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A NEW SPECIES OF *DESMODIUM* (FABACEAE) FROM NORTHEASTERN MEXICO, WITH COMMENTS ON THE GENUS IN NUEVO LEON

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ABSTRACT

A new species of *Desmodium*, **D. subrosum** Nesom, is described from northern Zacatecas and immediately adjacent Nuevo León in northeastern México. Fourteen species of *Desmodium* are recorded from Nuevo León, México.

KEY WORDS: *Desmodium*, Fabaceae, Nuevo León, México

In identification of LL,TEX *Desmodium* of northeastern México, one previously unidentified species has come to light.

Desmodium subrosum Nesom, *sp. nov.* TYPE: MEXICO. Zacatecas: near Concepción del Oro, 11-14 Aug 1904, *Palmer 288* (HOLOTYPE: US!; Duplicates at GH and NY, *fide* Schubert 1940).

Desmodium rosei Schubert similis sed differt duratione perenni, caulibus procumbentibus ad basim ligneisque, et pedicellibus brevioribus.

Perennial, suffrutescent herbs arising from a woody root. Stems highly branched, procumbent, up to 50 cm long, glabrous to sparsely pubescent with minutely uncinulate hairs. Leaves trifoliolate, leaflets linear to linear-lanceolate, 1-5 mm wide, 1-5 cm long, acute to obtuse, minutely apiculate at the apex, rounded at the base, reticulate venation distinctly evident, green above and usually with minute, appressed hairs, paler beneath and strigose. Stipules and floral bracts narrowly triangular-lanceolate, reflexed. Inflorescence racemose-paniculate, mostly 8-20 cm long, sparsely floriferous; pedicels filiform, 5-10 mm long, sparsely pubescent to glabrate; calyces minutely strigose, 1.3-1.5 mm long, the lobes triangular; corollas ca. 2 mm long, whitish to pink,

blue, or purple. Loment on a basal stipe 1-2 mm long; articles 1-4, flat or biconvex, 3.0-3.5 mm broad, 3-5 mm long, glabrous, with prominent reticulate venation and minutely but distinctly undulate margins.

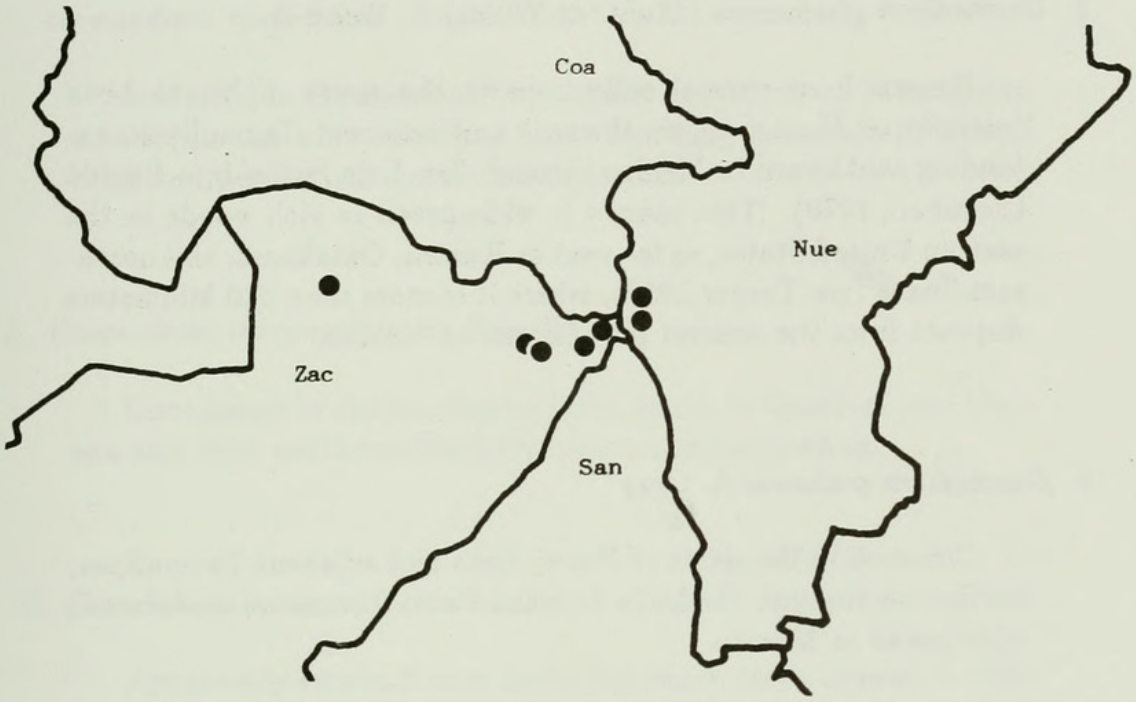
Mostly on igneous substrate, rarely limestone, growing in various mixtures of *Yucca*, *Opuntia*, *Agave*, *Dasylirion*, *Mimosa*, *Fouquieria*, *Salvia*, *Aloysia*, *Artemisia*, grasses, sometimes reaching oak chaparral, ca. 1850-2600 m; flowering June-September.

Additional collections examined: MEXICO. Nuevo León: Mpio. Galeana: S part of Cerro Pedregoso [or Sierra del Astillero], 1.5 km W of El Penuelo, steep, eroded slopes of igneous rock, 1850-2300 m, 18 Jun 1972, *Chiang et al. 7963* (LL); El Penuelo, top of hill, 2130 m, 24 Jul 1991, *Hinton et al. 21133* (TEX). Zacatecas: 3.1 (road) mi above Concepción del Oro, on ridge W of city, S-facing granite slopes, 8000 ft, 30 Aug 1971, *Henrickson 6286* (LL); 16 (air) mi E of Concepción del Oro, just below and W of ridge of igneous Sierra del Astillero, ca. 1/2 mi W of summit, ca. 3 mi NE of Guadalupe Garcerón, 7200 ft, 22 Sep 1973, *Henrickson 13331* (LL); 15 (air) mi NE of Estación Camacho on NW slopes of Pico de Teyra, rocky granite boulder area, 7100 ft, 23 Sep 1973, *Henrickson 13434* (LL); Sierra del Astillero (approached from SE, from Tanque El Alto), limestone, [ca. 2500 m], 2 Jul 1973, *Johnston et al. 11565A* (LL).

Desmodium subrosum is an endemic of the Chihuahuan Desert Region (CDR) (Map 1) quickly recognized by its trifoliolate leaves with linear leaflets, small flowers, and short-stipitate loments of 3-4 orbicular articles with slightly undulate margins. *Desmodium neomexicanum* A. Gray, which occurs sporadically in the CDR, is closely related (Schubert 1940), but the plants are annual and have broader leaflets. The new species is most closely related to *D. rosei* Schubert, which it resembles in leaf and fruit morphology.

The type collection of *Desmodium subrosum* was identified by Schubert (1940) as *D. rosei*, but it stands apart from the latter in morphology as well as geographic distribution. Plants of *D. rosei* are annual, with 1-few erect to ascending, herbaceous stems arising from a slender taproot, and with pedicels mostly 15-25 mm long, while those of *D. subrosum* are perennial, with procumbent, basally woody stems from a woody and distinctly thickened taproot, and with pedicels mostly 5-10 mm long. Schubert's addition of the term "suffrutescent" to the description of *D. rosei* surely referred to the plants of Palmer's collection, as typical *D. rosei* is strictly herbaceous. *Desmodium rosei* occurs in southern Arizona, southwestern New Mexico, Sonora, and western Chihuahua, distantly separated from the populations of *D. subrosum* in Zacatecas and Nuevo León. The close morphology of the members of this allopatric, annual/perennial pair marks them as sister species.

Desmodium subrosum is one of fourteen species known from the state of Nuevo León, each listed below with a brief description of its geographic range. Many species of *Desmodium* have wide ranges; eight of those from Nuevo León



Map 1. Geographic distribution of *Desmodium subrosum*.

occur in the region of Novo-Galiciana and are treated in detail by McVaugh (1987), these marked with an asterisk in the following account. Six of these species also have been included by Estrada & Marroquin (1992) in their account of Fabaceae from south-central Nuevo León.

1. *Desmodium aparines* (Link) DC.*

Apparently rare in Nuevo León, south to Puebla, Oaxaca, Chiapas, and Central America, west to Michoacán and Jalisco.

2. *Desmodium caripense* (Kunth) G. Don

The reference to *Desmodium paniculatum* (L.) DC. in México by Estrada & Marroquin (1992), and perhaps also by Schubert (1970), were in regard to this species, which ranges from sierran Nuevo León (as far north as Monterrey) and Tamaulipas southward through San Luis Potosí and Veracruz to Central and South America (the type from Venezuela). Compared to *D. paniculatum*, plants of *D. caripense* have shorter, basally ascending stems often arising from slender rhizomes, with the leaves clustered toward the stem base.

3. *Desmodium glutinosum* (Muhl. *ex* Willd.) A. Wood

Known from several collections in the sierra of Nuevo León (vicinity of Monterrey southward) and adjacent Tamaulipas, extending southward in México through San Luis Potosí into Puebla (Schubert 1970). This species is widespread in rich woods in the eastern United States, as far west as Kansas, Oklahoma, and northeast Texas (see Turner 1959), where it is more than 800 kilometers disjunct from the nearest populations in México.

4. *Desmodium grahamii* A. Gray*

Common in the sierra of Nuevo León and adjacent Tamaulipas, northward through Coahuila to trans-Pecos Texas and in Arizona; widespread in México.

5. *Desmodium hartwegianum* Hemsley var. *amans* (S. Wats.) Schubert*

Scattered at low elevation in sierran Nuevo León, south through San Luis Potosí (the type locality of var. *amans*) to Guatemala, west to Nayarit and Durango. The status of the two, broadly sympatric varieties of this species needs to be re-evaluated.

6. *Desmodium lindheimeri* Vail

Relatively common in Nuevo León, south into San Luis Potosí, northwest to Coahuila; also on the Edwards Plateau of south-central Texas, where it has been known only from the type locality (see Turner 1959) until recently.

7. *Desmodium lineatum* DC.

Noted by Schubert (1970) to occur in Nuevo León; otherwise in sandy woods on the United States coastal plain from east Texas to Florida and Maryland.

8. *Desmodium molliculum* (Kunth) DC.*

Scattered in the sierra of Nuevo León and adjacent Tamaulipas, mostly on the eastern slope; more common across south-central México, into Central and South America.

9. *Desmodium macrostachyum* Hemsley*

Uncommon in sierran Nuevo León, south to Guerrero and Oaxaca and then northwestward to Jalisco and Chihuahua.

10. *Desmodium neomexicanum* A. Gray*

Apparently rare in Nuevo León, but much more abundant westward in México, northwestward into trans-Pecos Texas, New México, and Arizona.

11. *Desmodium psilophyllum* Schlecht.

Common in Nuevo León, south through eastern México to Guatemala, west and northwest to trans-Pecos Texas and Arizona, Coahuila, Chihuahua, and Durango.

12. *Desmodium subrosum* Nesom

This species has the most restricted geographic range of those from Nuevo León (see detailed comments above and Map 1).

13. *Desmodium tortuosum* (Sw.) DC.*

Rare in central Nuevo León; scattered across the southeastern United States from east Texas and scattered through México into Central and South America.

14. *Desmodium retinens* Schlecht.*

Common in the sierra of Nuevo León and adjacent Tamaulipas, extending southward to Hidalgo, westward from there into the Novo-Galiciana area (McVaugh 1987) and then northward into Arizona. This species was identified as *Desmodium neomexicanum* by Estrada & Marroquin (1992).

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