



SOME NEW SPECIES, EXTENDED RANGES, AND NEWLY NOTED IDENTITIES AMONG THE MEXICAN PHANEROGAMS

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V. PANICULATA, Heller, Cat. N. Am., Pl. 8, not Poir., is *Actinomeris alba*, Torr. & Gray.

V. PERSICIFOLIA, Klatt, Leopoldina, xx. 93, not DC., is *V. virgata*, Cav.

V. PINNATIFIDA, Gray in Wats. Proc. Am. Acad. xxii. 428 (Palmer's no. 698 from Jalisco), certainly not of Cav., is probably sterile *Montanoa grandiflora*, Sch. Bip.

V. PODOCEPHALA, Gray, Pl. Wright. ii. 92, is *Zexmenia podoccephala*, Gray, Syn. Fl. i. pt. 2, 286.

V. SARTORII, Sch. Bip. in Klatt, l. c. xxiii. 143, is *V. olivacea*, Klatt.

V. SCANDENS, Klatt, Leopoldina, xxv. 106, is acc. to Klatt, Ann. Natur. Hofmus. Wien, ix. 362, *Salmea Eupatoria*, L.

V. TOMENTOSA, DC. Prodr. v. 614, imperfectly described and without exact locality, may be doubtfully referred to *V. sublobata*, Benth.

V. TRIDENTATA, Spreng. l. c. 577, is *Aspilia buphthalmiflora*, Griseb.

V. TUBEROSA, Klatt, Ann. Natur. Hofmus. Wien, ix. 361, is *Zexmenia aurea*, Benth. & Hook. f. Gen. ii. 373 (*Wedelia? aurea*, D. Don, Bot. Mag. t. 3384; *Verbesina aurea*, DC. Prodr. v. 613).

III. — SOME NEW SPECIES, EXTENDED RANGES, AND NEWLY NOTED IDENTITIES AMONG THE MEXICAN PHANEROGAMS.

By J. M. GREENMAN.

Eleocharis aciculariformis. Perennial: rhizomes dark brown, creeping, rather stout, freely branched: culms 5 to 8 cm. high, tufted at the nodes of the rhizome, vaginate at the base: sheaths reddish-brown below, hyaline above: spikes elliptic-ovate, 4 to 6 mm. long, about 12-flowered; scales ovate, obtuse, somewhat compressed, green on the back with reddish-brown sides and scarious margins: setæ 3, a little over 1 mm. in length: achenes oblong-obovate, about 1 mm. long, rather abruptly narrowed at the summit, longitudinally ribbed, and transversely striated: tubercle about one third as broad as the achene. — Collected by C. G. Pringle in the Valley of Mexico, Federal District, 7 May, 1898, no. 6818.

This species seems most nearly related to *E. acicularis*, R. Br., but differs in the stouter habit, the more conspicuously sheathed culms, and the more persistent and longer setæ.

Smilax Pringlei. Stems terete, unarmed, somewhat tawny-pubescent, later becoming glabrous or nearly so: leaves alternate, ovate or ovate-oblong, 7 to 12 cm. long, 4 to 6.5 cm. broad, cordate or occasionally subtruncate, short-acuminate, acute, entire, 5–7-nerved with rather prominently reticulated veins, glabrous above or slightly pubescent on the nerves, more or less pubescent beneath, later becoming glabrous except on the rather densely hirsute-pubescent nerves; petioles 1.5 to 2 cm. long, pubescent, ceriferous near the base: peduncle 2 to 4.5 cm. long, pubescent; pedicels 6 to 12 mm. long, these as well as the slender flower-buds grayish-puberulent: perianth-divisions of the staminate flowers linear-oblong, 6 to 8 mm. long, 1 to 1.5 mm. broad, obtuse, 1-nerved, in anthesis recurved: pistillate flowers not seen: mature fruit smooth, globose, about 1 cm. long; seeds ovate, 5 mm. long, 3 mm. broad, reddish-brown. — Collected by C. G. Pringle in a barranca near Cuernavaca, State of Morelos, 20 November, 1895, no. 7060, and in the same locality at an altitude of 1,800 m., 18 June, 1896, no. 7259, also in mountain cañon above Cuernavaca, altitude 2,000 m., 15 May, 1898, no. 6843.

A species climbing to 6 m. and most nearly related apparently to *S. erythrocarpa*, Kunth, from which it is distinguished by the pubescent character and by the shorter peduncles.

Agave (Littæa) intrepida. Acaulescent: leaves numerous in a rosette, lance-attenuate, about 4.5 dm. long, 1.5 to 2.5 cm. broad, gradually narrowed to a rather slender reddish-brown end spine, somewhat dilated at the base to a breadth of 2.5 to 4 cm., smooth and in the dried state more or less striate upon either surface, margins cartilaginous, minutely, closely, and evenly serrulate from base to apex: scape 1 to 1.25 m. high, clavate: bracts of the peduncle scattered; floral bracts lance-attenuate, slightly exceeding the flowers, scarious: flowers in pairs, 3.5 to 4 cm. long: perianth-tube 1.2 to 1.4 cm. in length; lobes oblong, somewhat shorter than the tube, slightly thickened at their pubescent apices: stamens inserted at about the middle of the perianth-tube, overtopping the stigma and more than twice exceeding the perianth: capsule 1.7 cm. long, nearly 1 cm. in diameter. — Collected by C. G. Pringle on mossy cliffs, Parque Station, State of Morelos, altitude 2,100 m., 2 June, 1898, no. 6868.

This species is apparently related to *A. dasylirioides*, Jacobi & Bouché, but differs materially in size and habit. In Mr. Pringle's plant the

scape is erect, not pendulous, and the bracts of the peduncle are scattered, not secund and falcate, which is perhaps the most striking character of *A. dasylirioides*. The specific name is suggested by the seemingly perilous habitat of the plant in its native haunts. As stated by Mr. Pringle, *A. intrepida* grows "on the faces and tops of the strange castellated knobs of bare conglomerate, which form a range fifteen to twenty miles to the east of Cuernavaca."

SISYMBRIUM COULTERI, Hensl. Diag. Pl. Nov. pars alt. 18, & Biol. Cent.-Am. Bot. i. 35. Specimens of this species were collected by Mr. C. G. Pringle on limestone hills near Pachuca, State of Hidalgo, altitude 2,500 m., 17 August, 1898, no. 6963. In the original characterization the flowers are described as *white*. This character, however, must pertain to the corolla only, as the sepals in the type specimen, namely Parry and Palmer's no. 14 (coll. of 1878), and especially in Mr. Pringle's specimens above cited, are distinctly roseate.

PHASEOLUS MICROCARPUS, Mart. Ausw. Merkw. Pfl. 18, t. 12 (1850? acc. to Jackson, Lit. Bot. 429). This species, although well characterized and excellently illustrated in the above cited work, seems to have been overlooked and omitted from the more generally used lists of Mexican plants, including Hemsley's Biol. Cent.-Am. Bot. *P. monospermus*, Rob. & Greenm. Proc. Am. Acad. xxix (1894), 385, is now regarded as a synonym of *P. microcarpus*, Mart., and to the latter species may be referred Pringle's no. 5446, collected in a barranca near Tequila, State of Jalisco, and also specimens collected by the late Rev. Lucius C. Smith at Monte Alban, State of Oaxaca, altitude 1,900 m., 11 October, 1895, no. 931.

CROTON EHRENBERGII, Schl. Linnæa, xix. 248; DC. Prodr. xv. pt. 2, 636. Specimens collected by Mr. C. G. Pringle at Cerro Ventoso above Pachuca, State of Hidalgo, altitude 2,600 m., 18 August, 1898, no. 6967, are referred confidently to the above species, notwithstanding the slightly larger leaves.

EUPHORBIA DICTYOSPERMA, Fisch. & Mey. Ind. Sem. Hort. Petrop. ii. 37; DC. Prodr. xv. pt. 2, 135. Excellent specimens of this very characteristic species were collected by Mr. C. G. Pringle on wet meadows of the Sierra de Pachuca, State of Hidalgo, altitude 2,900 m., 13 August, 1898, no. 6960. The species seems not to have been hitherto recorded from Mexico.

Styrax Ramirezii. Tree, 9 to 12 m. high: branchlets finely ferruginous-stellate, furrowed: leaves alternate, petiolate, oblong-lanceolate, 1 to 1.5 dm. long, 3.5 to 5 cm. broad, acuminate, acute or obtusish, cune-

ate at the base, entire, glabrous and smooth upon either surface, or slightly roughened on the prominent midrib and nerves beneath, rather strongly reticulately veined, the lower surface somewhat glaucous: inflorescence racemose; racemes axillary, including the peduncle 6 cm. or less in length; rhachis, pedicels, and the minute bracts closely ferruginous-stellate: flowers subsecund: calyx cupulate, 5 to 6 mm. high, about equalling the pedicels, shallowly sinuate, 5-dentate, argenteous-lepidote: corolla about 1.5 cm. long; externally and along the margins of the upper surfaces of the lobes argenteous-pubescent or somewhat scaly: filaments and ovary above stellate-pubescent: fruit not seen. — Collected by C. G. Pringle in mountain cañons above Cuernavaca, State of Morelos, altitude 2,000 m., 15 May, 1898, no. 6848.

The species is named in honor of Sr. Dr. José Ramirez, Director of El Instituto Médico Nacional, City of Mexico.

MENODORA HELIANTHEMOIDES, Humb. & Bonpl., var. *parviflora*. Stems several, procumbent, more or less branched, 5 to 20 cm. long: foliage and inflorescence of the species: calyx 6 to 7 mm. long, usually 11-lobed: corolla about 1 cm. long, equally 5-lobed; lobes oblong-elliptic, 6 to 7 mm. long, 3 to 4 mm. broad: mature capsule about 6 mm. high, nearly 1 cm. broad. — Collected by C. G. Pringle on bare hills above Pachuca, State of Hidalgo, altitude 2,600 m., 30 July, 1898, no. 6918.

A well marked variety, differing from the species chiefly by the smaller flowers and less hirsute-pubescent branches.

Sabbatia arenicola. Annual, glabrous throughout: stems 5 to 10 cm. high, dichotomously much-branched, more or less 4-angled: leaves sessile, ovate-oblong to elliptic-oblong, 0.5 to 1.5 cm. long, about one half as broad, obtuse, entire, thickish, inconspicuously 3-5-nerved: flowers terminating the branches, pedunculate: peduncles 0.5 to 1.5 cm. in length: calyx campanulate, pentagonal, later becoming turbinate and strongly 5-ribbed along the angles; lobes lance-oblong, 5 to 10 mm. long, 2 to 4 mm. broad, obtuse, entire: corolla lilac or rose-purple, about 1 cm. or more in diameter, yellowish in the throat, persistent; lobes obovate-rotund: stamens adnate to the throat of the corolla; filaments one half as long as the corolla-lobes: mature capsule 5 to 6 mm. long; seeds strongly reticulated. — Collected by C. G. Pringle on damp sands of seacoast near Tampico, State of Tamaulipas, 28 April, 1898, no. 6808.

A species most nearly related to *S. campestris*, Nutt., but readily distinguished by the less attenuate calyx-lobes and the much smaller corolla.

Acerates Pringlei. Stems 10 to 20 in clumps, stout, herbaceous, rather densely and finely pubescent: leaves opposite, short-petiolate, ovate or ovate-oblong, 6.5 to 10.5 cm. long, 3 to 6 cm. broad, acute, entire, somewhat truncate or subcordate at the base, rarely slightly narrowed below, sparingly pubescent to essentially glabrous above, paler and pubescent especially upon the prominent veins beneath; petioles 4 to 14 mm. long, canaliculate and often bearing above at the junction of the blade several small gland-like bodies: inflorescence lateral, extending well down on the stem, interpetiolar; peduncles 3 to 8.5 cm. in length, many-flowered, these as well as the pedicels (1.2 to 1.5 cm. long) closely pubescent or subtomentose: bracts linear, setaceous, about 6 mm. long, fugaceous; flowers about 5 mm. high: sepals linear, acute, 4 mm. long, externally pubescent: lobes of the corolla oblong, 5 mm. in length, usually slightly retuse at the apex, glabrous, externally more or less purplish and with the purplish-tinged sepals early reflexed: collar of the gynostegium short but distinct, the short ovate-oblong incurved-auricled hoods of the crown exceeding the gynostegium and entirely devoid of any horn-like process: immature follicles somewhat ovoid or slightly ovate-oblong, short-acuminate, slightly puberulent: seeds reddish-brown, smooth, about 8 mm. broad.—Collected by C. G. Pringle, on the Sierra de Ajusco, State of Morelos, altitude 2,800 m., 21 May, 1898, no. 6853 (in flower), and on the Plan de Salazar, State of Mexico, altitude 3,000 m., 13 August, 1896, no. 7309 (in fruit).

A species superficially resembling *Asclepias neglecta*, Hemsley, but distinctly different in floral structure.

GONOLOBUS (§ CHTHAMALIA) BIFIDUS, Hensl. Biol. Cent.-Am. Bot. ii. 330. *G.* (§ *Chthamalia*) *Schaffneri*, Gray, in Hensl. l. c. 334. After a careful examination and comparison of the type specimens representing these two species there can be no doubt as to their absolute identity, and the name of Dr. Gray must give way to that of Hemsley by right of priority of position.

Here also may be referred Pringle's no. 6898, collected on the plains near Pachuca, State of Hidalgo, altitude 2,500 m., 3 July, 1898.

IPOMŒA NYMPHÆIFOLIA, Griseb. Cat. Pl. Cub. 203. It is interesting to note that this characteristic West Indian species was collected by C. & E. Seler in Chiapas, 11 February, 1896, no. 1802. This species seems not to have been hitherto reported from Mexico.

Macromeria Pringlei. Stems herbaceous, erect, about 4 dm. high, branching from a perennial base, subappressed, hirsute-pubescent: leaves sessile or nearly so, lance-oblong, 5 to 11 cm. long, 1 to 3 cm. broad,

acuminate, acute, entire, appressed-tuberculate-hispid above, more or less appressed-hirsute-hispid slightly paler and prominently nerved beneath: inflorescence terminal; pedicels 5 to 6 mm. long: calyx 8 to 10 mm. long, deeply 5-parted, canescent-hirsute; lobes linear, acute: corolla 4 to 4.5 cm. long, covered externally with a spreading hirsute pubescence; lobes ovate-oblong, about 8 mm. long, obtuse: stamens nearly or quite equalling the corolla. — Collected by C. G. Pringle under firs, on the Sierra de Pachuca, State of Hidalgo, altitude 3,000 m., 4 August, 1898, no. 6949.

Solanum jaliscanum. Stems ligneous, unarmed, covered below with a grayish-green cortex, the younger branches, as well as the foliage, pedicels, and calyx, stellate-pubescent: leaves thin, submembranous, usually in pairs, very unequal in size, the larger 8 to 13 cm. long, 2.5 to 4.5 cm. broad, the smaller less than half as large, obtuse, gradually narrowed at the more or less unequal base into a petiole 5 to 20 mm. in length, stellate-pubescent on either surface: inflorescence in sessile extra-axillary umbels: pedicels during anthesis 8 mm. or less in length, later erect, about 1 cm. long: calyx 5 to 7 mm. long, 5-lobed; lobes somewhat irregular, ovate-oblong to oblong-linear, obtuse: corolla rotate, about 1 cm. in diameter; lobes ovate, acute, externally stellate-pubescent, the upper or inner surface glabrous: stamens equal, about 2.5 mm. long: fruit globular, smooth, nearly or quite 1 cm. in diameter. — Collected by C. G. Pringle, barranca of Guadalajara, State of Jalisco, 29 June, 1889, no. 2909, and in the same locality, altitude 1,200 m., 10 June, 1898, no. 6870.

A species having the general habit of *S. capsicastrum*, Link, *S. validum*, Rusby, and *S. lignescens*, Fernald, and perhaps most nearly related to the last, from which, however, it is distinguished by the larger thinner leaves, the somewhat smaller corollas, and erect fruiting pedicels.

SOLANUM JASMINIFOLIUM, Sendt. in Mart. Fl. Bras. x. 13; DC. Prodr. xiii. pt. 1, 81. Specimens collected by Mr. C. G. Pringle in hedges about Cuernavaca, State of Hidalgo, altitude 1,500 m., 25 June, 1898, no. 6901, are referred to the above species, hitherto unreported from Mexico. The leaves on the specimens at hand from Mr. Pringle are for the most part simple and entire. Several specimens, however, of *S. jasminifolium* in the Gray Herbarium have leaves from entire to deeply pinnatisect, thus indicating considerable variability as to foliage. It may be said further that it is difficult to separate from this species the nearly related and also South American *S. boerhaviaefolium*, Sendt. l. c. 48, t. 11.

Cestrum flavescens. Shrub, about 1 m. in height: stems covered with a light grayish bark, the young shoots finely pubescent: leaves ovate to ovate-elliptic, 3 to 5 cm. long, one half to two thirds as broad, obtuse, narrowed at the base into a slightly winged petiole (5 to 10 mm. in length), more or less pubescent on either surface, especially on the veins beneath: inflorescence subracemose at the ends of the branches; peduncles and sometimes the pedicels apparently adnate to the base of the petioles: calyx about 5 mm. long, 5-lobed; tube glabrous or slightly puberulent; lobes triangular-ovate, a little irregular, 1 to 1.5 mm. long, acute, tomentulose at the tips: corolla 2 to 2.5 cm. long, reddish-yellow, tubular, gradually amplified above, constricted at the throat, glabrous; lobes broadly ovate, about 2 mm. long, obtuse, pubescent along the margins, reflexed: stamens included, glabrous: immature fruit glabrous. — Collected by C. G. Pringle, in lava fields near Cuernavaca, State of Morelos, altitude 1500 m., 11 May, 1898, no. 6832.

In general appearance this species bears a superficial resemblance to the Guatemalan *C. Regelii*, Planch. Fl. Serres, ix. t. 946; but from the latter Mr. Pringle's plant is amply different, in the less acuminate leaves, the shorter and broader calyx-lobes, and finally in the longer and more slender corollas.

PITHECOCTENIUM BUCCINATORIUM, DC. Prodr. ix. 195. *Bignonia buccinatoria*, Mairet in DC. l. c.; Hemsl. Biol. Cent.-Am. Bot. ii. 490; Hooker in Bot. Mag. t. 7516.

In 1878 Parry and Palmer collected in the mountains of San Luis Potosi both flowering and fruiting specimens of this species, and later in 1880 complete specimens were secured by Prof. Dugès in the vicinity of Guanajuato. The characters of the fruit, hitherto unknown, clearly indicate that the affinity of the plant is with the genus *Pithecoctenium* and not with *Bignonia*. The following supplementary description may be given: capsule oblong-elliptic, 1.4 to 1.6 dm. in length, about 6 cm. broad, somewhat narrowed at either end and densely echinate over the entire surface; valves at maturity falling away from the replum: seeds disposed in 4 to 5 rows. To this species may be referred specimens from the following stations: San Luis Potosi, *Parry & Palmer*, no. 695, *Schaffner*, no. 746; vicinity of Guanajuato, *Dugès* (coll. of 1880), without number; Puebla, *Bilimek*, no. 230, and by the same collector at "Cakobaya," no. 229; and in the cultivated state at Orizaba, *Botteri*, no. 915, and *A. Gray* (coll. of 1885), without number.

Ruellia malacosperma. Perennial, conspicuously lineolate throughout: stems 3 to 5 dm. high, erect or ascending from a ligneous base, te-

rete or obtusely 4-angled, glabrous or sparingly villous: leaves opposite, oblong-lanceolate, including the narrow less villous petiole 5 to 13 cm. long, 1 to 3 cm. broad, acuminate, acute or the lower obtuse or even rounded at the apex, narrowed at the base into a petiole, entire or sub-repand, densely lineolate on either surface, and with a few scattered villous hairs on the midrib and margins, especially towards the base: inflorescence cymose-paniculate; peduncles 4 to 6 cm. long; pedicels 0.5 to 1.5 cm. long; bracts and bracteoles lance-linear, 1 cm. or less in length: calyx deeply and regularly 5-parted; tube 2 to 4 mm. long; divisions linear-attenuate, 1 to 2 cm. long, these as well as the pedicels densely lineolate and stipitate-glandular, not hirsute: corolla purple, 4 to 5.5 cm. long, tubular-funnelform, externally puberulent; tube slender below, amplified above; lobes subrotund, 1.5 cm. or more broad: mature capsules 2.5 to 3 cm. long, glabrous, about 15-seeded; seeds slightly oblique, 3 mm. broad, flattened, canescent. — Collected by C. G. Pringle in lowlands near Tampico, State of Tamaulipas, 30 April, 1898, no. 6806; and by Dr. Edward Palmer in the vicinity of Acapulco, October, 1894, to March, 1895, no. 570 (distributed as *Ruellia? ovalifolia*, Hemsl. ex char. ?); also by Botteri at Orizaba, in herb. Gray without number.

A species having its affinity apparently with *R. dipteracanthus*, Hemsl., and *R. tuberosa*, L., but differing from the former by inflorescence and longer corolla, also by the character of the calyx, and from the latter by the foliar characters. The seeds of this plant in the dried state are covered with an appressed canescent pubescence, which however, when moistened, is more or less spreading and almost velvety, hence the specific name.

Randia canescens. Shrub or small tree, 3 to 5 m. high: stems terete, covered with a grayish bark: spines 5 to 10 mm. in length: leaves broadly obovate, 1 to 1.5 cm. long, nearly as broad, abruptly narrowed below into a short petiole or sessile, rounded or obtuse at the apex, canescent-pubescent on either surface: flowers solitary, terminating short axillary branches: calyx-tube about 4 mm. long, appressed-canescant-pubescent; lobes linear, acute, about equalling the tube, grayish-pubescent: corolla salverform; tube nearly 1 cm. long, somewhat folded on itself near the middle, externally pubescent, internally glabrous: lobes somewhat thickened, broadly ovate, about 6 mm. long, nearly as broad, obtuse or rounded at the apex, glabrous above, ciliate: fruit not seen. — Collected by C. G. Pringle in barrancas near Cuernavaca, State of Morelos, altitude 1,500 m., 28 May, 1898, no. 6863.

Randia Nelsonii. Stems sparingly armed, covered with a grayish or reddish-brown bark, rather numerous dotted with lenticels; the young shoots pubescent: leaves thin in texture, obovate or subcuneate, 1.5 to 3 cm. long, two thirds as broad, narrowed at the base into a short petiole, usually rounded, but occasionally slightly retuse, obtuse, or even short acuminate-apiculate at the apex, soft-pubescent on either surface: flowers axillary, solitary, sessile: calyx including the slender spreading lobes not exceeding 5 mm. in length, canescent-pubescent especially on the tube: corolla including the lobes 2.5 to 3 cm. long; tube about 1.5 cm. long, externally puberulent, internally pubescent in the upper half; lobes oblong-ovate, obtuse, nearly glabrous. — Collected by E. W. Nelson on the way from Juchitan to Chivela, State of Oaxaca, altitude 46 to 277 m., 1895, no. 2635.

A species somewhat resembling *R. Pringlei*, Gray, but readily distinguished from it by the texture of the leaves, the inflorescence, the longer corolla, and shorter calyx-lobes.

Eupatorium Conzattii. Glabrous throughout: stems herbaceous, ancipitally compressed and subhexagonal, striate, reddish-brown: leaves petiolate, oblong-lanceolate, 5 to 15 cm. long, 2 to 6 cm. broad, acuminate, acute, obtuse or somewhat rounded at the base and slightly decurrent on the (7 to 20 mm. long) petioles, crenate-dentate, distinctly 3-nerved from above the base, conspicuously veined, pellucid-punctate: inflorescence terminating the stems in a compound pyramidal panicle: heads 8 to 9 mm. long, clustered at the tips of the branchlets in threes or fives, sessile or short-pedicellate, 5-6-flowered; involucre cylindrical; scales imbricated, 5-6-seriate, oblong, obtuse or rounded at the tip, distinctly nerved, purplish or stramineous, the outer gradually shorter and darker: flowers about 8 mm. long: achenes 4 mm. long, glabrous; pappus equalling the corollas. — Collected by Prof. C. Conzatti in humid forests on the Cerro del Chiquihuite, Colonia Melchor Ocampo, Cordoba, State of Vera Cruz, altitude 1,300 m., 7 December, 1895, no 17.

This species may be recognized readily by the 3-nerved prominently veined pellucid-punctate leaves associated with the few-flowered cylindrical heads. In general aspect *E. Conzattii* resembles *E. vanillosmoides*, Sch. Bip., but is easily distinguished from it by the venation of the leaves. From *E. tepicanum*, Hemsl., which is said to have ovate-lanceolate pellucid-punctate leaves, our plant differs in having herbaceous instead of woody branches.

EUPATORIUM LEPTODICTYON, Gray, in Wats. Proc. Am. Acad. xxii. 420. Excellent specimens of this characteristic species were collected by

Dr. Rose in the Sierra Madre, State of Tepic, nos. 1984, 3418. The following supplementary characters may be appended: stems herbaceous from a thick perennial base, 5 to 6 dm. high, simple or sparingly branched: leaves usually alternate, not unfrequently opposite or at least subopposite. *E. leptodictyon* closely resembles *E. strictum*, Gray, but may be distinguished readily from it by the fewer broader and more blunt bracts of the involucre, and by the larger flowers.

Grindelia glandulosa. Apparently biennial: root somewhat obconical: stems subscapitose, erect, simple or sparingly branched, 2 to 3 dm. high, glandular-pubescent with spreading hairs intermixed: basal leaves spatulate, attenuate at the base, including the petiole 6 to 10 cm. long, 1 cm. or less in breadth; stem leaves narrowly oblong or oblong-lanceolate, slightly broadened at the sessile subclasping base, acute, regularly and rather closely serrate, glandular-pubescent upon either surface, 2.5 to 5 cm. long, 6 to 10 mm. wide; the uppermost leaves gradually reduced and more or less acuminate: heads terminating the stems, solitary, excluding the rays 1.5 to 2 cm. in diameter; involucre scales strongly imbricated, purplish, lanceolate, acuminate, terminated by an acutish glandular-viscid tip; margins thin, purplish, suberose, glandular-ciliate, the outer somewhat narrower: ray-flowers 20 to 35; ligules oblong-spatulate, including the tubular portion nearly 2 cm. long: pappus usually bisetose, rarely trisetose or sometimes with a single awn, fugaceous: achenes smooth. — Collected by C. G. Pringle in wet meadows of the Sierra de Pachuca, State of Hidalgo, altitude 3,000 m., 13 August, 1898, no. 6962. Seemingly a very distinct species, readily recognized by the glandular character of the pubescence throughout the entire plant.

Baccharis macrocephala, SCH. BIP. in herb. Gray. Perennial, glabrous throughout: stems somewhat striated, covered with a grayish bark: leaves scattered, sessile, spatulate-lanceolate, 2 to 3 cm. long, 3 to 6 mm. broad, acute, often with a sharply recurved apex, entire and usually hispidulous on the margins or with a few remote horizontally spreading teeth near the apex, glandular-dotted on either surface and more or less viscid, 1-3-nerved, the leaves of the flowering branches much smaller and more or less squarrose-imbricated: inflorescence paniculate-virgate, leafy: heads terminating the branches of the inflorescence, those of the fertile plant nearly or quite 1.5 cm. high, many(90-100)-flowered: involucre scales unequal, 6-7-seriate, imbricated, lance-linear with a dark green midnerve, acute, glabrous, margins scarious and often slightly erose, the inner about 7 mm. long, the outer shorter: pappus white or slightly tawny, nearly or quite 1 cm. in length; achenes glabrous: heads of the staminate

plant about 1 cm. high. — Collected by C. Sartorius in Vera Cruz, altitude 2,700 m., April, 1856; and by C. G. Pringle, Serrania de Ajusco, Federal District, altitude 2,700 m., 23 May, 1898, no. 6859.

A species resembling in habit *B. ramiflora*, var. *squarrosa*, Gray, but having larger and more numerous flowered heads, and a longer pappus, also related apparently to *B. squarrosa*, HBK., from which, however, it is distinguished by the entire absence of the squarrose character of the involucre scales. Only staminate plants were collected by Sartorius, yet the specimen in herb. Gray in the inflorescence, foliar and involucre characters, agrees so closely with Mr. Pringle's specimens that the writer has no hesitation in referring both to the above hitherto unpublished species.

Desmanthodium lanceolatum. Herbaceous, perennial (?): stems 1 to nearly 2 m. high, freely branching above, striate, glabrous, purplish; internodes much exceeding the leaves: leaves lanceolate to lance-ovate, acuminate, acute, 5 to 10 cm. long, 2 to 4 cm. broad, narrowed below into a subpetiolate base, sharply and somewhat unequally dentate with prominent and more or less divaricately spreading teeth, essentially glabrous upon either surface, paler beneath, margins ciliate-hispid: heads terminating the branches in sessile dense glomerules disposed in a cymose-panicle: bracts broadly ovate, acute, glabrous; margins whitish or subscarious: fertile achenes elliptic-oblong, narrowed at either end, 3 mm. long, black, shining. — Collected by C. G. Pringle, on mountains above Cuernavaca, State of Morelos, altitude 2,100 m., 9 August, 1898, no. 6940.

This species is similar in habit and inflorescence to *D. ovatum*, Benth., but easily distinguished by the lanceolate sharply dentate leaves, and by larger and less obovate achenes.

LEPACHYS COLUMNARIS, Torr. & Gray, var. **PULCHERRIMA**, Torr. & Gray, Fl. ii. 315; Gray, Syn. Fl. i. pt. 2, 264. *Obeliscaria pulcherrima*, DC. Prodr. v. 559. *Ratibida columnaris*, var. *pulcherrima*, Don in Sweet, Brit. Fl. Gard. n. s. iv. t. 361.

To this well marked variety, characterized by the brown-purple rays more or less bordered with yellow, the following Mexican specimens may be referred. — Coahuila, Carrizilos, 28 May, 1847, *Gregg*, no. 60, *Palmer*, no. 717 (coll. of 1880); Nuevo Leon, 28 September, 1897, *Rose*, no. 3077.

Bidens decumbens. Stems decumbent, 1.5 to 3 m. long, tetragonal, striate, glabrous except at the nodes, purplish: leaves simple and broadly ovate, oblong-ovate to obovate, or pinnately 3-parted (the terminal division often rhombic-ovate, the lateral divisions obovate, unequal at the

base), decurrent into a petiole, acute or short-acuminate, mucronate, crenate-serrate with mucronate teeth, cuneate at the base, thickish, conspicuously veined, glabrous upon either surface or with a few scattered hairs on the midrib beneath; petioles 8 to 20 mm. long, channelled above, usually ciliate: inflorescence cymose or cymose-paniculate, few-headed; peduncles 1 to 3 cm. long: heads about 1 cm. high, radiate; outer scales of the involucre about 14, spatulate, 4 mm. long, obtuse, ciliate, the inner lance-oblong, 6 to 7 mm. long, narrowed near the obtuse puberulent tip: ray-flowers sterile; achenes 3-angular, exaristate; rays oblong-obovate, 2 cm. long, 8 mm. broad, white with yellowish nerves: disk-flowers numerous; mature achenes linear, 6 to 10 mm. long, longitudinally ribbed, glabrous or hispidulous on the angles especially towards the apex, 2-4-aristate. — Collected by C. G. Pringle on sand dunes near Tampico, State of Tamaulipas, 29 April, 1898, no. 6820.

Bahia xylopoda. Perennial: stems decumbent, branching from the base: branches ascending, about 1.5 dm. high, more or less hoary-pubescent: leaves opposite or alternate, tritermately compound, segments linear or subterete, obtusish, hirtellous-puberulent: heads radiate, about 1 cm. high, usually long-pedunculate, erect or nodding: involucre bracts subbiseriate, the outer oblong, somewhat truncate, rounded or obtuse at the apex, the inner often more narrowed at either end and acutish, veiny with thinnish margins, grayish-white-pubescent on the outer surface with stipitate glandular hairs intermixed: ray-flowers fertile; ligules including the pubescent tube nearly or quite 1 cm. long; disk-flowers numerous; pappus usually of 8 narrowly oblong-obovate subequal scales, about 2 mm. long, cuneate at the base: corollas of the disk-flowers 4 mm. long, below pubescent on the outside: mature achenes 5 to 6 mm. long, hirtellous-pubescent above, canescent on the angles of the slender base. — Collected by C. G. Pringle, on bare hills above Pachuca, State of Hidalgo, altitude 2,600 m., 30 July, 1898, no. 6931.

This species is nearly related to *B. Pringlei*, Greenm., but is distinguished readily by the longer achenes, narrower scales of the pappus, and also, according to Mr. Pringle, by the entire absence of running roots.

Cacalia ampullacea. Stems 1 to 2 m. high, striate, purplish, puberulent: lower leaves petiolate, oblong-ovate, 2 to 3 dm. long, two thirds as broad, membranous, pubescent above, white-tomentose beneath, about 13-lobed, with rounded sinuses, the main lobes 6 cm. or less long, these again irregularly dentate-lobed; stem leaves sessile, ovate-oblong, 1 dm. or less long, 1 to 1.5 cm. broad, strongly saccate below and surrounding the stem: inflorescence rather densely corymbose: peduncles

and pedicels tomentulose; bracts linear, setaceous; heads about 1 cm. high, 5-6-flowered; scales of the involucre 5 to 6, oblong-ob lanceolate, 8 mm. long, 2 to 3 mm. wide, obtuse and slightly pubescent at the apex, otherwise glabrous; margins thin, subscarios: pappus somewhat tawny, about 5 mm. long; corolla glabrous: achenes pubescent. — Collected by C. G. Pringle along streams on the Sierra de Pachuca, State of Hidalgo, altitude 2,700 m., 17 July, 1898, no. 6917.

A species having its affinity with *C. tussilaginoïdes*, HBK., and *C. amplifolia*, DC. From the former it is distinguished by the outline and general character of the leaves, and from the latter by the white tomentum on the lower surface of the leaves, and the pubescent achenes.

Lactuca brachyrrhyncha. An erect herbaceous annual: stems 1 m. or more high, glabrous or nearly so, purplish: leaves lance-attenuate, 1 to 1.3 dm. long, about 1 cm. broad, acute, entire or remotely denticulate, sessile by a clasping sagittate base, glabrous upon either surface or bearing on the midrib beneath, especially towards the base, scattered rather long hairs, these often continuing with the subdecurrent midrib to the stem, the upper leaves gradually reduced: inflorescence in a terminal panicle; peduncles bracteate; heads 1.2 to 1.5 cm. high, about 20-flowered; involucre bracts imbricated, more or less deeply colored with purple, the outer short, ovate, acutish, the inner lance-linear: flowers blue: pappus white: achenes oblong-elliptic, 4 mm. long, one half as broad, abruptly contracted at the summit into a short beak less than 1 mm. in length. — Collected by C. G. Pringle at Tlalnepantla, Valley of Mexico, Federal District, 6 July, 1898, no. 6883.

A species habitually like *L. integrifolia*, Bigel., from which it is readily distinguished by the short yet distinct beak of the achenes.