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NOTES ON THE FLORA OF THE YUCATAN PENINSULA V: NEW RECORDS AND MISCELLANEOUS NOTES FOR THE FAMILY LEGUMINOSAE

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Abstract: Two novelties of the family Leguminosae, *Acaciella villosa* (Sw.) Britton et Rose and *Zornia gemella* Vogel, are reported for the first time from the Yucatan Peninsula Biotic Province. Additionally, information on two other little known species is included: *Rhynchosia americana* (Mill.) Metz, and *Senna reticulata* (Willd.) H.S.Irwin et Barneby. Lastly, information on some other species or names used in the region is discussed: *Acacia spadicigera* Schltdl. et Cham., *Albizia adinocephala* (Donn.Sm.) Britton et Rose, *Albizia rubiginosa* Miq., *Bauhinia glabra* Jacq., *Eriosema simplicifolium* (Kunth) G.Don, *Lonchocarpus cochleatus* Pittier, and *Zornia diphylla* (L.) Pers.
Key words: flora, Leguminosae, Mexico, Yucatan Peninsula Biotic Province.

Resumen: Se presentan dos novedades de la familia Leguminosae para la Provincia Biótica de la Península de Yucatán: *Acaciella villosa* (Sw.) Britton et Rose y *Zornia gemella* Vogel. Se incluye información de dos especies poco conocidas en el área: *Rhynchosia americana* (Mill.) Metz y *Senna reticulata* (Willd.) H.S.Irwin et Barneby. Por último, se analiza información sobre otras especies o nombres usados en la Península: *Acacia spadicigera* Schltdl. et Cham., *Albizia adinocephala* (Donn.Sm.) Britton et Rose, *Albizia rubiginosa* Miq., *Bauhinia glabra* Jacq., *Eriosema simplicifolium* (Kunth) G.Don, *Lonchocarpus cochleatus* Pittier y *Zornia diphylla* (L.) Pers.
Palabras clave: flora, Leguminosae, México, Provincia Biótica Península de Yucatán.

A brief botanical survey of the Mexican portion of the Yucatan Peninsula Biotic Province (YPBP) suggests that the family Leguminosae is one of the most important elements of the region, regarding number of species, frequency, and biomass. Sosa *et al*. (1985) reported a total of 1,939 species for this region, of which 244 are legumes, representing 12.1% of the flora. A second checklist (Durán *et al.*, 2000) provided the figure of 2,477 species for the region, with the number of legumes remaining the same; this was also supported by Arellano-Rodríguez *et al.* (2003). As part of the project "Illustrated Flora of the Yucatan Peninsula", we began to study in detail the botanical material of the family Leguminosae deposited at the herbarium CICY and other herbaria (BM, K, MEXU, UADY, and UCAM). As a result, two taxonomic novelties for the Mexican portion of the YPBP are reported here, together with relevant taxonomic and geographical comments about these two new records and other species of interest for this region.

Acaciella villosa (Sw.) Britton et Rose, N.Amer.Fl. 23:104. 1928. Figure 1a.
Mimosa villosa Sw., Prodr. 85. 1788.
Acacia villosa (Sw.) Willd., Sp.Pl. 4:1067-1068. 1806.
Acaciella fisheri Britton et Rose, N.Amer.Fl. 23:99. 1928. As "*Fisheri*".
MATERIAL EXAMINED: MEXICO: Campeche, km 267, carretera a Villahermosa, Municipio Carmen, ruderal en un

potrero ganadero (*fl.*), 2 octubre 1988, *J.S. Flores 10277* (CICY, UADY).

DISTRIBUTION: Mexico (Campeche, Chiapas, Guerrero, Jalisco, Michoacan, and Tamaulipas), Central America, Venezuela, Ecuador, Peru and the West Indies.

DISCUSSION: This is the first record of *A. villosa* in the

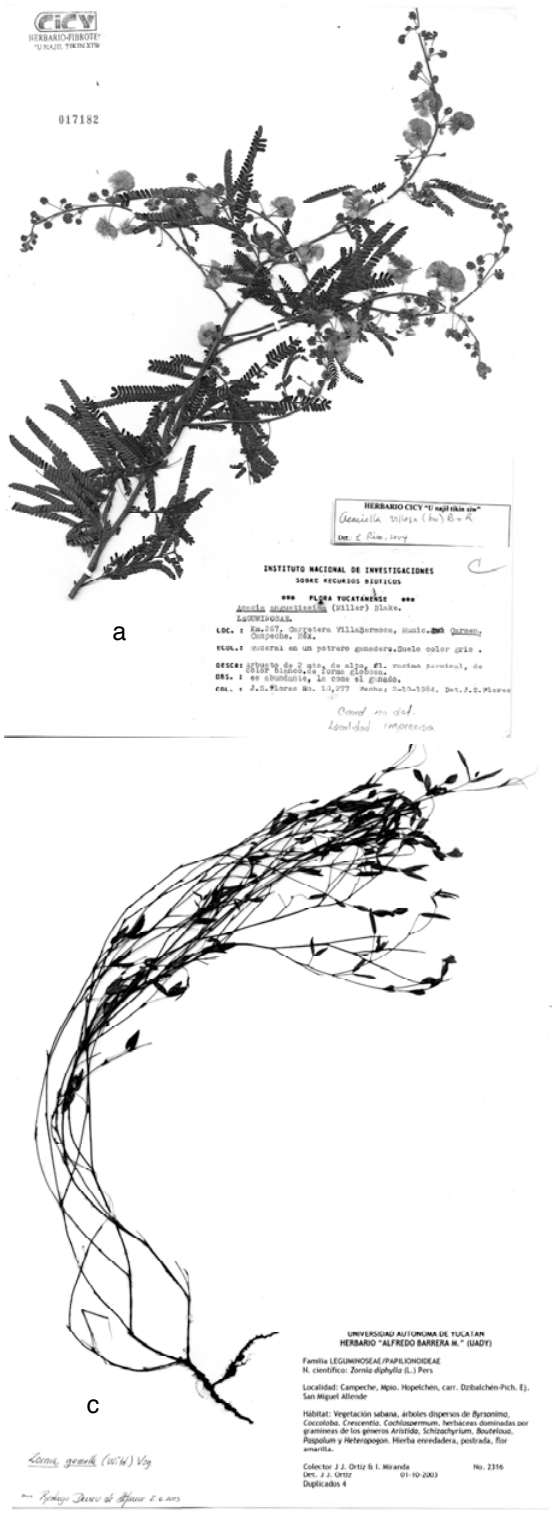

Figure 1. Herbarium specimens. **A.** *Acaciella villosa* (Sw.) Britton et Rose (*J.S. Flores 10277*, CICY). **B**. *Rhynchosia americana* (Mill.) Metz (*C. Chan y J.S. Flores 555*, CICY). **C.** *Zornia gemella* Vogel (*J.J. Ortiz e I. Miranda 2316*, UADY).

Mexican portion of the YPBP. Standley (1930) recorded this species for the Mayan area without voucher references, and mentioned the Mayan names *xaax*, *kantebo*, and *kante - mo*, and the fact that it is used as medicinal. The most common species of the genus in the region is *A. angustissima* (Mill.) Britton et Rose var. *angustissima*. The latter species is differentiated from *A. villosa* by the following characters: it is a tree up to 5 m tall (in the former case, maximum height is 1.5 m); their leaves are smaller, up to 8.5 cm long (in the former case up to 28 cm long); there are more pinnae by leaf, 3-8 (10) (in the former case 3-6); there are less leaflets, 7-25 [in the former case 20-35 (-50)], the margins are involuted, and the abaxial surface is densely villose (in the former case, glabrous or pubescent but never villose).

Rhynchosia americana (Mill.) Metz, Cath. Univ. Amer.Biol.Ser. 16:126-127. 1934. Figura 1b.
Lathyrus americanus Mill., Gard.Dict. ed. 8. *Lathyrus* n. 19. 1768. as: "*Americana*".
MATERIAL EXAMINED: México (Campeche), Puerto Rico-Atasta, Municipio Carmen (*fl., fr.*), 28-06-1981, *C. Chan* y *J.S. Flores 555* (CICY, MEXU); 5 km al E de Cd. del Carmen, Municipio Carmen, 18°38'30"N, 91°45'55"O, 10 m s.n.m., manglar secundario, ruderal (*fl.*), 27-05-1996, *C. Gutiérrez B. 5271* (MEXU, UACAM, UADY).
DISTRIBUTION: Mexico (Campeche, Chiapas, Colima, Durango, Guerrero, Hidalgo, Queretaro, Oaxaca, San Luis Potosi, Sinaloa, Tamaulipas, and Veracruz). Also United States of America (Texas) (Grear, 1978).
DISCUSSION: This species was not included in any of the previous floristic checklists for the entire Yucatan Peninsula (Sosa *et al*., 1985; Durán *et al*., 2000; Arellano-Rodríguez *et al*., 2003). It was included, however, in the checklist of Campeche State (Gutiérrez-Báez, 2000) with no mention about the novelty for the state and the Mexican portion of the YPBP. This is a species with unifoliate leaves, leaflets wider than longer, base cordate and apex rounded; calyx with a very short tube and long lobes. The presently known distribution of this species is broader than reported by Grear (1978).

Senna reticulata (Willd.) H.S.Irwin et Barneby, Mem.New York Bot.Gard. 35:458. 1982.
Cassia reticulata Willd., Enum.Pl. 1:443. 1809.
MATERIAL EXAMINED: MEXICO: Campeche, orilla de vía de FF.CC. frente al deportivo Sta. Ana, Cd. de Campeche, Mpio. Campeche, 19°49'45" N, 90°31'45" O, 8 m s.n.m., selva baja subcaducifolia secundaria, ruderal (*fl.*), 29-11-1998, *C. Gutiérrez B. 6066* (CICY).
DISTRIBUTION: Mexico (Campeche, Chiapas, Oaxaca, Tabasco, and Veracruz), Central America and South America to Brazil and Bolivia (Irwin and Barneby, 1982).
DISCUSSION: This species had been reported only by Arellano-Rodríguez *et al.* (2003) without mention of a voucher. In the synoptic revision of Irwin and Barneby (1982), the species was recorded for the states of Chiapas, Oaxaca, Tabasco, Veracruz, as well as Yucatan in Mexico, and Central America and South America. It is a member of section *Senna* ser. *Pictae* (Benth.) H.S.Irwin et Barneby, and it is similar to *S. alata* (L.) Roxb. The most evident difference between them is the length of the petiole and the pod; the former species has short petioles, up to 3.5 cm long and a sharply 4-angular, winged pod with a rhombic cavity in cross section. *S. reticulata* has petioles up to 13 cm long and a plane-compressed pod, not winged and cavity linear-elliptic in cross section. In Yucatan, the Mayan name is *yaaxhabin.*

Zornia gemella Vogel, Linnaea 12:61. 1838. Figure 1c.
Hedysarum gemellum Willd. ex Vogel, Linnaea 12:61. 1838.
MATERIAL EXAMINED: MEXICO: Campeche, Hopelchén, Carr. Dzibalchén-Pich, ejido San Miguel Allende, vegetación sabana (*vg*.), 27-08-2002, *J.J. Ortiz e I. Miranda 2126*, (CICY, UADY); same locality, vegetación sabana (*fr*.), 01-10-2003, *J.J. Ortiz e I. Miranda 2316*, (UADY).
DISTRIBUTION: United States of America (Texas) and the Neotropics (Mohlenbrock, 1961).
DISCUSSION: One specimen (*J.J. Ortiz e I. Miranda 2316*, UADY) known for the area was previously identified as *Z. diphylla* (L.) Pers. Mohlenbrock (1961) mentioned that this latter taxon only occurs in Asia and it is the most distinctive species of the genus because of its large, glabrous and glandular fruits. Our specimen does not have any of these characters. In *Flora Novo-Galiciana*, McVaugh (1987) mentioned that the name corresponds to an Asian species, regarding its use in many Mexican specimens. This is the first record for the genus and the species in the Mexican portion of the YPBP area. *Zornia* is a genus of the subfamily Papilionoideae, tribe Dalbergiae (Lavin *et al.*, 2001), easily identified from the other genera of the group occurring in the region. They are erect or decumbent herbs, with only two leaflets, at least in the Peninsula, and the flowers are protected by two peltate bracts.

Species and names excluded

Acacia spadicigera Schltdl. et Cham., Linnaea 5:594-595. 1830.
DISCUSSION: This name was included in the most recent checklist of the area (Arellano-Rodríguez *et al*., 2003). Nevertheless, this name has been considered for a long time as synonymous of one of the most common species of this region: *A. cornigera* (L.) Willd. (Rudd, 1964).

Albizia adinocephala (Donn.Sm.) Britton et Rose, N.Amer.Fl. 23:47. 1928.
Pithecellobium adinocephalum Donn.Sm., Bot.Gaz. 57:419-420. 1914.
DISCUSSION: This species was reported by Arellano-Rodríguez *et al*. (2003) for the State of Campeche without

any voucher or reference. Barneby and Grimes (1996) reported it for southern Mexico (Oaxaca and Chiapas), Guatemala (Petén), and Central America. Its presence in the Yucatan Peninsula has not yet been confirmed.

Albizia rubiginosa Standl. ex Lundell, Publ.Carnegie Inst.Wash. 436:283. 1934. *nom. illeg.*, non Miquel, Fl.Ned.Ind. 1855.
= *Havardia albicans* (Kunth) Britton et Rose.
DISCUSSION: Recorded for the area by Arellano-Rodríguez *et al*. (2003). Barneby and Grimes (1996) recognized it as a synonym of *Havardia albicans* (Kunth) Britton et Rose, and we agree with these authors.

Bauhinia glabra Jacq., Enum.Syst.Pl. 20. 1760.
DISCUSSION: This species occurs in Chiapas, Oaxaca, and Veracruz States. It was recorded in the area by Sosa *et al.* (1985), and Arellano-Rodríguez *et al.* (2003). The single collection mentioned, *Marroquín* 251 (MEXU), corresponds in fact to *B. herrerae* (Britton et Rose) Standl. et Steyerm.

Eriosema simplicifolium (Kunth) G.Don, Gen.Hist. 2:348. 1832.
Glycine simplicifolia Kunth, Nov.Gen.Sp. quarto ed. 6:419. 1823 [1824].
DISCUSSION: Grear (1970) does not report any species of the genus *Eriosema* for the Mexican portion of the YPBP. Sosa *et al*. (1985) and Durán *et al*. (2000) mentioned *E. simplicifolium* based on *C. Chan y J. S. Flores 555* (CICY). This specimen corresponds to *Rhynchosia americana* (Mill.) Metz. Until now, there is no record of *Eriosema* in the Mexican portion of the Yucatan Peninsula.

Lonchocarpus cochleatus Pittier, Contr.U.S.Natl.Herb. 20:68, t. 4C. 1917.
DISCUSSION: This species was described from Guerrero State. According to McVaugh (1987) and herbarium specimens, it only occurs along the Pacific Coast, in the states of Jalisco and Michoacan. *Lonchocarpus cochleatus* was recorded for the Mexican portion of the Yucatan Peninsula by Durán *et al*. (2000) using the voucher *P. Cruz s.n.* (CICY). This specimen, however, is correctly identified as *Piscidia piscipula* (L.) Sarg., a common legume of the region, locally called *jabín.*

Zornia diphylla (L.) Pers.
DISCUSSION: see comment under *Z. gemella* Vogel. The species must be excluded of the list of taxa of the YPBP.

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