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Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

6248 *Lechea* n. sp see 27432 Cabo 9-I4

5248 *Lechea depressa* N. Sp. 27117 The laguna laguna mts. L. calif. 9-22. plant growing in rocky places under live oaks, in tufts about 4 inches high. Stems innumerable from the thickened crown, filiform, the upper half becoming an open panicle of compound racemes, the flowers of which come out opposite but below the corresponding, green bract. leaves imbricated, very many, bisulcate below, 5 mm. long, linear, acute, appressed-strigose-hairy, as is the calyx. flowers chestnut-colored, with the petals not exerted, and the many stamens barely so and with didymous anthers. Fruits

(*Lechea*)

globose, 2mm long, the valves splitting away from the erect partition and leaving the vertical ~~singls~~ and obliquely ovate seeds single in each cell. This species is manifestly near to *L. minor* wh ich has thw same pubescence.

5383

*Hentzelia Barrancae* N. Sp. 27101 La Barranca Guad. II-15. Plants resembling *H. Gonzatii* Greenman. Shrubby, with slender and brittle stems erect or nearly so but spreading and openly branched. Pubescence throughout minute, but inclined to be hoary, of simple but very early tapering hairs and appressed. Leaves lanceolate from a nearly truncate base, doubly and irregularly lacinate-serrate, 2-4 inches long, long-acuminate thin, the upper ones inclined to be opposite, all on short petioles. Flowers light-orange-yellow, nearly 2 inches long. Sepals filiform-subulate 1.5 cm. long. Petals oblong-ovate. Pods oblong, 1 cm. long. Seeds few oblong and rugose. Stamens many, with filaments about an inch long.

Mortonia

4651 ~~Meluhria~~ *aspera* N. Sp. 27502 Arroyo Undo, Sierra Gig. IO-26. A rigidly branched but not spinose shrub 4-6 ft. high, with dark brown bark becoming grayish-striate on the pubescent twigs. Leaves alternate, and inclined to be fasciated on low warts, about an inch long, about oval but with short and cuneate base tapering into a very short and very pubescent petiole. Leaves yellowish, thick, 3-nerved, entire but seemingly inclined to be wavy on the margins, very rounded at tip and rarely retuse a little, minutely papillose with clusters of raised and shining cells, which become elongated and concentric in the center surrounding a stout and tapering <sup>erect</sup> hair. Fruits yellowish to orange colored, oval, ~~mentish~~ apiculate from the stout remains of the 2-lobed stigma, 2-celled, 2-seeded, a little sulcate between the seeds, indehiscent, puberulent, on a stout pedicel its own length, spreading, Fl 7mm. long by 4 mm. wide, a little flattened at the sutures.. This would pass for a form of *U. glabra* Watson, which is a very variable species, but the fruit is very different and the pubescence not the same.

5245-

*Helianthemum glomeratum* Lag. This shrub is quite common at the Laguna growing in the open plain, and is a tufted shrub about 2 feet high, appearing as if an *Oenothera* when in bloom. It seems too near to *H. Canadense*.

4998 *Sida rajoides* N. Sp. 27168 Primera Agua Sierra Gig. 10-19-1930. A slender and erect bush, 3-5 ft. high, racemosely branched above, and the whole upper part becoming a compound, leafy panicle. Whole plant minutely, velvety-stellate-pubescent even to the fruit. Leaves ovate, from a truncate to cordate base, thick, 2-4 inches long, gradually reduced above, obscurely doubly crenulate, 7-nerved from the very base, and veins conspicuously raised below and impressed above, barely acute. Flowers umbellate, 2-5 on the ends of a common peduncle an inch long and arising opposite a leaf, and at tip bracteate with linear and caducous bracts 1 cm. long. Each flower on a filiform and reflexed pedicel an inch long in fruit. Calyx lobes lanceolate-acuminate, 3 mm. long, not enlarging in age. Petals purple, fan-shaped, about 1 cm. long and much exserted. Fruit rhomboidal, about 1 cm. long and wide, papery, 5-celled, <sup>(cells 1-seeded)</sup> splitting through the junction of the valves and not through the back, and valves explanate at last. Fruit conspicuously winged at the junction of the ~~wings~~ valves ~~in~~ just below ~~the~~

the middle where it is 4 mm. wide, narrowing toward each end. Fruit strongly beaked, the beak 4 mm. long, and at last splitting into 5 needle-like awns. Seeds blackish, about 2 mm. long, half-oval, rather pointed at both ends and longitudinally <sup>finely</sup> striate-pitted. Pods conspicuously exserted. At first one is inclined to take this plant as *Waltheria* for it has that habit. 27170 Mts. east of Loreto, 10-17. Also Cabo 27166 9-15.

4002

*Anoda*

*Anoda stenopetala* N. Sp. 27142 La Barrantza Gaud. II-I6. Annual and erect and slender plants racemosely branched above in an open panicle. Basal leaves triangular-ovate-cordate, the blade 2-3 inches long, green, sparsely stellate-pubescent on both sides, passing gradually into linear ones above which are entire, and hastate-lobed below, with the ears 1 cm. long and deflexed, root leaves crenate. Panicles very open and diffuse with elongated branches and the filiform peduncles 1-3 inches long. Calyx about 5 mm. long with triangular lobes half as long, not enlarging in fruit. Flowers very narrow, an inch long, purple, with the petals separate and conspicuously stalked, oblanceolate, 8-9 mm. long. Staminal column exserted as in *Kosteletzkia*, 2-4 mm. long. Anthers didymous and with a conspicuous white connective between the cells. Fruit about 8 mm. wide, of about 10 carpels which are hispid at tip and truncate and eared on the angles. Seeds black, truncate at tip, with the arched back flat or a little grooved along the middle and rugose, with the sides concave and plane. One would naturally place this in *Kosteletzkia* but the fruit characters would indicate *Anoda*. The flowers are very dark colored.

4056

*Hermannia Palmeri* Rose. 27155 Cabo 9-14. This slender shrub 2-3 ft. high reminds one of *Hibiscus* and of *Triunfetta*, but the 5 linear-lanceolate anthers opening by pores at the tip prevent its being in either genus. The anthers are described as connate, but they are not. The oval fruit is covered with hair-like barbs with reflexed hairs on them and with the tip anchor-like with half a dozen sharp arms reflexed and radiate. The flowers are conspicuous and yellow.

4483 *Abutilon* *Barrancae* N. Sp. 27<sup>1</sup>62 La Barranca Guad. II-19. A slender shrub  
3-6 ft. high, with nearly simple stems ending in a narrow panicle. Stems  
shrtly-pubescent with rather long stellate hairs from a pustulate base,  
and inclined to be glandular on the inflorescence. Leaves many, 4-6 inches  
long, 7-nerved, ovate-acuminate to ovate-lanceolate-acuminate, a little  
cordate below, on stout petioles an inch long, with nerves raised below.,  
softly pubescent below with long-rayed stellate hairs, nearly smooth above  
and with surface seemingly pseudo-scurfy, and with veins impressed.  
Stout pedicels ascending and jointed near the tip, half an inch long.  
Flowers pale-yellow, with the rounded petals about 1 cm. long. Calyx  
rather rotate spreading in flower, with lobes triangular-ovate-acuminate  
and about 8 mm. long, stellate-pubescent as are the carpels, about as long  
long as the fruit. Fruit depressed-globose and truncate at tip. Carpels  
2-seeded, about 10, minutely beaked at the blunt tip, 8 mm. long. Seeds  
angular, barely puberulent. Leaves low-crenate.

*Condalia Parryi* Gr. The fruits of this plant are chrome-yellow, 1.5 cm. long by 1 cm. wide, round and smooth in cross-section, elliptical, rather acute at both ends, and triangular-apiculate at tip, the pulp 1-2 mm. thick, sweetish but a little bitter, separating at once from the smooth seed<sup>s</sup> which is chocolate-colored, and obliquely beaked at both ends, and a little flattened, and with traces of two sharp lines along the sides, the walls are very bony and hard and 2-2.5 mm. thick, and reddish, with 2-3 seeds in the single cell, which are round in cross-section. The pedicels are about 3/4 inch long, and mostly single in fruit. The fruit falls readily at maturity. The bushes are usually 4-6 feet high and much branched and green.

4862

4909

*Vitis peinusulâris* N. Sp. No. 27450, Laguna Mts. 6500 feet alt. growing  
high on *Pinus cembroides* on the mesa. Sept. 22 1930. Leaves cordata-  
ovate-acuminate, about 3 inches long, smooth above, velvety-pubescent below  
and somewhat hoary. Fruit blue-black, nearly 1 cm. wide and fruiting copio-  
ously. Tendrils stout. Petioles about an inch long. Leaves regularly low-  
errate and with teeth ending in sharp prickles  $\frac{1}{4}$  mm. high, and callused.

4831

*Dodonaea lagunensis* N. Sp. No. 27087. The Laguna, Laguna Mts. L. Calif  
Sept. 24 1930. A slender shrub 6-8 ft. high. Leaves oblong-lanceolate,  
apiculate, entire, 3 inches long, nearly an inch wide, finely penninerved  
tapering into short and margined petioles 6 mm. long, shining and appearing  
as if waxy, very minutely pubescent, clustered at the ends of branches.  
clusters of fruit almost sessile. peduncles nearly 1 cm. long, filiform.  
fruit deeply emarginate both above and below and 1 cm. high and about 1.5 cm  
wide, smooth, rather few in the clusters. This belongs with the jamaicensis  
section

2074-t <sup>ms</sup>  
*Loranthus anomala* N. Sp. 27330 La Barranca Guaf. 11-17. An olive-green shrub  
2-3 ft. long, with woody stems and filiform branches, with scattered, smooth  
and entire leaves 2-3 inches long, and shortly-acuminate at both ends, on slender  
petioles 1 cm. long, leathery becoming thin. Flowers of two kinds. The lower  
ones in racemes and on pedicels about 4mm. long, the others in catkins  
an inch or less long which are racemose on the main rachis.. All the flowers  
seemingly fertile.

4348  
*Croton lagunensis* N. Sp. 27827 Trail down the Llagunas, we, side. 9-24. An  
openly branched shrub about 6 ft. high, with gray bark, branches short and leafy. Leaves 2-3 inches long, thick, elliptic, serrate as if glandular, and teeth with a tuft of hairs on the sharply  
trigonal more acute at tip than base, densely white-stellate below, and appearing as if greener above but yellowish and pubescence more compact, pinnate-nerved though the basal pair of nerves a little more prominent, on a stout petiole 1 cm. long. Fruits on stout pedicels 1-2 cm. long, mostly single and terminal, 12-15 mm. wide, densely white-stellate, always 2-celled and didymous, the two halves would be spheres except for the flat commissure. The pods are 8 mm wide and have a double ridge traversing both sides down to the middle through which it splits and split continues to the base. The two seeds are gray and mottled and conform to the external shape of the pod and are 1/2 mm. shorter than the cell.  
Mills.  
This has the habit of *V. Magdalenae* ~~xxxxx~~, but grows at higher elevation but still in the Tropical life zone.

4348+ *Jatropha spathulata* Muell Arg. There seem to be two very marked forms of this species. The one with globose pods seems to be rare, the other form with didymous pods and the spherical seeds half as long is the common form. I do not consider the var. *sessiliflora* Muell. Arg. as worth considering. 27506 Cabo 914 with the knotted stems is the common form. 27504 from Borrego ranch is less knotted and with longer leaves. 27507 is from Triunfo 10-7 and is without the knotted stems. Also from Cayuca ranch a similar form. This constant abortion of the third cell is very confusing, leading one to hunt all through the families for its proper place.

*Jatropha ciliata* N. Sp. 27828 La Barranca Guad. II-25 1930. A tall bush 6-8 ft. high, with long and slender branches, and short panicles in the upper axils. Leaves 4-5 inches long, smooth, entire, elliptical, shortly cuneate below into a stout petiole 1 cm long, abruptly triangular-acuminate at tip, thin, feather-veined, opposite. Fruits fleshy, yellow, 1-1.5 cm wide and 1 cm. long, either globose and single seeded or 2-celled and somewhat didymous. Seeds either spherical or conspicuously flattened on the commissural side.

ms

## Salvia-Calosphaea. —PURPUREAE.

*Salvia Marcel Epling n. sp.* No. 27298. Arroyo Undo rancho prope Loreto, Baja Cal. c Jones lecta constituta est; typum in herb. Univ. Calif. (Los Angeles) vidi. Frutex pulcher amabilis, ramis incano-tomentellis, internodiis 2-4 cm. longis; foliorum habitu Monarda mollis, laminis 8-10 cm. longis late lanceolatis ad apices acutissimis gradatim angustatis in basi rotundatis, marginibus serratis, pagina superiore viridi inferiore pulchra incana amboque praesertim inferiore mollissime tomentellis, petiolis 1-2 cm. longis, elatis; floribus 6-12, in verticillastris approximatis dispositis; calycibus florentibus 8-9 mm. longis extus incano-tomentellis, labiis obtusis brevibus in maturitate non visis; corollarum purpurearum tubo 18-20 mm. longo ad basem valde abrupte angustato invaginato, labia inferiore quam superiore galeata brevior; staminibus in galea inclusis. Nov. 26 1939. Etiam Dignet, sine loco.

## GLAREOSAE.

*Salvia emaciata Epling n. sp.* No. 744 Hartmann. Ciliatissima in locis humidis prope Pilares lecta constituta est; typum in herb. Univ. Cal. (Berkeley), etotypum in herb. Kew, et Gray, vidi. Herba annua, gracilis, tenella, altitudine ad 35 cm. utrinque fere glabra tenuissime hirtella, ramis erecto-ascendentibus, internodiis 3-6 cm. longis; foliorum laminis oblongis 2-3 cm. longis, 5-8 mm. latis, obtusis, in basi ad petiolos 5-10 mm. longos angustatis; floribus saepius solitariis rarioribus binis in verticillastris bracteis peristatis 3-6 mm. longis elliptico-lanceolatis ciliatis subrepentibus, glomerulis inter se 1.5-3 cm. distantibus; calycibus florentibus 8 mm. longis, in maturitate paulo auctis; corollarum tubo 5-5.5 mm. longo, labia superiore subfalcata, 4.5-5 mm. alta inferiore 6-7 mm. longa, lacinia media cordata. Inter Rio Chico et Rio Cabello, Sierra Madre Sept 29 1911. Barlow; Soldier Canon Sierra Madre 6200 ft. alt. Sept 16 1903 Jones et Colonia Juarez, Jones.

## EUSIGMOIDEAE.

*Salvia palma Epling sp.* No. 380 Jones, prope La Palma Jalisco Mex. lecta constituta est typum in herb. Coll. Pomona, isotypum in herb. Smithsonian, vidi. Herba innocua altitudine 40-60 cm., caulis et caudice flavo-asc n lentibus sparse pubescentibus vel pilis extensis glandulosis conspersis; internodiis pedibus 3-8 cm. longis; foliorum laminis 3.5-4 cm. longis, 18-25 mm. latis, ovatis, in apice obtusis, in basi rotundatis, petiolis 3-6 mm. longis elatis, margine irregulariter crasso serrato, pagina ambobus hirtellis; floribus 3-6 in verticillastris bracteis calycis parvis subrepentibus, glomerulis inter se 1-1 cm. distantibus in apice interruptis 20-40 cm. longis, gracilibus, laxis, dispositis; calycibus florentibus 5.5-6 mm. longis, extus hispidulis, in maturitate 8 mm. longis; corolla-

tubo

ram. 5 mm. longo; labia superiore 3 mm. alta, inferiore 3.0 mm. diam.

MEMBRANACEAE (ESCHOLTZOIDEAE).

ae is  
Salvia verecunda in sp. Epling in montibus Sierras  
Madr. Mex. in cañone Guatimani lecta constat; est; typum in  
herb. Coll. Pomona vidi. Herba perennans, paucis, verecunda; caulibus  
ascendentibus, 20-30 cm. altis, hirtellis; foliorum lamina del-  
toideo-ovatis, 2-4 cm. longis, 1.5-2.5 cm. altis, in apice acutis, in  
basi subtruncatis; petiolis .5-1.5 cm. longis, elatis, margine crenato-  
serratis, paginis ambobus viridis et hirtellis; glomerulis inter se  
1-3 cm. distantibus, bracteis viridibus ciliatis subtentis; calycibus  
floreantibus 6 mm. longis extus ad basim minute glandulosis et pilis  
longioribus, setosis, sparsissime conspersis in maturitate fere gla-  
bris paulo auctis; corollarum tubo 4 mm. longo, intus nudo, labia  
superiore 2.5 mm. alta, inferiore 5.5 mm. longo.

Collected

longis, extus hispidulis, in maturitate 8 mm. longis; corollarum tubo 6 mm.  
longo, labia superiore 3 mm. alta, inferiore 8-9 mm. diametro.

Mexico: Jalisco: prope La Palma, Jones 390.

MEMBRANACEAE (ELSCHOLTZIOIDEAE)

*S. verecunda* sp. nov. per specim. in Mexico prov. Chihuahua in montibus  
Sierra Madre dictis in angustiis Guayanopa a Jones lectum constituta est;  
typum in herb. Coll. Pomonae vidi.

Herba perennis parva verecunda caulis ascendentibus 20-30  
cm. altis hirtellis; foliorum laminis deltoideo-ovatis 2-4 cm. longis,  
1.5-2.5 cm. latis, in apice acutis, in basi subtruncatis, petioliis .5-1.5  
cm. longis elatis, margine crenato-serrata, paginis ambobus viridibus  
hirtellis; glomerulis inter se 1-3 cm. distantibus bracteis viridibus  
ciliatis subtentis; calycibus florentibus 6 mm. longis extus ad basin  
minute glandulosis et pilis longioribus setaceis sparsissime conspersis in  
maturitate fere glabris paulo auctis; corollarum tubo 4 mm. longo intus nudo,  
labia superiore 2.5 mm. alta, inferiore 5.5 mm. longa.

Mexico: Chihuahua: in montibus Sierra Madre dictis in angustiis  
Guayanopa, Jones.

Salvia - Calcepsace

PURPUREAE

*S. Marci* sp. nov. per specim. in California inferiore apud Arroyo Undo Rancho prope Loreto a Jones (No. 27298) lecta constituta est; typum in herb. Univ. Calif. (Los Angeles) vidi.

Frutex pulcher <sup>in</sup> ensibilis ramis incano-tomentellis, internodiis 2-4 cm. longis; foliorum habitu Monardae mollis <sup>luc</sup> laminis 8-10 cm. longis late lanceolatis ad apices acutissimis gradatim angustatis in basi rotundatis, marginibus serratis, pagina superiore viride inferiore pulchra <sup>incana</sup> ambobus praesertim inferiore mollissime tomentellis, petiolis 1-2 cm. longis elatis; floribus 6-12 in verticillastris approximatis dispositis; calycibus florentibus 8-9 mm. longis extus incano-tomentellis labiis obtusis brevibus in maturitate non visis; corollae <sup>i</sup> ~~purpureae~~ <sup>auri</sup> tubo 18-20 mm. longae <sup>g</sup> ad basin valde abrupte angustato invaginato, labia inferiore quam superiore <sup>g</sup> galearo breviora; staminibus in galearo inclusis; stylo superne villosco.

Baja California: Loreto apud Rancho Arroyo Undo, 26. x 1930, Jones 27298; sine loco, Diguet.

GLABROSAE

*S. emaciata* sp. nov. per specim. in Mexico in prov. Chihuahua in locis humidis prope Pilares a Hartman (n. 744) lecta constituta est; typum in herb. Univ. Calif. (Berkeley) isotypes in herb. Kew et Gray vidi.

Herba annua gracilis tenella altitudine ad 35 cm. utrinque fere glabra tenuissime hirtella, ramis erecto-ascendentibus, internodiis 3-5 cm.

longia; foliorum laminis oblongis 2-3 cm. longis, 3-8 mm. latis, obtusis, in basi ad petiolos 5-10 mm. longos angustatis; floribus saepius solitariis rarius binis in verticillastris bracteis perstatis 3-6 mm. longis elliptico-lanceolatis ciliatis subtentis, glomerulis inter se 1.5-3 cm. distantibus; calycibus florentibus 8-9 mm. longis, in maturitate paulo auctis; corollae tubo 5-5.5 mm. longo, labia superiore subfalcata 4-5.5 mm. alta, inferiore 6-7 mm. longa, lacinia media cordata.

Mexico: Chihuahua: in locis humidis prope Pilares, 23. ix. 1891, Hartman 744; inter Rio Chico et Rio Cabello, Sierra Madre, 29. ix. 1911, Barlow; Soldier Canyon, Sierra Madre, 6500 ft., 16. ix. 1903, Jones; Colonia Juarez, 5200 ft., 11. ix. 1903, Jones.

#### EVSIGIODEAE

*S. palmae* sp. nov. per specim. in Mexico prov. Jalisco prope La Palma a Jones (no. 390) lecta constituta est, typum in herb. Coll. Pomona, isotypum in herb. Smithson. vidi.

Herba innocua altitudine 40-60 cm., caulibus e caudice lignoso ascendentibus sparse pubescentibus vacuon pilis extensis glandulosis conspersis, internodiis irrediiis 3-8 cm. longis; foliorum laminis 2.5-4 cm. longis, 10-25 mm. latis, ovatis, in apice obtusis, in basi rotundatis, petiolis 3-6 mm. longis elatis, margine irregulariter crenato-serrata, paginis ambobus hirtellis; floribus 3-6 in verticillastris bracteis caducis parvis subtentis, glomerulis inter se 1-4 cm. distantibus in apicis interruptis 20-40 cm. longis gracilibus laxis dispositis; calycibus florentibus 5.5-6 mm.

*Euphorbia bilobata* Eng. all the forms of this have warty seeds.

*Euphorbia longi-petiolata* N. Sp. no. 27514 <sup>17509 Laguna 9-23.</sup> La Barranca Guadalajara Mex.

<sup>17478 Camu 11-13.</sup>  
Nov. 12 1930. Allied to *E. bilobata*. Annuals, erect and widely branched with long internodes and deeply sulcate branches. Leaves opposite, 2-3 inches long very thin and one-nerved, entire, elliptical-lanceolate-acuminate, the blade 1-2 inches long and petiole half as long and filiform. Flowers few in the axils, white, petaloid appendages minute. Pods smooth, glaucous. Seeds about 1 mm. long, about oval, with three lines of transverse and quadrangular pits black or olive-colored acutish. Waste places in fields. This is also like *E. Francoana* Boiss. but inflorescence different. *E. graminifolia* resembles it. The seeds of *Euphorbia* seem to have remarkable diagnostic characters.

*Euphorbia tenerrima* N. Sp. 27514 La Barranca Guadalajara Mex. Nov. 25 1930.

This plant belongs to the group subreniformis Watson. but the leaves are oval

~~*Euphorbia tenerrima* N. Sp. no. 27514~~ opposite,  
to rhomboidal-ovate, and very thin, and pennate-nerved, entire, smooth, on capillary petioles, the lower ones about an inch long and the upper ones 1-2 mm. long. Flowers single in the upper axils, greenish, very small, with very short and whitish appendages entire and rounded, and with the bracts never acute but always small. Pods sharply acute. Seeds oblong and rounded at both ends, and a little flattened but rounded on the angles, and shallow-pitted in vertical lines, not at all <sup>angled</sup> ~~triquetrate~~. A weak and erect and almost capillary annual, easily mistaken for subreniformis. About a foot high and openly branched. There are several allied species but none of them have the involucre or seeds of this. Seeds of this are pectinately warty, and pitted *Euphorbia bilobata*. The seeds are inclined to be ivory-white.

Many species of *Euphorbia* have the stamens at times exserted. The anthers are didymous and each lobe about spherical and mostly yellow.

*Euphorbia pseudoserpyllifolia* Millsp. This species seems to be perennial. At least all the specimens seen by me and referred here are not annuals, some specimens of mine are slightly shrubby at base. For this reason one would

incline to compare it with *fendleri*. The seeds are decidedly different, being narrowly-oblong, acutish, reddish, deeply grooved longitudinally and without a sign of cross-wrinkling, or wart

There is a large group of species with small, acutely angled seeds with

longitudinal grooves, but mostly with cross wrinkles, and often warts.

6473

*Buddleia corrugata* N. Sp. 27361 Arroyo Unde Sierra Gig. L. Cal. 10-26

A slender and openly branched shrub a few feet high, with dark bark and white-woolly-stellate twigs and leaves. Leaves 1-2 inches long, reticulate below, Deltoid-cuneate below into a very short petiole, coarsely and strongly few-toothed, very obtuse, oblong-ovate, in about 3-4 pairs on the short season's twigs. Flowers few in small and sessile heads arranged racemously at the ends, heads 2-3. Flowers very small.

- 4498 *Euphorbia multifoliola* N. Sp. No. 27517 <sup>La</sup> Baranca Guadalajara Mex. Nov. 17.  
Plants apparently allied to *E. pycnanthema* Eng. Annuals and prostrate, forming  
dense plaques Internodes short but longer than the leaves <sup>a little</sup> below, but leaves  
overlapping above, and particularly so on the branches where they are much  
shorter and smaller. Normal leaves about an inch long by half as wide, rather  
thickish, palmately 4-nerved, barely serrulate above, conspicuously oblique  
below, sparsely short-woolly-hairy and becoming smoothish with age, grayish,  
with a minute petiole woolly-hairy as are the stems. Flowers red, a solid mass  
with the clusters backed by smaller leaves, and each flower sessile in the axil  
of a bract about its own length, appendages red, firm but on the margin  
and with the lower pair of appendages elongated so that the flower seems hose  
shoe shaped. Pods densely woolly barely exserted, small, Seeds Imm. long, obli-  
ovate scutish and a little oblique rather acutely 4-angled with flattish (not  
cross-  
grooved sides, and conspicuously 4-6-ribbed with broad ribs and filiform groove  
between, not punctate nor warty, the angles a little notched. The plants  
remind one of forms of *pilulifera* but seeds very different.
- Euphorbia stictospora* Eng. This seems to be perennial. No. 27519 La Barranca  
Guadalajara. The sharp-angled reddish seeds with finely sculptured sides  
are characteristic.

7145 *Lippia barbata* Brandg. This plant deserves a better description than the one given by Brandegee. My specimens from the Cayuca ranch Sierra Gig. L. Calif. Oct. 21. An openly branched shrub 4-6 ft. high, with gray bark, and leaves clustered on the ends of short branches. Whole plant very-rough-pubescent

7145 *Lippia barb.*  
throughout even to the small flowers. Hairs appressed from a pustulate base. Leaves thick and leathery, raised-pinnate-veined, 2-3 inches long, ovate to lanceolate-ovate, acute, low-and bluntly-crenate, acute, very shortly-cuneate into the very short petiole, nearly equally pubescent on both sides, rarely oval-ovate and obtusish. Flowers apparently dioecious, white, the fertile ones in dense heads (at first), about an inch long and as long as the peduncle, the flowers themselves being barely as long as the overlapping, and ovate the ovate, green and obtuse bracts which are 8 mm. long, and rather densely short-pubescent. The whole floral cluster is not exerted beyond the leaves. At maturity 5-nerved bracts disarticulate about 1 mm. above the rachis and fall off, the stout pedicels are articulated at the tip and cupshaped and about 1 mm. long and remain on the rachis which is about as long as the peduncle. Heads single in the axils. The fruits are globose about 2 mm. long, and conspicuously white-hairy spreading in all directions and as long as body. The staminate flowers are in open and inconspicuous and greenish clusters, with the oblong bracts half as long and about as long as the proper tube of the flowers. Flowers funneliform on the upper half and with spreading and rounded lobes.

204

*Micromeria Brownii* var. *pilosiuscula* Nutlets oblong-ovate, 2 mm. long rather  
triquetrous with rounded back and conspicuously white-mottled.

17342 *Eupytis decipiens* N. Sp. 27299 Triunfo L. Calif. 10-6. Plants allied to *H. laniflora*. Erect shrubs 3-6 ft. high, the stems ending in open panicle. Whole plant appearing smooth except the ~~pink~~ white-woolly panicles, but leaves pubescent on the raised nerves below, and roughened on the upper side with minute hairs. The pubescence throughout consists of rather long-stalked hairs branching at the tip into a stellate-appearing mass, but really the branches are alternate. The pubescence of the panicles is densely-white, very close, and not woolly, all the parts from Calyx to peduncles about equally white. Leaves Ovate to lanceolate, cuneate into a petiole 1 cm. long, and mostly acuminate at tip, obtusely-crenulate, reduced above, those of the panicles about an inch long and elliptical. Panicles a foot or two long, open, of many ascending branches with regular pairs of clusters, each on a peduncle ~~1/2~~ 1/2-1 inch long. Clusters umbellate, of about 25 flowers on short pedicels about as long as the ~~filament~~ calyx which is 3 mm. long and with filiform lobes half the whole. Corolla not over 5 mm. long, purple. This cannot be placed in either *laniflora* or *tephrodes*.

*Sphacelo hastata* Gray Johnston in his flora of the revillagigedo islands remarks on this species as probably native to Mexico. He speaks of it as being foul smelling. I never noticed any such odor in it, in fact the humming birds were everywhere in the big patches on the Laguna mts. sipping the honey from the flowers.. I do not specifically remember bees being common on the plants., but I noticed the birds. There was no evidence of the plant being cultivated there at any time. In fact I found it in 1928 growing along a water course on the way up the range, but on the trail, It seemed perfectly at home in its locality and was growing luxuriantly there. I never saw it anywhere else in Mexico. for I never was as far up in the mountains except in the Sierra Giganta where the conditions were not favorable to its growth. where I camped.

7486 *Galvesia sessilis* N. Sp. No. 27430 <sup>growing on rich slopes,</sup> La Barranca Guad. II-21 An erect  
erect and rather shrubby plant 3-4 ft. high, cymosely branched above into  
long and linear and dense, short-leafy-bracted spikes a foot or two long,  
very shortly and densely glandular-pubescent throughout even to the flower  
leaves opposite throughout even to the uppermost floral bracts, sessile, almost  
almost clasping, oblong-ovate, shortly-acute, coarsely serrate, 2-3 inches long  
by half as wide, veiny, thick. Lower floral bracts 1 cm. long, smaller above  
sharply serrate, ovate and persistent. Calyx about 6 mm. long, the deciduous teeth  
teeth nearly half the whole, green. Flowers red, almost sessile (pedicel 1-2  
mm. long), ascending, 2 inches long by 5 mm. wide, split 1/3 the way down,  
with lobes <sup>lower</sup> ~~not~~ <sup>a little</sup> flaring, slightly wider above. Filaments of the two long stamens  
wider above and densely bearded on one side, the other stamens abortive and  
filaments shorter. Pods oval-ovate, 8 mm. long, black, abruptly and sharply  
acuminate, not oblique, filled with the oblong, truncate at both ends seeds  
which are 1 mm. long, a little wider above, white, with a conspicuous honeycomb  
comb coat with the cells in longitudinal lines going clear through the coat  
which is about as thick as the seed itself. The seed character is decidedly  
different from the other species, <sup>and that of *Castilleja*.</sup>

7546 *Herpestis macrantha* N. Sp. No. 43627 Pomona Coll. Herb. Colonia Juarez Chi.  
Sept. 12 1903, 6000 ft. alt. along ditches. Acreeping and rooting perennial  
with prostrate to ascending stems, acutely angled and a few inches high, smooth.  
Internodes shorter than the leaves. Leaves punctate, lanceolate to ob-  
lanceolate and tapering into a very short petiole, not auricled nor clasping,  
sparsely low-serrate above, about an inch long, little reduced above. Pedicels  
single in the upper axils, filiform, about an inch long, mostly a trifle longer  
than the leaves. Calyx 6 mm long in flower and 8 mm. long in fruit, the two  
outer lobes oblong-ovate-acuminate, the others narrower and a little shorter.  
Corolla  
~~Flowers~~ yellowish at least below and purple-tinged above, broad, a half,  
longer than the calyx, with lobes flaring. Pods oblong-ovate, as long as the  
calyx lobes, shortly acute. Seeds black, oval, foveolate.

2767  
Orobanchae. In a recent brochure on this genus a European author in quoting my species of Aphyllon collected in various parts of the West refers to them as collected by E. J. Marcus. How any sensible man could make such a blunder is almost inconceivable. Probably it arose from some library cataloguing my name as Jones, Marcus E. but to get even this tangled up is a mystery.

corollifera

4498 Euphorbia ~~pataitifera~~ N. Sp. No. 27545. Cayuca ranch L. Calif. Oct. 23.

This belongs to the Poinsettia section, apparently near E. tricolor Greenman. A slender and erect shrub, Ephedra-like, widely branching, and with long a and green leafless stems with internodes 2-3 inches apart and with a joint or two at the tip with a pair or two of glaucous and rather leathery leaves about an inch long, and oval to oval-rhomboidal flat leaves, entire, and shortly acute at base and often at tip, on filiform petioles half their length. Leaves smooth above and only minutely puberulent below. Stipules rudimentary. Flowers in a very short cyme arising from the terminal pair of leaves, shortly pubescent throughout including the rudimentary bracts which are a little lacerate. Glands round, red, prominent. Appendages ovate to rhomboidal, a little erose above, white or tinged with purple, nearly half an inch long, spreading. Pods depressed spherical, smooth, green about 1/4 inch long, not fully ripe. Inflorescence sometimes compound. This is a bush 6-8 feet high, and very showy.

Euphorbia "spirituensis N. Sp. No. 27505. Espiritu Santo Island near La Paz L. Calif/ Sept. 29. A straggling and very widely branches shrub with lateral branches trailing, a few feet high. and intricately branches with long and very knotty branches with innumerable abortive branches half an inch apart bearing little clusters of two or more rudimentary leaves which are 2-5 mm. long and about oval though a little oblique below, and rounded above, thick entire and smooth, on short petioles half as long, and with conspicuous deltoid and red stipules. Flowers solitary, smooth, yellowish, small. Pods smooth. seeds oval-ovate, acutish, slightly angled, gray, smooth, with a trace sculpturing on the sides, the shape and size nearly that of Preslii. This no doubt has passed for Magdalenae, but appears to be a fair <sup>insular</sup> ~~indian~~ species.

*Cuphea watsoni* n. sp. No. 4616 Pringle, Tequila Jalisco, Mex. Sept. 1893.  
No. 108086 univ. of Calif. Herbarium.

A tall and erect plant 2-3 ft. high., alternately and widely branched, a slender annual, with long internodes. Stems, upper leaves and inflorescence low-shaggy with abruptly spreading and glandular hairs. Leaves truncate-ovate to cordate-ovate, 1-2 inches long, on a stout petiole 1 mm. long, conspicuously feather-veined below, rather abruptly acuminate, very obscurely denticulate. Upper ones somewhat reduced and lanceolate. Calyx 15 mm. long by 2-3 mm. wide below and lanceolate, on a pedicel 2 mm. long upper petals exerted on a short claw and with blade about round and 4-6 mm. long., pink purple. Flowers racemose and few. Other petals oblanceolate to linear and 4 mm. long Growing in fields and on hillsides.

4478

4348

*Croton Borregensis* N. Sp. no. 27496. Borreg ranch Laguna mts. L. Calif. 9-20  
 Allied to *C. agdalehae* Millsp. A shrub 6-8 ft. high, openly branched and erect  
 growing in the shade of live oaks. Stems white-stellate hoary as are the peti-  
 oles which are about an inch long. Leaves thin, cordate to cordate-ovate-  
 triangular, shortly-acuminate, obscurely and remotely dentate, softly pubes-  
 cent, particularly below with stellate and rather sparse hairs with the  
 central hair much elongated and with several very short ones at its base.  
 Leaves 3/4 inch wide by 4-6 inches long. Inflorescence terminal and with a  
 long linear staminate spike, with one or few fertile flowers at base. Fruits  
 globose, about half an inch long and shaggy-hairy. Seeds shining and inclined  
 to be mottled along the center of the back, rounded at both ends, somewhat  
 flattened, 5 mm by 4 mm. ~~greenish~~, ~~green~~ grayish.

*Croton Blasianus* N. Sp. No. 23302, San Blas Sinaloa, Jan. 28 1927. a straggling  
 shrub, with nearly black branches smooth, having many very short laterals  
 about an inch long and with several leaves nearly sessile and elliptical to  
 lanceolate and shortly-acuminate, and minutely serrulate, and with soft  
 pubescence on both sides, but appearing green, venose-23 inches long. Pubes-  
 cence equally stellate and short. Inflorescence a spike hardly an inch long  
 and few-flowered. Fruits 1-2, spherical, 8 mm. long, very shortly felted-hair.  
 Seeds as in *Borregensis*.

446 Sebastiania sarmentosa N. Sp. 27544 Primera Agua Sierra Gig. 10-19 and  
No. 27543 Hereto 10-1. Erect and racemously branched, herbs rather woody

below, about 3 ft. high, appearing as if fleshy, and very hard to dry. Leaves alternate, many, elliptical-lanceolate and shortly acuminate at both ends, triple-nerved, crenulate to barely serrate with uncinatate and incurved tips. Whole plant smooth. Leaves 2-4 inches long. Flowers in axillary clusters about an inch long, small, red, with ovate bracts, and with a single pistillate and pediceled flower below. Pistillate sepals triangular-acuminate and erose. Pods smooth, depressed, about 7 mm. wide, 3-celled. Seeds single in the cells, about 4mm long, globose-ovate and acutish at tip but rather cordate below, round in cross-section, obscurely rugose and roughened all over, chocolate-colored, about the shape and general appearance of Euphorbia heterophylla. This is ~~about~~ allied to *S. bilocularis* Watson as understood by Brandegee and Willsaugh, but the leaves are narrower and acute, and the pods only about a half as large, and the seeds are very different. *Bilocularis* has shining seed subglobose and chocolate striped, and twice as large. I don't think any stress should be laid on the bilocular pod, for *Tetracoccus* shows the same variation in the number of cells.

4348 *Croton attenuatus* N. Sp. No. 27500, Cayuca ranch Sierra Gig. 10-23. A  
very slender and widely branching shrub, several feet high, with smooth  
and gray bark. Leaves scattered, 1-2 inches long, mostly rhomboidal-ovate  
with a cuneate base, and at least the upper ones abruptly long-acuminate,  
some of the lower ones triangular-acute at both ends, on a white-pubescent  
petiole half an inch long, without evident stipules and glands, surface  
sparsely stellate-pubescent. Leaves quite thin. Fruit terminal, of a single  
short staminate spike an inch long, and with a few pistillate flowers at  
Pods about 7 mm. high, depressed-globose, closely and finely stellate-pube-  
pubescent. Seeds olive-colored, 4mm. by 5 mm. long, oval, a little flattened  
on one side and rounded on the other, rather truncate below

*Croton crenulatus* N. Sp. No. 27499. Cayuca ranch Sierra gig. 10-23 A  
short  
mpredately stout and erect shrub with ~~stems~~ branches, and smooth and gray  
bark, the young twigs yellowish-white with dense pseudo-stellate hairs.  
Leaves thickish, nearly oval, rounded to subcordate below, inclined to be  
a little triangular at tip but barely ever acute, crenulate throughout,  
rather densely puberulent below with soft hairs arising from a raised  
base in radiating clusters of 6-10 as if stellate, but not really so.  
Pods rounded, densely puberulent 12 mm. wide by 10 mm. high, mostly single  
at the ends of branches and almost sessile, the plants apparently dioeci-  
ous. Seeds dark-colored, 7 mm. wide, by 8 mm. long, and 6.5 mm. thick.  
about oval, but a little truncate below, ridged on the back and a little  
sulcate on the face, and a little flattened there. This seems to be a well  
marked species, reminding one of the hazel-nut in the leaves.

The Crotons of the peninsula do not seem to fit anywhere, but are sui ge-  
neris.

4299

*Phyllanthus peninsularis* Brandg. No. 27542. Laguna. Laguna mts. L. Calif. 9-22.  
The seeds of this species can at once be segregated from other species by being sharply striquetrous, and by having raised chocolate-colored and zigzag cross markings.

*Phyllanthus viridis* N. Sp. A rigidly branched shrub 4-6 ft. high. Branches widely spreading, dark-gray, smooth, secondary ones almost spinose, with alternate, oval, entire, thin, green leaves, smooth, rounded at tip and a inclined to be with cuneate base, and a filiform petiole  $1/3$  the length of blade. Stipules triangular-subulate, and red. Most of the branchlets are aborted into oblong warts having fascicles of slightly larger leaves. Flowers mostly single, on rather stout half inch peduncles. Pods smooth, about 7 mm. wide, depressed globose. Seeds chocolate-colored, smooth and shining, lenticular, rounded on the back and flattened on the other side, without markings about 4 mm. long by 3 mm. wide, rounded at the end and a little narrower below.

*Phyllanthus Galeottianus* Baill. 27494. Loreto L. Calif. 10-14. This plant has nearly round leaves and glossy-green, Anthers dehiscing parallel to the midrib. Flowers yellowish-green.

*Melieta barrancae* n. sp. No. 27091 Jones, at La barranca Guadalajara Mex.  
Nov. 19 1930.

and alternately  
A slender shrub, 6-8 ft. high, openly and slenderly branched. Leaves thin  
3-foliate, Low-crenulate-toothed, with terminal leaflets nearly double the  
others, lanceolate from a cuneate base, on a petiole 6 mm. long, the lateral  
leaflets oblique and nearly sessile. Flowers minute, in a compound racemes,  
purplish, Fruit normally a single obliquely winged carpel though occasionally  
twin, 1 cm. long by 3-4 mm ~~long~~ wide, rounded and very flat, parallel-veined  
This grows on rocky slopes.

4067

3958

Peganum Texanum N. Sp. a low and prostrate herb a few inches long and much branched from the woody base and with short internodes. Leaves ovate in outline and once to twice pinnately divided into linear, acute and revolute margined sections, puberulent. Pedicels slender, recurved, 1/2 inch long. Flowers yellow. Sepals about 7, linear-filiform and about 1/2 inch long, entire. Pods didymous, about 1/2 inch wide, membranous, filled with the few and large and cellular seeds. The two divisions of pod seldom equal. Eagle pass and east of Uvalde Texas May 1 1931. growing in loose soil along with many other herbs of the plain. This is probably what has passed for <sup>P</sup>Peganum Mexicanum, but its characters are very different from those of that species as described.

*See if this is not Tendam laevis.*

2834

*Lonchocarpus capensis* N. Sp. No. 27259. San Jose del Cabo L. Cal

Sept. 14 1930. A big tree. Flowers in a raceme about a foot long, lax, 1-1.5  
 Leaflets

5 cm. long, straight but oblique at base on the lower side and inserted on  
 corner

the ~~upper side~~ blunt, apiculate, with one extra basal nerve on the upper  
 side, smooth. Pedicels 1-1.5 inches long. Calyx lobes 2-4, deciduous, oval,  
 5 mm. long, purple. Petals longer, purple. Pods fleshy, constricted mostly  
 in two parts, 1-2-seeded, 2-3 inches long, somewhat flattened, stipitate  
 and long-acuminate, hoary, 1 cm. wide petals strongly red-veined and

crumpled.

4670

*Erythrina flabelliformis* Standley. Standley does not describe the seeds correctly. The pods are variously constricted.

*Leptocarpium minutissimum* N. Sp. No. 27266 La Barranca Guadalajara Mex. Nov. 25 30. A tangled shrub with short and straight spines. Leaves narrowly oblong, 4-5 inches long, by 1-1.5 wide, with very stout midribs and rachis of the pinnae, and with the pinnae and leaflets on the upper side of the rachis. Pinnae about 3 pairs, an inch long, linear, leaflets about 30 pairs, imbricateed, linear, about 1 mm. long, sparsely hairy with hairs, with rachis very hairy. The leaves appear fern-like. Pods fleshy and woody, triangulat-acute at both ends, and shortly-stipitate, 3 inches long by 3/4 inch wide and half an inch thick, puberulent, a little arched, brown, somewhat ridged by the drying of the pod. Another specimen with pods having stipe half an inch long, and pods very flat and 3-4 mm. thick, gathered at the same place, No. 27266a.

3901

*Phaseolus Barrancae* N. Sp. No. 27177. La Barranca, Guadalajara MEx. Nov. 21  
Climbing high over bushes in rich soil, robust. General appearance of *Pery-  
theuloma*. Leaflets broadly elliptical to elliptical-ovate, 2-3 inches long  
by 1.5 wide, very venose below, velvety all over, entire, apiculate-  
acuminate, half-cordate into a stout petiole 2-3 mm. long. Flowers an inch long  
, deep-purple and striate-veined, 3-5 in a short raceme which is short-pedu-  
peduncled. Pods linear, much arcuate, immature, 2 inches long by 4 mm wide,  
densely yellow-velvety, apiculate.

3807

Desmodium validity does not seem to have been discussed much, it being assumed that it was antedated by <sup>m</sup>Meibomia Adanson Fam. But no species were described there<sup>m</sup> and therefore the genus does not stand. Fleurolobia also antedated Desmodium but its type species is not a Desmodium but an Aeschynomene,

3793

*Aeschynomene guadalupensis* n. sp. No. 27212. La Barranca, Guadalupe Mex.  
and also La Barranca Nayarit No. 23 052 1928. A slender and erect shrub, 3  
4-6 ft. high, with thick stems very slender and racemously branched above  
with widely spreading branches and very slender racemes about a foot long  
sparsely and minutely pubescent. leaves odd-pinnate, 4-6 inches long, of  
about 30 pairs of narrowly oblong, rigid leaflets, venose and 1 cm. long  
and about 2 mm. wide, obliquely cordate at base, obtuse, but needle-pointed  
or awned, with midrib in the center. Flowers in narrow and compound racemes  
and with minute bracts. calyx pubescent, 2 mm. long, flowers 6 mm. long,  
purple and with smooth banner. Pods on a filiform stipe twice as long as  
calyx. Joints 1-2, almost distinct, obliquely oval, each about 4 mm. long,  
smooth, venose, apiculate. Petals and floral rachis densely and minutely  
pubescent this very graceful plant seems the same as our Mex. one. See cal.  
herb.

3793

Several species of Aeschynomene seem to differ from Mimosa only in the  
pods breaking up into joints through the lateral nerves, a slim character.

Grove, Monterey, the Cliff House ( S. F.), Gardo, etc.

(H. & A.)  
Astragalus Coquimbensis Reiche Vol. 2 P. 109 Fl. Chil. ~~Seems to be the same as A. Thurberi Gray 1851~~

Phaca Coquimbensis H. & A. 1833. seems to be the same as A. Thurberi Gray 1851

1855, and therefore must take the name.

<sup>c</sup>  
Astragalus Candidissimus Ledebour of China is not the same one as Watson's species, and therefore Green was right in renaming our Mexican plant as A. Miguelensis.

Astragalus Crotalariae Bth. In Contributions No. 15 <sup>1</sup> inadvertently called this Crotalarioides, and showed that it antedates A. limatus of Sheldon. An examination of the description shows that it was based on a specimen supposed to have been got by Coulter near Monterey, but which was evidently got in Imperial valley. The wrong citation by Benth<sup>am</sup> has led to a <sup>mass</sup> ~~max~~ of error regarding it. Torrey identified it with his specimen of oocarpus as Crotalarioides. Then Gray identified it with one of the Inflata from Monterey, and which error I perpetuated in my monograph. There will not however be much disarrangement caused by it for there are plenty of synonyms ready to use.

I better look up Torrey's sp. and see if that name <sup>can</sup> ~~some~~ replace Oocarpus.  
*Handwritten: Handled it up. Keant.*

*Astragalus Coquimbensis* Reiche Vol. 2 109, fl. Chil seems to be the same as *A. Thurberi* Gray and antedates it.

*Astragalus distortus* should be compared with the villosus group as it seems near there.

*Astragalus candidissimus* of <sup>Ch</sup>ina is different from ours of that name, and so Greene was justified in renaming ours *A. Miguelensis*.

*Astragalus manicus* Rydberg is a form of *amphioxys*.

*Xylophacus lagopina* Rydberg is almost sure to be *A. Pulsiferae* much reduced

*Astragalus Breweri* and *filicaulis* seem closely related, but not identical

*Astragalus Laxmanni* from Russia does not have the pubescence fixed by the middle as in our *nitidus*.

*Astragalus Mauretanicus* much resembles *A. Barryi*.

*Astragalus Mexicanus* has the calyx inclined to be inflated and 6-8 mm. long, with deltoid teeth about 1 mm. long, and with the tube white-short-shaggy 21th hairs inclined to be felted. Banner broad. These notes from specimens from the Ozark Mts. and from Jefferson Co. Mo.

*Astragalus obcordatus* is to be compared with *distortus* but had no sign of a septum. This group (*Sparsiflori*) should either come next the *amosi* or *distortus* put in the *Sparsiflori*.

*Astragalus Minthornae* Rydberg is surely *A. Congdoni*, and is reputedly from near Ploche Nevada. But this can hardly be true.

3766

Astragalus Segregates by Rydberg.

It had been my intention never to refer to the crass work of Rydberg on this genus again, since my last comments. But the recent publications of Britton's North American Flora on the Leguminosae seem to require a thorough going over of all of Rydberg's fake genera, because of the very many new species proposed by him. It is the common comment on the publications of the Brittonian school that they are not usable in the field. One of our prominent workers in western botany said to me recently that on a recent trip into Texas she took along the part of the Cactaceae dealing with Opuntia, hoping to be able to name those found on the way. Her remark was that she could not name any of the Opuntias she found, by the use of the book.

In taking up Rydberg's treatment of Astragalus segregates, a person becomes furious at once, and there is no word in the English language severe enough to use in condemnation. For he creates genera to represent certain groups, and then deliberately marshalls in them remote relatives that belong elsewhere, and fails to mention crucial characters. In the creation of new generic terms he seems to have a predilection for Greek derivatives, though his knowledge of Greek was limited, following the lead of Clements, Marsh and Cope, all of whom affected greatly a knowledge of Greek which they did not have.

Phaca      Correct the *egnus manca* Rydberg is *Astragalus Austinae* Gray. Any familiarity with this species would at once place it in *Austinae* by the conspicuously connate stipules as described minutely by me in *Astragalus* page 172 where its true relationship in the *Saxdalingii* groups is shown.

*Xylophacos Lagopina* Rydberg seems to be *Pulsiferae* Gray, much reduced.

*Astragalus Breweri* Gray and *A. filicaulis* F. & M. from Turkestan are very closely related but not identical.

*Astragalus Laxmanni* Jacq. which has been assumed the same as *adsurgens* and *nitidus* cannot be the same as *nitidus* for the pubescence is not attached by the middle as in *nitidus*. *Laxmanni* is from Russia. At this writing I do not know about *adsurgens* in this particular.

*Astragalus Mauretanicus* Stev. from Algeria seems closely related to *A. Parryi* Gray.

*Astragalus Mexicanus* appears to be tenable on the calyx inclined to be inflated and 6 mm. long, with deltoid teeth about 1 mm. long, and the tube being white-short-shaggy with hairs inclined to be felted. The banner is broad. Specimens seen by me are from the Ozark mts, and from Jefferson Co. Mo.

*Astragalus obcordatus* is to be compared with *A. distortus* but it has no sign of a septum as is shown at times in *distortus*. This group, the *Sparsiflori*, should come either next the *Hamasi*, or *distortus* should be placed in the *Sparsiflori*.

*Astragalus Minthorniae* Rydberg seems to be surely *A. Congdoni*, but is reputed from near Pioche Nevada, but it is far more likely that there is an error in the locality.

*Astragalus curtipes* Gray. This species of limited range <sup>grows</sup> ~~exists~~ in the Monterey region of California, going up at least as far as San Francisco, and belongs in the puzzling group, the *leucopsis-leucophyllus*, and is probably only a freak of *leucopsis* (*vestitus*) but has conspicuously connate stipules and the stubby flowers like *Mortoni*, and the sessile pods of *vestitus*. It also appears to be the same as Sheldon's *A. Franciscanus* which I made a variety of *vestitus*. There are a number of specimens in the Calif. Herb. from Pacific

*Astragalus Mexiae* N. Sp. A prostrate perennial with a thick tap root. Flowers white with a purple-tipped keel. Plant with the habit of *A. parvus* and related to it, but with flowers not in heads, though about the same size. Stems many from the crown and racemously branched throughout, and with short and congested internodes, the whole about six inches long, with very many thin and delicate leaves about as long as their subtended racemes, appearing green, but minutely woolly with very short and appressed hairs. Leaves 2-3 inches long and with short petiole 1/2-1 inch long and filiform. Leaflets elliptical, about 6 mm. long, rounded at tip, 4-7 pairs, and petiolulate, slightly less pubescent above, with stipules adnate to base of petiole and obliquely-triangular-acute and 2-3 mm. long and green. Racemes mostly throughout the plant, and nearly sessile, 1-2 inches long, broad, with not over 10 flowers subtended by relatively large green but ciliate bracts. Calyx white, loosely inclosing the floral parts as if inflated, obliquely cylindrical from a triangular base which has one or two bractlets at the oblique insertion. The tube a little arched because the lower side is a little concave, and upper much arched, about 4 mm. long by 2-3 mm. wide and laterally flattened, the subulate teeth lax and about 2 mm. long. Banner narrow and much arched and with reflexed sides. Wings straight and a little longer than the keel and narrow, and often purple tinged at tip. Keel very blunt and purple-tipped. Pods ashy-puberulent as the leaves, slightly arched and shortly acute, about 2 mm. high and 6-8 mm. long, deltoid in cross-section and deeply sulcate dorsally to the middle and with a complete hyaline partition to the ventral suture which is raised as a strong rib externally, outline smooth. Pods sessile. Whole plant a mass of flowers. It is possible that this is a congested form of a more openly branched plant. Found at Rancho Colorado Chihuahua district of Guerrero, Mexico, 2200 metres alt. growing on sides of steep ravines, in dry and red and gravelly soil. May 27 1929, No 2563 Mrs. Mexia for whom it is named.

Jepsonian Astragali. Page 565 of Manual. *A. deserticolus* Jepson should be ~~deserticola~~, is probably *A. natan* Jones. *A. Preussii* var. *limatus* (Sheldon) Jepson is *A. crotalariae*. *A. Kernensis* Jepson is *lentiginosus*. *A. inflexus* var. *leucolobus* (Jones) Jepson is a ludicrous blunder. *A. inflexus* has flowers about as large as *A. coccineus* and belongs to the *Utahensis* group, while *leucolobus* belongs to the *Purshii* group, *A. atratus* var. *Panemintensis* (Sheldon)

Jepson is conspicuously different from *atratus*, and not at all closely related. Jepson *A. agninus* is *A. aridus*. *A. Californicus* Jepson is *A. tener*. This species is a very variable one and no doubt includes *A. Rattani* Gray. Jepson's figure of the keel of *A. acutirostris* is inaccurate, nor does he show the twisted pedicel. It is as good an *Oxytropis* as any other species. belonging near *nothoxys* Gray.

3749

*Cracca collina* Jones seems to be the same as *Eriosema multiflorum* Rob.

*Cracca lupinoides* Jones has all the appearance of an *Eriosema* but pods too long.

3745

?

*Cracca pumila* (?) Rose Soc. pub loc. No. 27240. Above Primera Agua, Sierra Giganta, L. Calif. <sup>Also No. 27239 at Cayuca ranch.</sup> 18 miles west of Loreto. Oct. 28 #0. Very slender and erect herbs, 2 ft. high, racemosely branched above. Stipules 1 cm. long, setaceous. Leaflets about 4-9, broadly elliptical, 1 cm. long, apiculate, softly and sparsely pubescent with spreading hairs. Leaves 4-6 inches long. Pods about 3 inches long and 2 mm. wide, smooth, or ashy when young, straight. Plants shrubby below. This is *Penthamantha* Rose C.N.H. IO 99.

*Lindheimeri*

2718

*Tephrosia Mexana* N. Sp. No. 28552 East of Carriso Springs, 4-27 31. Plants growing flat on the ground and forming a mat 4 feet diameter, appearing as if might be a climber under favorable conditions. Stems, petioles, rachis and petioclules densely yellow-hairy with very short and spreading hairs. Leaflets about 6 pairs, rather oval-obovate, 15 cm. long by 4 cm. wide, leathery, smooth above and veiny, pilose on the nerves below, appearing as if almost marginate because of the pubescence extending a little beyond the margins below, rounded, entire, obscurely apiculate, with rachis strongly angled. Flowers purple, about 1 cm. long, scattered on the floral rachis for six inches length. Pods not seen. Leaves numerous, 6 inches long. On Prairie

*Tephrosia fruticosa* N. Sp. No. 27207. La Barranca Guadalajara Mex. II-IVm 1930. Strictly erect, 2-4 ft. high, rigid. Leaflets 3 inches long by an inch wide, acute and apiculate, very venose and with veins yellow-hairy one pair with rachis almost none, finely pubescent all over. Flowers yellow and purple-veined, 1 cm. long, ascending in a dense spike, 4 inches long. Calyx lobes long-acuminate and pilose. Bracts elliptical, nearly 1 cm. long acute at both ends and narrowed below, very pilose and appressed and with many parallel-nerved pubescence of leaves very hairy. Stems branched above. Compare with *Eriosema*.

*decidua* 3709  
*Dalea spiciiformis* N. Sp. No. 27229 det locality and time. A slender

and erect shrub, 3-5 ft. high, resembling *D. uncifera* except the absence of visible bracts and blunt leaves, and flowers apparently small. Stems much and alternately branched above by slender and flexuous branches ending in slender-peduncled spikes, leafy below. Leaves 2-4 inches long, wide, with 4 pairs of leaflets which are white-hairy when young, and green above and smooth in age, leaflets about 1 cm. long, elliptical, barely apiculate, acutish below. Petioles about as long as leaflets. Leaflets separated by about 2-3 mm. Upper stems hairy. Spikes 1-3 inches long, the terminal one two to three times as long as the lateral ones, on peduncles an inch long, 4 mm wide. Bracts rudimentary and deciduous. Flowers closely sessile in dense spikes. Calyx chestnut-colored above, green and very pale, a little inflated with rudimentary teeth straight, hairy or nearly smooth. Pds about 3 mm. longer than the calyx, about round but a little flattened. Flowers not seen but apparently purple and small.

*Dalea Nummularia* H. sp. A low shrub of the Johnsoni group, with few  
spines and warty stems. Flowers bright purple. In cyme and ovate spikes  
1-2 inches long, spreading, with calyx densely hispid-hairy with ye  
yellow hairs, and with red glands, 5-ribbed sessile, with long and  
subovate or <sup>subovate</sup> <sup>or</sup> <sup>equalling the fil</sup> <sup>subovate</sup> calyx lobes, and early deciduous 3-cleft bracts. Fruits ob-  
liquely oval-ovate half an inch long and mottled with glands much as  
in *Dalea Johnsoni*. Leaves many and nearly sessile on a stout petiole  
of 6-20 pairs of oval to nearly round and at length rigid leaflets 4-6  
mm. long, gradually reduced above <sup>leaves</sup> 3-6 inches long. Green River Utah  
May 28 1914; and Willow Spring Arizona June 11 1890. Jones - omaha co  
college numbers 28257 and 27061. Puberulent throughout

*Dalea Hutchinsoniae* n. sp. Pinos Altos Mts. Ariz Sept. 23 1931. No. 28709. Weak annuals, a few inches high, erect, with capillary stems and leaves which are smooth. Leaf rachis alone on the tip of the stems and always green and with scattered and depressed glands. Stems racemosely branched from the base, and ending in a short head or spike about half an inch long and on a capillary peduncle. Calyx long-white-pilose, 3-4 mm. long, with subulate lobes as long as tube, which latter has 5 dark-green and very prominent and raised nerves. Flowers purple and rudimentary. Leaflets 1-2 pairs, an inch long,  $1/2$  mm. wide. This seems to belong to the alopecuroides section. Common under pines in the forest at 7800 feet alt. Middle temperate life zone. Named for Mrs. Hutchinson one of the most efficient women botanists of southern California. She was one of my party on the Mendocino and Arizona trips.

*Dalea Hutchinsoniae* var. <sup>anomala</sup> *anmlala* n. var. Chiricahua Mts, near Rustler's Park, Sept. 22 1931. 7000 feet alt. Plants a very few inches high, very slender and widely branched and with single spikes an inch long on the filiform peduncles. Whole plant smooth except for the ciliate-margined lanceolate and green bracts, and subulate calyx lobes which arise from a deltoid base. Calyx conspicuously 5-ribbed with raised and black ribs, 3 mm long. Flowers very small, purple. Leaflets 2-3 pairs, of linear-oblong and retuse leaflets about an inch long, and 2-3 mm. wide. This appears close to alopecuroides, but is intermediate.

*Astragalus Vaseyi* Watson

I have never seen this plant in bloom till April 2nd. 1933. it seems confined to the Mexican border of the Imperial valley California, and grows in the Lower Temperate life zone in the pinon belt. Watson describes it as a doubtful annual. it is clearly a biennial blooming the first year. and has the habit of *A. Coquimbensis*, <sup>what seems</sup> *A. thurberi* Gray. I have seen the ~~same~~ species apparently in the Death Valley region, with the same silvery pubescence of the leaves which in some cases makes one think it a plant of *A. coccineus*. at a distance. The fruits are manifestly stipitate in some cases and flattened ventrally and are obliquely half-elliptical and with the suture straight nearly to the flat tip which is incurved.. The pods are round in Cross section. and conspicuously inflated.

*Psoralea decipiens* N. Sp. No. 27178, La Barranca Guadalajara Mex. Nov. 23  
A prostrate and weak herb, 12 ft. high, allied to *M. pentaphylla* . but  
leaflets acute and ovate and an inch long, rather venose, nearly smooth, 3  
on a petiole fully 2 inches long. Flowers very small, in a head, on a long  
peduncle, becoming a little racemose in fruit. Pods about 4 mm. long and  
ovate plus a long and hooked beak. Growing in moist ground.

*Psoralea Rafaelensis* N. Sp. La Sal mts. Utah, June 3 ~~th~~ 1914. Habit of  
*mephitica* from a much branched and woody base. Leaflets cuneate-obovate,  
1 cm. long, 5, with a common petiole 3 cm. long. Leaves smooth, except on  
the veins and a little pubescent below. Stems 6 inches high, many and much-  
branched into flatt tufts. Flowers about 3 in an almost sessile cluster, in  
the axils, about 4-6 mm. long. calyx oblong, not inflated, 2 mm. long,  
lobes 1 m. long.

*Psoralea Rafaelensis* var. *magna* N. var. San Rafael Swell, Utah May 11 1914  
same habit as the type but leaves an inch long, fairly pubescent below. The  
flowers many in a dense head or short spike. Calyx inflated, 4 mm. long  
with the lobes over half the whole. This appears quite distinct.

1441 *Pithecollebum minutissimum* N. Sp. 27266 La Barranca Guad. 11-25. A small tree, roughly blanchet and spiny at the nodes, closely short-wooly throughout, with rough brown bark. Leaves 4-6 inches long by 1-1.5 inches wide, bipinnate, with stout petiole half an inch long, and the rachis almost as stout, with the ascending pinnae about 3 mm. apart, and about 40 pairs, each pinna near an inch long and nearly sessile. Leaflets about 30 pairs, imbricated, oblong, obtuse, 2 mm. long by 1 mm. wide. Leaves clustered at the ends of the stout wigs. Fruit nearly black when ripe, reflexed on a very short and stout pedicel, broadly linear, about 3 inches long, a trifle arched, 3/4 inch wide and half an inch thick, quadrangular, obliquely capiculate at tip and cuneate at base, minutely woolly. Flowers not seen. The fruit varies from sessile to stipitate and with stipitate then even an inch long, this latter form is No. 27266a Same local.

*Cassia* ~~*lewisiana*~~ *lewisiana* N. Sp. 27192 Guad. II-26. Annuals with the habit of the prostrate forms of *Hosacki*, but apparently in the group of *bifolia*. Stems blanch only at the base, slender a foot long, shaggy with long and rigid spreading hairs which extend sometimes to the and lower part of some leaves. Internodes short, mostly shorter than the leaflets. Leaflets 2, on the end of a stout petiole 2-3 mm. long. Leaflets rounded-obovate, not over an inch long, ascending, leathery, sessile, oblique at very base only pinnate-veined, but upper side inclined to have 1-3 accessory veins at very base, not at all parallel-veined as in *bifolia*, entire, rounded to retuse a little at tip, conspicuously and closely and finely veined, mostly smooth and shining. Stipules Green, about 1 cm. long, obliquely-triangular-ovate, acrose, parallel-veined, cordate below. Pedicels 1-1.5 inches long becoming smooth, filiform ascending, straight, often twin. flowers shaggy below, 5 mm. long, yellow. Fruit about an inch and a half long by 5 mm. wide, flat, linear, oblique at both ends, straight, many-seed. Seeds flat, rectangular but apiculate on one corner, smooth. Flowers in the upper axils. Frequent in old fields. This is quite a unique plant but may have been described before. However I can find nothing to match it.

4444

*Mimosa Mazatlana* N. Sp. (*Aeschynomene* ?) No. 22451 Mazatlan, Mex. Nov. 20  
1929. A prostrate annual, setose-yellow-hairy appressed-hairy throughout ex-  
cept the puberulent faces of pods. Leaflets about 10 pairs, on 2 pinnae,  
acutish, 4-6 mm. long, 2 mm. wide, collapsing quickly, pinnae 1-2 inches  
long. <sup>with</sup> stems scattered and recurved prickles. Pods in heads, oval to oblong  
and not over 1 cm. long and 4 mm. wide, 1-3-seeded, and with the joints com-  
ing out seaily from the frame. Collected also by Mrs. Exia at Mazatlan. als  
from Uruguay.

*Cassia absus* L. No. 27191. La Barranca, Guadalajara, ex. Nov. 23 30.

Perennial, 2 ft long or more, subdecumbent, racemously branched above. Leaves thin, 2-4 inches long on filiform petioles 2-3 inches long, of 2 pairs of oval-obovate and rounded leaflets, all oblique, rounded and entire an inch long, rather triple-veined below, about sessile, smooth, paripinnate, the upper ones with single flowers in the axils on pedicels filiform and 3 mm. long. Flowers yellow, 4-6 mm. long, with the calyx cleft almost to the base. Stems ending in pseudo-racemes 1-3 inches long which is glutinous-hairy. Pods perfectly flat, 4 mm. wide and an inch long, obliquely triangular, acute at both ends but not stipitate, vetch-like, 4-seeded, with flattened oval-obovate seeds 3 mm. long and with about 10 faint lines of shallow pits, glistening-black. Valves opening first along the dorsal suture and curling as in *Vicia*. Tendrils none.

*Cassia tenuicaulis* N. Sp. In ditches at Guadalajara Mex. Nov. 26 30. Very slender perennial (?), 2-3 ft. high, widely branching from the base, whole plant including the inch-long pods glutinous-pilose. Stems striate-angled. Leaflets 20-25 pairs, rigid, overlapping, linear, very sharply and obliquely acute, nearly smooth except on the margins, 3-nerved from the very base, 4-6 mm. long. Flowers in short racemes and with large bracts, very small. Pods conspicuously constricted much as in *Lesmodium*. Leaf rachis hispid with hairs pustulate at base.

*Mimosa Lagunensis* n. sp. no. 27290. The Laguna Laguna mts. L. Calif. Sept. 22

A rather widely branched shrub 4-5 ft. high, with hooked prickles. Leaves with 2 pinnae, and each pinna with 5-10 obliquely oblong leaflets about 4 mm. long by 2 mm. wide, rather rigid, nervose, sharply apiculate, half-cordate ~~tex~~ below, with midrib not central, and with 3 nerves from the base on the upper side, setosely hairy especially ~~near~~ <sup>on</sup> the margins, the rachis and petioles are short, very hairy. <sup>and</sup> Heads few-flowered, on filiform peduncles 1-2 inches long. Pods short - stipitate an inch by 4 mm. long and wide, of about 4 joints constricted a fourth the way to the ~~base~~ suture and abruptly setose-acuminate, sparsely and very short ly aculeate and short-pubescent. The very small leaflets and pods simulate Aeschynomene.

*Mimosa inequalis* n. sp. no. 27267. Guadalupe Mex. Nov. 26 30. Annual, very widely branched, a foot high. Leaves sparse of 2 pairs of leaflets, obliquely obovate and rounded, with midrib not in the middle, thin, barely apiculate, green, strongly nerved, with 3 basal nerves above the midrib, setosely yellow-hairy with straight hairs as are the pods also, on petioles 1-2 inches long which are also setosely hairy. Heads on stout <sup>rods</sup> peduncles, 1/2-3/4 inch long, obliquely oblong, 1.25 cm. long by 4 mm. wide, shortly acuminate, flat, 3-seeded, with margins little if at all indented, many, in compact heads, body easily separating from the frame.

3536 *Cassia stellata* N. Sp. 27196 cacachilla mts. L. Calif. 10-2, and <sup>1</sup>trunfo  
27200 10-7. An open-branched shrub about 6 ft. high, appearing as if  
yellow-glutinous throughout, but not at all glutinous, but densely yellow  
yellow-stellate throughout. Leaflets about 3 pairs (2-~~5~~), 1-2 inches long  
lanceolate and shortly acuminate to elliptical and apiculate, rather obl  
oblique below, thickish and entire, rachis of leaf 1-2 inches long and al  
about as long as petiole, no glands. Flowers few, light-yellow, 8 mm. lon  
long, with petals dark-striped, on a pedicel about 1 cm. long. Pods 4  
inches long by 4 mm. wide, nearly straight, manifestly constricted between  
the seeds bot vertical and laterally, flattened, short-stipitate and  
apiculate, narrowly linear.

Bull. S. Cal. Acad. Sci. 46: 1497

*Astragalus Fiersonii* Munz and Mc Burney <sup>1914</sup> Tassac This plant is the usual form of  
A ~~lentiginosus~~ <sup>var. ~~Fremontii~~ ~~intergrading toward~~ var. ~~Coulteri~~</sup> and which  
variation is <sup>common</sup> in the Imperial valley. A careful study of all the various  
forms of *lentiginosus* from Death Valley south in 1897 led me to the opinion  
that this form is a variation of ~~Fremontii~~ <sup>*Crotalaria*</sup> Munz is too much addicted to the  
proposal of <sup>names of</sup> variations on trivial grounds as is shown by his varieties of *Ayc-*  
*ne stachyus* and *Douglasii* and *pachypus* in the same issue. All variations of  
*Douglasii* are quite unreliable as I have found in trying to keep up my own

This foolish habit of making new names is best shown  
by his domination of Miss Hilgard's paper on *Zauschneria* in  
which he made 3 species out of 3, *Californica*. Recent experi-  
ments in the cultivation of this coast species showed it to be  
only a form of *Californica* - position I have held for years

the proposal of these new names is wholly unjustified. and due to careless  
identification. There is ample material in the Jones herbarium for proper  
identification, and facilities were available for proper identification of  
all of them Mrs. Mc Burney has had no field experience to warrant any opin-  
ion on species., and so these names are traceable to Munz. exclusively.

Munz seems to be following after Jepson in proposing fake names for  
plants but he raises the names to rank of formal varieties., which practice  
he was the first to condemn severely after Jepson's manual came out, the  
first showed this tendency in his domination of the paper by Miss Hilgard on  
on *Zauschneria* which I criticised severely in Cont. I. B. in 1922.

A *Crotalaria* var. *Davidsonii* is the usual form of *A. Preussii* in Imper-  
rial valley and is matched exactly by material in the herbarium from "ancast"  
and he shown any appreciation of my monograph he would have seen that *A.*  
*Preussii* and *Crotalaria* (*limatus*) are closely related.

*Astragalus Piersonii* Münz and Mc Burny Thus is described as an annual but it  
 is only a form of *A. lentiginosus* var *Coulteri* and is perennial. all the forms  
 of *Lentiginosus* are perennial The name is an unfortunate one for Pierson was  
 not the first to discover it The pods are minutely pubescent as in *Coulteri*  
*A. insularis* var *Harwoodii* seems to be what I have heretofore ~~called~~<sup>called</sup> *A. triflorus*  
*A. insularis* of Greene is only a form of it. *A. pachypus* var *Jaegeri* M & Mc. B.  
 is described as having yellow flowers No flowers of *Astragalus* are truly yellow  
 There is nothing in the type to show that the flowers are yellow. snakeflowers  
 of *Astragalus*  
 are ochroleucous. *A. Crotalariae* var *Davidsonii* Münz. & Mc. B. is nothing but  
*A. Preussii* No doubt *A. Crotalariae* is an extralimital form of *A. Preussii*  
 The two seem to ~~shade~~<sup>blend</sup> together

*Zauschneria latifolia* Greene and *cana* Greene are only form of the same species  
 as shown by recent cultural experiments.

Climac~~ther~~achis Hemsl. and Rose. Cont. Nat. Herb 8 43 1903 is evidently not distinct from ~~mimosa~~. I therefore propose the following. ~~mimosa~~ Mexicana (Hemsl. & Rose) C. Mexicana H. & R. ~~M. unilobata~~ <sup>*unilobata*</sup> ? for C. iraticosa H. & R. The body of the ped separates from the rim as in mimosa. Species connecting the two genera are M. pusilla, pudica, etc. all with the same habit, appearing as if annuals, but often shrubby as in Senraackia.

The annual forms of Aeschynomene are altogether too close to mimosa for comfort, in this group.

3449

3375

*Alchemilla hirsuta* H.B.K. \*t was quite a surprise to find this species on the prairie at Laguna, another indication of the relationship of that flora to that of the western plains.

*Pithecollobium minutum* N. Sp. No. 27268. Cacaenilla Mts. L. Calif. South  
of San Juan, Oct 2 1930. An open bush 6-8 ft. high, with inch-long straight  
spines in pairs. Leaves nearly as broad as long, 3 inches long, of about  
6 pairs of pinnae which are about an inch long, and open and about 1 cm.  
wide. Leaflets about 13 pairs, linear, a little aced, 1 mm. wide by 4 mm  
long, minutely pubescent. Pods nearly black, 4 inches long by half an inch  
wide and 4-6 mm. thick and oval in cross-section, smooth, triangular-acute,  
and short-stipitate, with ring-like base. Branches slender and spreading as  
in *mimosa biuncifera*.

3441

*Pithecollobium acuminatum* N. sp. No. 27255. <sup>Above</sup> Primavera Agua Caliente Giganta,  
B. Calif. Oct. 20 1930. A shrub 4-8 ft. high. Stems beset with chestnut  
colored or white warts. Leaves a pair of pinnae with about 5 pairs of  
leathery, venose and dark-green leaflets 1 cm. long by 3 mm. wide, blunt but  
apiculate, often arcuate, oblong, with midrib set in the middle and with 3  
accessory veins below it, half-cordate below, set on the upper side of the  
grooved rachis, which is, like the ~~rachis~~ leaflets minutely pubescent.  
Leaves about 1.5 inches long, with proper petiole stout and 2-4 mm. long  
and with a pair of ones that colored spines 4-6 mm. long at base, inclined  
to be fascicled in the axils and very numerous. Pods cartilaginous and  
nearly round, 4 inches long and half an inch wide, a little flattened and  
edges uneven, long-acuminate on the empty tip, contracted below into a stout  
stipe 1 cm. long dark-brown, with about 5 seeds and no pulp between.  
Flowers racemose.

*Alchemilla hirsuta* HBK. It was quite surprising to find this species abundant on the laguna, another link with the western flora.

*Pithecollobium minutum* n. sp. No. 27255. Cacachilla mts. Oct. 2 1930. An open bush, 6-8 ft high, with inch-long straight spines in pairs. Leaves nearly as broad as long, 3 inches long, of about 6 pairs of pinnae which are about an inch long and open and 1 cm. wide. Leaflets about 13 pairs, linear, a little arcuate, 1 mm. wide by 4 mm long, minutely pubescent. Pod nearly black, 4 inches long by half an inch wide and 4-6 mm. thick, and oval in cross-section, smooth, triangular-acute and short-stipitate, with ring-like base. Branches slender and spreading as in *Mimosa blanchetii*.

*Pithecollobium minutissimum* n. sp. No. 27256. La Barranca Guadalupe Mex. Nov. 25 1930. A small tree roughly branched and spiny at the axils, closely short-woolly throughout with rough bark. Leaves 4-8 inches long by 1-1.5 inches wide, bipinnate, with stout petioles half an inch long, and with rachis almost as stout, with the ascending pinnae about 4 mm. apart and about 40 pairs, each pinna nearly an inch long and nearly sessile. Leaflets about 30 pairs, imbricated, oblong, obtuse, 2 mm. by 1 mm. Leaves clustered at the ends of the stout twigs. Fruit nearly black when ripe, reflexed on a very short and stout pedicel and broadly linear, about 2 inches long, a little arcuate, 2 inch wide and 4 inch thick, quadrangular, obliquely apiculate at tip and cuneate at base, minutely woolly. Flowers absent. Fruits vary from sessile to having a stipule an inch long, my no. 27256a.

*Pithecollobium acuminatum* n. sp. No. 27255. Above Primeria Agua, in the Sierra Giganta, Oct. 20 1930. A shrub 4-6 ft high with stems beset with chestnut colored or white hairs. Leaves a pair of pinnae, with about 6 pairs of leathery venous and dark-green leaflets 1 cm. long by 3 mm. wide, blunt but apical, often arcuate, oblong, with midrib set in the middle and with 3 accessory veins below it, half cordate below, and set on the upper side of the grooved rachis which is like the leaflets, minutely pubescent. Leaves about 1.5 inches long, with proper petiole stout and 2-4 mm. long, and with a pair of chestnut colored spines 4-6 mm. long at the base, leaves inclined to be fascicled in the axils and very numerous. Pods cartilaginous and nearly round, 4 inches long and 1/2 inch wide, a little flattened and with uneven edges, long-acuminate on the empty tip, and contracted below into a stout stipe 1 cm. long. Pods dark-brown, with about 3 seeds and no intermediate pulp. Flowers racemose.

*Alchemilla hirsuta* HBK. It was quite surprising to find this species abundant on the laguna, another link with the western flora.

*Pithecollobium minutum* n. sp. No. 27265. Cacachilla mts. Oct. 2 1930. An open bush, 6-8 ft. high, with inch-long straight spines in pairs. Leaves nearly as broad as long, 3 inches long, of about 6 pairs of pinnae which are about an inch long and open and 1 cm. wide. Leaflets about 13 pairs, linear, a little arcuate, 1 mm. wide by 4 mm long, minutely pubescent. 1 od nearly black, 4 inches long by half an inch wide and 4-6 mm. thick, and oval in cross-section, smooth, triangular-acute and short-stipitate, with ring-like base. Branches slender and spreading as in *Mimosa biuncifera*.

*Pithecollobium minutissimum* n. sp. No. 27266. La Barranca Guadalupe, Mex. Nov. 25 1930. A small tree roughly branched and spiny at the nodes, closely shore-woolly throughout with rough bark. Leaves 4-6 inches long by 1-1.5 inches wide, bipinnate, with stout petiole half an inch long, and with rachis almost as stout, with the ascending pinnae about 3 mm. apart and about 40 pairs, each pinna nearly an inch long and nearly sessile. Leaflets about 30 pairs, imbricated, oblong, obtuse, 2 mm. by 1 mm. Leaves clustered at the ends of the stout twigs. Fruit nearly black when ripe, reflexed on a very short and stout pedicel and broadly linear, about 3 inches long, a little arcuate,  $\frac{3}{4}$  inch wide and  $\frac{1}{2}$  inch thick, quadrangular, obliquely apiculate at tip and ciliate at base, minutely woolly. Flowers absent. Fruits vary from sessile to having a stipe an inch long, my no. 27266a.

*Pithecollobium acuminatum* n. sp. No. 27265. Above Primera Agua, in the Sierra Giganta, Oct. 20 1930. A shrub 4-6 ft. high with stems beset with chestnut colored or white warts. Leaves a pair of pinnae, with about 5 pairs of leathery venous and dark-green leaflets 1 cm. long by 3 mm. wide, blunt but apical to often arcuate, oblong, with midrib set in the middle and with 3 accessory veins below it, half cordate below, and set on the upper side of the grooved rachis which is like the leaflets minutely pubescent. Leaves about 1.5 inches long, with petiole stout and 2-4 mm. long, and with a pair of chestnut-colored spines  $\frac{1}{4}$  in. long at the base, leaves inclined to be fascicled in the axils and very numerous. Pods cartilaginous and nearly round, 4 inches long and  $\frac{1}{2}$  inch wide, a little flattened and with uneven edges, long-acuminate on the empty tip, and contracted below into a stout stipe 1 cm. long. Pods dark-brown, with about 5 seeds and no intermediate pulp. Flowers racemose.

2445-

*Lysiloma wayucensis* n. sp. No. 27251 Wayuca ranch Sierra Giganta, B. Calif.  
Oct. 23 1930. A slender and open branched shrub or small tree, with twigs  
rather chestnut-colored and very slender and very leafy. Leaves 3-6 inch  
long, with 3-4 pairs of pinnae, about 2 inches long. Leaflets 15-20 pairs  
, narrowly oblong, barely acute, about 6 mm. long by 2 mm. wide, appearing  
smooth (but really very sparsely pubescent), venose, with about 6 large  
meshes on either side of the midrib. Pods 3 inches by an inch, elliptical  
oblong, acutish and rounded at base, and on a stipe 4-6 mm. long., reddish  
and thin.



3447

*Leucaena gigantea* n. sp. No. 27247 Boirego ranch. Laguna mts. L. Calif.  
 Sept. 24 30. Plants growing on bottoms. A tall tree with open and rounded  
 top. Twigs covered with small and white warts. Leaves many, about 4 inches  
 long, with about 5 pairs of pinnules which are nearly oval and inclined to  
 be a little cuneate below, the lower pairs smaller, about an inch long and  
 3/4 inch wide, rounded, with midrib off center, veiny, shining above and  
 dark, lighter-green below and nearly smooth. Pods 6-8 inches long by two  
 wide, very smooth and flat, strongly nerved on the margins, cuneate below  
 into a stipe half an inch long, rather obtuse at tip. This also was got  
 on the road to Todos Santos, No. 27240 Sept. 27 1930.

FLORA OF MEXICO

*My Leucaena gigantea*  
*Boirego ranch*

Mazatlan, Sinaloa, Nov. 20, 1926

Collected by Marcus E. Jones, A.M.

3164

Cotylædon . Jepson Manual p. 452, ff. Jepson is rather hazy on the spelling of this genus. It is a Greek word, <sup>feminine</sup> ~~neuter~~, and should have a <sup>feminine</sup> ~~neuter~~ ending. Jepson's orthography is as follows. pulverulenta, farinosa, caespitosa, laxa <sup>three</sup> and <sup>feminine</sup> varieties, lanceolata and var. saxosa, viscida and var insulare, edule and var. attenuata, and densiflora. One thing is certain and that is ~~that~~ <sup>is</sup> that the genus ~~cannot be~~ <sup>is</sup> feminine, which <sup>justifies</sup> ~~validates~~ Jepson's terminology, except and edule, insulare. *which should be "is" in each case.*

27845

*Sedum Barrancae* n. sp. No. ~~27845~~ Jones. ~~East of Carrizozo, Socorro, Texas~~  
 Under and on cliffs at La Barranca, Guadalupe Mex. Prov. 17 1930. in wet  
 places in loose soil. growing in tufts from on long or with oblong leaf fasci

cles, 1-2 inches long. Stem leaves many, narrowly elliptical to linear-  
 elliptical, 1-2 inches long, 1 cm. wide, sometimes acute, entire, sessile.  
 Inflorescence and racemose-like arrangement of short and scorpioid racemes o  
 of six flowers which are sessile and bracted with ovate to nearly round  
 bracts 3-4 mm. long. Flowers white but tinged with pink or green, about 4 mm.  
 long and wide. Petals cordate-ovate and with acuminate tip and equaled by  
 the stamens which have a wide and triangular base and diliform filaments.  
 Pods 2, acuminate. Steps simple.

} 161

sharp and processed  
to keep the two genera apart is the ~~xxx~~ edge of Synthlipsis valves in distinctio  
~~flow~~  
with the rounded edge of Greggia. Greggia pods are frequently conspicuously flat-  
tened, and truncate to emarginate at both ends as in Synthlipsis., and the dis-  
tinction between the two genera seems <sup>at first</sup> too attenuated to hold. The floral charac-  
ters are practically the same in Synthlipsis, Greggia and Dithyreae, except that  
the spreading calyx is present only in D. Wislizeni, but is not in D. Californica  
*The sepals of Wislizeni are 1 mm long, and 3 mm long in Calyptraea.*  
In Physaria didymocarpa the sepals are rather loose but not conspicuously spread-  
ing. Rose's Synthlipsis lepidota as I have noted is not a Synthlipsis but a  
Lesquerella. Dithyreae is manifestly the most specialized genus of the group  
for the margins of the pods are processed into a winged midnerve, while Synthlip-  
sis has a mere midnerve a little produced toward tip of pod as a rule, and Gregg  
has <sup>evident</sup> no midnerve to the pod but with rounded margins. An examination of the roots  
of Synthlipsis would lead one to think that it is a short-lived perennial but it  
is only a winter annual. Greggia is ~~on~~ the other hand rather shrubby at base and  
always perennial. I have <sup>studied</sup> ~~noted~~ both Synthlipsis and Greggia copiously in the  
field this year. I find the pods of Greggia vary greatly in cross-section. I  
think that the genus is next to Lesquerella, and that Synthlipsis is intermediate  
between it and Dithyreae, while the Capsella-Lyrocarpa group is an offshoot betwe  
between Synthlipsis and Dithyreae for the pods of both have a mere midnerve in-  
stead of specialized one as in Dithyreae, but are conspicuous in the pods being  
greatly widened above but not didymous, The Hutchinsia section of Capsella being  
a connecting link with Synthlipsis. The sepals of Capsella <sup>are</sup> ~~are~~ inclined to spread  
no doubt the failure of Harvard to see the true relationship of these genera is  
due to meagre collections and the limited range of the genera. The relationship  
of the group is quite near to Thlaspi and Lepidium. In studying specimens of  
Greggia from Sierra Blanca Texas, I find decided evidence of a midnerve in ripe  
pods, this would tend to reduce the gap between this genus and Synthlipsis.

Ever since the discovery of *Lyrocarpa* by me at the type locality I have taken a special interest in the systematic position of members of this so-called group. particularly in its relationship to the *Thelypodium* group. I have already given a rather complete description of *Lyrocarpa* species in previous Contributions, my notes being taken in the field from fresh material. It has been my privilege to study in the field *Synthlipsis Greggii* at Eagle Pass Texas.

In referring to the *Synoptical Flora* by Robinson I find him placing *Greggia* along with *Erysimum* where it does not belong, and remote from *Synthlipsis* where it does belong. Since Robinson did not emphasize the importance of the obcompressed character of the <sup>pod of the</sup> genus. Rose further balls things up by proposing *Synthlipsis lepidocarpa* which is nothing but a *Lesquerella* (*L. lepidocarpa* (Rose).). Torre and Harms in their *Genera Syphonogarum* follow Rose in placing his <sup>ta</sup> genus *Ornithocarpa* alongside of *Synthlipsis* where it does not belong for the pods are laterally compressed and the petals fimbriate-lacerate above.

One of the most striking things I noticed about *Synthlipsis Greggii* <sup>was</sup> ~~are~~ the pure white petals spreading at right angles to the claw, and the blade therefore remote from the rotate-spreading calyx lobes. This gave the appearance of a gamopetalous corolla, for the claws were contiguous though not connate ~~and~~ for their entire length of 3mm. I then began a study of allied genera. *Dithyrea*, <sup>rotate (in D. Wilson)</sup> has the same tendency, but calyx lobes spreading but not ~~rotate~~-spreading. *Lyrocarpa* has the calyx lobes erect as in most other *Cruciferae*. *Greggia camporum* also has <sup>+</sup> ~~rotate~~-spreading calyx lobes, and the petals are inclined to be pinkish. *Lyrocarpa* does not seem very closely related to this group. The habit of *Synthlipsis* is that of most *Lesquerellas*, the stems being many from the annual <sup>(as would annual)</sup> base and decumbent there. *Greggia* has stems with branches clustered and erect from the base and is perennial. *Synthlipsis* is therefore very conspicuous.

In commenting on the relationship of Synthlipsis in the Synoptical Flora its place is said to be near Greggia, Lyrocarpa, Physaria <sup>and</sup> ~~the~~ Lesquerella. That it is related to Greggia, its nearest ally is manifest for it is ~~is~~ decidedly uncertain if the genus Greggia can be maintained in view of my recent study of Synthlipsis in the field. There is nothing but the narrowness of the pod of Greggia to keep the two genera distinct. It would seem that Synthlipsis is always (?) annual, while Greggia is always a perennial and rather shrubby. The relationship to Physaria, Lesquerella and Capsella is far more remote, in fact not at all near. Its relationship to Lyrocarpa is fanciful rather than real for the flowers are not at all the same, and the pod is more that of Capsella. About the only thing available

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1453 *Microstylis filiformis* n. sp. No. 27571. Laguna Laguna mts. L. Calif. Sept. 2

22 in moist soil under pines along with *Valeriana*. Leaves peltate and from the root, rounde, entire, 1-1.5 inches wid, thin and smooth, on filiform petioles as long as the leaves. Spikes filiform and a foot long or less and leafless, floriferous most of the length. Flowers about 1-3 mm. apart and sessile behind an ovate bract, minyte. Fruits oval, strongly apiculate, rugos

I

I-2

-2 mm. long, ascending. stamens appearently 2. This has the habit *M. montana* and grows near it. This may not be this genus at all, but I cannot find any other place to put it.

1244 <sup>uc</sup> *Sisyrinchium translucens* Bicknell. 27570 Laguna Laguna mts. L. Calif. Sent to

1264 *Sisyrinchium translucens* Bicknell  
~~*Hypochaeris capensis* N. sp.~~ 27570 Laguna Laguna Mts. L. Calif. 9-22. On prairie.

Plants six to 12 inches high, erect, annual or short-lived perennial. Perfectly smooth throughout. Leaves about  $\frac{2}{3}$  the length of peduncle, very thin and acuminate 4 mm. wide, with 4 strong nerves and twice as many fainter ones, many, all basal. Proper peduncles filiform but winged on both sides with wings 1 mm. wide. Spathe 1-2 inches long, with the outer bract a half to twice longer than the inner one and long-acuminate. Flowers normally 3-4, rarely more, on capillary pedicels an inch long, light-yellow, about 8 mm. long. Fruit cordate-ovate, about 8 mm long and retuse, and shortly-acuminate into pedicels, with very thin walls showing the outlines of the several rather foveate and oblong to oval seeds 1 mm. long and black.

1194 Hymenocallis Jaliscensis N. Sp. Jones No. ex. 458, Pomona College No. II9358  
Collected at Salcillo Jalisco ex. June 1 1892, also got at La Palma same sta  
Allied to H. Caynemensis Herb. Plants about a foot high, erect or ascending,  
fleshy and thick, from large and tunicated bulbs with brownish scales with  
filiform vertical cells. Leaves broadly linear, arcuate and acuminate and equi-  
tant, shorter than the peduncles, rather many, Corolla tube about 3 inches  
long and with segments about the same length and a little surpassing the  
stamen. Style elongated and as long as petals. Fruits many, ovate 4mm. long  
congested and with 2 hyaline and petal-like bracts 1.5 cm. long, which are  
tapering, smooth and acute and linear. Leaves very finely striate.

2980

*Lyrocarpa*.

Watson in the Flora of California Vol. I p.44 says of this genus "Pubescent annuals". From his description of *L. Palmeri* one would judge that it is near the type species. Watson blundered several times in describing species. This time he blunders as to the genus. The type species is a shrub. The only known annual is *L. Xanti*. I very unexpectedly came across *L. Coulteri* 11 miles east of Gila Bend, this year, at the foot of the hills in gulches where it is common. Apparently this is the <sup>second</sup> ~~first~~ record out of the type locality, which is Yaqui <sup>Near</sup> Well Calif, San Felipe Valley at the mouth of Sentence canon.

2542

*Clematis Barrancae* n. sp. Flowers perfect. Leaves bipinnate, the pinnae <sup>segments</sup> ternate, with the final segments below inclined to be scallop-lobed below, and rather deltoid-ovate and acutish and cordate. 2 inches long. Fruit ashy with short and stiff hairs, the tail much elongated and thinly plumose. This is a climber, climbing high and is smooth. Leaflets 9-12 and rather leathery. La Barranca, Guadalajara Mexico, No. 25 1930.

*Thalictrum peninsularis* (Brandg.) Rose.

This plant replaces *T. Fendleri* in similar situations in the Lagunas. It is generally 3 feet high and erect, growing singly, and is dioecious. The ~~parts~~ s Panicles of flowers are rather small and with capillary rays ending in very small fruit heads of ~~flowers~~ consisting 1-3 seeds on subulate stipes 1/4 as long as the seeds which are about 4 mm. long and 2-3 mm. wide. The seeds are really half-oblately oval with one face nearly straight or a little humped in the middle, and the other greatly arched. The surface of the seeds is very coarsely corrugated into few and raised meshes, and is smooth, with short and <sup>The</sup> triangulat beak. ~~the~~ leaflets are inclined to be rhomboidal, 1-2 cm. long and nearly as wide, and with variously cut lobes or teeth which are deltoid-acute at tip. It is common along water-courses in moist places in the shade. Lower temperate life zone.

This group has oval sepals without apiculation or nerves and with conspicuous hyaline margins, about equaling the oval-ovate capsule which is smooth and shining and very finely striate longitudinally with beaded lines, and mostly 3-4-valved and with about 8 large and circinate seeds with coat low-tuberculate-striate longitudinally. This genus I would call Mollugo-phytum, and I would refer to it *D. crassifolia* Bth as *M. crassifolium*, *D. holosteoides* Bth, as *M. holosteoides*, *D. polycarpoides* Gray as *M. polycarpoides*, and *D. sparguloides* Gray as *M. sparguloides*.

A conspectus of the species is as follows:

Leaves broad.

Perennials, maritime. Flowers umbellate. *M. crassifolium*.

Annuals. Flowers umbellate.

## PLATE 1

Petals abortive or very small. Flowers umbellate. Leaves conspicuously petioled. *M. holosteoides*.

Petals conspicuous. Flowers cymulose. Leaves very shortly petioled.

И polycarpoides.

Leaves linear. Flowers cymulose with slender pedicels and an equally as long common peduncle. M. Sparguloides.

2948

Allionia and Commicarpus. It is interesting to see Standley back in the ranks of sensible botany again, in putting his untenable genus Commicarpus back into Boerhaavia where it originated, and in putting Allionia incarnata into its old time place. He seems different from Rydberg who was always a mule who when he had once made a blunder he always stuck to it. Field Museum Vol. II 3.

1182 *Eriogonum Lagunense* n. sp. 7568 Mts. east of Loreto IO I7.. Allied to *E. inflatu*  
but without inflated stems, and with the same diffuse branching habit much  
accentuated so that the plants form airy masses 4 feet in diameter, but ul-  
timate branches not as filiform as in *trichopodium*. Involucres the same but  
less deeply indented. Flowers the same but segments inclined to be oblong-  
triangular and pubescent or puberulent only on the midrib and with margins  
white, hyaline and broad. Whole plant yellowish but stems glaucous. Leaves de  
densely strigose throughout, mostly round, rarely ovate, with conspicuous  
deltoid base, about an inch long. Growing in rocky places. Base woody.  
oi

2319 *Iresine obtusa* N. Sp. 27360 Borrego ranch ~~Sierra~~ Gig. L. Calif. 9-24

A tall and high climbing shrub with the habit of <sup>+</sup>. interrupta but leaves oblong-ovate and rounded to truncate at tip and cuneate below into a narrow and short petiole, entire. Whole plant perfectly smooth. Inflorescence a terminal and very compound panicle leafy below, of innumerable slender white racemes, the flowers with obtuse and papery bracts.

2319 *Iresine pulchella* N. Sp. Payuca Ranch Sierra Gig. 10-23. A divaricately branched shrub with gray bark, and with many ovate to lanceolate panicles, 4-6 inches long which are white-woolly. Leaves deltoid-ovate, cordate, acutish, an inch long, entire, rather thick, slightly veiny below, green but minutely pub. above, densely white-wooly below with branched hairs. on a stout petiole 4 mm. long. Flowers in compound panicles, nearly sessile in dense clusters of 6-8 which are racemose on the branches. Bracts very thin and hyaline, acutish inclined to be nearly smooth above

*Washingtonia filifera* The seeds of this species are never spherical but are inclined to be longer than wide at least oval. and in age the black pulp separates from the seeds, leaving them roughened and sulcate along the raphe side or end, 6 by 5 by 4 mm dimension and yellowish. This same tendency of the coat to separate from the seed is shown in *Erythraea armata* var *microcarpa* but the seed is not sulcate on the raphe side but flattened and is 10 by 8.5 by 7 or 6 mm. and yellowish.

wrong in describing this species as having a rhizoma, an inference made <sup>probably</sup> from the plant growing in dense masses as if from a rhizoma. I have seen half a dozen bulbs in a string as if from a rootstack, but repeated examination fails to show any such root <sup>stack</sup>. The bulb split up into many divisions, and these into others so that the stems are tufted. If this conclusion is valid then *A. Marvini* Davidson becomes a synonym. I find great variation in the <sup>crest</sup> of the ovary.

*Allium mutabile* Mx. This tall onion may hybridize with *Nuttallii*, and is hard to distinguish from it at times, but the lax perianth, robust habit and bulb scales seem different. The bulb scales of *Nuttallii* except near the tip are a solid and straw-colored mass like paper, the open lace work being only at the tip. In *mutabile* the open lace work is throughout the scale and is <sup>gray</sup>. The bulbs <sup>seem to</sup> propagate <sup>differently</sup> in the same way, that is, <sup>Nuttallii</sup> by a new bulb forming at the junction with the roots and splitting the mother bulb at the same time and pointing forward. This often results in twin peduncles from the same bulb. The bulbs of *mutabile* are usually twice as large as in *Nuttallii*, often an inch wide and spherical to ovate. The perianth segments are rather narrower than in *Nuttallii*, and the leaves are often 5mm. wide. Segments of *Nuttallii* are narrowly elliptical rather than lanceolate as in *mutabile*, and do not crinkle <sup>as</sup> in *mutabile*. There is nothing in the ecological conditions to separate the two species. I can see nothing to keep up Small's *A. Helleri*. The color of the flowers amounts to nothing.

*Allium Toryi* Jones. I found this species growing copiously below Madera Spring Tex. It holds its character fairly well, but I found individuals with pink-purple flowers mixed in with yellow ones on the same plants. The bulb character is nearly that of *mutabile*, though the bulb scales were inclined to be denser and yellowish, and there were sometimes as many as half a dozen blublets from the base of a single mother bulb, growing out of and below the mother scales.

*Allium reticulatum* var. *excitatum* has been confused with *mutabile* but propagates differently.

1103

near Benson I found *Yucca macrocarpa* in bloom. In the flowers it is surely like *Schottii*. Panicle mostly oblong, and sometimes peduncled so as to be exerted from the leaves. Leaves variable, often acuminate as in *tricuspidata* (var. *obovata*), but with fringe on the edge not so regular. Flowers are pear-shaped, 4 inches long and white, and drooping. Panicle never drooping with branches, nor is it round nor oval.

*Yucca valida* Brandege. This is the only *Yucca* of the Cape region and normally grows in the shade of other bushes, and rarely reaches 8 feet high. But west of La Paz it forms forests 30-40 feet high and is branched as in *Y. brevifolia*, but the leaves persist longer than in that species and in age are reflexed as in that species, so the leafy area on the ends of the branches are often 6-8 feet long. The leaves rarely are over a foot long, and are flat and thin and with few or no threads on the margins, and when threads are absent the leaves are minutely serrate. They are long-acuminate, and contract at base.

The flowers are about an inch long and rather globose-ovate, but variable, and white. The fruit is decidedly juicy when fully ripe and pendulous. There is no doubt that it is a close relative of *Schottii*, and only remotely related to *baccata*. Very likely people will not take to calling it only a variety of *Schottii*, but it really is little more. 27574 got on road to Todos Santos from the Cape.

*Allium Parishii* Watson. This very poorly described species seems to be the same as *A. monticola* Davidson. When one looks over herbarium material he has some consideration for the errors of closet botanists. The collection of *Allium* material is for the most part very sloppy. It is essential that the collector shall find out the method of propagation, and almost invariably he does not make any effort to do so. The locality where the type was said to have been collected is Cushenbury spring, but only *A. fimbriatum* grows there. *Parishii* is exclusively an alpine plant. This I have described in full detail in *Contributions* No. 15 p. 55. It is of very great importance to find out if any particular onion propagates by any other method than by seeds. In this case it is specially desirable. *Prof. Munz* has recently found the species growing high up on San Jacinto Peak above the Cushenbury spring, but not at all in the same botanical horizon.

*Allium glandulosum* Link & Otto. No 2726 Mexia from Cuernavaca Mexico  
4600 meters alt. in open woods of mixed pines and oaks. Aug. II 1929. Tall  
and slender plants like the *cernuum* group and with the same kind of scales  
and 2-4 leaves. Bracts small. peduncles enlarged at very base. Flowers 4 mm  
long, with perianth linear and spreading, black-purple. Ovary with low and  
central crests. Pedicels an inch long, filiform and not reflexed. Bulbs ova  
ovate, about an inch long, propagation by fission through the middle and by  
long and 2 mm. thick and bracted rhizomes with bulbs at the ends. This is a  
character unknown in other onions of America in the thickness of the rhizom  
There are no bulb markings, but sheaths 3-4 inches long.

*Allium dichlamydeum* Greene. I suggested in my monograph that this might be a form of *serratum*. Greene's species as a rule are not worthy of consideration. I found this growing on a sea cliff at Mendocino City. It is probable that it is common along the coast. This cliff where I got it is on a flat-iron shaped piece of upturned Tertiary strata. forming an area a few rods square covered with loose soil, mostly sand with a coat of rather dense fibers of decayed or decaying roots, the bulbs being a few inches below the surface and single and apparently not propagating by offshoots, but if by offshoots it must have been by runners. Since the type locality of the species is seaward slopes near the Mission Hills of San Francisco my plants are from a remote region, and may not represent the species. Greene speaks of the remarkable difference between the inner and outer perianth segments, a character that I do not find in mine at all. Jepson p. 220 particularly discredits the perianth story by saying that almost the segments are equally spreading. Neither writer gives the bulb scale characters. But Jepson comes nearer to giving the characters of my plant, for he

(A. Dichlam.) speaks of the two bracts being united high up and of the short and stout pedicels. Neither writer gives the peculiar character of the color of the flowers which is a very deep-red-purple, like *serratum* and *acuminatum*, and the rigid segments. The crests seem to be central. The meshes on the bulb scales are conspicuously arcuate, much more so than in Jepson's figure of *peninsulare* and about the same as my figure 41 of *attenuifolium*, and like that, very regular. There is no sign of serration on the margins of segments of perianth. The bulbs are small, rarely half an inch wide and spherical and with gray coats. The plants grow in dense masses so as to color the hillsides and are 6 to 12 inches high., with flat and rather wide leaves. Growing with this is *Brodiaea*, *Gentiana*, etc.

In 1931 I had an exceptional opportunity to study this group, for I was there just as they were in bloom. There were many square miles white with them, from El Paso eastward. As a rule the onions are 6-12 inches high and erect and with long and grass-like leaves to a peduncle. The bases of the leaves are enlarged and sheath-like and usually ribbed, and they overtop the peduncles. These remarks apply to the mutabile group, reticulatum and scaposum also occur. Reticulatum belongs with the mutabile group but is conspicuously crested and the elongated perianth dries bluish-purple. The roots of all the species but scaposum propagate by division of the mother bulb by the production of a bulblet on the lower edge just above the roots which grows downward and makes the bulb look lop-sided till it splits off. It also projects from the sheathing scales of the mother bulb and is white, while the scales are mostly chestnut colored. The distinctions of Small in his southern states flora do not seem to hold. His Helleri is certainly Nuttallii Watson, his Guthbertii seems to be reticulatum, and arenicola and microscordium are hopeless. I see no really reliable distinction between mutabile and Nuttallii. Very likely the name itself (mutabile) is a good index of its variation. I studied thousands of growing specimens and dug up very many in the hope of finding some character of value, only to be disappointed. For a time the color of the flowers offered some hope, but I found it with all forms. At lower elevations Nuttallii is mostly white and at higher elevations is pink. Mutabile is nearly always white. Allium

Coryi Jones I have little to add to the description of this species. It grows just on the upper edge of the Tropical life zone in the gravel in open places and abounds at Madera Springs which is on the north side of the Davis mts. Texas. The type locality is Alpine, on the high plateau south of the same range. The bulb coats are those of reticulatum, coarser than in Nuttallii, and the bulbs are two to several and smaller than in Nuttallii.

acuminatum  
Allium ~~scariosum~~ ~~in~~ ~~described~~ ~~as~~ ~~having~~ ~~white~~ ~~flowers~~ ~~but~~ ~~it~~ have it from the Azucar mts, north of San Simon Ariz with very red and acuminate tips and 3-leave base. This locality is quite out of the normal range.

Allium haematociton Watson. There seems to be little doubt that Watson was

1649

The meshes of the bulb coats are oblong, and with the ends rather oblique and arranged in many lines, and the walls are raised much after the fashion of *Acuminatum*, forming rather deep pits. The vertical lines of the meshes are obscurely sinuous. The bulb coats are firm and not flabby. In the dried specimens the <sup>are</sup> crests ~~are~~ very thin and triangular, 1/2 mm. high or more, and not spongy. I find that the leaves in most specimens are two but sometimes there is but one, none of them are enlarged upward, but they overtop the inflorescence. The method of propagation is by bulblets from the lower corner, and so far as I have seen, without runners.

*Allium stellatum* Ker. In my revision of the genus this species is out of place, for the reason that I knew nothing about the species but followed Watson in placing it. Now having seen the species it is evident that its closest relation is *A. cernuum*, and not *reticulatum*. It has the long and narrow bulbs with long neck peculiar to the *cernuum* group and the vertically linear close-set meshes of it. The peduncles are not hooked nor fistulous, but the leaves are grass-like and 4 and nearly as long as the elongated scape. The pink flowers are very broad and open and about 4 mm. long, with the broadly ovate segments spreading and barely as long as the stamens or a little shorter. The crests of the ovary are on the corners and not close to the style, and triangular and spongy and about half as high as the pod is long. The pedicels are capillary and lax and about an inch long, and many. This group is manifestly allied to the *haematochiton-validum* group, and remote from the *reticulatum* group.

*Allium Parryi* Watson    The bulb <sup>scapes</sup> have a very thick and opaque one and then a thin one with the usual vertically oblong markings of ~~the~~ all the onions, then another thick and red coat, and so on. Once in a while one can barely make out vertically oblong or nearly square markings on the thick coat as in *Sanbornii*, but *Parryi* certainly does not belong in the same category as *fimbriatum*. *Sanbornii* differs from *Parryi* chiefly in the oblong and rounded and not acute perianth segments. The bulbs of both species split through the middle as a means of additional propagation, and are red.

*Allium amplexans*    One of the marked characters of this species is the slightly exserted stamens and the globose flowers being pure white. The bulbs are scarlet within. The bulbs split through the middle in age.

On a recent trip to Guaymas area, south of Julian, at an elevation of 4500 feet I found two *Allia* growing there in the open. *Allium* ~~emplexans~~ grows singly or rarely in twos in the interspaces, in the gravel, along with *Calochortus*, *Thermopsis*, *Codetia*, etc. The soil is a little clayey, but mostly gravel, and is inclined to bake. The bulbs are about 4 inches in the ground and grow singly. Their method of extra propagation seems to be infrequent by the splitting of the bulb. The flowers are globose and about the stamens are a little exserted. The petals are a little exserted. The flowers are closed, and very thin and papery and always white. The heads are mostly an inch in diameter and rather dense. The leaves are several and very long and the bulb coats are brownish on the outside, and mostly deep red within. The stems are 5-10 inches high and erect.

*Allium parryi* This plant grows abundantly on wash land where the rains have washed the clay down to the more level gravelly soil, and below where the other onion abounds. The leaves are single to each stem and arcuate. The stems incline to be ascending and rarely over 4 inches long. The flowers are about 8 mm. long and whitish and open. The pedicels are nearly spherical and rather recumbent. The outer perianth segments are reddish-tinged and triangular-acute, and turned out some, the pedicels are green and thickened upward. The crests on the ovary are raised and thick and on the angles.

proportions as *armata*, and rare rather brownish at maturity. The seeds gray, almost spherical, are about 15 mm. long, very slightly flattened and decidedly apiculate, and with the surface manifestly and obscurely rugose, those of *armata* are roughened but not rugose. The pulp of *elegans* separates from the seed as in *armata*. There is no difficulty in separating the seeds of *armata* and *elegans* at once by the roughness. I do not at this writing know the seed character of Brandegei. The ~~seeds~~ <sup>*armata* var. *microcarpa*</sup> fruits of *Erythea elegans* approach nearer the size of *Washingtonia* than any other, but the fruits of the latter are ~~shiny~~ oval-ovate, with the seeds nearly black, oval-ovate, 5-7 mm. long, decidedly flattened on the attachment side, and attached about 1/3 the way up ~~from~~ the base, rarely in the middle, very slightly rugose, separating readily from the pulp which is about 1 mm. thick when mature. The skin of the seed when cut is reddish within.

The leaves of *Erythea edulis* at base are fibrous-fringed, and when young are cobwebby-haired on the margins. Those of *armata* are not so finely fringed but aculeate from the start, as are those of *elegans* and Brandegei. The fruits of *E. Lorentensis* are shiny-black at maturity 20 mm wide and 15 mm long, being oblately rounded and appearing as if attached by one side in the middle. The dried pulp is 2.5 mm. thick, solid and sweet and edible. Then comes a thin skin, cocoa-hut-fiber-like and chestnut-colored, closely investing the seed, and separated from the pulp, which readily peels off from the shiny-black seed which is 7.5 mm. thick, and reniform in cross-section, and with a broad pit 1/2 mm. deep at the attachment. There is no sign of an apiculation. The seed is about 15 mm. wide. The general character of the fruit is more like that of *Washingtonia* than the other *Erytheas*, but vastly larger. Not the absence of the long floral bracts would place it in *Erythes*. In fact there is nothing but the floral bracts to separate *Erythea* from *Washingtonia*. The pubescence so much relied on by Watson is a myth.

*Erythea elegans franchesi*. It has been my privilege recently to see mature plants grown from the seeds of the original of this species. This enables me to give some valuable data on the status and history of the species. It seems that a miner from Sonora brought to Mr. Rock, an enthusiastic plant breeder of Los Angeles some forty years ago the seeds from which *franchesi* drew up his diagnosis. Mr. Wright of Redlands got from the type seeds and has grown them at his home. The plants from these seeds are now 35 1/2 years old and in full fruit and flower. Therefore we <sup>dwarfs</sup> it is possible to redescribe the species accurately. The plants are dwarfed naturally, probably never growing over ten feet high, for the plants are now 35 years old and not more than <sup>six</sup> feet high. This species is evidently a very close relative of *E. armata* ~~*brandegei*~~ it has the same glaucous leaves and the panicles are a raceme of grape-like clusters of greenish-white on a peduncle about two feet long, and they come out from the crown and not below the crown as in *armata*, and stand erect in flower, and the clusters are <sup>rarely</sup> half as many (3-6) to a raceme, the whole not being over 5 feet long. In fruit the inflorescence droops so as to be partly concealed in the leaves. The clusters hang down on one side of the rachis as in *armata*, but are widely open. The fruits are not "pyramidal" but nearly spherical as in *armata* and about 3/4 inch long and reddish as in *armata*. The single seeds are almost spherical, but a little oblique at the insertion of the pedicel, and fully half an inch long. The leaves are those of <sup>*brandegei*</sup> ~~*armata*~~, that is inclined to be pipe-stem-like but more slender than in that species. They are armed on the petiole, as in *armata*. It will be remembered that *Brandegei* has sessile inflorescence entirely concealed by the leaves, and little if at all glaucous. I incline to think that the dwarf habit and position of inflorescence are enough to keep the species distinct from *armata*.

*Erythea Brandegei*. The fruit of this species belongs with *E. edulis* because <sup>the pulp</sup> ~~it~~ adheres closely to the seed instead of separating from it at maturity. It is therefore edible as is *edulis*. The size is the same as in *armata* and the color yellowish. The seed is evidently flattened on the attachment side, and manifestly oblique and low-rugose and rather tawny colored. <sup>minutely</sup> It is also apiculate, and about 1 cm. long. *Armata*, *Brandegei*, and *elegans* have the base of the petioles closely appressed to the trunk, and in none of the *Erytheas* but the one form <sup>of armata</sup> clearly are they spirally arranged on the trunk. It should be noted that the petioles of *Washingtonia* flare at the base because the leaves are soon reflexed after maturity.

*Erythea aculeata* Brandege. A letter from Brandege to Mr. Wright shows that this species was gathered by him in the mountains at Cofradia Sonora and he states that it is the least interesting of all the species. It resembles *edulis* in the large fruit but has *aculeaten* petioles.

*Erythea brandegei* Purpus. In distributing the seeds of the type Brandege distributed two forms. The type was from the canons adjacent to San Jose del Cabo. The other form was from seeds gathered in the gardens of the city. This form <sup>half</sup> though planted at the same time as the others is less than half the size and has never fruited, and has yellow-margined petioles, and may be a good variety, because its leaves are set in spirals on the trunks. All the species of *Erythea* but *edulis* seem never to self-pruning, and I find that in about half the cases *E. edulis* also is not self pruning. We find occasional trees of *Washingtonia* which are self-pruning, particularly the variety *Sonorae*.

Erythea. Watson. In my remarks on this genus in Contributions to Western Botany No. 15 ~~where~~ <sup>xxxxxx</sup> I state that the genus was founded on the flimsiest of characters. In fact the genus was not properly published at that time, for no character there given is generic. . It therefore was a nomen nudum. But so far <sup>given</sup> no one seems to have ~~give~~ the genus a character and a different name since, until my publication gave the characters, unless some European had done so unknown to me. This publication however would validate the names

*Erythea elegans* Franchesi. I find that the miner who brought the seeds of this species came from Hermosillo, Sonora. This would enable one to get nearer the type locality of this species. There are but two regions from which he was likely to get the seeds. The most promising one is the old gold range, where the Yaquis have for many years mined gold. This is twenty miles south of Hermosillo. It is an ideal place for such palms but I do not remember seeing any when I was there. But I do remember the beautiful and graceful plumes of *Lysiloma candida* growing along its other summit. The other mountain range is to the north and west of Hermosillo some twenty or more miles off. But this region is more celebrated for its coal mines. I have not visited it. Brandegee states that the type locality of *E. aculeata* is Cofradia, which is south and a little east of Guaymas.

The more I see of this genus the more I doubt the validity of its species we have

*Erythea armata* var. *microcarpa* Beccari ~~XXXXX~~ growing at Claremont alongside of typical *armata*. It is rather strikingly different from the type, with fruits about half the size of the type, and the inflorescence quite green and inconspicuous, and shorter than the type. Measurements of fruits

~~XXXXX~~ shows them to vary from 12 mm to 15 mm. long, by 10-11 mm. wide, and a very trifling truncate below, ~~XXXXXX~~, and about 10 mm thick. The single seeds vary from 10 mm to 11 mm. long, and are chestnut-colored, and separate readily from the pulp when ripe.

The ~~XXXXX~~ fruits of the typical species *armata* vary from 17 mm. to 20 mm. long and with the same proportions as the variety. <sup>and reddish at maturity</sup> The seeds of all the *Erythea* are attached obliquely, and a little flattened on that side. The fruits of *Erythea edulis* are more nearly globose and vary from 28 mm. to 23 mm. long and are a little retuse at base, and shining and green at first, then turn yellowish and finally black when ripe, and with the pulp adhering firmly to the seeds, which is 15 mm. long and almost spherical. The fruits of *E. elegans* vary from 20 mm. to 23 mm. long and with the same

Erythea. Watson.

The only characters separating this genus from Washingtonia are the absence of long and strap-shaped bracts, the bracts being very short, barely covering the very base of the branches of the panicle, an inch or two long. The Fruit is always larger than in Washingtonia, *min edulis* and *aculeata* being an inch wide. As a rule there are no threads on the margins of the leaves. The petiole are appressed at base and not reflexed as in Washingtonia. The trees are slow growers, but eventually are as tall as in Washingtonia. They are not much in favor with growers because of so slow growth. I substitute a better key to the species than the one presented a few years ago.

Key.

~~Fruit black~~

Panicles not exserted from the leaves, not interrupted.

Fruit black, with juicy exterior pulp, mostly edible.

Fruit about spherical and an inch wide, and with seeds about spherical.  
Pulp adhering closely to the seeds,

Leaves unarmed, and inclined to be deciduous early and with very large  
stipular sheaths. becoming tall trees. 1 *E. edulis*.  
Leaves armed, small trees. 2 *E. aculeata*.

Fruit almost spherical. Seeds very much flattened and separating from the  
pulp and shining. Fruit about half an inch wide.

3. *E. Loretensis*.  
Fruit reddish ~~subovoid~~ but juicy, apparently not separating from the  
seeds, half ~~texturized~~ an inch wide. Slender trees. 4 *E. Brandegei*.  
of many grape-like clusters. pulp

5. *E. armata*.  
Panicles exserted from the leaves. Fruit reddish at maturity, dry, and separating readily from the seeds, not over  $\frac{2}{3}$  an inch wide. Leaves armed.

panicles barely exserted from the leaves and erect in flower.

Fruit half an inch ~~exactly~~ in width. Seeds nearly spherical.  
5. *E. armata*  
*elegans*.

~~Fruit half an inch wide~~

Panicles long-exserted from the leaves and drooping from the first, with  
whip-like peduncles. panicles very conspicuous.

Fruit half an inch or a little more wide. 6. *E. armata*.

Fruit about  $\frac{1}{3}$  inch wide. panicles inconspicuous.

*E. armata* var. *microcarpa*.

Erythea. In this genus there seem to be two lines of descent, but probably this is only illusionary, the simple panicled ones like *edulis* and *aculeata* and the long and whip-like panicled like *armata* and *elegans*, but *elegans* is too like *Brandegei* in the leaves, and not enough like *armata* in the panicle to be sure that it belongs there. The specific characters on which we rely are altogether too attenuated for safety. *Brandegei* has the panicle of *edulis* and the leaves of *Brandegei*. But all *Erytheas* can be easily separated from *Washingtonia* by the very short and inconspicuous bracts, very unlike the strap shaped and elongated bracts of *Washingtonia*. Probably the gamophyllous perianth of *Erythea* may hold but it is split almost to the base in *elegans* on the inner three but fully so in the outer ones. *Washingtonia* can also be segregated from *Erythea* by the oblong-elliptical and very small seeds, while all those of *Erythea* are almost spherical. The pubescence on which Watson relied so much is worthless as a character. The fresh fruits of *edulis* are normally spherical to somewhat oblately so by being a little flattened at the poles, and are from an inch to an inch and a half diameter, and black when ripe, with decidedly juicy outer pulp. The fruits of *armata* are reddish when ripe and barely pulpy without, and about half the size of *edulis*. The flowers are manifestly polygamous with us. The fruits of *elegans* are about half way between *edulis* and *armata* in size and reddish and not flattened at the poles, nor are they ever pyramidal as described by Franchesi. *Eduilis* has the peduncles come out a foot or two below the upper leaves, while *armata* and *elegans* have them coming out very close to the top. The leaves of *edulis* are apple-green, of the others are glaucous. The leaf sheaths of *edulis* are very broad, 1-2 feet wide and very conspicuous. Those of the others are inconspicuous. The leaves of *armata* are about half way between those of *edulis* and *Brandegei* as to the petioles, but the tendency is to narrower leaves. *Elegans* is manifestly very near to *armata*. This year the flowers of *armata* are minute, barely 1 mm. long. Normally they are larger. *Eduilis* is a copious and constant bloomer every year with us. *Armata* is less so, but has fruited every year for the last nine years. This season has been a remarkable one for fruit of both the palms and Yuccas. There has been less insect damage than for many years.

sea, on the left hand side of the street as you go toward the sea. A tree 25 feet high, robust and strong, with leaves persistent to the base, and with petiole with no trace of teeth or wool, and inclined to be glaucous. Peduncle slender and shorter than the petioles. Inflorescence pyramidal and with tip barely if at all as long as leaves. Bracts very short and clasping and green. Fruit black, much depressed-globose and retuse below, about half the size of *edulis*. The fruit of *edulis* appears globose but at the insertion there is an obliquity, and when the pulp is stripped from the seed it appears distinctly flattened there. I also find that there is much wool at or near the base of the petioles, and threads peeling up from the petiole, the pubescence going sometimes beyond the middle of the petiole, but there are never any prickles. The leaves of *edulis* are self-pruning. This species is evidently near to *edulis*, but seemingly distinct. I would not be at all surprised to find that *aculeata*, *edulis* and *Loretensis* are all forms of the same species. *Loretensis* has a strong skin immediately over the glossy-black seed, which at maturity comes off clean from the seed. I have gathered quantities of the seed of *Loretensis*, <sup>so that</sup> ~~so that~~ it will soon be known in cultivation. For some reason not known to me *Erythea* is not much in favor with growers. *Washingtonia* is everywhere common as far south as Mazatlan and Guadaluajara. In favorable situations of moisture I have seen trunks of <sup>Washingtonia</sup> ~~Sonorae~~ 4 feet in diameter. The leaves are very variable in acumination and in the drooping parts and in ~~fix~~ threads on the margins. They are universally used for thatch, and this is the cause of their cultivation. In any grove of any size you can find all the forms called *filifera*, *gracilis*, *robusta* and *Sonorae*.

In my former Contributions I have tried to get order out of the chaos in which *Erythea* and *Washingtonia* were involved. I have shown that the generic character given by Watson for *Erythea* was baseless. I have shown on what characters the genus must stand if at all. Since then I have tried to check up on living material to see if those characters stand. I have traveled many thousands of miles where these plants grow, and have checked up on every grove and individual tree seen by me. This minute study has revealed some errors on the part of Brandegees, the most acute of all our western botanists. In his flora of the cape region he says that *E. Brandegei* is common on the Laguna mts. whose base is the type locality for this plant. I am now prepared to say after exhaustive search on both slopes of this range that *E. Brandegei* is very scarce everywhere, almost never being seen at all. Instead of it *Washingtonia filifera* var. *Sonorae* is everywhere both cultivated and wild, and is instantly recognized by the strap-shaped white bracts of the inflorescence which persist as long as the peduncles hang on the trees, which is many years after maturity. Without the bracts there is no way to determine which are *Erytheas* if the plants are only in leaf and young. At the present time our knowledge of the genus is confined to cultivated plants except the relatively small area south of Santa Rosalia to Comondú. *Erythea armata* has the same inflorescence as *Washingtonia filifera* but without the conspicuous bracts. We are only guessing as to what are really good specific characters in *Erythea*. We assume that the size and shape of the fruit is specific, and that the leaf-margins are specific. Other characters have some significance such as the self pruning of *edulis*, and the long and grape clusters of *armata*. Two species are still unknown as to their variation, *gigas* and *aculeata*. *Elegans* is said to have obpyramidal fruit. *Aculeata* differs from *edulis* in the armed petioles being persistent. This is a very precious character. Now I come along with the subjoined species. The question is "Will these characters stand?"

*Erythea Loretensis* N. Sp. Type locality, corner of the block nearest to th

5'26" Carex Lagunensis N. Sp. No. 27592 The Laguna, Laguna Mts. L. Calif. Sept. 22  
1930. growing on dry mesa in dense tufts, about a foot high. Stems strongly  
striate and sharply triangular, filiform, leafy below but surpassing the nar-  
row leaves which are 1-2 mm. wide. heads about four, aggregated, erect, ses-  
sile, ovate to oblong, 6-8 mm. long. Bracts scale-like, the lowest only prolon-  
gated into an aristiform tip 1 cm. long. Scales oval-ovate with a shortly acuminate  
tip, almost as long as the akenes, chestnut-colored and with strong and green  
midnerve, and <sup>narrow</sup> ~~xxxx~~ white and hyaline margins. Akenes very flat-lenticular,  
green, ascending, compactly packed, 3.5 mm. long, oval-ovate, a little wider  
and taper-beaked  
than the scales, rather strongly 1-nerved and with faint laterals, strongly  
flat-winged and hispidulous on the margins, the oval seed occupying about half  
the width and length of the akenes. The akenes remind one of the straminea  
group, though much smaller. *Near illets.*

Carex longissima Jones N. Sp. No. 27594. Trail down the Laguna Mts. Lower Calif  
Sept 22 1930. Growing in cleft of rocks in dense tufts 2 ft. long. Probably  
Middle Temperate life zone. stems and leaves thread-like and nearly equal.  
spike single and terminal, about 3 inches long by 2 mm. wide, chestnut-colored  
flexuous, pistillate on the lower third, very <sup>dense above</sup> ~~xxxxxxxx~~ with imbricated and  
triangular scales about 4 mm. long and closely packed, the pistillate scales  
a little wider below, and inclined to be awn-pointed and nearly twice as long  
as the oblong and lenticular and rounded and pubescent, and nerveless akene  
which is closely appressed and abruptly contracted into a round beak half as  
long as the body, the whole 3 mm. long, scattered., early deciduous.

Proposed New Species by P. A. Munz.

In Bul 1/4 So Cal Acad Sci Vol 31 p 67 P. A. Munz proposes new species in *Astragalus* such as *A. Piersonii* this name is an unfortunate one for Mr Pierson an indefatigable botanist deserves better of his fellows than to have a synonym named after him. The proposed species is said to be near to *A. Coulteri* in fact it is so near as to be the same thing for it is identical with <sup>annual</sup> it. It is described as being an annual but it is not it is undoubtedly a perennial. <sup>some of</sup> ~~the~~ *inflati* to develop woolly pubescence in the "Tropical of the Californian region" This is true of other *inflati* such as *Acandodissimus*, *Muelensis* etc. A *triflorus* has a synonym in *A. insularis* var *Harwoodii* and *A. trichostachyus* ~~is a synonym of~~ *A. Crotalariae* var *Davidsonii*, Munz seems to follow to be trying to follow the peregrinations of Jepson in his Manual in the proposition of untenable names for mere forms. Varieties should have some standing in ecology and not be the whim of the producer. *A. lentiginosus* is a good representation of a cosmopolitan species which has spread far and wide and has adjusted itself to various environmental conditions by variation in the density of its pods and in its pubescence, but the intergrading forms have not yet disappeared, and you can find intergrading material everywhere. We therefore regard these extreme forms as variations of the type. As we should in the case of all species not yet established, such as the proposed species of *Zauschneria* which under cultivation show intergradation toward the type of *Z. Californica*.