

THE FLORA OF THE PINE BELT OF THE SAN ANTONIO MOUNTAINS OF SOUTHERN CALIFORNIA

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Continued

PLATANACEÆ

Platanus racemosa Nutt. Ranging a short distance up into the pine belt, but characteristic of lower altitudes.

ROSACEÆ

Sericotheca concolor Rydb. Common in dry exposed places in the Canadian Zone and not uncommon on dry, open, sandy cañon floors of the Upper Transition Zone. In both Icehouse Cañon and Middle Fork Lytle Creek it was found at as low as 6500 ft. alt. (Nos. 1270, 1566, 1570, 1582, 1696.)

Amelanchier alnifolia Nutt. Icehouse Cañon at 7250 ft. alt. and at 7000 ft. alt. in both Coldwater Fork Lytle Creek and Prairie Fork. The first station is on a dry rocky place on the cañon floor while the other stations are both in springy ground.

Our plants have the glabrous hypanthia and sepals of the segregate, *A. recurvata* Abrams. *A. venulosa* Greene, another segregate of *A. alnifolia*, is reported from Swartout Valley by Abrams (Bull. N. Y. Bot. Gard. 6:382, 1910). (Nos. 1388, 1539, 1681, 1711.)

Heteromeles arbutifolia Roem. Enters the pine belt in Prairie Fork and in San Antonio Cañon.

Drymocallis viscida Parish. Common in moist ground in the Transition Zone. (Nos. 1410, 2062, 2068, 2072.)

Drymocallis lactea (Greene) Rydb. Locally very abundant in a marsh in a small side cañon of Prairie Fork. Upper Transition Zone, alt. 7000 ft. (No. 2066.)

Cercocarpus betulaefolius Nutt. Frequent in the lower parts of the pine belt.

Cercocarpus ledifolius Nutt. As a shrub at its lower limits and a tree in its upper ranges, this species extends throughout the Transition Zone and well into the Canadian. (No. 1485.)

Rubus leucodermis Dougl. Occasional in moist rocky ground in the Transition Zone. (No. 1462.)

Rubus parviflorus Nutt. "In moist shady places in the San Antonio and San Bernardino Mountains in the pine belt." Acc. Abrams, Fl. Los. Ang.

Prunus demissa Walp. Scarce on the south side of the mountains, but common on the north side. Especially abundant in Prairie Fork between 5000 and 7000 ft. alt. A few plants grow on the Devils Backbone at 9000 ft. alt. The species is confined to the Transition Zone. (Nos. 1384, 1402, 1712.)

Prunus ilicifolia Nutt. In San Antonio Cañon this enters a short distance up into the pine belt.

Prunus emarginata Walp. We know the plant from only two stations, both of which are in the Transition Zone, one in the lower part, the other in the upper. Coldwater Fork Lytle Creek, alt. 5750 ft. and near the head of San Antonio Cañon at 7600 ft. Dr. Hall collected the species also at 5700 ft. in Lytle Creek (No. 1471) as well as "north of San Antonio Peak at 8500 ft. alt." Our plant is a shrub which is seldom higher than 1½ meters and is similar in pubescence to the var. *mollis* Brew. (Nos. 1666, 1680, 2079.)

Rosa Californica Cham. & Sch. Barely entering the pine belt.

Rosa gratissima Greene. Several large thickets of this rose were found in a moist meadow near the Native Son Mine in Prairie Fork.

Specimens were sent to Dr. Rydberg who determined them as *R. mohavensis* Parish. Mr. Parish, however, is very unwilling to see our plants referred to this species so we are following Abrams (Bull. N. Y. Bot. Gard. 6: 380, 1910) in referring this form, which he collected in Swartout Cañon, to *R. gratissima*. In Rydberg's key (Bull. Torr. Bot. Club 44: 65, 1917) our plant seems to fall into *R. mohavensis*. Our plants, as well as those collected by Hall (No. 1513) at 6200 ft. alt. in Swartout Valley, differ from the roses collected near the type station of *R. mohavensis* in being more or less distinctly bicolored, slightly puberulent, darker, and not at all shiny. (No. 1704.)

LEGUMINOSÆ

Lupinus Grayi Wats. We are placing under this species all our lupines which have a woody caudex. The species thus defined contains two well marked forms which after some study may prove to be distinct species. On the south side of the mountains the plants are low, seldom over 2 dm. high, and compact. The racemes are few flowered and the leaves are small, never over 2.5 cm. wide, and rather short petioled, 1-2.5 times as long as the leaves. On the north side of the mountain the stems are very much higher, 3-7 dm. high while the plant is very open. The racemes are many flowered, the leaves are all over 3 cm. wide and the petioles are 3-5 times the length of the leaves. The stems of this second form very much resemble the branches of *L. Hallii*, indeed if the evidence of caudex were destroyed on one of the taller specimens of this form we very much doubt whether they could be distinguished from that species.

Common in dry open ground under the pines in the Lower Transition Zone. The color range of this species is considerable. In most any colony, a color series is usually obtainable, ranging from pure white through pink to dark blue. (Nos. 1479, 1491, 1492, 2064, 2078.)

Lupinus formosus Greene. Common on dry slopes with the last and descending to the valleys.

* We feel certain that there are too many forms referred to this species

that a critical study will result in recognizing a large number of good varieties and perhaps even several good segregate species. In the San Antonio Mts. we have observed several forms of this plant. In dry open ground in the lower parts of the pine belt the plants are very open, the leaflets linear, folded and covered with rather dense, long pubescence. The common form of the species, which has larger, broader and unfolded leaves has two well marked forms of inflorescence. In very dry sunny ground the racemes are elongated and few flowered, and the flowers have long pedicels, 5-10 mm. long. Contrasted with this form is the plant which has dense racemes of short pediceled, 2-4 mm. long, flowers. A plant is common in Prairie Fork which we place under this species with great hesitancy. The habit of growth is very different from the other forms referred here, it being erect and branching above. The racemes are short and of seemingly smaller, usually white, flowers. (Nos. 1269, 1469, 1488, 2086.)

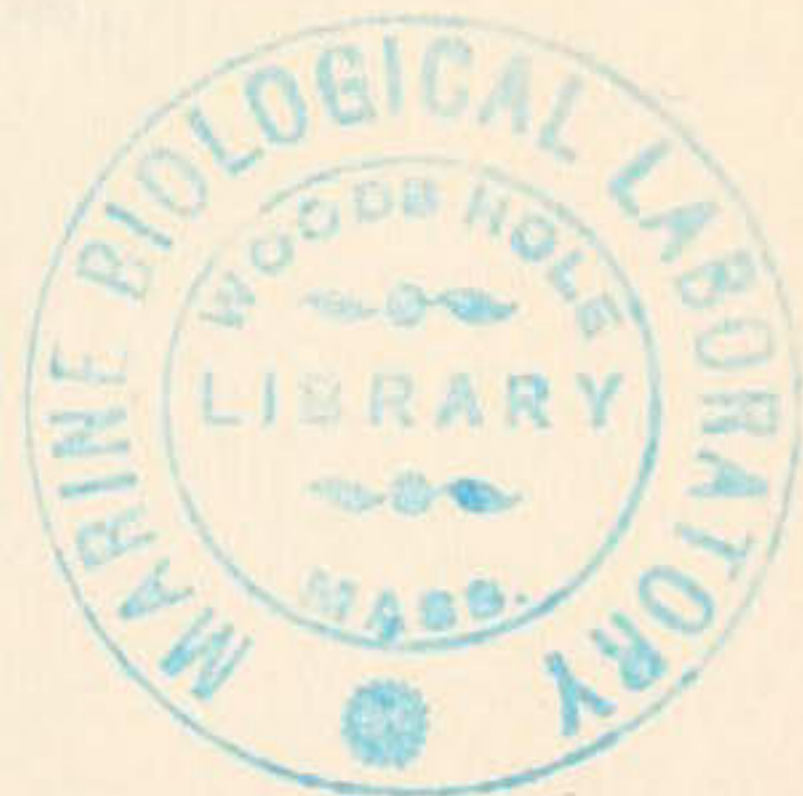
Lupinus cytisoides Agardh. Abundant along the streams in the upper parts of Prairie Fork San Gabriel River and North Fork Lytle Creek, 6000-7500 ft. alt., Upper Transition Zone. In the Lower Transition Zone it was only noted at 5400 ft. alt. in San Antonio Cañon. (No. 2074.)

Lupinus elatus Johnston. The most conspicuous herbaceous plant in the area centering around Kellys Cabin. The plant flowers continuously from the middle of June to late autumn, when it is killed to the ground by the frost. Its altitudinal range is between 6500 and 8700 ft. alt. It is found on the low Canadian Zone slopes above Kellys Cabin but it is apparently more at home on the shaded slopes in the Upper Transition Zone.

At the time the plant was described we knew it only from the type region but we have since found it on the south spur of Cucamonga Peak where it was common on what is sometimes known as Manzanita Flats, alt. 6500 ft. The flowers range from flesh color to light blue. The plants collected on the south slope of Cucamonga Peak are slightly lower than those at the type station, and the leaflets are all under 6 mm. in length. (Nos. 1626, 1627, 2063.)

Lotus nevadensis (Wats.) Greene. (*L. Davidsonii* Greene.) Fairly common in dry open ground under the pines in the Lower Transition Zone. At Kellys Cabin, located on the upper edge of the Transition Zone, alt. 8200 ft., this plant is common on the small flats on which the cabin is located. This station is unusual since the ordinary altitudinal range is between 5500 and 7000 ft. alt.

Dr. Abrams (Fl. Los Ang.) says of *L. Davidsonii*, "very close to *L. argophyllus* and may be only a form of it." We do not agree with this statement for we believe that that species is identical with *L. nevadensis* (Wats.) Greene. The "argophyllus group" can be separated from the "nevadensis group" by its shiny-silk pubescence and its mucronate leaflets. These differences are much better differentiating characters than the relative lengths of the peduncles, which Abrams (*l.c.* 200, 1917) uses to separate them. We have found that the peduncles are very variable in length, even in a single collection. The lateness of the season in which the specimen was collected seems to determine, partly at least, the length of its peduncles. (Nos. 1423, 1552, 1458.)



- Lotus argophyllus* (Gray) Greene. (*Hosackia argophylla* Gray var. *decora* Johnston.) Most common in rocky ground in the lower part of the pine belt, frequent in the Upper Chaparral Belt and not uncommon in gravelly washes near the cañon mouths. (Nos. 1278, 1737.)
- Lotus Heermanni* (D. & H.) Greene. Occasional in moist sand along creeks in the Lower Transition Zone, much more common at lower levels. (No. 1657.)
- Lotus oblongifolius* (Benth.) Greene. Occasional in moist ground in the Lower Transition Zone.
- Lotus crassifolius* (Benth.) Greene. Occasional in dry open ground, Upper Chaparral Belt and Lower Transition Zone. (Nos. 1495, 1751.)
- Lotus strigosus* (Nutt.) Greene. Under the pines at 5700 ft. alt. in San Antonio Cañon.
- Lotus americanus* (Nutt.) Bisch. Lower edge of the pine belt at 5000 ft. alt. in Prairie Fork.
- Trifolium monanthum* Gray var. *Grantianum* (Heller) Parish. Common in springy places in the Transition Zone above 6500 ft. alt. (Nos. 1392, 1550.)
- Astragalus Parishii* Gray. This species was collected by Hall (Nos. 1248, 1531) in Swartout Valley at 6700 and 6862 ft. alt.
- Astragalus lentiginosus* Dougl. var. *Fremontii* Wats. Frequent under the pines on the broad, dry, sandy floor of Prairie Fork, ascending the cañon to 6500 ft. alt. This and the next were determined by Prof. M. E. Jones. (No. 1655.)
- Astragalus bicristatus* Gray. Growing with the last in Prairie Fork but also on the west end of Ontario Peak in Cascade Cañon, where it is common under the pines, 6000-7000 ft. alt. Both stations are in the Lower Transition Zone. (Nos. 1656, 2039, 2056.)

EUPHORBIACEÆ

- Tithymalus Palmeri* (Engelm.) Abrams. Collected by Dr. Hall (No. 1532) in Swartout Cañon at 6800 ft. alt.

ACERACEÆ

- Acer macrophyllum* Pursh. Common along streams in the Upper Chaparral Belt and Lower Transition Zone. Reaching 7300 ft. alt. (No. 1568.)

RHAMNACEÆ

- Rhamnus californica* Esch. Frequent in dry sunny ground throughout the Transition Zone, reaching an altitude of 8300 ft. (No. 1568.)
- Rhamnus californica* Esch. var. *tomentella* Brew. & Wats. Seen only in Prairie Fork San Gabriel River and in North Fork Lytle Creek, where it grows with the species. Connecting forms were common. The plants from Lone Pine Cañon, which Abrams (Bull. N. Y. Bot. Gard. 6: 407, 1910) cites under *R. cuspidata* Greene, are the same. Lower Transition Zone. (No. 1709.)
- Rhamnus crocea* Nutt. var. *ilicifolia* (Kell.) Greene. Occasional on dry sunny slopes throughout the Transition Zone. One plant was noted at 8250 ft. alt. on the steep south face of Ontario Peak.

- Ceanothus integerrimus* H. & A. Quite common in the Lower Transition Zone on the north side of the mountain. Rare in the pine belt on the south side, but abundant in the Upper Chaparral.
- Ceanothus divaricatus* Nutt. Abundant in the Upper Chaparral Belt, from which it usually extends well up into the Lower Transition Zone. (No. 1577.)
- Ceanothus cordulatus* Kell. Very common in the Transition Zone on the north side of the mountains, 6000–8000 ft. alt.; not found on the south side although it reaches the dividing ridge crest. (No. 1424.)
- Ceanothus greggii* Gray. A large colony under the pines, 6600 ft. alt., in North Fork Lytle Creek. Lower Transition Zone. A common Upper Sonoran shrub of the desert borders. (No. 1668.)

STERENLIACEÆ

- Fremontia californica* Torr. Scarce in the pine belt in San Antonio Cañon; in Prairie Fork it is common and becomes a small tree.

MALVACEÆ

- Malvastrum Fremontii* Torr var. *orbiculatum* (Greene) Johnston, comb. nov., *M. orbiculatum* Greene. A few scattered shrubs were found on the broad open gravelly floor of Prairie Fork, Lower Transition Zone, 5000–6750 ft. "Swart-out Valley" acc. Abrams (Bull. N. Y. Bot. Gard. 6: 418, 1910).

Our plants differ from *M. Fremontii* chiefly in their less densely woolly calyces and in their shorter bracts. *M. Davidsonii* does not appear distinct. (No. 1673.)

VIOLACEÆ

- Viola purpurea* Kell. var. *pinetorum* Greene. A common and widely distributed plant within our limits. We have observed it from 4500 ft. alt. in the Upper Chaparral Belt up to 9660 ft., in the Canadian Zone, on Pine Mt. Summit. Mrs. Wilder (No. 593) obtained specimens on the summit of Baldy. Usually growing in dry ground under the pines. (Nos. 1281, 1760, 1734.)

LOASACEÆ

- Mentzelia lævicualis* T. & G. Dry sandy ground on both sides of the mountain. Very abundant in both Prairie Fork and North Fork Lytle Creek. Collected also in the Upper Transition Zone at 8000 ft. at the Old Gold Ridge Mine.
- Mentzelia dispersa* Wats. *M. pinetorum* Heller. Frequent in dry sunny ground in the Transition Zone. It was found most abundantly on the south side of the mountain where it was also collected in the Upper Chaparral Belt. This determination, as in the following *Menzelias*, is by Mr. Macbride. (Nos. 1602, 1694, 2090.)
- Mentzelia albicaulis* Dougl. var. *Veatchiana* (Kell.) Urb. & Gilg. Frequent along the lower edge of the pine belt. Very common on Brown's Flats. (No. 1755.)

Menzelia congesta T. & G. var. *Davidsoniana* (Abrams) Macbr. But a single colony of this was seen. It grew in gravelly ground, in the lower portion of the pine belt, alt. 5750 ft. in Coldwater Fork Lytle Creek. (No. 2059.)

DATISCACEÆ

Datisca glomerata (Presl) B. & H. Occasional in wet ground in the Lower Transition Zone. More common at lower levels.

CACTACEÆ

Opuntia occidentalis Engelm. A common mesa species along the south base of the mountains, which commonly ascends the cañons and becomes frequent on dry, open, sandy cañon floors in the Upper Chaparral Belt. From these situations it often penetrates a short distance up into the Lower Transition Zone.

Opuntia basilaris Engelm. & Bigel. A few plants growing with *Pinus monophylla* at about 6500 ft. alt. in the upper part of North Fork Lytle Creek. Lower part of the Transition Zone.

ONAGRACEÆ

Zauschneria californica Presl, var. *latifolia* Hook. Common in dry ground under the pines, especially in the Upper Transition Zone. (No. 1586.)

Chamaenerion angustifolium Scop. Locally abundant at two stations in the Upper Transition Zone; Coldwater Fork Lytle Creek at 7000 ft. alt. and in a small side cañon of Prairie Fork, also at 7000 ft. (No. 1396.)

Epilobium glaberrimum Barbey. Occasional in springy ground, apparently confined to the Upper Transition Zone. (No. 1600, 2075.)

Epilobium ursinum Parish. The common *Epilobium* of the Upper Transition Zone. Det. S. B. Parish. (No. 1664.)

Epilobium paniculatum Nutt. A few plants in dry ground at the Native Son Mine.

Gayophytum ramosissimum T. & G. Very common in dry, open ground in the Lower Transition Zone. (Nos. 1482, 1533.)

Gayophytum caesium T. & G. Practically confined to the Upper Transition Zone on the north side of the mountains, extending over to the south side only at the head of San Antonio Cañon. (No. 1695.)

Clarkia rhomboidea Dougl. Dry ground in the lowest parts of the Transition Zone. Very common at the mouth of Icehouse Cañon. (No. 1404.)

Onagra Hookeri (T. & G.) Small. Frequent in damp ground along streams, ascending to 8000 ft. alt. in the Upper Transition Zone.

Sphaerostigma contortum (Dougl.) Walp. Occasional in dry sandy ground about the Native Son Mine, alt. 5000 ft.

ARALIACEÆ

Aralia californica Wats. Occasional in moist shaded places in the Lower Transition Zone. Much more common in the Upper Chaparral Belt.

UMBELLIFERÆ

- Osmorhiza brachypoda* Torr. A foothill species which ranges a short distance up into the pine belt.
- Osmorhiza nuda* Torr. We know it only from a marsh in a small side cañon of Prairie Fork, alt. 7000 ft., Upper Transition Zone. (No. 2084.)
- Deweya arguta* T. & G. Lower part of the pine belt in San Antonio Cañon.
- Drudeophytum Parishii* C. & R. A common plant in dry sunny ground in the Upper Chaparral Belt and Lower Transition Zone. (No. 1476.)
- Drudeophytum vestitum* (Wats.) C. & R. Dry rocky ground throughout the Transition and Canadian Zons. Very abundant on Baldy Summit where the type was collected by Parish. (Nos. 1260, 1467.)
- Lomatium Parishii* C. & R. Collected by Parish on "high ridges on Old Baldy Mountain, San Bernardino County" acc. Coulter and Rose (Contr. Nat. Herb. 7:235, 1900). Hall (No. 1442) found the plant in Coldwater Fork, Lytle Creek, at 5500 ft. alt. where it grew "in dry rocky soil."
- Leptotenium multifida* Nutt. Frequent in rocky ground under the oaks in the lower levels of the Transition Zone, 5200-5700 ft. alt., in Coldwater Fork, Lytle Creek. (No. 2058.)

CORNACEÆ

- Garrya Veatchii* Kell. var. *Palmeri* (Wats.) Eastw. Abundant in the Upper Chaparral Belt. Occasional shrubs of this species are found scattered through the Lower Transition Zone. Usually in dry, sunny situations. (Nos. 1578, 1579, 1982.)

PYROLACEÆ

- Pyrola pallida* Greene. Common on moist shaded slopes in the Transition Zone. (Nos. 1478, 1585.)
- Chimaphila Menziesii* Spreng. Collected but once, on a cool moist north slope in the Upper Transition Zone, alt. 7350 ft. in Icehouse Cañon. We consider the plant rare but it is "frequent in the San Antonio Mts." acc. Abrams Fl. Los. Ang.

MONOTROPACEÆ

- Pterospora andromedea* Nutt. A rare plant of the Upper Transition Zone. A single plant in the Canadian Zone on Cucamonga Peak Summit. It is most abundant on the rich moist and shaded slopes in the vicinity of Kellys Cabin. (No. 1612.)
- Sarcodes sanguinea* Torr. Frequent under the pines in the Upper Transition Zone. (No. 1611.)

ERICACEÆ

- Arctostaphylos Parryana* Lemmon. Frequently in dry ground throughout the Lower Transition Zone. (Nos. 1575, 1576.)

Arctostaphylos patula Greene. Dry ground under the pines in the upper parts of the Transition Zone and in the Canadian Zone. The range of this species coincides almost exactly with that of *Castanopsis*. (Nos. 1540, 1580.)

Arctostaphylos pungens H. B. K. We know of two large colonies of this species in the San Antonio Mts. both of which extend a short way into the pine belt. One colony is on the Baldy Trail just above Bear Flats, 5700–6500 ft. alt., the other colony is on the south spur of Cucamonga Peak above what is known as Manzanita Flats, alt. 6200–6700 ft. This species is recognized readily by its very dark, mahogany-colored bark. (No. 1468.)

PRIMULACEÆ

Dodecatheon Jeffreyi Van Houtte var. *redolens* Hall. One of the interesting discoveries in a small marsh which is located in a side cañon of Prairie Fork. The marsh has rather a steep pitch, and as a result there are several well defined drainage channels in which the water comes nearer to the surface and the dense growth of fireweed and grasses is broken. In these mossy, water-saturated lanes this *Dodecatheon* grows. With it are *Carex aurea celsa*, *C. subfusca*, *Juncus Mertensianus*, *Sisyrinchium oreophilum* and *Trifolium monanthum Grantianum*. The plant was devoid of any odor. The mouth of the side cañon in which the marsh is located is marked by a large, red, U. S. F. S. tool-box. The marsh is at 7000 ft. alt. in the Upper Transition Zone. (Nos. 1648, 2100.)

GENTIANACEÆ

Frasera neglecta Hall. The type of this species was collected by Dr. Hall (No. 1495) at the head of Swartout Cañon, San Antonio Mts., 6900 ft. alt.

APOCYNACEÆ

Apocynum cannabinum L. Occasional in moist ground in the Transition Zone. (No. 1661.)

Cycladenia humilis Benth. Occasional on dry exposed slopes on all the peaks. Upper Transition and the lower part of the Canadian Zone. Reaching its maximum altitude at 9000 ft. (Devils Backbone). Always found in small colonies. (Nos. 1428, 1431, 1550.)

ASCLEPIADACEÆ

Asclepias eriocarpa Benth. A few plants at 7000 ft. alt. on a dry sunny cañon side, Upper Transition Zone, in San Antonio Cañon.

Asclepias californica Greene. Occasional in dry ground under the pines in the Lower Transition Zone. (No. 1266.)

CUSCUTACEÆ

Cuscuta californica Choisy. Not uncommon on *Eriogonum* and *Chrysothamnus*. Seen as high as 8000 ft. (No. 1686.)

POLEMONIACEÆ

- Phlox Douglasii* Hook. Summit of Swartout Cañon, 6800 ft. alt. Hall 1529.
- Gilia pungens* Benth. var. *tenuiloba* (Parish) Milliken. Common in rock crevices, ranging from the lower edge of the Transition through the Canadian Zone to Baldy Summit. Usually grows with one of the two *Heuchera* species. (Nos. 1265, 1411, 1418, 1621.)
- Gilia latiflora* Gray var. *exilis* Gray. An abundant species on dry open pine-clad slopes in the Transition Zone. (Nos. 1265, 1547.)
- Gilia tenuiflora* Benth. var. *altissima* Parish. A common species in the chaparral belt which ascends a short distance into the Transition Zone. (No. 1743.)
- Gilia densifolia* Benth. Very common in dry rocky ground in the Lower Transition Zone. (Nos. 1385, 1459, 1587.)
- Linanthus ciliatus* (Benth.) Greene. Frequent in dry rocky ground in the Lower Transition Zone.
- Linanthus concinnus* Milliken. Dry rocky ground in the Lower Transition Zone, alt. 5700 ft., in Icehouse Cañon. In crevices of granite on the west end of Ontario Peak, alt. 5000 ft. The type of the species was collected by Hall "on the trail to Mt. San Antonio, alt. 6100 ft." (Bot. Gaz. 31:389, 1901.) (No. 1284.)

HYDROPHYLLACEÆ

- Phacelia curvipes* Torr. Frequent in dry ground in the Transition Zone. Seen in the Canadian Zone at 9000 ft. alt. on the Devils Backbone and on Telegraph Peak Summit. (Nos. 1414, 1592, 1603.)
- Phacelia curvipes* Torr. var. *pratensis*. All my collections were of the small flowered typical plant but Dr. Hall collected in Swartout Valley the large flowered form that is referred to this variety by Brand (Pflanzenr. IV, 251:115 (1913)).
- Phacelia hispida* Gray. Under the pines at 6000 ft. alt. in San Antonio Cañon.
- Phacelia ramosissima* Dougl. var. *suffrutescens* Parry. Locally abundant on the broad, open cañon floor of Prairie Fork, 6500-7000 ft. alt., Lower Transition Zone. (No. 2091.)
- Phacelia longipes* Torr. Frequent throughout the Transition Zone but especially abundant in the lower part of Icehouse Cañon. (Nos. 1285, 1535.)
- Phacelia mohavensis* Gray. Swartout Valley at 6000 ft. alt. Hall 1501. Det. by Brand.
- Phacelia mohavensis* Gray var. *exilis* Gray. North side of the San Antonio Mts. Hall 1260 acc. Brand (Pflanzenr. IV. 251:123 (1913))
- Phacelia Davidsonii* Gray. Occasional in dry ground in the Lower Transition Zone. (Nos. 1264, 2034.)
- Phacelia Davidsonii* Gray. Form *macrantha* (Parish) Johnston, comb. nov. *P. Davidsonii* Gray. var. *macrantha* Parish. We did not see any plants that were referable to this large flowered form but according to Brand (Pflanzenr. iv. 251:116 (1916)) Dr. Hall collected it in our limits.
- The plant concerned here differs from typical *P. Davidsonii* only in its large flowers (15-22 mm. wide). As there appears to be no relation of distribution with the occurrence of this variation and since a very com-

plete gradation exists between the extremely large and extremely small flowered plants we have thought it best to treat this plant as a "form." *Phacelia Fremontii* Torr. *P. Hallii* Brand. Collected by Dr. Hall as high as 7000 ft. alt. on the north side of the mountain.

The type of *P. Hallii* came from 6700 ft. alt. on the north side of the mountain. The slightly smaller flowers are the only difference that I can detect between specimens of the type collection (*Hall 1264*) and other collections from Swartout Valley (*Hall 1494*) that Brand has passed as *P. Fremontii*. I have also seen a collection referable to *P. Hallii* from 7000 ft. alt. (*Hall 291*).

Eriodictyon trichocalyx Heller. Dry sunny open slopes up to an altitude of 9000 ft. Usually associated with *Rhamnus californicus*. (No. 1574.)

Turricula Parryi (Gray) Macbr. A few scattered colonies were found in sunny rocky ground in the Transition Zone. On the south side of the mountain it is more common and reaches greater size in the Upper Chaparral Belt. (No. 1564.)

BORAGINACEÆ

Cryptantha ambigua (Gray) Greene. Frequent in dry, sunny ground throughout the Transition Zone, alt. 5000–8200 ft. Det. by Mr. J. F. Macbride. (Nos. 1620, 2035, 2057, 2071.)

Cryptantha muricata (H. & A.) Nels. & Macbr. Frequent in dry ground, mainly in the Transition Zone. A reduced form with stems averaging under 6 mm. high was found on Telegraph Peak Summit, alt. 9000 ft. (Nos. 1542, 1598.)

Cryptantha muricata (H. & A.) Nels. & Macbr. var. *Jonesii* (Gray) Johnston, comb. nov. *Krynitzkia Jonesii* Gray. Most abundant in the chaparral belt but occasionally found under the pines in the Lower Transition Zone.

In its typical form this plant is separated from the last by its somewhat larger flowers and strict habit of growth. Numerous intermediate stages exist between these two extremes and so we have assigned *Jonesii* to varietal rank. (Nos. 2073, 2077.)

VERBENACEÆ

Verbena prostrata R. Br. Frequent in dry sunny ground in the Lower Transition Zone. Locally abundant in springy ground, 8000 ft. alt. in the Upper Transition Zone at the Old Gold Ridge Mine. (Nos. 1407, 1608.)

LABIATAE

Pycnanthemum californicum Torr. Moist ground in the lower part of the pine belt; common in the chaparral belt. (No. 1715.)

Monardella cinerea Abrams. Known only from the San Antonio Mountains, where it is found in scattered stations in the Canadian and Transition Zones, invariably growing in rocky situations. A ledge of rock, well shattered by the elements, is its favorite location.

The type station is "near the summit of Mt. San Antonio." The plant is most abundant on the very rocky, gentle south slope of Little Baldy, Cana-

dian Zone at 9500 ft., and no doubt the type was collected there. The species does not grow on Baldy Summit for it reaches its upper limits at about 9700 ft. alt. The lowest station noted for the plant was at 6000 ft. alt. on the Baldy Trail just above Bear Flats where it grows on the border line between the chaparral and pine belt. At this low station the plant was in flower during the first of July while on Little Baldy it was not in full bloom till the last of August. (Nos. 1261, 1420, 1421, 1422, 1449, 1549, 1571, 1693.)

Monardella linoidea Gray var. *stricta* Parish. This was collected in Swartout Valley between 6000 and 8000 ft. alt. at various times by Dr. Hall.

Salvia apiana Jeps. An occasional entrant into the pine belt. Seen as high as 8000 ft. alt. An abundant species on the mesas along the south base of the mountains.

Scutellaria angustifolium Pursh. Collected by Dr. Hall (No. 1251.) on the north base of the mountain at 5600 ft. alt.

Stachys albens Gray. Occasional in moist ground in the Lower Transition Zone. In the Upper Transition Zone, alt. 8000 ft., at the Old Gold Ridge Mine. (No. 1604.)

SOLANACEÆ

Nicotiana Bigelovii Wats. A few plants along the trail at 5400 ft. alt. in Icehouse Cañon.

Solanum Xantii Gray. Frequent in shaded ground in the Lower Transition Zone.

SCROPHULARIACEÆ

Collinsia Childii Parry. Locally abundant on moist, cool, shaded cañon-sides at 4500 ft. alt. in Cascade Cañon. Lower Transition Zone. (No. 1282.)

Collinsia callosa Parish. The type of this species was collected by Hall in Swartout Valley. Dr. Hall collected other specimens at 6500 ft. alt. in Lytle Creek.

This species may be only a coarse xerophytic form of the last species. It differs from *Childii* in being stouter, lower and in having shorter, stiffer and more widely spread branches. Its leaves are shorter, broader, thicker in texture and nearly sessile. The calyx is twice as broad, square at the base, and with thick, nearly deltoid calyx lobes which have barely apparent mid-ribs. These characters coupled with its general distribution, which consists of the desert slope of the San Antonio Mts. and the various small mountains of the Mojave Desert, would make the aforementioned relationship to *C. Childii* at least plausible.

Collinsia Torreyi Gray var. *Wrightii* (Wats.) Johnston, comb. nov. *C. Wrightii* Wats. *C. monticola* Davids. Colonies of this plant are frequent under the pines in the upper part of the Transition Zone and in the Canadian Zone. Its range seems to coincide with that of *Castanopsis*. The highest station that we know for this interesting little plant is at 8700 ft. alt. on the saddle between Baldy and Pine Mt., but Davidson cites under his species a collection by Mr. Burlew from Baldy Summit. We have seen a collection by Dr. Hall (No. 1239) from near the summit of Baldy at 9700 ft. alt. The plant

is exceedingly abundant under the pines in the vicinity of Kellys Cabin, 8000-8500 ft. alt., where it colors the ground in the openings between the manzanita and chinquapin bushes.

C. monticola was based on collections made by Dr. Hall at 6800 ft. alt. in Swartout Valley. This species, however, is an exact duplicate of Sierran *C. Wrightii*. The only character which distinguishes *Wrightii* from *C. Torreyi* is its smaller sized corolla. This character, while apparently constant, is, in our mind, not sufficient to warrant the separation of these two very closely related forms. (No. 1551.)

Mimulus glutinosus (Nutt.) Wendl. var. *brachypus* Gray. Occasional in dry, sunny, rocky places along the lower edge of the pine belt. A large colony was found on a dry sunny slope at 7500 ft. alt. in the lower part of the Upper Transition Zone in North Fork San Antonio Cañon. (No. 1607.)

Mimulus Palmeri Gray. Collected by Dr. Hall. (No. 1449.) at 5800 ft. alt. in Lytle Creek Cañon.

Mimulus Fremontii. Lytle Creek Cañon, alt. 6000 ft. Hall 1543.

Mimulus sp. A small red *Mimulus* (*Eunanus*) is common in dry ground under the pines. It extends from the lower edge of the pine belt up to 9700 ft. alt. in the Canadian Zone on Little Baldy.

Its nearest relative appears to be *M. Fremontii* but it has smaller flowers and has a single, erect, pubescent much coarser stem which is evenly branched from base to summit and not restricted to basal branching as is the more slender stemmed *Fremontii*. Its calyx is less distinctly angled, apparently shorter and much less constricted at its mouth. The leaves are much more numerous, thicker, broader and decidedly pubescent. (Nos. 1486, 1524.)

Mimulus floribundus Dougl. Frequent in moist ground. Seen at 7000 ft. alt. in Coldwater Fork Lytle Creek.

Mimulus rubellus Gray. A few plants in moist ground at 6500 ft. alt. in Middle Fork Lytle Creek. Specimens too poor for positive determination. Plentiful collections of this species were made, however, by Dr. Hall (No. 1458) at 6000 ft. alt. in "Lytle Creek Cañon." (No. 1618.)

Mimulus microphyllus Benth. A small depauperate form of apparently this species is quite common in the springy ground at the Old Gold Ridge Mine, Upper Transition, alt. 8000 ft. (No. 1599.)

Mimulus cardinalis Dougl. Common in moist ground throughout the Transition Zone. (No. 1524.)

Pentstemon labrosus Hook. Common under the pines in the Transition Zone. (Nos. 1460, 1461, 1557.)

Pentstemon Palmeri Gray. Frequent under the pines in the Transition Zone. Seen in the Canadian Zone, alt. 9000 ft. on the Devils Backbone. It extends some distance down into the Upper Chaparral Belt where it is common at 3500 ft. alt. on Hog Back. (No. 1526.)

Pentstemon ternatus Torr. Most common in the Upper Chaparral Belt, but not uncommon in the lower part of the pine belt. (No. 1676.)

Pentstemon centranthifolius Benth. Common on the broad sandy floor of Prairie Fork, ascending the cañon to over 6000 ft. alt.

Castilleja miniata Dougl. Springy ground in the Upper Transition Zone. Not uncommon on the north side of the mountain, but on the south slope it

is known only from 8000 ft. alt. at the Old Gold Ridge Mine. The highest we collected the plant was at 8750 alt. on the saddle between Baldy and Pine Mountain. (No. 1380, 1527.)

Castilleja Martini Abrams (?) Here we doubtfully place the common *Castilleja* which grows in dry, sunny ground in the Transition Zone. (Nos. 1383, 1700.)

Cordylanthus Nevinii Gray. Not uncommon under the pines in the Upper Transition Zone. (No. 1662.)

Cordylanthus rigidus (Benth.) Jeps. var. *filifolius* (Nutt.) Macbride. Common in dry ground below 6500 ft. alt. (No. 1675.)

Pedicularis semibarbata Gray. Moist shaded ground under the pines, especially in the upper part of the Transition and lower part of the Canadian Zone. In the upper part of Icehouse Cañon, alt. 8000–8250 ft., the plant is very abundant, nearly carpeting the ground with its fern-like foliage. Collected in the Lower Transition Zone at 6000 ft. alt. in South Fork Lytle Creek and at 7000 ft. alt. at the Baldy Lookout. The maximum altitude seen was 8700 ft., at that altitude it was collected on the east slope of Baldy. (Nos. 1274, 1455.)

OROBANCHACEÆ

Orobanche californicum C. & S. On *Eriodictyon* at 9000 ft. alt. in the Upper Transition Zone on the Devils Backbone. (No. 1762.)

Thalesia fasciculata (Nutt.) Britton. Frequent on *Eriodictyon*, ascending to 9000 ft. alt. (No. 1556.)

Bochniakia strobilacea Gray. Common in the chinquapin belt in all parts of the mountain. It is almost unbelievable to us that this plant has been considered a rarity. On every trip, which we made into the mountains above 8000 ft., we have seen literally hundreds of plants. It was most abundant on the south slope of Telegraph Peak, for there the plants grew in dense clusters of thirty or more individuals. These dense masses of plants, due to their growth, caused the upheaval of numerous small areas, the majority of which were a meter in diameter. The condition on Telegraph Peak, however, was not typical of the rest of the mountain. In most parts of the mountain the plants grew singly and were freely scattered over the area which the colony occupied. The favorite host appears to be *Arctostaphylos patula*. At 6500 ft. alt. on the south slope of Baldy it was collected on *A. Parryana* while at 5200 ft. alt. in the Upper Chaparral Belt on the south spur of Cucamonga a few plants were noted on *A. tomentosus*. The most peculiar thing noted about the plant was that only those flowers which remained underground, two thirds of the inflorescence doing so, matured their fruit. The part of the inflorescence which projects above ground is infertile and has a resemblance to a tamarack pine cone. (Nos. 1432, 1449, 1554, 1555.)

RUBIACEÆ

Galium multiflorum Kell. var. *parvifolium* Parish. Common among the rocks on Baldy above 9000 ft. alt. A single plant was collected at 7750 ft., Upper Transition Zone, at the Old Hydraulic Mine. This single plant was the only one seen outside of the Canadian Zone. (Nos. 1398, 1691, 1698.)

Galium Aparine L. Moist shaded ground in the lower portions of the Transition Zone.

Galium siccatum Wight. (?) We very doubtfully place here the common *Galium* of the pine belt. The plant is very common in dry rocky ground throughout the Transition Zone, reaching its maximum elevation at 8700 ft. alt. on Ontario Peak Summit.

Our plant is not "suffrutescent" nor is it "branched and bushy." It is a tufted perennial with the low (under two decimeters in height), erect, herbaceous stems unbranched. The other characters of the plant agree very well with *G. siccatum* as described, but its reference to this species is, however, very unsatisfactory. In recent years this same plant has been referred to *G. multiflorum* Kell. (Nos. 1262, 1591, 1615.)

Galium angustifolium Nutt. A very interesting form of this species is common in the lower portion of the pine belt and higher parts of the chaparral belt on the south side of Cucamonga and Ontario Peaks. Due, no doubt, to the effects of frost the plants have developed a base of the slender woody stems. From this base the annual growth of unbranched stems arise two or three decimeters. This habit of growth is very different from the taller and very bushy plant of the mesas at the foot of the mountain. We have observed this low form only between 5000 and 7000 ft. alt. (No. 1483.)

Galium sp. An undescribed species of the *G. multiflorum* group is locally abundant in gravelly ground, 5000-5700 ft. alt., at the lower edge of the pine belt in Coldwater Fork Lytle Creek. It was collected at this same station by Dr. Hall. (No. 1227).

The plant is characterized by its long reclining woody stems, its peculiar light color, the very harsh scabrous pubescence, the large semibaccate, densely hirsute fruit and especially by its short lateral branches that bear only a few flowers on their drooping tips. (Nos. 1667, 2067.)

CAPRIFOLIACEÆ

Sambucus glauca Nutt. var. *velutina* (D. & H.) Johnston, comb. nov. (*S. velutina* D. & H.) Frequent in moist ground in the Upper Transition Zone.

S. velutina was originally described as having pubescent leaves. Our plants of it, however, are very variable in respect to pubescence. We have noted all gradations between forms with a dense soft short pubescence and forms entirely glabrous, the latter state being far the more common. The cymes of our plant are very large, being 2-2.5 dm. wide. This fact, coupled with the shrubby growth and larger leaves, serves very well to distinguish this variety from the species. The fruit has a very decided bloom, thus making it impossible to refer our plant to that uncertain species, *S. mexicana* Presl. (Nos. 1537, 1549.)

Symphoricarpus Parishii Rydb. Locally abundant in scattered stations. The stations are as follows, Coldwater Fork Lytle Creek, Upper Transition Zone, alt. 7000 ft., in springy ground with *Salix flavescens* and *Prunus demissa*. South Fork Lytle Creek, Lower Transition Zone, alt. 6000 ft. as a weak prostrate shrub under the pines with *Pyrola* and *Streptanthus*. South spur of Cucamonga Peak, alt. 8000 ft. and on the west end of Ontario Peak, alt. 7000

ft. in dry, sunny, rocky situations in the Upper Transition Zone with *Eriogonum fasciculatum poliofolium* and *Gilia pungens tenuiloba*. West spur of Baldy, Canadian Zone, alt. 9000 ft., in dry rocky ground on a sunny ridge with *Eriogonum microthecum* and *Ceanothus cordulatus*. Swartout Valley, alt. 6500 ft. acc. Abrams (Bull. N. Y. Bot. Gard. 6: 457, 1910). (Nos. 1389, 1472, 1727.)

Lonicera subspicata H. & A. A foothill species which reaches 6500 ft. alt. in the Lower Transition Zone.

Lonicera interrupta Benth. Occasional along the lower border of the Transition Zone in Prairie Fork. Reaching 5000 ft. alt. (No. 1713.)

COMPOSITÆ

Brickellia californica Gray. Frequent in dry sunny ground throughout the Transition Zone. Reaching 8000 ft. alt. (Nos. 1536, 1642.)

Brickellia microphylla Gray. Frequent in gravelly ground in San Antonio Cañon and in North Fork Lytle Creek. A Lower Transition plant which occasionally descends into the Upper Chaparral Belt as at Camp Baldy, alt. 4500 ft. The maximum altitude noted was 6500 ft. Det. B. L. Robinson. (No. 1643.)

Chrysopsis villosa (Pursh) Nutt. var. *fastigiata* (Greene) Hall. Common in dry ground in the Lower Transition Zone. (No. 1701.)

Solidago confinis Gray. Wet ground at the Native Son Mine, alt. 5000 ft. Lower Transition Zone. (No. 1674.)

Solidago californica Nutt. Common under the pines in slightly moist places. Transition and Upper Sonoran Zones. (Nos. 1697, 1710.)

Ericameria cuneata (Gray) McClatchie var. *spathulata* (Gray) Hall. Seen in the pine belt at three stations. At 6500 ft. alt. at San Antonio Cañon Falls, at 6750 ft. alt. in Middle Fork Lytle Creek and at 7000 ft. alt. on the west end of Ontario Peak. Very common on rock ledges in the Upper Chaparral Belt. (No. 1596.)

Chrysothamnus nauseosus (Pall.) Britt. vars. This genus is in the process of revision and so no attempts will be made to give varietal determinations. The common form of this species is abundant in dry sunny ground in the Transition Zone on the north side of the mountain. On the south side shrubs of this species are infrequent and are usually found in the washes at the lower edge of the pine belt. Another form of *nauseosus* represented by my No. 1652 was found growing with the last form on a dry sunny ridge-crest in the Transition Zone, alt. 8000 ft., on Pine Mt. Ridge. It is distinguished from the last form by its long, slender erect stems that are abundantly tomentose and by the very loose inflorescence. (Nos. 1652, 1653, 1706.)

Chrysothamnus vicidiflorus (Hook.) Nutt. var. *tortifolius* (Gray) Hall. "Mt. San Antonio" acc. Abrams (Fl. Los. Ang. 366, 1917).

Corethrogyne filaginifolia (H. & A.) Nutt var. *pinetorum* Johnston. Frequent in dry ground under the pines in the Lower Transition Zone. Frequent on open slopes in the Upper Chaparral Belt especially in the region of Sunset Peak. (No. 1644.)

- Aster canescens* Pursh. A discoid form, which has also been collected in Swartout Valley, (Geo. R. Hall, Sept. 1904), is very common in dry rocky ground under the pines, 6000–7000 ft. alt., in Prairie Fork. (No. 1647.)
- Aster Menziesii* Lindl. A large colony in Prairie Fork about a quarter mile below the Native Son Mine. The plant grew on a sunny but moist bank covering it to the exclusion of all other plants. Lower edge of the Transition Zone, alt. 5000 ft. (No. 1640.)
- Erigeron jacinteus* Hall. Several small colonies were found growing among the loose rocks on the exposed summit of Little Baldy. Canadian Zone, alt. 9550 ft.
- This is a very well marked species and is quite distinct from *Leucelene ericoides* to which it was reduced by its author (Univ. Cal. Pub. Bot. 3:86, 1907). It is separated from all forms of that variable species by its larger hemispheric heads, by its darker and not scarious margined involucre-bracts and by its decidedly broader spatulate leaves. The whole plant is cinerous with coarse, nearly hispid, hairs and is composed of rather few, long, loosely spreading stems. The disk flowers are more numerous and darker in color. The plant has the oblong, obtuse style-branches that characterize both *Leucelene* and *Erigeron*; the general appearance of the plant, however, is very decidedly that of the latter genus.
- This species has been collected only in the San Jacinto Mts., the type region, and in the San Antonio Mts. *Leucelene ericoides* is known from California only by a collection made in the Providence Mountains on May 30, 1902 by Mr. Brandegee. (No. 2082.)
- Erigeron foliosus* Nutt. var. *stenophyllus* (Nutt.) Gray. Frequent in dry sunny ground throughout the Transition Zone. On the upper edge of the Transition Zone at 9500 ft. alt. on Pine Mt. (No. 1682.)
- Erigeron divergens* T. & G. A single plant growing in wet ground at the Native Son Mine. Collected by Hall in Swartout Valley (Univ. Cal. Publ. Bot. 3:93, 1907.) (No. 1708.)
- Antennaria dimorpha* (Nutt.) T. & G. A large colony in very dry rocky ground along the trail in Coldwater Fork Lytle Creek, alt. 6250 ft., Lower Transition Zone. (No. 2060.)
- Gnaphalium microcephalum* Nutt. Occasional in dry sunny situations in the Transition Zone. (No. 1698.)
- Gnaphalium chilense* Spreng. Wet ground at the Native Son Mine.
- Helianthus gracilentus* Gray. Frequently found under the pines in the lower portions of the Transition Zone. Reaching 6000 ft. alt. (No. 1457.)
- Hemizonia Wheeleri* Gray. Abundant under the pines at 6000 ft. alt. in South Fork Lytle Creek. Lower Transition Zone. (No. 1475.)
- Eriophyllum confertiflorum* (DC.) Gray var. *trifidum* (Nutt.) Gray. Frequent under the pines, mostly in the Lower Transition Zone. Not detected in the San Antonio Cañon watershed, where it is replaced by the next variety. (No. 1452.)
- Eriophyllum confertiflorum* (DC.) Gray var. *discoideum* Greene. Noted only in the San Antonio Cañon watershed where it is common in dry ground under the pines in the Transition Zone, ranging from 5000–8000 ft. alt.

Though usually the rays are absent, plants are not uncommonly found which are wholly or partially radiate. These radiate forms are easily separated from the var. *trifidum* by their robustness and by their much broader heads. (No. 1405.)

Chaenactis santolinoides Greene. Frequent in dry ground under the pines in the Lower Transition Zone. (No. 1489.)

Hulsea heterochroma Gray. Seen twice, both stations being in the watershed of Middle Fork Lytle Creek. Cucamonga Peak (Kellys Mine) alt. 8000 ft. and in the Middle Fork at 6750 ft. alt. At the first station there was a very large colony but at the other station only a few plants. (Nos. 1567, 1610.)

Helenium Bigelovii Gray. Very common in springy ground in the Transition Zone. (No. 1525.)

Artemisia draucunculoides Pursh. Occasional in dry ground in the Transition Zone. (No. 1660.)

Artemisia heterophyllus Nutt. Frequent in wet ground in the Lower Transition Zone. Much commoner at lower levels.

Artemisia tridentata Nutt. Very common in dry ground in the Lower Transition Zone on the north side of the mountain, but not known to occur on the south side. Noted at 8000 ft. alt.

Artemisia Ludoviciana Nutt. Common in Prairie Fork and on the ridges surrounding it, also in the higher part of North Fork Lytle Creek. Dry ground under the pines throughout the Transition Zone, alt. 6000-8500 ft.

Very variable in pubescence and in habit. Some plants are permanently tomentose above, although much less so than below, while other plants are glabrate above. All our plants, however, agree in having the leaves pinnately cleft into narrow lobes. Dr. Rydberg has determined our No. 1651 as *A. diversifolia* Rydb. (No. 1651.)

Lepidospartum squamatum Gray. Occasionally found in the lower portions of the Transition Zone, usually dry sandy cañon beds. (No. 1717.)

Tetradymia canescens DC. Quite common throughout the Transition Zone on the north side of the mountain. Two plants were noted on the south spur of Telegraph Peak, the only noted station on the south side. Several shrubs grow by the summit cairn on Pine Mountain and therefore at an altitude of 9660 ft. alt. (Nos. 1545, 1672.)

Senecio ionophyllus Greene. (*S. sparsilobatus* Parish. *S. bernardinus* Greene.)

This very variable species is frequent under the pines on shaded north-facing slopes, especially in the Upper Transition Zone. It was noted chiefly on the side of the mountain facing the desert, only noted on the south slope of the mountain in Cascade Fork of San Antonio Cañon.

The most common form of the plant is f. *sparsilobatus* (Parish) comb. nov. This form, and several others which, although not altogether typical, are best referred here, is predominating in all the colonies of the plant which we have seen. The orbicular-leaved plant that is referable to typical *S. ionophyllus* and the densely tomentose, f. *bernardinus* (Greene) comb. nov. were both found to be rather uncommon. (Nos. 1381, 1658, 2042, 2076, 2085.)

Senecio triangularis Hook. Several large clumps in a marsh in a side cañon of Prairie Fork. Upper Transition Zone, alt. 7000 ft. (Nos. 1679, 2088.)

- Senecio Douglasii* DC. Lower edge of the pine belt at 5000 ft. alt. in Prairie Fork. (No. 1678.)
- Cirsium Californicum* Gray var. *bernardinum* (Greene) Macbride. Occasional on the dry sandy floor of Prairie Fork in the Lower Transition Zone. Ascending to 7000 ft. alt. (No. 1707.)
- Anisocoma acaulis* Gray. A single plant under the pines, alt. 8000 ft. in the Upper Transition Zone on the divide at the head of San Antonio Cañon. This is perhaps the same station where Dr. Hall (No. 1265) collected the plants which grew on an "open ridge at 8000 ft. alt." (No. 2081.)
- Stephanomeria runcinata* Nutt. Occasional in rocky ground in the lower and dryer parts of the Transition Zone. Frequent at lower levels. (Nos. 1573, 1649.)
- Stephanomeria cichoriacea* Gray. Frequent in dry rocky ground in the chaparral belt and in the Lower Transition Zone. Seen in the Upper Transition Zone at 8000 ft. alt.
- Stephanomeria virgata* Benth. A low, very slender form of this species was common under the pines in the Upper Transition Zone near the head of Prairie Fork. (No. 1654.)
- Troximon retrorsum* (Benth.) Greene. Frequent in open ground in the Upper Chaparral belt and in the Transition Zone. On Pine Mountain Ridge a colony was noted at nearly 9000 ft. alt. (No. 2089.)
- Crepis nana* Richards. "On the eastern side of Mt. San Antonio some three or four hundred feet below the summit, near a small snow field, along the Glen Ranch Trail," acc. Burlew (Bull. So. Cal. Acad. 16: 13, 1917).
- Crepis acuminata* Nutt. Frequent in Prairie Fork and on the ridges surrounding it. Growing in dry rocky ground in the Transition and lower parts of the Canadian Zone. 6000-8500 ft. alt. (Nos. 1650, 2083.)
- Hieracium albiflorum* Hook. Frequent under the pines; most common in the Lower Transition Zone. (Nos. 1480, 1614.)
- Hieracium horridum* Fries. In rocky ground in the Lower Transition Zone, alt. 6000 ft., in Middle Fork Lytle Creek. In the Upper Transition Zone at 7000 ft. alt. in Icehouse Cañon and in Cascade Fork San Antonio Cañon. Very common among the rocks, at the upper edge of the Transition Zone, on the summit of Ontario Peak, alt. 8200 ft. (Nos. 1613, 1616.)