5-10 cm. longis; stipulis membranaceis, ovatis, 1-2 mm. longis; foliolis 3-5, oblanceolatis, 3-10 mm. longis; pedunculis 2-3 cm. longis; bracteis 1-3-foliolatis; floribus 1-3; tubo calycis campanulato, 1.5-2 mm. longo; lobis subaequalibus, 0.5-1 mm. longis, triangulare-subulatis; corolla 7-9 mm. longa, unguibus inclusis;

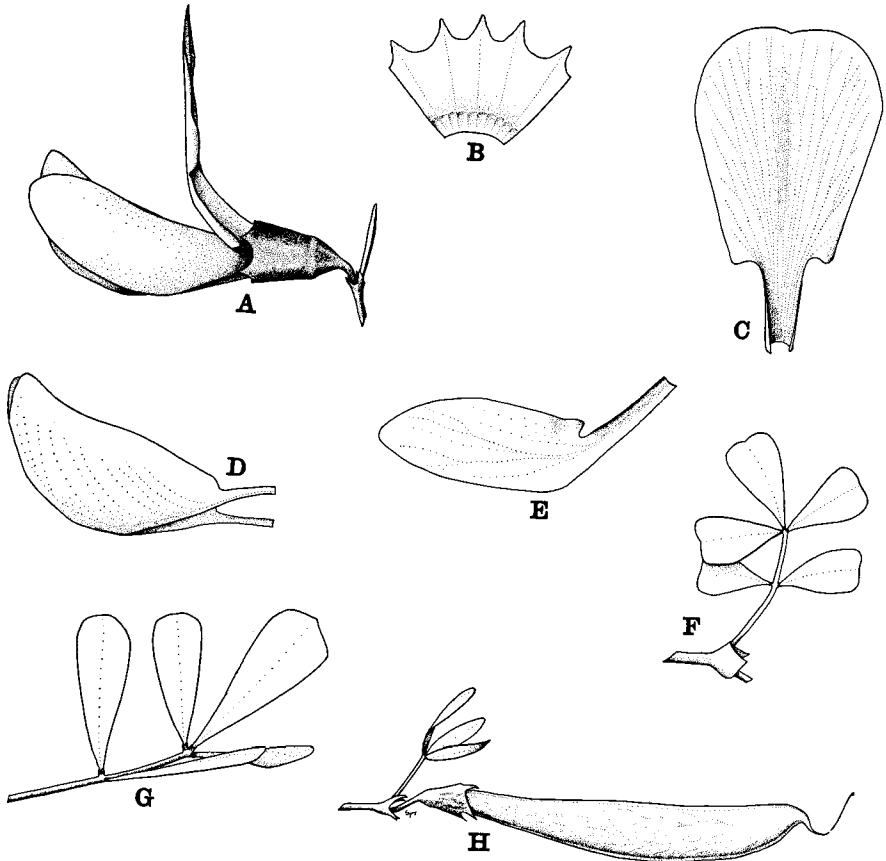


Fig. 6. *Lotus yollaboliensis*. A. Flower, x 5. B. Opened calyx, x 5. C. Banner, x 5. D. Keel, x 5. E. Wing, x 5. F. and G. Leaves, x $2\frac{1}{2}$. H. Legume, x $2\frac{1}{2}$.

vexillo oblongo-obovato; leguminibus brunneis, rectis, 1.8-2.4 cm. longis, 1.5-2 mm. latis; seminibus angusto-oblongis, 2-2.5 mm. longis, maculosis.)

Type, from high dry exposed slope, ridge east of Black Rock, North Yolla Bolly Mts., Trinity Co., California, at 7000 ft., July 20, 1951, *P. A. Munz 16706*, Rancho Santa Ana Botanic Garden Herbarium no. 89529; isotypes at CAS, NY, UC. Other collections known: South Fork Mt., 0.6 miles south of Blake Lookout, Humboldt Co., at 5500 ft., Aug. 12, 1937, *C. B. Wolf 9210* (RSA) and Blake Lookout, Trinity Co., *H. & M. Dearing 3721* (UC). These also were taken in dry open places, Red Fir Forest.

The proposed species suggests *L. pinnatus* Hook. and *L. formosissimus* Greene in its narrow straight pods and subglabrous foliage, but has much smaller flowers and shorter claws. In this last respect it is near to *L. cupreus* Greene of the southern Sierra Nevada, but that species has a slender rootstock and is a meadow plant instead of with the exceedingly tough root-crown and dry habitat of *L. yollaboliensis*. *L. oblongifolius* (Benth.) Greene, the other California species with membranaceous or hyaline stipules and narrow pods, is pubescent or strigose and has slender rootstocks.

PETALOSTEMON SEARLSIAE Gray, Proc. Am. Acad. Sci. 8:380, 1873.

This species has a wider range in eastern California than has generally been realized. Hitherto it has been recorded from Pahrump Valley and Providence Mts. (Munz, Man. So. Calif. Bot., 263, 1935), New York Mts. (Wolf, Occas. Papers Rancho Santa Ana Bot. Gard. 2:65, 1938), and North Branch, Emigrant Canyon, Death Valley (Munz, Leaflets W. Bot. 3:84, 1941). The following specimens have been collected somewhat farther north, all from Inyo Co.: Big Pine Road to Saline Valley, at 6000 ft., June 28, 1943, *Mark Kerr 3317* (CAS); slopes of Waucoba Peak, Inyo Mts., at 7900 ft., *Jaeger in 1941* (POM), at 8400 ft., *Jaeger in 1941* (DS); Waucoba Canyon at 6950 ft., July 9, 1941, *Alexander & Kellogg 2506* (DS, UC); Waucoba Pass, at 7500 ft., *J. & H. Grinnell 1025a* (UC); 3 miles northeast of Andrews Mtn., Inyo Mts., at 7600 ft., *John & Lucille Roos 6167* (GH, NY, RSA).

EUPHORBIA REVOLUTA Engelm. in Torrey, Bot. Mex. Bound. Surv., 186, 1859.

Known from Colorado to Arizona and Chihuahua, this late summer and fall annual has not apparently been reported from California. The following collection is from eastern San Bernardino Co.: rocky moist slope, north side of Clark Mts., at 4000 ft., Aug. 4, 1951, *J. C. & A. R. Roos 4891* (RSA, US).

OENOTHERA DELTOIDES Torr. & Frem. subsp. eurekaensis Munz & Roos, subsp. nov.

Perennial with deep-seated fleshy vertical roots ca. 1 cm. thick; stems several, bushy, divaricately branched, 3-7 mm. thick, 3-6 dm. tall, closely white-strigose with short, \pm curly hairs and also somewhat spreading-villous, the epidermis later exfoliating; leaves crowded, narrowly deltoid-ovate, canescent-hoary with short appressed and longer, \pm spreading hairs, the blades 1-3 cm. long, entire but somewhat crisped on margins, acute at tip, gradually narrowed at base to petioles 1-6 mm. long; flowers solitary in axils from near the base of the plant upward; floral tube cylindrical, white-strigulose, 2.5-3 cm. long; sepals 1.5-2 cm. long, closely canescent-strigulose and with some longer divaricate hairs, the sepal tips scarcely free; petals white, aging reddish, 1.5-2.5 cm. long; capsules spreading, woody, with exfoliating epidermis, prismatic-cylindric, 2-3.5 cm. long, ca. 3 mm. thick at the 4-cornered base, narrowed gradually to barely 2 mm. at the apex, dehiscing septi-

cidally, the valves long persistent; seeds narrow-obovoid, ca. 1.3 mm. long, yellowish brown with minute purple dots and rows of very minute cellular pits. (Perennis; radicibus profundis, carnosus; caulibus pluribus, ramosis, 3-6 dm. altis, albidis, strigosis villosisque; foliis confertis, anguste deltoideo-ovatis, albido-canescensibus; laminis 1-3 cm. longis, integris, acutis; floribus in axillis solitariis; tubo 2.5-3 cm. longo; sepalis 1.5-2 cm. longis; petalis albis, 1.5-2.5 cm. longis; capsulis extensis, 2-3.5 cm. longis; seminibus anguste obovoideis, 1.3 mm. longis.)

Type from deep sand at north end of dunes in southeast part of Eureka Valley, east of the Inyo Mts., Inyo Co., California, at 3100 ft., Sept. 18, 1954, *P. A. Munz & J. C. Roos* 20, 158, Rancho Santa Ana Botanic Garden Herbarium no. 89519; isotypes at CAS, DS, COLO, GH, K, NY, UC, US, WTU, WYO.

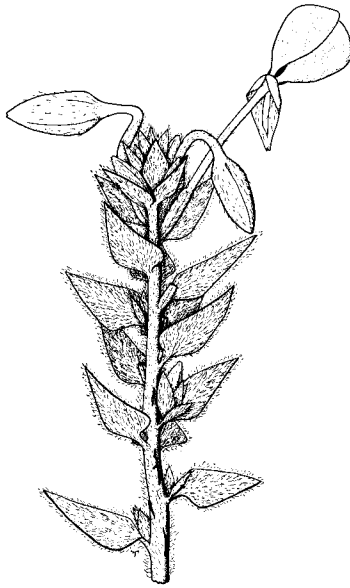


Fig. 7. *Oenothera deltooides* subsp. *eurekaensis*.
Tip of growing stem with crowded leaves and
flowers in their axils, x 1.

In the revision of the subgenus *Anogra* (Munz in *Am. Journ. Bot.* 18:309-327, 1931) *Oenothera deltooides* was keyed out on the basis of being annual. However, a form from sand dunes at Antioch, Contra Costa Co., Calif. (*Oe. deltooides* var. *howellii* Munz, *El Aliso* 2:81, 1949) proves under cultivation to be a perennial of several years duration. It differs greatly from subsp. *eurekaensis* in its runcinate-pinnatifid leaves, more slender stems, free tips, etc. Our plant is remarkable also in that after many of the stems have ripened and shed their seeds and subsequently been buried by shifting sand, their tips again become active and form new rosettes of leaves at the sand surface ready for renewed growth with a new rainy season. Patches perhaps 2-3 feet in diameter were found with numerous rosettes that looked like young plants, but when investigated proved to be the rejuvenated tips of branches of a single individual. Flowers of the previous evening were just closing by midafternoon of a bright day.



Fig. 8. *Oenothera deltooides* subsp. *eurekaensis*. Tip of old stem that had flowered, fruited and shed its seeds, then became buried in sand and began to form new rosette at apex, x 1.

LOMATIUM inyoense Mathias & Constance, sp. nov.

(Fig. 9)

Plants caespitose, acaulescent, 2-10 cm. tall, hirtellous-puberulent, from a long slender taproot; leaves narrowly ovate to oblong, the blades 1.5-5.5 cm. long, bipinnate, the leaflets crowded, ovate, 1-2 mm. long, about 1 mm. broad, entire, acute to apiculate, the petioles 1-2.5 cm. long, purplish, sheathing below; peduncles purplish, exceeding the leaves, 3-9.5 cm. long; involucrel bractlets purplish, linear, acute, over half the length of the mature pedicels, usually exceeding the flowering pedicels; umbels appearing simple, usually only one ray developed, this up to 15 mm. long; umbellets many-flowered, the flowers white or whitish, the fruiting pedicels few, 1-5 mm. long; calyx teeth evident in young fruits; ovaries and fruits densely puberulent, the fruit ovate to ovate-oblong, 4-8 mm. long, 3-4 mm. broad, the wings about one-third the width of the body, the vittae 3-7 in the intervals, 7-8 on the commissure.

(Plantae caespitosae, acaulescentes, 2-10 cm. altae, hirtello-puberulae, e radice elongatae; folia anguste ovata vel oblonga, 1.5-5.5 cm. longa, bipinnata, foliolis confluentibus, ovatis, 1-2 mm. longis, ca. 1 mm. latis, acutis vel apiculatis, petiolus

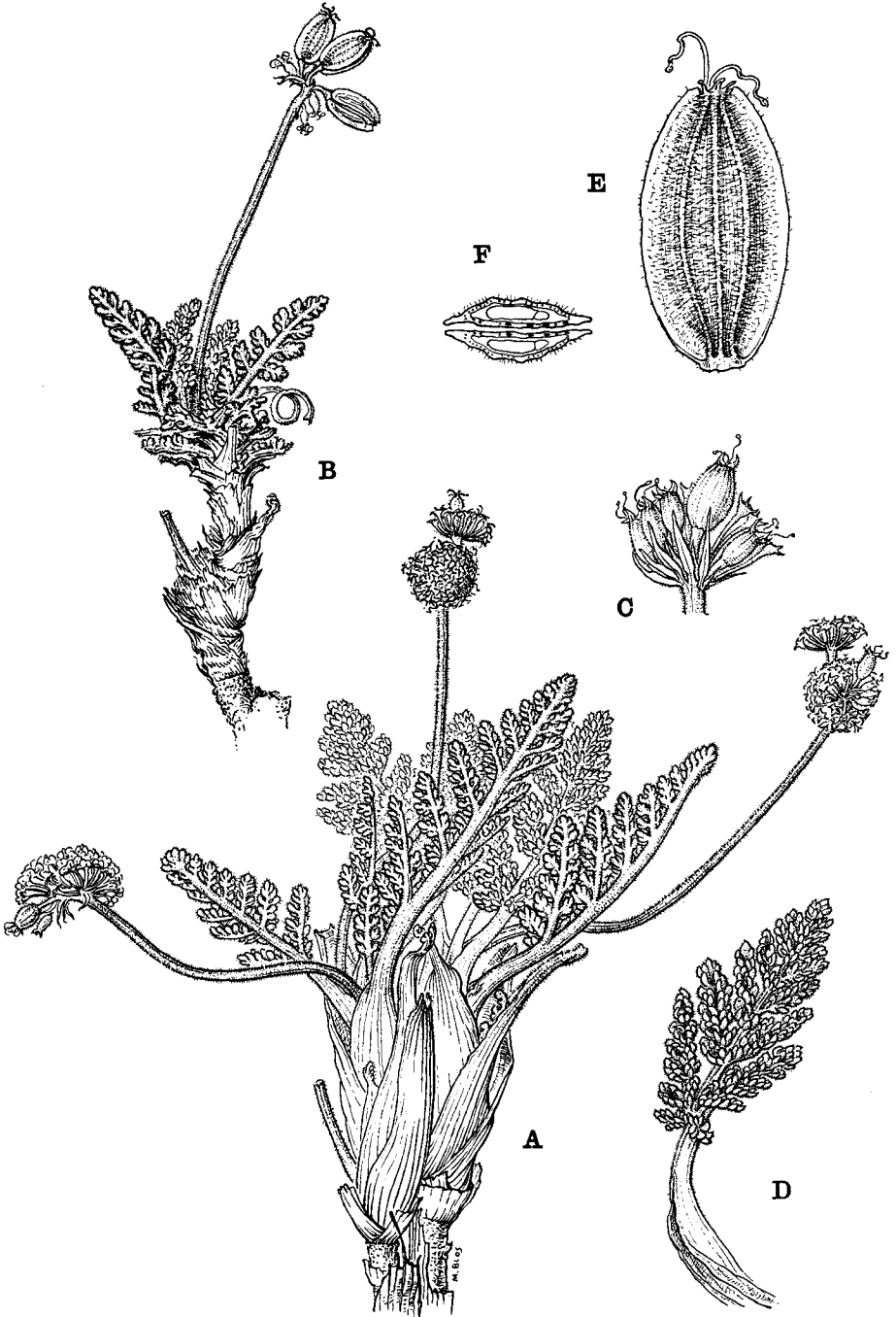


Fig. 9. *Lomatium inyoense*. A. Habit of flowering plant, x 1. B. Habit of fruiting plant, x 1. C. Umbellet, x 2½. D. Foliage leaf, x 1. E. Dorsal view of mature fruit, x 5. F. Transverse view of mature fruit, x 5.

1-2.5 cm. longus, purpureus; pedunculus purpureus, foliis longior, 3-9.5 cm. longus; involucella bracteolae purpurea, lineares, acuta, pedicelli plus dimidiata; umbellae apparente simplices, 1-radiatae, radio ad 15 mm. longo; umbellulae multiflores, floribus albis, pedicelli fertiles pauci, 1-5 mm. longi; ovarium et fructus dense puberulentes, fructus ovatus vel ovato-oblongus, 4-8 mm. longus, 3-4 mm. latus, alis lateralibus angustis, vittae in intervallis 3-7, in commissura 7-8.)

TYPE: *John & Lucille Roos 6148*, Pass at crest of Inyo Mountains, near Side Hill Spring 3 miles east of Badger Flat, Inyo County, California, alt. 10,200 ft. 24 June 1954. Flowers whitish. Locally common on dry rocky and gravelly bench with *Abronia nana Covillei*, *Gilia congesta*, *Astragalus calycosus*, etc. (UC TYPE; K, LA, RSA, US).

Specimens examined: California, Inyo County: common around and under pines on dry rocky north slopes and benches with *Pinus flexilis*, *P. aristata*, *Astragalus calycosus*, *Cymopterus cinerarius*, etc., Upper Tamarack Canyon, Inyo Mountains, alt. 10,200 ft. 9 August 1953. *John C. & Alfred R. Roos 5964* (DS, K, LA, RSA, UC, US); rocky slopes and around pines with *Astragalus calycosus*, *Pinus aristata*, *Artemisia nova*, etc., crest of Inyo Mountains 3 miles east of Badger Flat in headwaters of Marble Canyon watershed, alt. 10,400 feet. Flowers dull whitish. 24 June 1954. *John & Lucille Roos 6149* (CAS, DS, GH, K, LA, MO, NY, PH, RSA, UC, US).

This plant is readily separated from the small group of Great Basin mountain and desert species of *Lomatium* (*L. juniperinum* (M. E. Jones) Coult. & Rose, *L. MacDougali* Coult. & Rose, *L. mohavense* Coult. & Rose, *L. nevadense* (S. Wats.) Coult. & Rose) by the white flowers, the slender leaves with crowded leaflets, and the dense puberulence of foliage and fruit. The material seen is unique also in the development of only one ray, resulting in an apparently simple umbel; in occasional specimens a second sessile umbellet is evident. Few flowers are fertile and in some cases the whole umbel is evidently sterile. The new species occurs sympatrically with *Cymopterus cinerarius* A. Gray which it resembles somewhat in habit. However, the extreme dorsal compression of the fruit and the absence of dorsal ribs definitely place it in the genus *Lomatium*. As far as is known, this is the only species of the genus to occur in the higher Inyo Mountains.

PHACELIA novemmillensis Munz, sp. nov.

Annual, several-branched from base, ascending, 5-10 cm. high, the stems slender, finely pubescent with some hairs gland-tipped, and also setulose; basal leaves 2-7 cm. long, mostly with 1-5, \pm decurrent, lanceolate to lance-elliptic lateral pinnae 0.8-1.2 cm. long and 0.2-0.4 cm. wide, and with a terminal broadly oblanceolate leaflet 1.5-2.5 cm. long, 0.7-1.2 cm. wide, greenish but conspicuously setulose especially along the veins of the under side; cauline leaves reduced upward, the uppermost simple, entire; cymes ca. 2 cm. long in fruit, compact, ca. 8-14-flowered; pedicels slender, 2-5 mm. long; calyx cleft to base, the lobes subequal, linear, 2-3 mm. long at anthesis, 9-10 mm. in fruit, setulose; corolla narrowly campanulate, lavender, 3-4 mm. long, the lobes ca. 1.3 mm. long, rounded; corolla scales ca. 1.1 mm. long, lanceolate, adnate to corolla on one edge, connivent with adjacent scale near the base; stamens glabrous, scarcely exerted, anthers ca. 0.5 mm. long; style above the ovary 0.5-0.6 mm. long, glabrous, parted ca. one-third its length; capsule sharply ovoid, 2.5-3 mm. long, pubescent and finely hirsute, 2-4-seeded; seeds narrow-ovoid, yellow-brown, 1.6-2 mm. long, \pm angled, finely many-pitted. (Annuua, base ramosa, 5-10 cm. alta; caulibus ascendentibus, tenuibus, pubescentibus et glandulosis et setulosis; foliis inferioribus 2-7 cm. longis, plerumque pinnatis

(pinnis lateralibus 1-5, lanceolatis vel lanceo-ellipticis, 0.8-1.2 cm. longis; foliolo terminale late oblanceolato, 1.5-2.5 mm. longo); foliis caulium parvioribus, superioribus integris; cymis ca. 2 cm. longis, 8-14 flores ferentibus; lobis calycis subaequalibus, linearibus, in anthesi 2-3 mm. longis, in fructu 9-10 mm., setulosis; corolla anguloso-campanulata, caesia, 3-4 mm. longa; lobis ca. 1.3 mm. longis; staminibus glabris, vix exsertis; stylo glabro; capsula ovoidea, acuta, 2.5-3 mm. longa, pubescente hirsutaque; seminibus 2-4, anguste ovoideis, flavo-brunneis, 1.6-2 mm. longis, scrobiculatis.)

Type from dry, half-shaded, disturbed bank, under *Quercus chrysolepis*, *Pinus monophylla*, etc., at 6500 ft., Nine-Mile Canyon, east slope of southern Sierra Nevada, extreme southern Inyo Co., California, May 21, 1954, P. A. Munz 19463, Rancho Santa Ana Botanic Garden Herbarium no. 89530; isotypes at CAS, GH, NY, US.

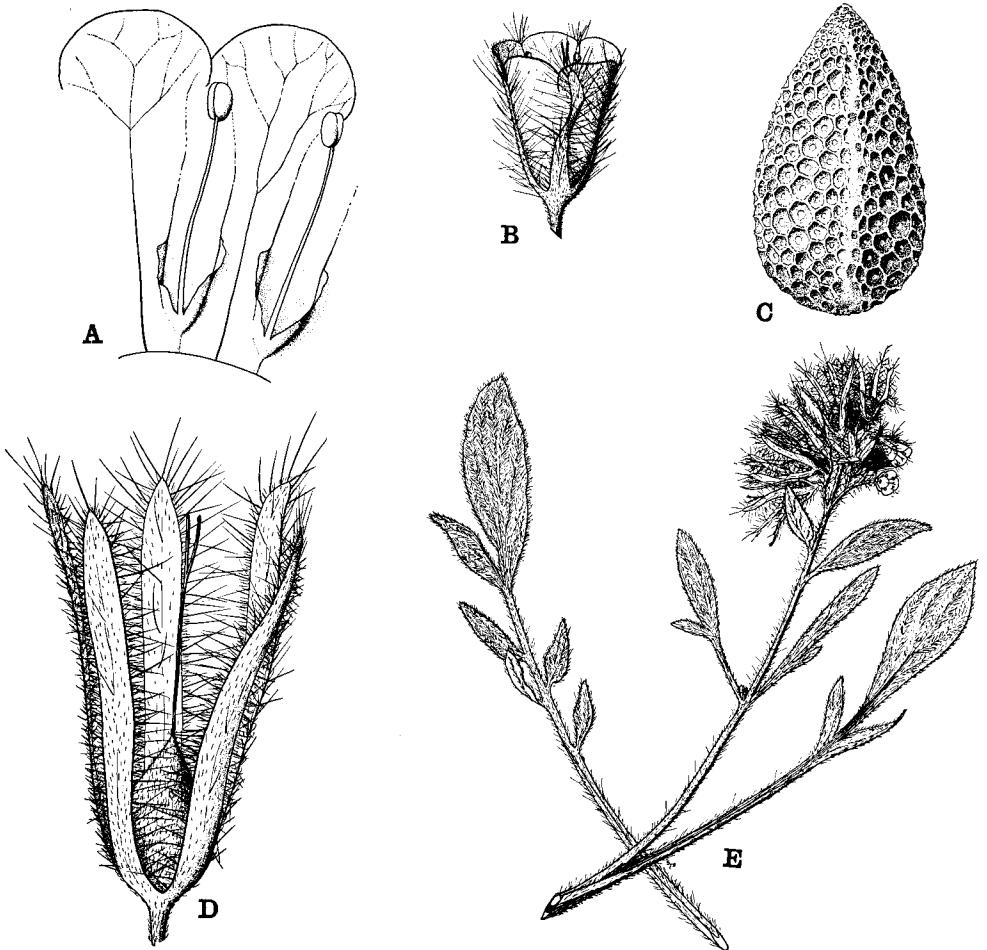


Fig. 10. *Phacelia novemmillensis*. A. Details within corolla, x 10. B. External view of flower, x 5. C. Seed, x 20. D. Fruiting calyx, x 5. E. Habit, x 1.

This species belongs to the *P. humilis* group and in the treatment by Howell (Am. Midl. Natur. 30:6-18, 1943) it would key out with *P. inconspicua* Greene, *P. austromontana* J. T. Howell, and *P. eisenii* Brand. From the first named it differs in its pinnate leaves, longer calyx and glabrous style; from the second in having longer subequal calyx-lobes, glabrous style and narrower corolla; from the third in its much longer calyx, narrower corolla, less deeply divided style. Material of the new species was referred to Mr. J. T. Howell who kindly examined it and agreed that it was different from any of the described species.

CRYPTANTHA NANA var. *OVINA* Pays., Ann. Mo. Bot. Gard. 14:314, 1927.

Known from southern Utah and Nevada, this plant has been collected on disintegrated travertine near the hot springs 1 mile east of Bridgeport, Mono Co., California, at 6200 ft., May 21, 1947, *P. A. Munz 11903* (CAS, NY, RSA, WTU).

CRYPTANTHA roosiorum Munz sp. nov.

Densely caespitose, apparently long-lived perennial; stems several from the ends of the branched caudex, rather slender, 0.1-0.3 dm. long; leaves clustered, spatulate-oblongate, acutish, 0.5-1.2 cm. long, densely strigose and appressed-setose, grayish, appearing almost tomentose, scarcely if at all pustulate; inflorescence compact, ca. 1 cm. long, the foliar bracts inconspicuous; calyx strigose with fine hairs and \pm setose with divaricate ones, the lobes linear, ca. 3 mm. long at anthesis, 4 mm. in fruit; corolla white, the tube ca. 2.5 mm. long, crests well developed in lower tube; fornices low, rounded, drying brownish, the limb ca. 5 mm. broad, the lobes orbicular, ca. 1.8 mm. long, connate ca. one-fourth their length; style slightly

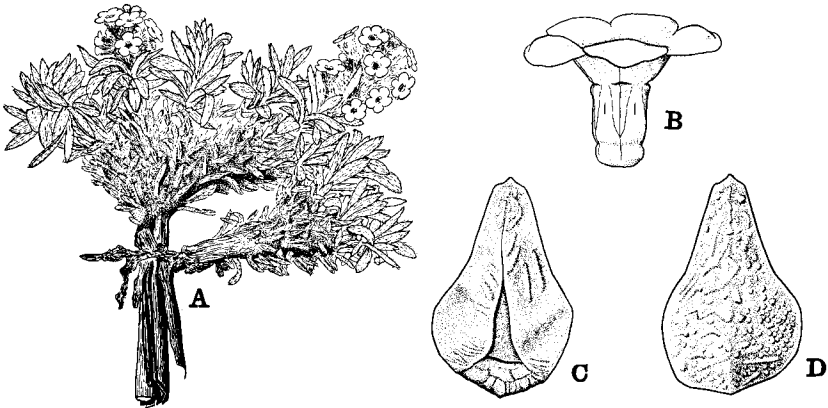


Fig. 11. *Cryptantha roosiorum*. A. Habit, x 1. B. Corolla, x 5. C. Immature nutlet, ventral view, x 12. D. Immature nutlet, dorsal view, x 12.

surpassing the nutlets; nutlets seen immature, ca. 2.5 mm. long, lance-ovate from the back, acutish, whitish, the dorsum rugose with low rounded, irregular, longitudinal ridges and somewhat muriculate, the ventral surface apparently not strongly muriculate, the scar narrowly triangular. (Perennis, dense caespitosa; caudice ramosa; caulibus tenuibus, 0.1-0.3 dm. longis; foliis confertis, spatulato-oblongatis, 0.5-1.2 cm. longis, canescentibus, strigosis et appresso-setosis, non pustulatis; cymis compactis, ca. 1 cm. longis; bracteis inconspicuis; calyce strigoso et setoso; lobis linearibus, in anthesi 3 mm., in fructu 4 mm. longis; corolla alba, tubo 2.5 mm.

longo, limbo 5 mm. lato; lobis orbicularibus, 1.8 mm. longis; nuculis 2.5 mm. longis, lanceo-ovoideis, acutis, albidis; dorso longitudine ruguloso et aliquantum muriculato.)

Type, open rocky slope in *Pinus aristata* belt, along crest of Inyo Mts., Inyo Co., California, three miles east of Badger Flat, at 10,600 ft., Aug. 13, 1953, J. C. & A. R. Roos 6015, Rancho Santa Ana Botanic Garden Herbarium no. 79479, in immature fruit; isotypes at CAS, GH. A flowering collection from the same place, June 24, 1954, John & Lucille Roos 6150 (CAS, GH, NY, RSA).

The proposed species resembles some depauperate specimens of *C. nana* var. *commixta* (Macbr.) Payson in stature, habit, foliage and pubescence, but the flowers are distinctly smaller than in that more eastern plant (eastern Nevada and western Utah). The seeds of *C. roosiorum* were not well developed in the 1953 collection, possibly because of the dryness of that season. Their surface is distinctly not the muricate surface of *C. nana*, having low rounded tubercles and ridges. In Payson's key (Ann. Mo. Bot. Gard. 14:238-242, 1927) it might run to the Wyoming species *C. caespitosa* Nels. and looks like small specimens of it, but is much smaller-leaved, less pustular, with white pubescence, and is smaller-flowered.

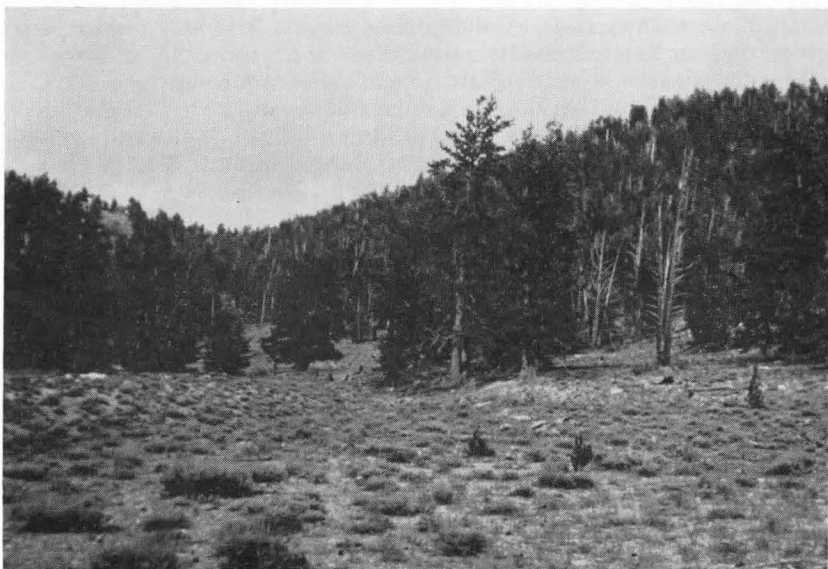


Fig. 12. *Pinus aristata* forest, 3 miles east of Badger Flat, Inyo Mts., at 10,400 ft. Near type locality of *Lomatium inyoense* and *Cryptantha roosiorum*. *Artemisia nova* in foreground. Photo by J. C. Roos.

HELIOTROPIUM AMPLEXICAULE Vahl, Symb. Bot. 3:21, 1794.

This South American species occurs in the eastern U. S. and was reported from Santa Barbara, California, by C. F. Smith (A Fl. of Santa Barbara, 64, 1952), from which city there are three collections in the herbarium of the California Academy of Sciences. It is sparingly established on vacant lots and in yards at Padua Hills, three miles north of Claremont, Los Angeles Co., where individual plants persist for several years: Munz 20, 183, Sept. 5, 1954, at 1600 ft. (CAS, DS, GH, NY, RSA, UC, US, WTU).

GLECHOMA HEDERACEA L., Sp. Pl., 578, 1753.

Nepeta glechoma Benth., Lab. Gen. et Sp., 485, 1834.

Abrams (Ill. Fl. Pacific States, 3:627, 1951) reports this species from Washington south to central California. A number of California collections have been seen, ranging from San Luis Obispo (*Condit in 1911* at UC) north. Recently it was found in San Bernardino Co.: moist lawn, Loma Linda, April 7, 1954, *J. C. Roos 6059* (CAS, DS, LA, NY, RSA, UC).

PHYSALIS PRUINOSA L., Sp. Pl., 184, 1753.

Reported by Abrams (Ill. Fl. Pac. States, 3:670, 1951) for the Pacific Coast as sparingly introduced in cultivated fields in Washington. In California it has been collected at least twice, both times in Inyo Co.: irrigated flat, Darwin Wash, *R. Hoffmann 491* (CAS); and in moist soil along a ditch at 1200 ft., with *Prosopis pubescens Xanthium pensylvanicum*, etc., below the mouth of Hunter Canyon, Saline Valley, at east base of Inyo Mts., Aug. 15, 1954, *J. C. & A. R. Roos 6221* (RSA, UC).

CORDYLANTHUS TECOPENSIS Munz & Roos, El Aliso 2:233, 1950.

Since the original description of this species, summer and fall exploration of the moist alkaline meadows and flats along the Amargosa River has revealed a much wider distribution than previously known. From the type locality at Tecopa, Inyo Co., the range has been extended south about 20 miles to Saratoga Springs and north about 50 miles to Ash Meadows, Nevada. Representative collections are: San Bernardino Co.: Saratoga Springs at 200 ft., July 18, 1954, *J. C. Roos 6203* (CAS, DS, NY, RSA, US). Inyo Co.: alkaline flats along Amargosa River 3 miles south of Shoshone at 1450 ft., Sept. 14, 1954, *John & Lucille Roos 6231* (CAS, DS, NY, RSA, UC); flats of Amargosa Desert 3 miles northeast of Death Valley Junction at 2050 ft., June 13, 1954, *J. C. & A. R. Roos 6139* (CAS, DS, NY, RSA, UC, US). From Nevada and all from Nye Co.: Ash Meadows between Big Spring and Bole Spring at 2240 ft., July 18, 1954, *J. C. Roos 6200* (CAS, DS, NY, RSA, UC, US); Ash Meadows at Carson Slough, 2130 ft., July 18, 1954, *J. C. Roos 6199* (CAS, DS, NY, RSA, UC, US); alkaline meadows 1 mile southwest of Fairbanks Spring, Ash Meadows, at 2240 ft., July 18, 1954, *J. C. Roos 6101* (CAS, DS, NY, RSA, UC, US). The species seems to be at its prime in September, but the flowering period extends from June to November, depending upon local conditions.

PLANTAGO ARISTATA Michx., Fl. Bor. Am. 1:95, 1820.

This species native in the central United States is becoming an occasional weed in California, where it has been known from several collections about Eureka, Humboldt Co. It was found on June 11, 1950, adventive in a lawn at Loma Linda, San Bernardino Co., *J. C. Roos 4831* (SA).

ARTEMISIA BIGELOVII Gray, Pacif. R. R. Sept. 4:110, 1857.

Previously known in California only in the Clark and New York Mts. of eastern San Bernardino Co. (El Aliso 2:235, 1950). It can now be reported from Inyo Co.: canyon above Loretto Mine on Loretto Road, northern Inyo Mts., at 5600 ft., Sept. 18, 1954, *Munz & Roos 20, 145* (CAS, GH, RSA, UC). It is our observation that this species is limited to limestone.

BACCHARIS SAROTHOIDES Gray, Proc. Am. Acad. Sci. 17:211, 1882.

McMinn (Ill. Man Calif. Shrubs, 580, 1939) gives this shrub as ranging in California in San Diego Co. (from which it has been known from a good many

collections) and with a single collection from the Chuckawalla Bench on the Colorado Desert. This latter station is probably in Riverside Co., the specimen at UC by *Schellenger in 1904*, reading simply as above given. Another collection from Riverside Co. is from dry roadside, Box Springs near Riverside, at 1550 ft., Oct. 28, 1950, *John & Lucille Roos 5021* (NY, RSA, UC). A station in Imperial Co. is 5 miles east of Holtville, *C. B. Wolf 4346* (RSA) and 1886 (RSA) and 9391 (RSA).

BAHIA NEOMEXICANA Gray, Proc. Am. Acad. Sci. 19:27, 1883.

Schubertia multiflora H. & A. in Hook. Journ. Bot. 3:332, 1841, not *B.m.* Nutt., 1841.

Heretofore reported from Arizona to Colorado, Texas, northern Mexico, this species occurs also in California, in the vicinity of Coliseum Mine, Clark Mts., eastern San Bernardino Co., at 5300 ft., Sept. 1, 1950, *J. C. Roos 4955* (CAS, GH, NY, RSA, UC, US).

BRICKELLIA DESERTORUM Coville, Proc. Biol. Soc. Wash. 7:68, 1892.

We reported this species as present in the vicinity of Riverside and in the adjacent Box Springs Mts. (El Aliso 2:236, 1950). The extent of this cismontane distribution of a predominantly desert plant is much greater than we reported, reaching at least as far south as the hills near Elsinore, east to Gilman Hot Springs, west into the Jurupa Hills west of Riverside, and north into San Bernardino Co. in the hills south of Colton. Representative collections are: San Bernardino Co.: northwest base of Blue ("Rattlesnake") Mountain between Loma Linda and Highgrove at 1250 ft., Sept. 30, 1950, *John & Lucille Roos 4993* (DS, NY, RSA, UC, US); hills 2 miles south of Colton, at 1000 ft., Oct. 7, 1950, *John & Lucille Roos 4999* (DS, CAS, RSA, UC, US). From Riverside Co.: near base of Mr. Russell 1 mile southeast of Moreno at 1800 ft., Oct. 28, 1950, *J. C. Roos 5020* (CAS, DS, NY, RSA, UC); rocky hills at north end of Perris Boulevard, Sunnymead, at 2000 ft., Nov. 25, 1950, *J. C. Roos 5026* (CAS, DS, NY, RSA, UC); rocky hills 3 miles north of Elsinore, at 1600 ft., Sept. 30, 1950, *John & Lucille Roos 4995* (CAS, DS, NY, RSA, UC, US); Jurupa Hills west of corner of Canal and Alta Streets, West Riverside, at 1000 ft., Oct. 14, 1950, *John & Lucille Roos 5006* (CAS, GH, NY, RSA, UC); and Gilman Hot Springs, San Jacinto Valley, at 1500 ft., Oct. 19, 1951, *J. C. Roos 5328* (RSA, US).

CHAETADELPHA WHEELERI Gray, Proc. Am. Acad. Sci. 9:218, 1874.

This plant of southeastern Oregon and western Nevada grows also in eastern California: Mono County, Shealy at 4500 ft., June 16, 1933, *Duran 3486* (POM, RSA, UC); Benton Station, June 16, 1927, *M. E. Jones* (POM); and directly below the old Devernois Ranch on an alluvial cone along the west base of the White Mts., at 4800 ft., July 10, 1938, *F. W. Peirson 12, 457* (RSA). Inyo County, north end of sand dunes in southeast part of Eureka Valley east of the Inyo Range, at 3050 ft., June 28, 1954, *John & Lucille Roos 6174* (DS, NY, RSA, UC, US), at 3100 ft., Aug. 14, 1954, *J. C. & A. R. Roos 6208* (CAS, GH, RSA) and Sept. 18, 1954, *Munz & Roos 20, 154* (RSA, WTU). We are indebted to Roxanna Ferris for calling the attention of the senior author to his incorrect determination of the Roos specimens as *Lygodesmia juncea* (Pursh) D. Don.

CHRYSOTHAMNUS ALBIDUS (Jones) Greene, Erythraea 3:107, 1895.

This halophytic shrub is rare in California having been reported previously at only two stations: Owens Valley, *Kellogg in 1875* (Hall & Clements, Carnegie Inst. Pub. 326:193, 1923) and four miles south of Shoshone, Inyo Co., *Wolf 7678* (Occ. Papers RSA Bot. Gard. 1:89, 1938). Two new stations both in Inyo Co. are: Saline

Valley at Lower Warm Spring, 1400 ft., Aug. 15, 1954, *J. C. & A. R. Roos 6224* (CAS, DS, GH, LA, NY, RSA, UC, US), 1.4 miles south of Lower Warm Spring, Nov. 23, 1954, *John & Lucille Roos 6260* (RSA); and Amargosa Desert 2.5 miles northeast of Death Valley Junction along the Ash Meadows road, at 2050 ft., Sept. 14, 1954, *John & Lucille Roos 6235* (CAS, DS, NY, RSA, UC).

CHRYSOTHAMNUS GRAMINEUS Hall, Muhl. 2:342, 1916.

Clokey (Fl. Charleston Mts., Univ. Calif. Pub. Bot. 24:231-232, 1952) reports this species "outside the Charlestons only from the Belted Range, Nye Co., Nevada, and the Panamint Mountains, California." In this California range it was found in Death Valley Canyon by Gilman (Putnam, Death Valley Handbook, 61, 1947). It grows also in the Inyo Mts. of Inyo Co., where it has been found abundant in two localities: hill behind Blue Bell Mine, Badger Flat, at 9000 ft., Aug. 8, 1953, *J. C. & A. R. Roos 5935* (CAS, DS, GH, RSA, UC, US); and dry rocky north slope with *Pinus aristata*, Tamarack Canyon, 8800 to over 9000 ft., Aug. 9, 1953, *J. C. & A. R. Roos 5945* (CAS, DS, GH, NY, LA, RSA, UC, US).

DICORIA CLARKAE Kennedy, Muhl. 4:2, 1908.

This species, noteworthy in its large glandular bracts and achenes, has been recorded for California from the Yuma Sand Hills in eastern Imperial Co. (Munz, Man. So. Calif. Bot., 543, 1936) and on sand dunes half way between Whitewater and Palm Springs, Riverside Co. (Fosberg, Am. Midl. Nat. 27:258, 1942). Additional records are: 1 mile east of Twentynine Palms, San Bernardino Co., *Sara Schenck*, Jan. 15, 1942 (POM); and lower slopes of sand dunes at southeast end of Eureka Valley, at 3050 ft., east of Inyo Mts., Inyo Co., Nov. 24, 1954, *John & Lucille Roos 6266* (CAS, DS, RSA, UC).

DYSSODIA PAPPOSA (Vent.) Hitchc., Trans. Acad. Sci. St. Louis 5:503, 1891.

Kearney and Peebles (Ariz. Fl., 933, 1951) give the range of this summer and fall annual as from Illinois to Montana, south to Louisiana and Arizona, with a flowering period from August to October. A single depauperate waif found growing in moist soil at Loma Linda, San Bernardino Co., Calif., at 1100 ft., May 31, 1951, *John & Lucille Roos 5056* (RSA) is referred to this species. Seeds from this plant have been grown each subsequent year and the plants distributed as *John & Lucille Roos 5056a* (CAS, DS, NY, RSA, UC, US). When planted outdoors in the fall or winter the seeds germinate consistently in early spring and flowers appear in May and June, while seeds sown in the summer and given adequate water do not germinate until the following spring.

HAPLOPAPPUS GILMANII Blake, Proc. Biol. Soc. Wash. 52:97, 1939.

Originally described from the summit of Telescope Peak, Panamint Mts., Inyo Co. and like *H. resinosus* (Nutt.) Gray as "abnormal in the genus in having white corollas, but readily distinguished from it and the few related species by the conspicuous, abruptly narrowed, widely squarrose or reflexed herbaceous tips of all but the innermost phyllaries." Putnam (Death Valley Handbook, 58, 1947) gives as its range Goodwin and Hanaupah Canyons, Panamint Mts. as well as Telescope Peak. It has now been found in the northern Inyo Mts. at the Narrows, Marble Canyon, 7200 ft., Aug. 14, 1954, *J. C. & A. R. Roos 6216* (RSA) and Sept. 19, 1954, *P. A. Munz & J. C. Roos 20, 166* (CAS, DS, COLO, GH, NY, MO, RM, RSA, UC, US, WTU). It is a low shrub, quite aromatic and grows in rocky places.

HAPLOPAPPUS LARICIFOLIUS Gray, Pl. Wright. 2:80, 1853.

Given by Kearney & Peebles (Ariz. Fl. 861, 1951) as ranging from western Texas to Arizona and northern Mexico. The range can now be extended into California by the following collections all from eastern San Bernardino Co.: near Cima, Oct. 19, 1930, *Susan Hutchinson 6609* (POM); large canyon to the northwest of Pachalka Spring, at 6500 ft., Oct. 6, 1935, *C. B. Wolf 7608* (CAS, BH, DS, MO, OKL, RSA, TAES, UC, US, WS, WTU) distributed originally as *Chrysothamnus teretifolius*; and on rocky slopes near Coliseum Mine, Clark Mt., at 5300 ft., Sept. 1, 1950, *J. C. Roos 4956* (CAS, DS, GH, NY, LA, RSA, UC).

LEPIDOSPARTUM LATISQUAMUM Wats., Proc. Am. Acad. 25:133, 1890.

This shrub has been known in California from the White and Inyo Mountains in Inyo Co. and the north slope of the San Gabriel Mts., western San Bernardino Co. It should also be reported from the Clark Mountains in eastern San Bernardino Co.; Clark Mts., *M. E. Jnes in 1932* (POM); second canyon to the east of Pachalka Spring, at 6000 ft., Oct. 5, 1935, *C. B. Wolf 7584* (ARIZ, BH, CAS, DS, GH, MO, LA, NY, POM, OKL, TAES, RSA, UC, UT, WTU); south slope of Mountain Pass, at 6200 ft., Sept. 3, 1950, *J. C. Roos 4971* (CAS, DS, GH, NY, RSA, UC, US).

SANVITALIA ABERTI Gray, Mem. Am. Acad., n.s. 4:87, 1849.

Kearney & Peebles (Ariz. Fl., 898, 1951) give the range of this summer annual as western Texas to Arizona and northern Mexico. In California it has been found in eastern San Bernardino Co. in the Clark Mts.: rocky limestone slope 1 mile south of Coliseum Mine at 5400 ft., Aug. 5, 1950, *J. C. & A. R. Roos 4893* (CAS, DS, NY, RSA, UC, US); near Coliseum Mine at 5400 ft., Sept. 1, 1950, *J. C. Roos 4954* (CAS, DS, NY, RSA, LA, UC, US).

SENECIO ASTEPHANUS Greene, Pittonia 1:174, 1888.

This uncommon perennial has been given in the manuals as occurring from San Luis Obispo Co. and Tehachapi Mts. to the San Gabriel Mts. It occurs also in the San Bernardino Mts.: Yucaipa Mts. below Forest Home, at 4600 ft., June 25, 1909, *F. M. Reed 2748* (UC); steep rocky north slope, Mill Creek, south of Mill Creek Public Camp, at 3800 ft., June 14, 1952, *John & Lucille Roos 5771* (DS, NY, RSA, UC).

SOLIVA DAUCIFOLIA Nutt., Trans. Am. Philos. Soc. n.s., 7:403, 1841.

Crampton (Leaflets W. Bot. 7:196-198, 1954) gives the range of this species as near the immediate coast from Humboldt Co. to Santa Barbara Co., California and distinguishes it from *S. sessilis* R. & P. by its achene wings being reduced to a hardened marginal callus or if toothed, the teeth minute and projecting little or not at all above the body of the achene, while in *S. sessilis* the wings are broad, membranous, and project above the achene body. Two more southern records known to us fit under the above criteria into *S. daucifolia*: Riverside Co., moist lawn, Fairmont Park, Riverside, at 850 ft., May 9, 1953, *J. C. Roos 5916* (CAS, DS, NY, LA, UC, RSA, US) distributed as *S. sessilis*; and San Diego Co., lawn in Escondido Park, May 7, 1953, *D. F. Howe* (RSA).