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CONTRIBUTIONS FROM THE GRAY HERBARIUM OF HARVARD UNIVERSITY.

NEW SERIES. — NO. XXVIII.


II. Revision of the Mexican and Central American Species of Trixis. By B. L. Robinson and J. M. Greenman.


V. Diagnoses and Synonymy of Mexican and Central American Spermatophytes. By J. M. Greenman.

VI. Some New Species of Mexican and Nicaraguan Dicotyledons. By M. L. Fernald.
2.4 cm. broad, the nerves conspicuously pilose beneath; petioles 2 to 4 mm. long, pilose: strobiles globose or short-oblung, about 1 cm. long. — GUANAJUATO, mountains of Santa Rosa, April, 1901 (A. Dugas.)

V. — DIAGNOSES AND SYNONYMY OF MEXICAN AND CENTRAL AMERICAN SPERMATOPHYTES.

By J. M. Greenman.

Echeandia Pringlei, n. sp. Roots fascicled, tuberiform; the tuberous portion 1 to 2 cm. long, 5 to 7 mm. in diameter: leaves chiefly radical, 1 to 4 dm. long, 2 mm. broad, about 9-nerved, glabrous on both surfaces, more or less involute, hirtellous-ciliolate-margined, firm in texture, yellowish in the dried state, sometimes falcate; the fibrous portion of the bases of the older leaves persistent around the base of the scapiform stem: scape simple or branched, 2.5 to 4 dm. high, bearing 1 to 3 leaf-like bracts: floral bracts lance-ovate, acute, scariosus: flowers two in the axil of each bract; pedicels 5 to 10 mm. long, jointed below the middle: perianth white; divisions lanceolate, about 1 cm. long, 1.5 to 2.5 mm. broad, acute, 3-nerved: stamens nearly or quite as long as the perianth-divisions; anthers united into a tube 6.5 to 8 mm. in length: capsule oblong, 6 mm. long, transversely nerved. — MEXICO. State of Jalisco: Etzatlan, collection of 1903, C. G. Pringle, no. 11,852 (hb. Gr.).

Sisyrinchium macrophyllum, n. sp. Erect, 4 to 6 dm. high, glabrous throughout: roots long, fleshy, almost tuberous: stems narrowly winged, leafless to the first fork, branched above into a several-headed inflorescence: leaves lance-attenuate, 5 to 6 dm. long, 1 to 5 cm. broad, acute, prominently nerved, narrowly subcartilaginous-margined: bracts of stem and inflorescence lance-acuminate, 8 cm. or less long: peduncles in fruiting specimens 5 to 8 cm. in length; spathe 2–5-flowered; valves lanceolate, 3 to 3.5 cm. long, acute, the outer slightly shorter than the inner: capsules oblong, triangular, 1.2 to 2 cm. long, one half as broad, glabrous: seeds subspherical, 2 mm. in diameter. — MEXICO. State of San Luis Potosi: Alvarez, 28 September to 3 October, 1902, Dr. Edward Palmer, no. 203 (hb. Gr. and hb. U. S. Nat. Mus.).

Phoradendron Palmeri, n. sp. Pubescent throughout; younger parts subtomentose: stem and branches terete: leaves narrowly oblong or oblong-spatulate, 1 to 3.5 cm. long, 3 to 8 mm. broad, obtuse, entire, narrowed below into a subpetiolate base: spikes of fertile flowers solitary,
sessile or short-pedunculate, 2–3-jointed, in anthesis 3 to 6 mm. long, 7-13-flowered: flowers 3-merous, fruiting spikes 1.5 to 2 cm. long, on peduncles 2 to 6 mm. in length: berry oblong, 3 to 4 mm. long, hirtellous-puberulent. — MEXICO. State of San Luis Potosí: Álvarez, 5 to 10 September, 1902, Dr. Edward Palmer, no. 119 (hb. Gr. and hb. U. S. Nat. Mus.).

In general appearance this species resembles Phoradendron brachystachyum, D. Oliv., but differs in the denser tomentum, the longer and pedunculate fruiting spikes, and finally by the more oblong pubescent fruit.

Echites Smithii, n. sp. Stem terete, closely and evenly puberulent: leaves opposite, short-petiolate, oblong-lanceolate, 3 to 6 cm. long, 1 to 2.5 cm. broad, acute, entire, subcordate at the base, dark green and glabrous or slightly hirtellous-puberulent above especially near the margins, paler and glabrous beneath, bearing 2 small glands on the upper surface of the blade at its junction with the petiole; midrib and the 5 to 7 pairs of lateral nerves rather prominent beneath; petioles 2 to 4 mm. long, puberulent: inflorescence usually supra-axillary, racemose, few (1–3)-flowered, shorter than the leaves; peduncles 5 mm. or less in length; bracts lance-linear, 4 to 5 mm. long, acute, often purplish; pedicels 5 to 8 mm. long and as well as the peduncles puberulent: calyx deeply 5-parted, persistent; lobes lanceolate, acute, 4 to 5 mm. long, green or slightly purplish-tinged; glands 2 to 4, opposite each sepal: corolla salverform, yellow or yellowish white, glabrous; tube 10 to 12 mm. high; lobes oblique, about 8 mm. in length: stamens included; anthers blunt, 2.5 mm. long; immature follicles pubescent; disk deeply 5-lobed. — MEXICO. State of Oaxaca: Salomá, altitude 1981 m., 9 August, 1895, Albert L. Smith, no. 672 (hb. Gr.); Huancilla-Nochistlán (Nochistlán), alt. 2000 m., June, 1901, C. Conzatti & V. González, no. 1198 (hb. Gr.).

Manevilla oaxacana, Hemsley, Biol. Cent.-Am. Bot. ii. 316. To this species should be referred specimens collected by Mr. C. G. Pringle on dry ledges of foothills above the city of Oaxaca, Mexico, at an altitude of 1830 m., 29 May, 1895, no. 4662 (hb. Gr.). This number of Mr. Pringle's exsiccatæ was erroneously determined as Echites secundiflora, A. DC., under which name it was distributed. Hereto may also be referred specimens secured by Señor C. Conzatti on hills of the San Felipe del Agua, Oaxaca, altitude 1800 m., 1 September, 1895, no. 578 (hb. Gr.).

The species is apparently common about the City of Oaxaca, and is
well characterized by the tubular-funnelform corolla. In all other characters it agrees well with the genus *Echites*.

*Gonolobus calcicola*, n. sp. Stems twining, ligneous at the base, hirtellous-puberulent, the younger parts also hirsute with spreading or somewhat reflexed hairs: leaves petiolate, ovate, 2 to 6 cm. long, 1 to 3 cm. broad, acute or acuminate, entire, hirtellous-pubescent above, granulate beneath and often scattered-hirsute especially on the prominent midrib and nerves, revolute-margined; petioles 10 to 22 mm. long, hirtellous-pubescent: inflorescence in axillary congested several-flowered cymes; peduncles shorter than the petioles: flowers medium-size: calyx deeply 5-parted; divisions lance-elliptic, 6 to 7 mm. long, 2 to 3 mm. broad, acute, ciliate, externally hirsutish pubescent: corolla dark brownish-purple, about 2 cm. in diameter, externally minutely puberulent, upper or inner surface corrugated-verrucose, bearing a few scattered whitish hairs: crown 5-lobed; lobes fleshy, unequally papillose or somewhat warty: fruit not seen.—MEXICO. State of Morelos: limestone hills, Jojutla, near Cuernavaca, 30 August, 1902, C. G. Pringle, no. 11,367 (hb. Gr.).

In general habit *G. calcicola* suggests *G. congestus*, Decc., but the smaller narrower leaves, fewer larger flowers, and the lobed crown serve to separate readily the two species.

*Nama undulatum*, HBK., var. *macranthum*, Choisy, Hydrol. 18, t. 2, f. 1; DC. Prodr. x. 182; Gray, Proc. Am. Acad. x. 330; Hems. Biol. Cent.-Am. Bot. ii. 364. *N. Berlandieri*, Gray, l. c. viii. 282. Specimens belonging to this interesting variety have been secured by Mr. E. W. Nelson at Montemorelos, State of Nuevo Leon, no. 6697. Although the variety has been generally understood as having merely sessile and amplexicaul leaves, yet the specimens now at hand, from Mr. Nelson, show very distinctly that the leaves are not only sessile and amplexicaul, but more or less decurrent on the stem. Moreover a careful examination of Berlandier’s nos. 699, 2116 (hb. Gr.) show some of the leaves to be decurrent. The plant is a well-marked variety, and further material, especially complete specimens, may prove it to be specifically distinct.

*Cynoglossum Pringlei*, n. sp. Stems leafy to the inflorescence, striate, hirsute-pubescent: stem leaves sessile, semiamplexicaul, oblong-lanceolate, 3 to 12 cm. long, 1 to 4 cm. broad, acute, entire, dark green above, paler beneath, hirsute-pubescent on both surfaces: inflorescence compound, many-flowered, more or less bracteate: pedicels 0.5 to 2 cm. long; recurved at least in the later stages, appressed-pubescent: calyx
5 parted, glabrous except at the very base; lobes 3 to 5 mm. long, subrotund, imbricated: style 1.5 to 2 mm. long, persistent: corolla not seen: nutlets broadly ovate or subrotund, dorso-ventrally compressed, 10 to 12 mm. long, nearly or quite as broad, glochidiate-hispid on the upper or outer surface, smooth beneath; scar triangular-ovate. — Mexico. State of Mexico: Fuenteango Cañon, altitude 2500 m., 9 October, 1902, C. G. Pringle, no. 11,350 (hb. Gr.): "Morelia (Michuacán) et de Moro Leon (Guanajuato)," A. Dugès (hb. Gr., collection of 1893).

Lithospermum Nelsonii, n. sp. An herbaceous perennial: stems erect from a ligneous base, 2.5 to 4.5 dm. high, sparingly branched above, pubescent with spreading hirsute hairs intermixed with a sub-appressed puberulence: lower stem-leaves oblanceolate, 3 to 7 cm. long, 8 to 18 mm. broad, obtuse or submucronate-acute, narrowed below into a winged sub-petiolate base, hirsute-hispid on both surfaces, more or less 3-nerved; upper stem-leaves sessile, oblong-lanceolate: flowers on short pedicels, disposed in the axis of the uppermost leaves forming a leafy-bracteate scorioid raceme: calyx deeply 5-parted; divisions linear, about one half as long as the tube of the corolla, acute, hirsute-pubescent: corolla salverform, white or pale yellow; tube 13 to 14 mm. long, externally appressed puberulent, within glabrous below, papillose-puberulent above, bearing in the throat opposite the lobes 5 conspicuous folds; lobes subrotund, 4 to 5 mm. long and broad: stamens inserted high on the corolla-tube, included: style persistent: nutlets white, ovate, 3 mm. long, acute, slightly crested on the back toward the summit. — Mexico: State of Nuevo Leon: Cerro la Silla, near Monterey, 20 March, 1902, E. W. Nelson, no. 6682 (hb. Gr., and hb. U. S. Nat. Mus.).

Capraaria Mexicana, Moric. in DC. Prodr. x. 429. Specimens collected by Mr. E. W. Nelson at Soto la Mariana, State of Tamaulipas, no. 6643 (hb. Gr., and U. S. Nat. Mus.), agree in all details with the original description of the above species. Although C. mexicana has been considered by some authors to be identical with the widely distributed species C. biflora, L., yet on account of its glabrous character throughout, the uniformly narrow-lanceolate acuminate leaves, the long anthers, and the more acute corolla-lobes, it seems to the writer well worthy of specific rank. In addition to Mr. Nelson's no. 6643, the following specimens may be referred to C. mexicana, Moric: en route from San Luis Potosi to Tampico, December, 1878, to February, 1879, Dr. E. W. Palmer, no. 1125 (hb. Gr.); Wartenberg, near Tantoyuca, prov. Huasteca, State of Vera Cruz, L. C. Ervendberg, no. 184 (hb. Gr.).
Stemodia Schottii, Holzinger, Cont. U. S. Nat. Herb. i. 286. Imperfect specimens collected by Dr. Edward Palmer between the Frio and the Nueces Rivers on the road to Leros, Texas, and distributed under no. 1053 (hb. Gr.), were referred by Dr. Watson, Proc. Am. Acad. xviii. 130, to Stemodia durantisfolia, Swartz; but a careful examination of Dr. Palmer's specimen in the light of additional material shows very clearly that the plant should be referred to the above well characterized species, Stemodia Schottii, Holzinger. Strong and vigorous specimens of this species were secured by Mr. E. W. Nelson between San Fernando and Jimenez, State of Tamaulipas, Mexico, 26–27 February, 1902, no. 6619 (hb. Gr., and hb. U. S. Nat. Mus.). These two collections extend the geographical range of S. Schottii from Rio Grande, where it was first found through the Valley of the Rio Grande nearly to the Gulf of Mexico.

Dyschoriste Pringlei, n. sp. Stems several, 1 to 2 dm. in length, erect or ascending from a ligneous perennial base, densely hirsute-pubescent or subomentumose: leaves lance-elliptic to slightly obovate, 1.5 to 4 cm. long, 0.5 to 1.6 cm. broad, obtuse or acute, entire, narrowed below to a subpetiolate base, sparingly hirsute-pubescent on both surfaces: flowers crowded in the axils of the upper leaves forming a sub-capitate leafy inflorescence: calyx 13 to 14 mm. long, densely pubescent with white flaccid-hirsute hairs, divided to somewhat below the middle; divisions lance-attenuate: corolla tubular-campanulate, 3 to 4 cm. long, externally pubescent, more or less purplish-maculate at least in the dried state: stamens adnate to the corolla for about one half its length; anthers rather conspicuously calcarate: ovary glabrous; style pubescent: mature capsule not seen.—MEXICO. State of Jalisco: deep canions near Guadalajara, 1 July, 1889, C. G. Pringle, no. 2907 (hb. Gr.), distributed as "Calophanes capitatus, Oerst."; Rio Blanco, near Guadalajara, 22 July, 1902, C. G. Pringle, no. 11,313 (hb. Gr.).

Justicia (Dianthera) Canbyi, n. sp. Stems 3 dm. or more high, sparingly branched, subterete, slightly furrowed, hirsute-pubescent in lines from node to node or not infrequently over essentially the entire surface: leaves petiolate, ovate, 1.5 to 5 cm. long, 1 to 3 cm. broad, acute, entire, revolute-margined, cuneate to subcordate at the base, dark green above, pale beneath, usually glabrous on both surfaces except for hirsute hairs along the midrib, occasionally with a few scattered hairs over either surface; petioles 5 mm. or less in length, ciliate: flowers on axillary or terminal spikes more or less paniculately disposed; bracts and bracteoles small, subulate, shorter than the calyx: calyx 3 mm.