THE TEXAS SPECIES OF CALLIANDRA (LEGUMINOSAE, MIMOSOIDEAE)

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Abstract: The genus Calliandra is represented in Texas by five species: C. biflora Tharp, a relatively uncommon taxon of southern Texas and Tamaulipas, Mexico; C. conferta Benth., a somewhat uncommon, species of northern Mexico, south-central and southern Texas; C. eriophylla Benth., a widespread variable species of Mexico, represented in Texas by rare outlier populations in Uvalde County; C. humilis Benth. (including C. herbacea Engelm. ex A. Gray), a very distinctive herbaceous species of Mexico, occurring in Texas in mostly montane igneous soils of the trans-Pecos, and C. iselyi B. L. Turner, sp. nov., a newly proposed species from the Big Bend region of trans-Pecos, Texas, this previously included under the descriptive parameters of C. conferta. A key to the Texas species of Calliandra is provided along with dot maps showing their distribution.

Keywords: Calliandra, Leguminosae, Texas.

Isely (1998) provided a treatment of Calliandra for the United States. In this he recognized six species as native to the U.S.A., five of these occurring in Texas. Unfortunately, he failed to note that one of the latter, C. media (Mart. & Gal.) Standl. (syn. C. coulteri S. Wats.) was transferred to the genus Zapoteca by Hernandez (1989). With this transfer, only four species of Calliandra might be said to occur in Texas. Preparation of a revised treatment of The Legumes of Texas (Turner 1959) has occasioned a re-study of Calliandra for the state, this prompting the present paper in which the removal of C. media is sanctioned, and a new species, C. iselyi, is proposed. A key to the above mentioned Texas taxa follows:

KEY TO SPECIES

1. Plants herbaceous; leaves 5–10 cm long 
   4. Leaves with mostly 2–3 pairs of pinnae
   3. C. eriophylla
   4. Leaves with mostly 1 pair of pinnae
   5. Peduncles 10–20 mm long; petals glabrous or nearly so
   5. Peduncles 1–5 mm long; petals markedly pubescent
   2. C. conferta

1. CALLIANDRA BIFLORA Tharp, Rhodora 56: 132. 1954. Fig. 1.
   Isely (1998) provided an adequate treatment of this species, as did Barneby (1998). The latter worker in his map showing the distribution of the two species, C. biflora and C. conferta, reversed the symbols concerned. Mahler (1981) has provided an excellent line drawing of C. biflora.

2. CALLIANDRA CONFERTA Benth. in A. Gray, Pl. Wright. 1: 63. 1852. Figs. 2, 3.
   This taxon was treated as synonymous with Calliandra eriophylla by McVaugh (1987), as discussed under the latter taxon. Isely (1998) accepted its specific status, as did Barneby (1998) and the present author (see discussion under C. eriophylla). Following my original observations (Turner 1959), Isely also noted that, in Texas, C. conferta has a western element with elongate peduncles, the specimens concerned
Fig. 1. Distribution of Calliandra biflora (triangles), C. eriophylla (open circles), C. humilis (closed circles) in Texas.

Fig. 2. Distribution of Calliandra conferta (closed circles) and C. iselyi (open circles) in Texas.
were appropriately mapped. In the present paper, I treat these western elements as constituting a distinct species, *C. iselyi*, as there are several other characters that also serve to distinguish the taxon, as noted below.


This is a widely distributed, highly variable species of Mexico and closely adjacent United States as noted by Barneby (1998). McVaugh (1987), in his Flora Novo-Galicia, treated *C. conferta* as synonymous with the present, but I treat the latter as distinct, as does both Barneby (1998) and Isely (1998). The type of *C. conferta* is from Val Verde County, Texas, and is readily distinguished from the more southern *C. eriophylla* by its leaves, which possess but a single pair of pinnae, the latter possessing two or more pair on at least some of its branches. I also agree with both Isely and Barneby that *C. eriophylla* is represented in Texas by at least a few populations, these given the name var. *chamaedrys* by Isely (1998), as noted in the above synonymy, the type being from Uvalde County, first collected by me in 1954. I have recently re-collected the taxon at the type locality and
am reasonably certain that Isely’s var. *chamaedrys* is but a fruit-form of *C. eriophylla*. Indeed, at the type locality of *C. eriophylla* var. *chamaedrys* (revisited in the summer of 2000, Turner 20-384 TEX), mature fruits were found to vary from 2.5–9.0 cm long, overlapping completely the reported range of fruits (7–9 cm) reported for var. *chamaedrys* by Isely in his original description. The isolated collections of his var. *chamaedrys* from the “New Mexico-Arizona” boundary (as cited by Isely) are presumably but large fruit forms of *C. eriophylla* collected in the latter area, although Barneby (1998) thought these might be mixed collections made by Wright from western Texas and given incorrect label data. In short, I think that the Uvalde collections concerned are but outlier populations of a widespread variable *C. eriophylla*. Nevertheless, Barneby (1998) retained the variety, but without knowledge of the information presented here. It should be noted that I have collected *C. eriophylla* at one other site in Uvalde County, this being ca. 3.1 km W of the intersection of highways 55 and 334 in the northwesternmost part of the county, 2 May 1999, Turner 99-260 (TEX).

4. **CALLIANDRA HUMILIS** Benth., London J. Bot. 5: 103. 1846. Fig. 1.


Isely (1998) recognized two varieties under this taxon: a typical var. *humilis* and var. *reticulata* (A. Gray) Benson. By Isely’s treatment, Texas material belongs to the typical var. *humilis*. I would treat the var. *reticulata*, sensu Isely, as a distinct species, the two taxa being essentially sympatric and readily distinct, as noted by Isely (1998). In my treatment of the *Legumes of Texas* (Turner 1959), I recognized *C. herbacea* as distinct from *C. humilis*. Subsequent work has shown that the former is but a form of the latter.

5. **CALLIANDRA ISELYI** B. L. Turner, sp. nov. Figs. 2, 3, 4.

**TYPE**: TEXAS: Brewster Co.: ca. 3 km west of Terlingua along highway 170; small limestone hills at base of Reed Plateau next to the Terlingua House of David Lanman, architect and builder (ca. 29°18’N, 103°33’W), 30 Jun 2000, B. L. Turner & Gayle Turner 20-386 (HOLOTYPE: TEX. ISOTYPES: MEXU, NY).

Similis *Calliandra confertae* Benth. sed pedunculis plerumque 10–25 mm longis (vice 1–5 mm), corollis glabris (vice corolla valde pubescenti), pinnis cum 6–9 jugis (vice 9–13), foliolis brevioribus apice obtusis aut rotundatis (vice plerumque acutis).

Perennial shrublets 15–25 cm high. Stems more or less fractiflex, pubescent with appressed white hairs. Leaves bipinnate with a single pair of pinnae; petioles 0.5–1.0 mm long; pinnae mostly 8–10 mm long; larger pinnae with 6–9 pairs of leaflets, the latter mostly 2.5–3.5 mm long with raised venation, their apices mostly obtuse or somewhat rounded (rarely broadly acute). Flowers 3–6 on axillary peduncles (7)10–26 mm long; calyces sparsely pubescent, ca. ¼–½ as long as the petals; corollas glabrous or nearly so, 3–5 mm long, the lobes 1.0–1.5 mm long. Legumes spatulate to linear-oblanceolate, mostly with 3–6 ovules, relatively few of these forming seeds; valves appressed white-pubescent, their apex apiculate.

**REPRESENTATIVE SPECIMENS EXAMINED**: The University of Texas specimens (LL, TEX) of *Calliandra* are currently on loan to MEXU, consequently the following cited specimens of *C. isleyi* are all on file at SRSC. **UNITED STATES. TEXAS**: Brewster Co.: Packsaddle Mt., ca. 65 mi S of Alpine, 30 Oct 1964, McAfee 224; 65 mi S of Alpine, 29 Jun 1959, McKenzie 329; 1 mi S of Adobe Wall Mt., 12 Jun 1949, Turner 1080; Muskhog Spring, 30 Jul 1938, Warnock C551; Ward Springs, W side of Chisos Mts., 18 Aug 1955, Warnock 13101; Burro.

Calliandra iselyi is largely confined to the Big Bend region of Trans-Pecos Texas (Fig. 2). It has long resided within the descriptive parameters of C. conferta, the latter typified by material collected by Charles Wright in Val Verde Co. (near the present village of Juno), Texas. So far as known the distribution of these two taxa do not overlap, nor do they appear to intergrade.

Both Turner (1959) and Isely (1998) called attention to the distinctiveness of the populations concerned in noting that the peduncular lengths of the two taxa consistently differ. Closer scrutiny of the two taxa in the present study shows that C. iselyi can also be readily identified by yet other characters, including glabrous corollas (rarely a few hairs near the apex of lobes), shorter petioles (0.5–1.0 mm long vs. 1–2 mm long), generally fewer leaflets per pinna (6–9 pairs vs. 9–13 pairs), the leaflets at midpinna of a different shape, being shorter with mostly obtuse or rounded apices (vs. acute, Fig. 3). In addition to the present illustrations), Powell (1988) provided an excellent sketch of the species, albeit labeled C. conferta. Barneby (1998), in his broad monographic treatment of Calliandra, did not comment upon the morphogeographic patterns which serve to distinguish C. iselyi, but he did review the present manuscript and raised no objections to its description here.

The species is named for my long-time friend, Duane Isely (1918– ), Prof. Emeritus of Botany at Iowa State University, Ames, Iowa, and zealous scholar of the legume family.

ACKNOWLEDGEMENTS

I am grateful to Gayle Turner for the Latin diagnosis, and to her, Rupert Barneby, A. M. Powell, Tom Wendt, and Matt Turner for reviewing the manuscript. Ms. P. Zelazny provided the line drawings.

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