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## X.

## CONTRIBUTIONS TO AMERICAN BOTANY.

BY SERENO WATSON.

Presented May 29th, 1883.

1. *List of Plants from Southwestern Texas and Northern Mexico, collected chiefly by Dr. E. Palmer in 1879-80.*—II. *Gamopetalæ to Acotyledones.*

[Continued from Vol. XVII., page 361.]

VIBURNUM PRUNIFOLIUM, Linn. Kendall or Wilson County, Texas (387).

VIBURNUM MEMBRANACEUM, Benth. & Hook. Caracol Mountains, Coahuila (388).

SYMPHORICARPUS MICROPHYLLUS, HBK. A pubescent form, from the Sierra Madre, south of Saltillo (2118), and wholly glabrous, from Lerios in the high mountains east of that city (390); 296 Parry & Palmer.

LONICERA ALBIFLORA, Torr. & Gray. In the Sierra Madre, south of Saltillo (389).

LONICERA PILOSA, Willd. Sparingly collected in the same region; mountains near San Luis Potosi (733 Schaffner); Guanajuato (Dugès); 297 Parry & Palmer. The calyx-limb is usually glandular-hispid and the corolla villous. Dugès' specimen is glabrous throughout and probably represents *L. tubulosa*, Benth. All have the interior of the corolla-tube villous. *L. Mociniana*, DC., is doubtless *L. involucrata*, Banks.

CEPHALANTHUS OCCIDENTALIS, Linn. At Uvalde, Texas (391).

BOUVARDIA ANGUSTIFOLIA, HBK. (?) In the mountains east of Saltillo (391). Apparently the same as 47, 316 and 650 of Gregg's collection, 236 Wright (referred to *B. hirtella*), and Eaton & Edward's specimens from near Monterey (referred to *B. triphylla*). The specimens collected in Arizona by Wright (1116, in part), Rothrock (479), Lemmon (167), and Pringle (distributed as *B. Jacquini*), may

*ERYTHRÆA CALYCOSA*, Buckl. At Parras, Coahuila (838). With rather small flowers; the same as collected by Gregg between Mapimi and Guajuquilla.

*ERYTHRÆA* —? At Guanajuato (Dugès). With the compact cymes of *E. tricantha*, but with very much smaller seeds. Probably an undescribed species, but the specimens are incomplete.

*EUSTOMA EXALTATUM*, Griseb. At Laredo, on the Rio Grande (840), and at Parras, Coahuila (841).

*GENTIANA LANCEOLATA*, Griseb. At Guanajuato (Dugès).

*GENTIANA SPATHACEA*, HBK. At Guanajuato (Dugès), known as "Yelera"; 599 Parry & Palmer.

*HALENIA ROTHROCKII*, Gray. In the Sierra Madre, south of Saltillo (839).

*PHLOX DRUMMONDII*, Hook. Near San Antonio, Texas (844).

*GILIA RIGIDULA*, Benth. At Parras, Coahuila (843). Also a smaller-flowered form, glandular-pubescent, with the lobes of the leaves all very narrow; at Sutherland Springs, Texas (1185), and at Soledad (845); 605 Parry & Palmer, nearly the same. — Var. *ACEROSA*, Gray. At Saltillo (842).

*GILIA INCISA*, Benth. At San Antonio, Texas (846), in the Caracol Mountains, Coahuila (2107), at Monterey (847) and at Guajuco, Nuevo Leon; 601 Parry & Palmer.

*GILIA AGGREGATA*, Spreng. In the high mountains at Lerios.

*LÆSELIA CÆRULEA*, Don. At Parras, Coahuila (2041), at Monterey, Nuevo Leon (848), and near San Luis Potosi (639 Schaffner); 603 Parry & Palmer.

*LÆSELIA COCCINEA*, DC. In the mountains near San Luis Potosi (638 Schaffner); 604 Parry & Palmer.

*LÆSELIA GLANDULOSA*, Don. At Guanajuato (Dugès); the typical form.

*LÆSELIA GREGGII*. Erect, branching below, pubescent: leaves opposite, the upper sometimes alternate, lanceolate, sessile or nearly so,  $\frac{1}{2}$  to 1 inch long, acute, serrate, the teeth awned: floral bracts broadly ovate or the inner lanceolate, mostly scarious, coarsely serrate and the teeth setosely tipped, not ciliate, nearly glabrous: calyx-lobes lanceolate, acuminate, lacerate; corolla 6 lines long, pink with white centre. — At Saltillo, Coahuila (1063), and also collected by Dr. Gregg (360). Allied to *L. ciliata*, Linn., which appears to include *L. involucrata*, Don (702 Parry & Palmer).

*PHACELIA CONGESTA*, Hook. At Monterey, Nuevo Leon (2028), and a very hispid form from Corpus Christi, Texas (849).

*PHACELIA GLANDULOSA*, Nutt., var. *NEO-MEXICANA*, Gray. In the mountains east of Saltillo (850).

*PHACELIA INTEGRIFOLIA*, Torr. At San Lorenzo de Laguna, Coahuila (851).

*WIGANDIA KUNTHII*, Choisy. At Guanajuato (Dugès). Known as "Ortiga grande."

*NAMA* \* *STENOCARPUM*, Gray. In Coahuila, very common (853, 857). The anomalous cohesion of calyx-tube with ovary and capsule in this species (of which traces may be detected in some other species), which long escaped notice, I have referred to in the account of this genus contributed to the Botany of the Biologia Centrali-Americana, page 361. Our attention was first called to it by Dr. Vasey. The character "capsula inferne cum calyce longius adnata" in the work referred to, which belongs to this species, is accidentally appended to *N. stenophyllum*.

*NAMA HISPIDUM*, Gray. Different forms, from Sutherland Springs, Texas (2108), Monclova, Coahuila (860), and Monterey, Nuevo Leon (854).

*NAMA DICHOTOMUM*, Choisy, var. *ANGUSTIFOLIUM*, Gray. In the Sierra Madre, south of Saltillo (855), and in the San Rafael Mountains, San Luis Potosi (613 Schaffner). 610 Parry & Palmer is the typical form.

*NAMA PALMERI*, Gray in Hemsl. Bot. Biol. Centr.-Amer. 2. 361. At Soledad, Coahuila (856), and at San Luis Potosi, a more canescent form (77 Schaffner); 615½ Parry & Palmer.

*NAMA UNDULATUM*, HBK. At Monclova, Coahuila (858); 607 and 608 Parry & Palmer.

*NAMA COULTERI*, Gray. At San Lorenzo de Laguna, Coahuila (859). The sepals are scarcely dilated upward; but this appears to be the plant of Coulter, and also of Gregg. I had taken Palmer's plant for a form of the polymorphous *N. hispidum*.

*NAMA STENOPHYLLUM*, Gray, l. c. [Exclude the last phrase of the specific character, which was appended by mistake in transcribing. As the context shows (see line 5 of the same page), this belongs to *N. stenocarpum*.] At San Lorenzo de Laguna, Coahuila (862), clearly frutescent and evidently a denizen of saline soil. Dr. Havard has collected the same on the banks of Delaware Creek, near the Rio Grande, in Texas. Also a more hirsute and herbaceous form, from the same region (861).

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\* The determinations and notes under this genus are contributed by DR. GRAY.

*NAMA SERPYLLOIDES*, Gray, l. c., 363. At Monclova (982).

*NAMA RUPICOLA*, Pavon. At Soledad, Coahuila (2023); 612 Parry & Palmer, in part. — Var. *ROTUNDIFOLIUM*, Gray, l. c., 363. At Monclova, Coahuila (983), and a very soft-villous rounder-leaved form from Monterey, Nuevo Leon (984).

*NAMA SUBPETIOLARE*, Gray, l. c., 365. Near Monterey, Nuevo Leon (985).

*NAMA JAMAICENSE*, Lind. At Monterey (986).

*NAMA ORIGANIFOLIUM*, HBK. The specimens which best accord with Kunth's figure are from San Luis Potosi (732 Schaffner). Some of 612 Parry & Palmer are the same, while others appear to belong to *N. rupicola*.

*NAMA SCHAFFNERI*, Gray, l. c., 361. Near Morales, San Luis Potosi (194 Schaffner); 609 Parry & Palmer.

*CORDIA GREGGII*, Torr. At San Lorenzo de Laguna, Coahuila (876).

*CORDIA BOISSIERI*, DC. At Monterey, Nuevo Leon (877), where it is popularly known as "Nacaguista" and a decoction of the bark is much used for coughs and colds; 1126 Parry & Palmer.

*CORDIA PODOCEPHALA*, Torr. At Soledad, Coahuila (1024).

*EHRETIA ELLIPTICA*, DC. (*E. ciliata* and *E. exasperata*, Miers.) At Corpus Christi, Texas (870), in fruit, and at Monterey, Nuevo Leon (871), in flower; 591½ Parry & Palmer. Growing to a height of 20 or 30 feet, and retaining its leaves and abundant fruit most of the year; the pale yellow sweetish berries edible; flowers cream-white, very fragrant. The Mexican specimens have been referred to *E. ciliata*, Miers, which was founded upon a Texan specimen (665 Lindheimer) and cannot be distinguished from *E. elliptica*.

*COLDENIA CANESCENS*, DC. At Parras (873) and Monclova, Coahuila (874, in part), at Monterey, Nuevo Leon (1018), and in the San Miguelito Mountains, San Luis Potosi (631 Schaffner); 615 Parry & Palmer. Flowers described as light blue, becoming pink.

*COLDENIA HISPIDISSIMA*, Gray. At Monclova, Coahuila (898). "Flowers rose-color."

*COLDENIA (EDDYA) MEXICANA*. Perennial, woody at base, prostrate, more or less setosely hispid and tomentose: leaves ovate to broadly lanceolate, more or less abruptly attenuate into a slender petiole, veinless: flowers sessile, clustered; sepals narrowly linear; corolla 3 lines long, rose-color: nutlets (only two usually maturing) less finely and closely granulated than in the last, scarcely ½ line long. — In the mountains east of Saltillo (872), and at Monclova, Coahuila

(874, in part); 616½ Parry & Palmer. Much resembling *C. canescens*, but with more ovate leaves, and with the fruit and the more unequally inserted stamens of the section *Eddyia*. The embryo is straight and the cotyledons entire.

**COLDENIA TOMENTOSA.** Resembling the last, but of closer habit and more densely leafy, the thicker ovate-lanceolate leaves densely tomentose beneath, as well as setosely hispid, more strongly revolute and mostly with shorter petioles: flowers somewhat larger, "purple" or "magenta," with longer filaments and larger anthers: nutlets decidedly larger ( $\frac{2}{3}$  of a line long) and more coarsely granulated. — In the Sierra Madre, south of Saltillo (864).

**COLDENIA GREGGII,** Gray. At San Lorenzo de Laguna, Coahuila (865). "Flowers rose-color."

**TOURNEFORTIA CAPITATA,** Mart. & Gal. At Guanajuato (Dugès); 613 Parry & Palmer.

**TOURNEFORTIA MONCLOVANA.** Perennial, stout, herbaceous, a foot high, tomentosely pubescent throughout: leaves ovate to oblong-lanceolate, acute, abruptly cuneate at base, 2 to 4 inches long, on stout petioles: spikes in pairs or threes, on peduncles nearly equalling the leaves, ebracteolate: calyx-lobes narrowly linear,  $1\frac{1}{2}$  lines long; corolla glabrous, 3 or 4 lines long, the limb as long as the tube, and throat naked: anthers sessile on the middle of the tube, acute: stigma conical, sessile: fruit subglobose, pubescent,  $1\frac{1}{2}$  lines in diameter. — In the mountains northeast of Monclova, Coahuila (887). Resembling *T. hirsutissima*, but with more simple inflorescence, glabrous corolla, etc.

**HELIOTROPIUM ANGUSTIFOLIUM,** Torr. In the Caracol Mountains (879), at Soledad (880), and Juraz, in Coahuila (881), and at Monterey, Nuevo Leon (405, 878). Flowers cream-color.

**HELIOTROPIUM CONFERTIFOLIUM,** Torr. At Laredo, on the Rio Grande (875), the typical form; 616 Parry & Palmer. This is probably the same as *H. rupestre*, Mart. & Gal., which is an older name. Also a less silky variety, more diffuse and with the leaves less crowded, from Monclova (863) and Soledad, Coahuila (890). This is the *H. limbatum* of the Botany of the Mexican Boundary, scarcely differing from *H. limbatum*, Benth., but in the more leafy and scarcely at all scorpioid inflorescence. Flowers white.

**HELIOTROPIUM INUNDATUM,** Swartz. At San Lorenzo de Laguna, Coahuila (882), and a low decumbent form in the San Miguelito Mountains of San Luis Potosi (726 Schaffner); 619 Parry & Palmer. Also a variety, more canescent and with larger and more hispid fruit

in closer spikes, from Monterey (885). 522 Coulter and specimens collected by Palmer in 1869 on the Yaqui River, Arizona, are nearly the same. Flowers yellow or yellowish.

*HELIOTROPIUM GLABRIUSCULUM*, Torr. At Laredo on the Rio Grande (884), and in the mountains west of Saltillo, Coahuila (883). Flowers cream-white.

*HELIOTROPIUM PARVIFLORUM*, Linn. At Laredo on the Rio Grande (886) and in the region west of San Antonio, Texas, and at Monclova, Coahuila (1021); 617 Parry & Palmer.

*HELIOTROPIUM GREGGII*, Torr. At San Lorenzo de Laguna, Coahuila (888).

*HELIOTROPIUM CONVULVULACEUM*, Gray. In the region west of San Antonio, Texas (889).

*HELIOTROPIUM (EUHELIOTROPIUM) PALMERI*, Gray in herb. Perennial, herbaceous, branching from the base, the slender stems ascending, strigose-pubescent throughout, a span high: leaves linear, or linear-oblongate on the main stem, nearly sessile, acute or obtusish, 6 to 10 lines long, the margin somewhat revolute: spikes mostly lateral and simple, ebracteolate, becoming one or two inches long in fruit, rather few-flowered: calyx-lobes linear, a line long or less; corolla white, 3 lines long, with a broad spreading limb: nutlets subglobose, pubescent. — At Soledad, Coahuila (891, 892); very common.

*HELIOTROPIUM CURASSAVICUM*, Linn. About San Luis Potosi (724 Schaffner).

*OMPHALODES ALIENA*, Gray; Hemsley, Bot. Biol. Centr.-Amer. 2. 377. At Monterey, Nuevo Leon (893).

*OMPHALODES CARDIOPHYLLA*, Gray; Hemsley, l. c. At Saltillo, Coahuila (894). The relations of these species are hardly clear. They seem to belong to *Paracaryum* rather than to *Omphalodes*, if these genera are to be retained as characterized by Bentham & Hooker, the nutlets being attached nearly their whole length, from just above the base to the apex, to the erect-pyramidal gynobase. The thin-membranous character of the flattened nutlets, as well as the habit, separates them from *Echinospermum*.

*ERITRICHIMUM FULVOCANESCENS*, Gray. In the Sierra Madre, south of Saltillo (895).

*ERITRICHIMUM HISPIDUM*, Buckl. At Lerios in the high mountains east of Saltillo (896, 2046), and in the San Rafael Mountains, San Luis Potosi (731 Schaffner); 623 Parry & Palmer.

*ANTIPHYTUM FLORIBUNDUM*, Gray. In the San Miguelito Mountains, San Luis Potosi (730 Schaffner).

**ANTIPHYTUM PARRYI.** Perennial (?), low (2 to 4 inches high), branching from the base, stems ascending, canescent with a somewhat silky and substrigose pubescence: leaves linear-oblongate, 2 to 4 lines long: flowers nearly sessile, axillary: calyx-lobes linear, 2 lines long: nutlets granulate, the sessile triangular-ovate scar with a narrow slightly raised margin and minute central perforation. — 618 Parry & Palmer (with some *Heliotropium confertifolium*), collected by Dr. Parry, in August, 1878, between San Luis Potosi and San Antonio.

**LITHOSPERMUM SPATHULATUM**, Mart. & Gal. In the Sierra Madre, south of Saltillo (899); a low hispid form.

**LITHOSPERMUM MATAMORENSE**, DC. At Guajuco (901) and Monterey, Nuevo Leon (902). Referred by Hemsley to *Eritrichium*.

**LITHOSPERMUM ANGUSTIFOLIUM**, Michx. At Lerios, in the mountains east of Saltillo (900), the small-flowered form, and with nutlets not punctate. Also a variety with laxer habit, broader leaves, and larger flowers; in the Caracol Mountains (897), and at Soledad, Coahuila.

**LITHOSPERMUM STRICTUM**, Lehm. Near San Miguelito, San Luis Potosi (728 Schaffner); 620 and 622 Parry & Palmer.

**LITHOSPERMUM DISTICHUM**, Ort. In the San Miguelito Mountains (729 Schaffner); 621 Parry & Palmer.

**LITHOSPERMUM PALMERI.** Perennial, herbaceous, tall and erect (2 feet high), pubescent with mostly very short strigose hairs: leaves sessile, ovate-oblong, acute or short-acuminate, 1 to 2 inches long: flowers axillary, on pedicels 3 to 6 lines long: calyx villous below, the linear acuminate lobes 6 to 8 lines long; corolla cream-yellow, nearly an inch long, tomentose, cylindrical, contracted at the naked throat, with small rounded spreading lobes: style as long as the corolla: nutlets not punctate, nor much contracted above the base. — In the Sierra Madre, south of Saltillo, Coahuila (903). With the habit of an *Onosmodium*.

**IPOMŒA CARDIOPHYLLA**, Gray. At Soledad, Coahuila (904). The peduncles mostly several-flowered, longer than the petioles.

**IPOMŒA MEXICANA**, Gray. At Soledad (905).

**IPOMŒA LINDHEIMERI**, Gray. At Soledad (906).

**IPOMŒA COMMUTATA**, Roem. & Schult. At Soledad (907).

**IPOMŒA SINUATA**, Ort. At Uvalde, Texas (908).

**IPOMŒA TRIFIDA**, Don, var. **TORREYANA**, Gray. At Bluffton, Texas (909).

**IPOMŒA MURICATA**, Cav. In the Sierra Madre, south of Saltillo (910).