

CONTRIBUTIONS FROM THE GRAY HERBARIUM OF HARVARD  
UNIVERSITY, NEW SERIES, No. XXI.

SOME NEW SPERMATOPHYTES FROM MEXICO AND  
CENTRAL AMERICA.

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Presented March 13, 1901. Received March 20, 1901.

*Fimbristylis melanospora*. Glauous, tufted from a hard base: leaves firm, smooth, strongly nerved, 1 to 1.5 mm. wide, tending to become involute, the longest barely 1 cm. long, with a short deltoid cartilaginous tip: culms compressed, with thin edges, 2 dm. or less high: umbel decomposed, with very short rays, forming a dense inflorescence 1 to 2 cm. broad; involucre of 2 or 3 very unequal leaves, the longest not equalling the mature umbel; spikelets ovoid-oblong, 3.5 to 4.5 mm. long, 2 to 2.5 mm. thick: scales ovate, blunt, slightly carinate, pale brown with broad white scarious margins: style slender, terete, smooth, with 2 pubescent branches; achenes lenticular, obovoid, broadly rounded above, 1 mm. long, brownish black, minutely muriculate. — VERA CRUZ, low grounds, Vera Cruz, April 23, 1894 (*C. G. Pringle*, no. 5773). Superficially resembling some forms of *F. polymorpha*, Boeckl., but differing in the paler and smoother leaves, the broader white margins of the scales, the very different blackish achene, and the slender (not compressed) smooth style.

*F. alamosana*. Low tufted annual, about 1 dm. high: leaves flat, smooth, mostly much shorter than the slender flexuous culms, rarely longer; the sheaths densely ciliate: umbels decomposed, with 3 to 7 slender lax unequal rays, the longest 2 or 3 cm. long, the spikelets mostly long-pedicelled; involucre of 2 or 3 unequal leaves, the longest equalling or exceeding the rays; spikelets pale straw-colored or whitish, ovoid-oblong, acutish, 2.5 to 3.5 mm. long, 1 to 1.75 mm. thick: scales ovate, acutish, or the lowest mucronate, slightly carinate: style compressed, pubescent, with 2 branches; achene barely 1 mm. long, broadly cuneate-obovoid, with 10 or 12 obscure longitudinal bands, white, pearly and finely muriculate all over. — SONORA, Alamos, Sept., 1890 (*Edw.*



*Palmer*, no. 699). Differing from *F. laxa*, Vahl, in its paler smaller spikelets and smaller white and glossy achenes.

*F. Holwayana*. Culms slender, 1 to 3 dm. high, much overtopping the pale green narrow (0.75 mm. wide) ciliate leaves: umbel simple, with 2 (rarely 1) to 4 ovoid-oblong spikelets 6 to 8 mm. long, 2.5 to 3.5 mm. thick, the middle (or rarely solitary) one sessile, the others on slender ascending rays 0.5 to 2 cm. long; involucre of 2 or 3 ciliate leaves, the longest one usually much exceeding the rays: scales from orbicular to ovate, blunt, castaneous and shining, the green midrib in the outer somewhat prolonged into a short awn, in the others barely into a cusp: achene short-stipitate, pearly, broadly obovoid, subtruncate above, half as long as the scale, 1.25 mm. long, nearly as thick, with about 16 longitudinal ribs, and many linear transverse markings; style flat, fimbriate, exserted. — JALISCO, Chapala, Sept. 18, 1899 (*E. W. D. Holway*, no. 3443). Closely related to *F. pentastachya*, Boeckeler, but differing in its narrower spikelets and broader scales, and in the achenes which are smooth or with one or two tubercles at the very summit, not tuberculate-roughened throughout as in *F. pentastachya*.

*F. obscura*. Glaucous, loosely tufted from slender branching caudex: leaves flat, 2 or 3 mm. wide, the longest 1.5 dm. long, smooth, or the margins ciliolate-scabrous except at the acutish cartilaginous tip: culms compressed, with thin edges, 4 dm. or less high: umbel decomposed, with 2 to 4 rays 2 or 3 cm. long and several shorter ones; involucre of 2 leaves much shorter than the umbel; spikelets mostly pedicelled, or rarely 2 or 3 fascicled and sessile, lanceolate, acute, 5 to 8 mm. long, 1.5 to 2 mm. thick: scales dark brown, ovate-oblong, strongly carinate and mucronate: style slender, terete, smooth, with 3 pubescent branches; achenes trigonous with obtusish angles, obovoid, barely 1 mm. long, whitish, with extremely obscure longitudinal markings (seen only under strong magnification). — DURANGO, alkaline bottoms near Durango, June, 1896 (*Edw. Palmer*, no. 186): SAN LUIS POTOSI, in the mountains, San Miguelito, 1876 (*Schaffner*, no. 558). Resembling *F. autumnalis*, R. & S., but clearly differing in its caespitose perennial habit, and its larger, paler, and duller achenes.

GLYPHOSPERMA PALMERI, Watson, Proc. Am. Acad. xviii. 164. Mr. Pringle calls attention to the fact that this plant, which in Mexico appears like an introduced species, is identical with the Old World *Asphodelus fistulosus*, L.

*Cologania Deamii*. Stems slender, 1.5 to 2 dm. long, from a slender creeping rootstock, ascending and branched, the tips flexuous but



slightly twining, covered with fuscous retrorse-hispid pubescence: stipules ovate to lanceolate, 4 to 6 mm. long: petioles retrorse-hispid, 1.5 to 2.5 cm. long; leaflets oblong-ovate to obovate, mucronate, slightly strigose above, pale and hispidulous beneath, 2 to 4 cm. long, the terminal on a petiolule (0.5 cm.) thrice as long as those of the lateral leaflets: umbels 3-6-flowered, the principal peduncles 4 to 6 cm. long, retrorse-hispid, those on the flexuous branches shorter; pedicels 1 to 1.75 cm. long: calyx 1 to 1.2 cm. long, hispid: corolla violet, 2 to 2.5 cm. long. — MORELOS, Cuernavaca, July 7, 1900 (*C. C. Deam*, no. 40). Unique in its long peduncles.

*Platanus glabrata*. Leaves from broad-cuneate to subcordate, unequally 5-9-lobed, the middle lobe and the upper pair of lateral ones long-acuminate, the lower ones short-acuminate; the margin entire; at first closely cinereous-tomentose beneath, soon becoming glabrate: peduncles 0.5 to 1 dm. long, bearing 1 or 2 heads 1.5 to 2 cm. in diameter. — *P. Lindeniana*, Wats. Proc. Am. Acad. xviii. 155, not Mart. & Gal. — COAHUILA, Monclova, Aug., 1890 (*Edw. Palmer*, no. 1269); Saltillo, April 5, 1887 (*C. S. Sargent*); by streams near Diaz, alt. 216 m., April 24, 1900 (*C. G. Pringle*, no. 8319). Differing much from *P. Lindeniana* of southern Mexico, which has the less lobed leaves permanently cinereous beneath, and the heads more numerous.

CROTON PALMERI, Watson, var. *ovalis*. Leaves oval, 1.5 to 3 cm. broad, not lanceolate, rounded at base: clusters many-flowered. — NUEVO LEON, Monterey, Oct. 11, 1895 (*C. & E. Seler*, no. 1047).

*Alcoceria*, nov. gen. of *Euphorbiaceae* (*Hippomaneae*). Monoecious. Staminate flowers in a terminal ament; the individual flowers slightly imbedded at base by close dense pubescence. Calyx of staminate flower with 2 broad fleshy valvate sepals and a third narrow inconspicuous one. Stamen solitary; filament thick, columnar; anther 2-celled, longitudinally dehiscent, dorsally affixed toward the sheathing tip of the filament. Calyx of pistillate flower with three deltoid-subulate teeth and few or no intermediate small glands. Ovary depressed-globose, subtrigonous, the three 1-ovulate cells alternating with the calyx-teeth. Style cylindric, erect, equalling the three recurved branches. Fruit a 3-locular capsule. Seed pisiform, scarcely carunculate. — Dedicated to Gabriel Alcocer, acute observer, teacher in the Escuela Preparatoria, and botanist at the Museo Nacional and the Instituto Medico Nacional of Mexico.

*A. Pringlei*. Slender shrub, 3 to 5 m. high, the sprawling branches herbaceous, striate, the lower nodes remote: leaves pilose or glabrate beneath, reniform, acuminate, varying from 0.4 to 1.3 dm. long, and from



entire to more or less palmately 3-7-lobed, palmately 5-nerved, the nerves conspicuous beneath; petioles 1.5 to 4 cm. long, pubescent at tip: inflorescence axillary or terminal; the staminate ament linear-oblong, 2 cm. long, long-peduncled, with few strongly reflexed pistillate flowers at base; pedicel of pistillate flower glandular at base, thick-clavate, 1 to 2 cm. long: capsule about 1 cm. broad. — GUERRERO, limestone mountains above Iguala, alt. 1,230 m., Sept. 26, 1900 (*C. G. Pringle*, no. 8433).

Related to *Dalembertia*, Baillon, which differs in the single bract (instead of a 3-lobed calyx) at the base of the anther. Also approaching *Tetraplandra*, Baillon, and *Maprounea*, Aublet, but the former is distinguished by its four terminal anthers, and the latter by its short staminate spike and two more or less connate stamens.

*Euphorbia* (*Anisophyllum*) *puberula*.<sup>1</sup> Branching from the base, the branches subligneous, ascending, 2.5 dm. or less high, puberulent, the tips canescent and tomentulose: leaves rhomboidal, 1 to 2 cm. long, 0.5 to 1 cm. broad, very oblique, glaucous beneath, blunt, crenate-serrate, sparingly pilose; stipules setaceous: cymes dense, 1 or 2 cm. broad, terminating the leafy branches: involucre white-pilose, turbinate-campanulate, 1.5 to 2 mm. long, with deltoid hairy lobes; glands 4, short-stipitate, with or without narrow appendages; false gland absent from the broad shallow sinus: capsule appressed-pilose, subacutely lobed, 1.5 mm. long: seed pulverulent, 1 mm. long, oblong or ovoid-oblong, quadrangular, with somewhat broken ridges between the angles. — Mexico without locality (*Coulter*, no. 1438 in part): GUANAJUATO, hills of Guanajuato, 1895 (*A. Dugès*): MORELOS, Puente de Ixtla, July 3, 1900 (*Charles C. Deam*, no. 26); Huerta de la Hacienda de Miacatlan, Distr. Tetecala, Dec. 28, 1887 (*C. & E. Seler*, no. 341): OAXACA, near Mitla, Distr. Tlacolula, June, 1888; Tecomavaca, Nov. 15, 1895; Tomellin, Distr. Cuicatlan, Nov. 15, 1895 (*C. & E. Seler*, nos. 31, 1360, 1376); mountains of Oaxaca, alt. 1,750 m., July-Aug., 1900 (*C. Conzatti & V. González*, no. 1042): CHIAPAS, Ocozuquauhtla, Distr. Tuxtla, Feb. 19, 1896 (*C. & E. Seler*, no. 1952). Nearest related to *E. pilulifera*, L., and *E. lineata*, Watson, differing from the former in its terminal cymes and blunter leaves, from the latter in its rather stouter habit and more rhomboidal leaves, and from both in its cinereous puberulence.

<sup>1</sup> In the preparation of the descriptions of these Euphorbias the writer has been greatly assisted by Professor C. F. Millspaugh, who has generously examined the specimens, and who has already pointed out (*Bot. Gaz.* xxv. 13) the importance of the involucreal appendages in differentiating the species of this genus.



**E. (Anisophyllum) potosina.** Ascending annual, branching from the base: stems glabrous, or the younger parts minutely pilose, 2 dm. high: leaves 1 to 1.75 cm. long, oblong, oblique, rounded or subtruncate at base, bluntish at tip, glabrous, pale green above, glaucous beneath, the margin coarsely appressed-crenulate; stipules deltoid-acuminate, lacinate: flowers few in small mostly terminal clusters: involucre pyriform, glabrous; the lobes elongate-triangular, entire or nearly so, the 2 flanking the broad rounded sinus much larger and lacerate; glands 4, long-stipitate; appendages very narrow or wanting; false gland aristate, rising from the base of the sinus: capsule glabrous, ellipsoidal, 2.5 to 3 mm. broad, barely 2 mm. high, the three lobes rounded: seed short-oblong, subquadrate, 1.5 to 1.75 mm. long, the dorsal angle prominent, the ventral suppressed, blackish, pulverulent, the angles and the margins of the unequal honeycomb-pits paler. — San Luis Potosi and adjacent Tamaulipas. SAN LUIS POTOSI, without locality, 1876 (*J. G. Schaffner*, no. 856, in part); region of San Luis Potosi, alt. 1,850 to 2,460 m., 1878 (*Parry & Palmer*, no. 814, in part): TAMAULIPAS, near Tula, Sept. 21, 1898 (*E. W. D. Holway*, no. 3200). — Related to *E. hypericifolia*, L., *E. Preslii*, Guss., and *E. brasiliensis*, Lam., but differing in its fewer flowers, larger capsule, and much larger differently marked seed.

**E. (Anisophyllum) interaxillaris.** Perennial, with slightly woody base: stems prostrate or slightly ascending, 1 dm. or so long, pilose with more or less spreading hairs: leaves short-petioled, oblong or obovate-oblong, oblique, rounded at each end, 0.5 to 1 cm. long, 4 to 7 mm. wide, minutely crenulate, mostly purple-tinged or blotched, sparingly pilose on the margins when young, soon glabrate; stipules narrowly triangular, fimbriate: flowers solitary, a single one accompanying each pair of leaves, on slender pedicels 2 or 3 mm. long: involucre campanulate, 1.5 mm. long, glabrous outside; the lobes triangular, about equal, hairy within; glands 3 or 4, brownish, mostly with suborbicular white appendages 1 mm. in diameter; the 5th gland replaced by an elongated false-lobe at the base of the shallow triangular sinus: ovary glabrous. — MORELOS, Puente de Ixtla, July 3, 1900 (*Charles C. Deam*, no. 25). Related to *E. stictospora*, Engelm., but less pubescent and with solitary flowers.

**E. (Zygophyllidium) muscicola.** Caudex tuberiform, globose or oblong, 3 to 5 cm. long, narrowed above to a cylindric neck; stem very slender, branching from near the base, the slender flexuous subsimple or slightly forked branches 2 or 3 dm. long, glabrous: lower leaves suborbicular to ovate, rounded or blunt; the upper elliptic-lanceolate, 0.5 to



1.5 cm. long, mucronate, entire or appressed-serrulate, glabrous or sparingly pilose-setulose; the lower equalling the capillary petioles, the upper short-petioled: flowers few, terminal and axillary, on pedicels 2 cm. or less in length: involucre short-campanulate, 2 mm. long appressed-setulose, the deltoid-oblong truncate erose lobes incurved; glands 4, dark, with pale oblong-lanceolate blunt appendages 1 to 1.5 mm. long; false gland similar: capsule rugulose, 4 mm. high: seed oblong-ovoid, minutely puncticulate, gray or gray-green, mottled with olive or brown.—MORELOS, on mossy ledges of Sierra de Tepoxtlán, alt. 2,310 m., Sept. 12, 1900 (*C. G. Pringle*, no. 8443).

*E. (Cyttarospermum) calcicola*. Annual, freely branching, 5 or 6 dm. high, the slender stem and branches viscid-setulose with long pale hairs: leaves broad-ovate, rounded or bluntish at tip, truncate or sub-cuneate at base, the lower 2 cm. long, the upper much smaller, setulose on both faces, dark above, pale beneath, about equalling the capillary petioles: flowers axillary on capillary pedicels 1 to 1.5 cm. long: involucre broad-campanulate, green and yellow, 1 mm. long, the short incurved cuneate lobes lacerate; glands 4 with 3 finger-like appendages; the false gland slightly larger, with 4 appendages: ovary glabrous.—GUERRERO, limestone mountains above Iguala, alt. 1,230 m., Oct. 5, 1900 (*C. G. Pringle*, no. 8398). Closely related to *E. astroites*, F. & M., but the stem conspicuously setulose, and the pedicels much longer.

*E. LANCIFOLIA*, Schl., var. *villicaulis*. Stems more or less villous with crisp jointed hairs: leaves rhombic-ovate, acutish, green and lucid above, pale and more or less villous beneath: involucre campanulate, pilose or glabrate, 3 or 4 mm. long; lobes truncate, serrate; glands 1 or 2 associate, hoof-shaped; false glands 3, columnar, truncate, one-third longer than the lobes: capsule (young) pilose, 5 mm. long, with rounded lobes: seed (young) short-oblong, 2 or 2.5 mm. long, pale brown.—CHIAPAS, mountain-slope above Ococingo, March 13, 1896 (*C. & E. Seler*, no. 2214). Distinguished from the species by its pubescence, involucre lobes, and false glands. In *E. lancifolia* the involucre lobes are fimbriate, equalling or slightly exceeding the subulate false glands.

*Pernettya ovata*. Branches pale brown, minutely puberulent or glabrate: leaves ovate, short-petioled, 1 to 1.5 cm. long, pale and minutely canescent-tomentulose toward the rounded base; margins finely appressed-serrate, the youngest glandular-ciliate, as are the lower faces of the young leaves: inflorescences axillary, subsessile, all the parts glabrous, the deciduous bracts sometimes with erose margins: flowering calyx 3 mm. long, cleft half-way to the base into deltoid smooth-



edged lobes: corolla ovate-campanulate, 6 or 7 mm. long. — CHIAPAS, mountain woods between San Cristóbal Las Casas and Huitztan, March 10, 1896 (*C. & E. Seler*, no. 2126<sup>b</sup>). Growing with *P. ciliaris*, Don, but nearer related to *P. coriacea*, Klotzsch, from which it differs in its pale and minutely puberulent branchlets, paler leaves and glandless calyx.

**Arctostaphylos Conzattii.** Shrub with smooth reddish bark easily peeling from the branches: leaves oblong-ob lanceolate, acute, 2 to 4 cm. long, 0.75 to 1.5 cm. wide, entire and subcuneate below to a short petiole, sharply serrate above the middle, smooth and sublucid above, sparingly sordid-pilose beneath: racemes terminal, paniced, 1 dm. or less long; the rachis, pedicels and short ovate-lanceolate bracts puberulent; pedicels 1-3-bracted, 1 cm. long: calyx puberulent, with ovate bluntish lobes: corolla urceolate, glabrous, 5 or 6 mm. long. — OAXACA, Sierra de San Felipe, alt. 3,000 m., April 7 and 8, 1898 (*C. Conzatti*, no. 691). In its inflorescence resembling *A. rupestris*, Robinson & Seaton, but differing in its much smaller but more coarsely toothed leaves.

**A. glabrata.** Shrub with smoothish gray-brown bark; the young branches reddish-brown: leaves narrowly elliptic-oblong, acute or blunt, 2 to 4 cm. long, about 1 cm. wide, tapering to short thick petioles 3 or 4 mm. long, entire or sharply serrate with short mucronate teeth, bright green above, paler beneath, ferrugineous-tomentulose when young, becoming glabrate: racemes simple, terminal or axillary, 2 or 3 cm. long; the rachis, the lance-acuminate bracts, and the short (3 to 5 mm. long) pedicels ferrugineous-tomentose, rarely a little glandular: calyx slightly tomentulose, the lobes broadly deltoid: corolla urceolate, glabrate, 4 or 5 mm. long: berries dark, 6 or 7 mm. in diameter. — OAXACA, ledges at the summit of Sierra de San Felipe, alt. 3,500 m., Sept. 25, 1894 (*C. G. Pringle*, no. 5712), Aug. 15, 1897 (*C. Conzatti & V. González* in *Exsicc. Conzatti*, no. 409); mountains about Yalalag, alt. 1,850 m., Aug. 1. 1894 (*E. W. Nelson*, no. 973). Related to *A. arguta*, Zucc., but differing in its shorter leaves, and shorter simple essentially glandless raceme.

**Parathesis chiapensis.** Branches stout, gray and smoothish, the younger parts closely tomentose with short stellate ferrugineous hairs: leaves elliptic, 1.5 to 2 dm. long, narrowed above to a short slender acumen and below to a thick cinereo-ferrugineous petiole 0.5 to 1 cm. long; margin closely and finely crenate-dentate; upper surface smooth and dull, the lower ferrugineous-tomentose when young, becoming glabrate: panicle terminal, leafy below, in anthesis 1.5 dm. high, pyramidal, the spreading branches 3 to 6 cm. long, bearing many-flowered



corymbs, rusty tomentose and finely linear-maculate throughout; bracts lanceolate, 5 mm. long; pedicels thickish, somewhat clavate, becoming 1 to 1.5 cm. long: calyx in anthesis 3 or 4 mm. long, deeply cleft into 5 linear lobes: corolla-lobes lanceolate, 6 mm. long, strongly recurved, tomentulose within: filaments broad at base, 2 mm. long; anthers oblong-lanceolate, 3 mm. long. — CHIAPAS, in mountain-woods between San Martin and Ococingo, March 13, 1896 (*C. & E. Seler*, no. 2226). Related to *P. sessilifolia*, Donnell Smith, but differing in its crenate dull leaves, closer shorter pubescence and larger flowers.

*Evolvulus Seleriana*. Perennial: stems prostrate or slightly ascending, 1 to 2 dm. long, slightly branched, silky pilose, the older becoming glabrate: leaves obcordate, obovate or obovate-oblong, short-petioled, 5 to 12 mm. long, above appressed long-sericeous or glabrate, beneath permanently sericeous: flowers axillary, the filiform arcuate sericeous peduncles bractless, 9 to 13 mm. long: calyx very pubescent, 4 mm. long, with lanceolate lobes: corolla pale (apparently white) somewhat silky without, 8 to 9 mm. high. — CHIAPAS, Tuxtla, Feb. 19, 1896 (*C. & E. Seler*, no. 1926). Nearest related to *E. nummularius*, L., but with different pubescence, obcordate leaves, longer peduncles, and larger flowers.

*Ipomoea caudata*. Slender glabrous vine: leaves on slender petioles 3 to 5 cm. long; blade 1 dm. or less long, narrowly ovate, prolonged into a caudate-acuminate tip, the base rounded-sagittate, the basal lobes varying from blunt to acuminate, dark green above, glaucous beneath, palmately 7-nerved at base: peduncles slender, 1 to 1.5 dm. long, simple or once forked at the tip; pedicels 2 to 4 cm. long: calyx narrowly oblong, 1 cm. long, the unequal oblong blunt lobes mottled: corolla rose-purple, 0.5 dm. long, the cylindric tube 4 cm. long, the short spreading limb 2 cm. broad: style filiform, glabrous. — MORELOS, on mossy faces of the knobs of the Sierra de Tepoxtlán, alt. 2,310 m., Sept. 5, 1900 (*C. G. Pringle*, no. 8448). Habitally resembling *I. similans*, Hanbury, but with longer peduncles and calyx, and more slender corolla.

*Cordia (Sebestenoides) Seleriana*. Branches straggling, covered with brown verrucose bark: leaves ovate or suborbicular, 1 to 2 cm. long, pulverulent and hispidulous; petioles slender, hispid, 3 or 4 mm. long: corymbs few-flowered, the parts very hispid; peduncles 2.5 cm. or less in length: calyx oblong-campanulate, 1 cm. long, with short rounded lobes: corolla 3 cm. long, somewhat hispidulous below, the thin ovate-oblong round-tipped crenulate lobes 1 to 1.5 cm. long. — OAXACA, dry



woods, Huilotepec, Tehuantepec, Jan. 20, 1896 (*C. & E. Seler*, no. 1779).

*Salvia* (*Micranthae*) *ageratifolia*. Tall branching annual, the sharply quadrangular herbaceous stems long-setulose, with somewhat shorter gland-tipped hairs intermixed: leaves cordate, ovate or deltoid-ovate, 2 to 4 cm. long, coarsely crenate, bluntish, dark green and minutely pilose or glabrate above, glaucous and puberulent beneath; petioles slender, 1 to 3 cm. long, more or less setulose: racemes simple, elongated, becoming 2 dm. long; verticels 2-4-flowered, the lower 1.5 to 2 cm. apart; bracts persistent, ovate-acuminate, 2 mm. long; pedicels becoming 3 mm. long: calyx at first narrowly later broadly campanulate, in anthesis 5 or 6 mm. long, 2 or 3 mm. broad, in fruit 8 or 9 mm. long, 4 or 5 mm. broad, setulose, the entire mucronate upper lip slightly shorter than the narrower acuminate lower lobes: corolla 7 or 8 mm. long, blue, the tube included, the pilose galea shorter than the lip. — OAXACA, mountains near Oaxaca, alt. 1,750 m., July, Aug., 1900 (*C. Conzatti & V. González*, no. 1049). Closely related to *S. micrantha*, Vahl, & *S. setosa*, Fernald (nos. 8 & 9 of the writer's Synopsis<sup>1</sup>). From the former quickly separated by its loose elongated raceme and setulose stem; from the latter by its cordate leaves, setulose stem, and scarcely secund racemes.

*S. TILIAEFOLIA*, Vahl, var. *rhyacophila*. Stem (especially above), petioles, and calyces densely villous: leaves more pubescent than in the species. — MORELOS, lava-fields below Cuernavaca, alt. 1,230 m., Oct. 17, 1900 (*C. G. Pringle*, no. 8381).

*S. (Angustifoliae) setulosa*. Tall (about 1 m. high) and erect shrub with stiff ascending branches; stem and especially the young branches setulose with long white hairs: leaves rhombic-oblong to deltoid, blunt, cuneate at base into slender petioles, 2 to 4.5 cm. long, 1 to 2.5 cm. broad, dark green and sparingly pilose above, pale and more or less pilose beneath, the margin finely crenate-serrate: peduncles 1 to 1.5 dm. long, sparingly setulose or glabrate: racemes becoming 2 dm. long; the ovate long-acuminate puberulent bracts 1 to 1.5 cm. long, long-ciliate on the margins, tardily deciduous: verticels 6-10-flowered, becoming remote, the lowest 3 or 4 cm. apart; pedicels 2 to 4 mm. long, canescent with appressed pubescence: calyx in anthesis 7 mm. long, hirsute especially on the tube, the ovate-lanceolate long-subulate lobes about equaling the tube, the upper lip usually tridentate: corolla deep blue, 18

<sup>1</sup> Proc. Am. Acad., xxxv. 489-556.



to 20 mm. long, the scarcely ampliate tube twice exceeding the calyx; the pilose lips subequal: style densely bearded. — MORELOS, mountains above Cuernavaca, alt. 2,460 to 2,620 m., Oct. 13, 1900 (*C. G. Pringle*, no. 8403), Sept. 1, 1900 (*C. G. Pringle*, no. 9204). Closely related to *S. prunelloides*, HBK. (no. 40 of the writer's synopsis), but differing from that and the other members of the group in its tall erect stem.

*S. (Vulgares) igualensis*. Tall (1 m. or more high), the strongly grooved quadrangular stem canescent with close pubescence: leaves broad-ovate, the lower suborbicular, short-acuminate, rounded at base, 5 to 7 cm. long, 4 to 5.5 cm. broad, coarsely crenate-serate, minutely puberulent or glabrate on both faces, pale beneath, on slender canescent petioles 1 cm. or less in length: racemes long and slender, becoming 1.5 to 2 dm. long; verticels 10–20-flowered, mostly approximate, the lower 1.5 cm. apart; bracts lanceolate, caducous; pedicels becoming 2 mm. long: calyx in anthesis about 3 mm. long, short-pilose-hispid on the nerves, with short deltoid teeth; corolla blue, pilose, 1 cm. long; the slightly ventricose tube twice exceeding the calyx; galea and lip subequal: style bearded. — GUERRERO, limestone mountains above Iguala, alt. 1,230 m., Sept. 26, 1900 (*C. G. Pringle*, no. 8418). Related to *S. brachyodonta*, Briq. (no. 59 of the writer's Synopsis) and *S. Ghiesbreghtii*, Fernald (no. 60). From the former distinguished by its coarser habit, cinereous stem, short petioles and appressed teeth of the leaves, and shorter pedicels; from the latter by its coarser habit, and broader glabrate leaves without the characteristic lanate pubescence of *S. Ghiesbreghtii*.

*S. (Scorodoniae) Dugesii*. Shrub, the branches canescent with closely matted simple hairs: leaves oblong or oblong-ovate, 2 to 4 cm. long, rounded at base, acute or bluntish at tip, strongly rugose, green above, canescent beneath with close simple hairs; petioles slender, 1.5 cm. or less long: racemes becoming 1 dm. or so long, simple; verticels 8–12-flowered, the lowest 1 to 1.5 cm. apart; pedicels at most 1 mm. long: calyx cuneate-campanulate, canescent with short mostly simple appressed hairs, in anthesis 7 mm. long, with short flaring blunt or merely short-subulate lobes: corolla 1.5 cm. long, pubescent with short gland-tipped hairs. — GUANAJUATO, Aug., Sept., 1900 (*A. Dugès*). This plant, known as "*Chia cimaroná*," is nearest related to *S. lasiantha*, Benth. (no. 104 of the writer's Synopsis), but is distinguished by its narrow leaves, shorter pubescence throughout, larger calyx, and by the pubescence of the corolla, which in *S. lasiantha* is pilose and essentially glandless.



*S. LEUCANTHA*, Cav., forma *iobaphes*. Calyx and corolla both deep violet. — MORELOS, on ledges of the Sierra de Tepoxtlan, alt. 2,310 m., Oct. 14, 1900 (*C. G. Pringle*, no. 8402).

*S. (Macrostachyae) albicans*. Shrub 3 to 5 m. high, the branches cinereous-puberulent: leaves elliptic-ovate, acuminate, rounded or sub-cuneate at base, 4 or 5 cm. long, 2 to 2.5 cm. wide, rugulose, minutely canescent-puberulent, becoming glabrate; the margin finely appressed-serrate; petiole slender, canescent, 1 cm. or less long: racemes 3 to 10 cm. long, the verticels about 10-flowered, mostly crowded, the lower becoming 1.5 cm. apart; bracts thick and firm, densely cinereous-tomentose, ovate, acuminate, 1 to 1.5 cm. long, semi-persistent, the earliest finally deciduous: calyx cuneate-campanulate, densely white tomentose, in anthesis 8 mm. long, the short broad lobes slightly unequal, the longer upper one acute, the lower blunt: corolla 14 mm. long, canescent without; the narrow galea and the tube whitish, the broad lip deep blue: style densely bearded. — GUERRERO, limestone mountains above Iguala, alt. 1,230 m., Sept. 14, 1900 (*C. G. Pringle*, no. 8430). Nearly related to *S. Shannoni*, Donnell Smith (no. 128 of the writer's Synopsis), but the smaller thinner leaves, not tomentose beneath, and the inflorescence more canescent.

*S. SESSEI*, Benth. Mr. Pringle's nos. 7065 and 7080, from Cuernavaca, cited under *S. pubescens*, Benth., are not that species, but are better placed with *S. Sessei*. Mr. Pringle's no. 8378 is also referable to the latter species.

*Monarda Pringlei*. Simple, about 1 m. high, the stem obtusely angled, minutely and sparingly puberulent above: leaves thin, lanceolate, 7 to 9 cm. long, 1.5 to 2.5 cm. wide, subtruncate at base, the lower half rather coarsely appressed-serrate, the elongate-acuminate upper half entire, minutely puberulent on both faces, slightly paler beneath; petiole slender, puberulent, 0.5 cm. long: the glomerule terminal, 12-15-flowered; bracts like the foliage-leaves, but smaller and entire; bractlets filiform, often equalling the calyces: calyx 10 or 12 mm. long, cylindric, slightly curved, puberulent, with subulate spreading teeth 2 or 3 mm. long, and numerous crisp ascending shorter hairs in the throat: corolla vermilion, 4.5 cm. long, the slender tube long-exserted, tapering gradually to the ampliate curved throat; lips subequal, 1.5 cm. long, the narrow galea sparingly pilose. — NUEVO LEON, moist wooded cañon near Monterey, June 14, 1888 (*C. G. Pringle*, no. 2199). A handsome plant related to *M. didyma*, L., but differing in its simple habit, minute puberulence, narrow leaves, and fewer flowers.



**Physalis puberula.** Annual?; puberulent throughout with fine appressed or incurved white hairs: branches slender, terete below, angulate above: leaves ovate, subentire or slightly sinuate, 3 to 7.5 cm. long, 1.5 to 4 cm. broad, acuminate at tip, rounded or subcordate at base; petioles slender, 1 to 4 cm. long: peduncle 0.5 to 1 cm. long, straight but soon recurved: calyx in anthesis 6 to 8 mm. long, the deltoid-lanceolate acuminate lobes equalling the tube: corolla 1.5 to 2.5 cm. broad, sulphur-yellow with brown patches at centre: anthers yellowish: fruiting calyx ovate, 2.5 to 3 cm. long, obscurely 5-angled, slightly sunken at base, the connivent deltoid-lanceolate teeth 0.7 to 1 cm. long. — MEXICO, Sacro Monte, Amecameca, Aug. 31, 1900 (*C. G. Pringle*, no. 9147); Guadeloupe, Aug. 9, 1865-6 (*Bourgeau*, no. 724): DURANGO, Durango, 1896 (*Edw. Palmer*, no. 348). Somewhat resembling the northern *P. philadelphica*, Lam., but with persistent close pubescence and more ovate leaves. Mr. Pringle's plant was accidentally distributed as *P. Pringlei* (with incorrect authority), a name belonging to a very different plant with long glandular pubescence.

**SOLANUM ROSTRATUM**, Dun., var. *subintegrum*. Leaves sparingly pubescent above, shallowly sinuate-lobed, not pinnatifid: otherwise as in the species. — MEXICO, Tacuba, valley of Mexico, Sept. 18, 1900 (*C. G. Pringle*, no. 9268).

**Ruellia (Physiruellia) cupheoides.** Slender shrub, 1 to 1.5 m. high, the quadrangular verrucose branches covered with gray bark, the younger parts pilose: leaves elliptic-ovate or ovate-oblong, 3 to 5 cm. long, short-acuminate, pilose, on slender petioles 0.5-1 cm. long: peduncles axillary, divergent, slender, pilose and verrucose, 2 to 6 cm. long, terminated by a single flower or branching and bearing 2 flowers; bracts 2, linear-spatulate, in age becoming 1.5 cm. long: calyx pilose, 1.5 to 2 cm. long, cleft two-thirds to the base into lanceolate or ovate-lanceolate acuminate ciliate lobes: corolla tubular, 3.5 cm. long, yellow or reddish, with short erect blunt greenish lobes; the slightly narrowed tube shorter than the calyx: stamens subequal, included; filaments glabrous; anthers linear-oblong, 4 or 5 mm. long: style bearded; capsule oblong-obovoid, short-pointed, equalling the calyx, glabrous; seeds four, thin, ovate, 0.5 cm. long, dark, with narrow pale margin. — GUERRERO, limestone mountains above Iguala, alt. 1,230 m., Sept. 27, 1900 (*C. G. Pringle*, no. 8409).

**Valeriana retrorsa.** Slender, 2 to 4 dm. high, from a small oblong tuber; stem densely retrorse-hispid below, glabrous above: leaves 3 to 5 cm. long, the basal short-petioled, the upper sessile; leaflets 3 to 5 pairs, linear-lanceolate, blunt, the lowest pair minute, the terminal leaflet much



larger, often 3 cm. long, mostly entire: inflorescence 3 to 6 cm. high, a trichotomous loose cyme; flowers rather crowded at the tips; floral leaves linear: corolla funnel-form, 6 mm. long, the lobes barely 1 mm. long: stamens and style slightly exserted: fruit hirsute. — MORELOS, mossy rocks, Sierra de Tepoxtlán, alt. 2,310 m., Sept. 5, 1900 (*C. G. Pringle*, no. 8454). Resembling *V. mexicana*, DC., but with hispid stem, narrower leaves, and longer corolla.

*Lobelia regalis*. Stem tall and stout, softly white-tomentose, almost lanate, above: leaves lanceolate to ovate-oblong, 1 to 2 dm. long, 4 to 8 cm. broad, subentire or minutely denticulate with pale hard teeth, pale green above, at first tomentulose, later glabrate, densely canescent-tomentose beneath; petioles slender, canescent, 2 or 3 cm. long: peduncles white-tomentose, axillary, ascending, becoming 5 or 6 cm. long: calyx hemispherical, canescent, 8 to 12 mm. long, cleft half-way to the base into remote lanceolate lobes: corolla 3.5 to 4.5 cm. long, bright red, canescent-tomentulose without, the lips subequal: filaments pilose-hispid; anthers 6 or 7 mm. long, glabrous except at the long-hirsute tip. — OAXACA, Cuicatlan, alt. 555 m., Dec. 2, 1895 (*L. C. Smith*, in exsicc. *C. Conzatti*, no. 105); between Tlacolula and San Dionisio, Chichicapa, Jan. 3, 1896, and bed of the river Tehuantepec, below Totolapam, Yauhtepec, Jan. 4, 1896 (*C. & E. Seler*, nos. 1673, 1669). Related to *L. laxiflora*, HBK., but differing from that in its much larger petioled leaves and its denser white pubescence.

*L. Nelsonii*. Shrub with hard ligneous branches covered by smooth gray bark; branchlets bearing irregular areas of leaf-scars; young leaf-bearing branchlets smooth or hispidulous: leaves firm, ovate-lanceolate, 4 to 7 cm. long, 1 or 2 cm. wide, mostly long-acuminate, narrowed below to a short petiole, sharply and irregularly serrate, minutely and sparingly hispidulous: peduncles hispidulous, 1.5 to 4 cm. long, few at the tips of the branches: calyx glabrous, hemispherical, with linear-lanceolate lobes 3 or 4 mm. long: corolla red, 2.5 to 3 cm. long, glabrous within and without: filaments glabrous; anthers 7 mm. long, glabrous except at the bearded tip. — JALISCO, oak woods at 1,380 to 1,694 m. alt., near Huachinango, March 4, 1897 (*E. W. Nelson*, no. 4009). A unique species in Mexico.

*L. GRUINA*, Cav., var. *conferta*. Coarser and generally more branching than the species: racemes densely flowered, not secund, at first short and capitate, later becoming loose and elongated. — DURANGO, abundant by a creek, Dos Cajetes, alt. 2,620 m., Nov., 1896 (*Edw. Palmer*, no. 810): formerly collected by *Gregg* in 1848-49, but without record of locality (no. 392).



**Heterotoma Goldmanii.** Annual or biennial, freely branching from the base, 5 dm. high; the slender branches minutely hirsute below with short hairs: leaves mostly toward the base of the plant, thin, lanceolate to ovate, irregularly cut and lobed half way to the middle, 2 to 4 cm. long, on slender petioles one half as long as the blade: racemes elongated, slender and flexuous, pedunculate, loosely-flowered, becoming 2 to 4 dm. long; pedicels filiform, spreading, at first 1 cm. long, in fruit becoming 5 cm. long; bracts subulate, the lowest 1 cm. long, the upper much shorter: calyx hemispherical, glabrous, in fruit 2.5 mm. long, hardly equalling the lance-subulate teeth, and with a linear spur 5 mm. long, bearing 2 subulate awns at the tip: corolla blue, 1.5 cm. long, the posterior portion elongated and adnate to the spur of the calyx; tube cleft nearly to the base; the 3 middle lobes of the limb much larger than the lateral ones. — SINALOA, road from Las Flechas to La Rostra, Feb. 22, 1899 (*E. A. Goldman*, no. 324). Nearest related to *H. macrocenteron*, Benth. in Hook. Ic. xii. 68, t. 1177, but with smaller flowers, looser more spreading inflorescence, and different leaves.

**H. stenodonta.** Perennial from a slender rootstock: stems slender, glabrous, 3 dm. or less high, leafy to the top: leaves ovate-lanceolate, long-acuminate, 1 dm. or less long, 1.5 to 3.5 cm. broad, thin and glabrous, except for the entire cuneate base, sharply and irregularly serrate with erect narrow-deltoid callous-tipped teeth: racemes terminal or on axillary peduncles, becoming 6 or 7 cm. long; pedicels filiform, ascending, 1 cm. or so long, twice exceeding the subulate minutely toothed bracts: calyx campanulate, the tube in fruit 3 or 3.5 mm. long, about equalling the lanceolate teeth: corolla pale bluish, 8 mm. long, merely gibbous at base: capsule oblong, one-half exceeding the calyx-teeth. — CHIAPAS, Chicharras, alt. 923 to 1,847 m., Feb. 6, 1896 (*E. W. Nelson*, no. 3758).

**Brickellia glomerata.** Stems closely cinereous with short more or less viscid pubescence, freely branched above: leaves opposite, petioled, ovate to oblong, acute or bluntish, the lower excluding the petioles 8 cm. long, the upper shorter, strongly rugose, scabrous above, tomentulose beneath: heads sessile or subsessile in the upper axils or in terminal leafy-bracted glomerules of from 2 to 5: involucre oblong, 1 to 1.2 cm. long, of about 4 series of oblong or oblong-lanceolate blunt greenish or purplish-brown dark-nerved hardly scarious bracts, the outer and the margins of the inner pilose or arachnoid: achenes linear, 4 mm. long, strongly appressed-pubescent. — GUERRERO, oak woods, higher mountains near Acapulco, Jan., 1895 (*Edw. Palmer*, no. 497): OAXACA,



between Panixtlahuaca and Juquila, alt. 923 m., Feb. 26, 1895 (*E. W. Nelson*, no. 2391); in oak- and pine-woods, San Carlos, Yauhtepec, Jan. 5, 1896, and in mountain-woods between San Carlos and San Bartolo, Jan. 6, 1896 (*C. & E. Seler*, nos. 1765, 1655); previously collected at San Bartolo by *Liebmann* (no. 399), whose specimen has been referred by Dr. Klatt to *B. hebecarpa*, Gray. The present species, however, differs from that as from the other related species in its glomerulate heads and barely scarious involucre.

**Xanthocephalum megalcephalum.** Perennial from slender running rootstock: stem glabrous, glutinous, 3 or 4 dm. high, bearing 3 or 4 large solitary heads at the tips of long branches: leaves entire, resinous-punctate, the lower spatulate and petioled, about 1 dm. long, the upper lanceolate, sessile and shorter: involucre broad-hemispherical, 10 or 12 mm. high; the outer bracts lanceolate, with herbaceous tips, the inner oblong and blunt, mostly chartaceous: rays oblanceolate, blunt, 2 cm. long: achenes glabrous; pappus a crown of minute pales. — CHIHUAHUA, Mt. Mohinora, Sept. 1, 1898 (*E. W. Nelson*, no. 4890); Sierra Madre near Guachochi, alt. 2,100 m., Sept. 27, 1898 (*E. A. Goldman*, no. 174). Related to *X. Alamani*, Benth. & Hook., but much larger throughout.

**Bigelowia Nelsonii.** Shrub with rough dark gray bark; branches rigid and ascending, conspicuously glandular-punctate: leaves crowded, linear, submucronate, conspicuously glandular-dotted, 0.5 to 1.5 cm. long: heads solitary, subsessile at tips of short lateral leafy branches: involucre 1 cm. broad, many-flowered, the 3 series of glandular bracts thin, linear-attenuate: achenes long-silky. — CHIHUAHUA, in the Sierra Madre, Sept. 29, 1899 (*E. W. Nelson*, no. 6494). Resembling *B. brachylepis*, Gray, but with much broader heads, and thinner attenuate involucral bracts.

**Solidago Pringlei.** Stem puberulent or minutely pilose, with few ascending branches, very leafy: leaves linear or elongate-lanceolate, narrowed below to a slender sub-petiole base, and above to an acuminate tip, 0.5 to 1.3 dm. long, 3 to 7 mm. wide, the midnerve prominent, and two lateral ones sometimes apparent, finely appressed-serrulate or subentire, with ciliate margins, puberulous above, finely pilose beneath: panicles elongate, narrow, 1 to 1.5 dm. long, 2 or 3 cm. broad, secund, the tips slightly recurved: involucre 4 mm. high; bracts glabrous, linear, the outer acutish, the inner blunt: achenes pubescent. — NUEVO LEON, in the Sierra Madre, near Monterey, Aug. 22, 1889 (*C. G. Pringle*, no. 2886). Resembling *S. rupestris*, Raf., but with



more elongated leaves, narrower more secund panicles and much larger heads.

CONYZA LYRATA, HBK., var. pilosa. Branches and younger leaves long-pilose with pale hairs, almost if not quite lacking the viscid character and the glands of the species.—CHIAPAS, on the border of a lake, Tonalá, Paredon, Feb. 8, 1896 (*C. & E. Seler*, no. 1879).

PECTIS LESSINGII, Fernald, Proc. Am. Acad. xxxiii. 67, a species formerly known only from Florida and the West Indies, was collected at Nicoya, Costa Rica, in December, 1899, by A. Tonduz (no. 13791).





Fernald, Merritt Lyndon. 1901. "Some new spermatophytes from Mexico and Central America." *Contributions from the Gray Herbarium of Harvard University* (21), 491–506. <https://doi.org/10.5962/p.335923>.

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