DALEA AUSTROTEXANA (FABACEAE), A NEW SPECIES FROM SOUTHERNMOST TEXAS

B. L. Turner
Plant Resources Center
The University of Texas at Austin
Austin, Texas 78712
email billie@uts.cc.utexas.edu

ABSTRACT

Populations of *Dalea lantana* from southernmost Texas, previously placed within the fabric of *D. lanata* var. *lanata*, have been described as a new species, *D. austrotexana*. It occurs in only a few counties, where it is largely confined to dune sands. In addition, the var. *terminales* of *D. lanata* is recognized at the species level, where it must take the name *D. glaberrima* S. Wats. A key to the three taxa concerned is provided, along with maps showing their distribution.

KEY WORDS: *Dalea lanata*, Fabaceae, Texas

In his exceptionally honed treatment of *Dalea* and its cohorts, Barneby (1977) positioned *D. lanata* Spreng. as the sole member of his sect. Elaspora, subgenus Dalea, this largely defined by its peltate, cornet-shaped banner. He recognized two infraspecific taxa within the species, var. *lanata* and var. *terminalis* (M.E. Jones) Barneby. He also called attention to isolated populations in southernmost Texas which, in his opinion, "seem not to differ in any appreciable way [from var. *lanata*]." Turner et al. (2003) recognized *D. terminalis* at the specific level, but the correct at that rank is *D. glaberrima*.

In the present paper I have elevated both of his formal varieties to specific rank, and have described the afore-mentioned populations from southern Texas as new. Thus, as conceived by the present author, the previously monotypic sect. Elaspora now contains three allopatric species. The following key will readily identify the taxa concerned:

Key to the *Dalea lanata* complex:

1. Calyx tube glabrous (rarely not), the lobes deltoid..... .....***Dalea glaberrima***
1. Calyx tube pubescent, the lobes lanceolate.....(2)
   2. Mature leaflets mostly 2.5-4.0 mm long; southernmost Texas.....***Dalea austrotexana***
   2. Mature leaflets mostly 4.5-10.0 mm long; grasslands of the central U.S.A..... .....***Dalea lanata***

In addition to the characters called to the fore in the above key, it should be noted that *D. austrotexana* has mostly smaller racemes and, paler petals with more markedly pustulate glands at their apices than does *D. lanata.*

Dalea austrotexana B.L. Turner, **sp. nov.**

Daleae lanatae Spreng. similis sed differrt foliolis costanter minoribus (2.5-4.0 mm vs 4.4-10.0 mm longis) et petalis minoribus pallidioribus ac pustulis glandulosis valde crescioribus.

Perennial prostrate herbs 0.3-0.5 m across, arising from lignescent orange tap roots. **Stems** villose. **Leaves** odd-pinnate, mostly 1-2 cm long, 0.5-1.5 cm wide, the leaflets obovate, mostly 3.0-4.5 mm long, pubescent like the stems. **Flowering spikes** mostly 3-5(7) cm long, 0.5-0.7 cm wide; peduncles mostly 1.0-1.5 cm long; bracts ovate, ca. 1.5 mm long, abruptly apiculate. **Calyx** villous, 3-4 mm long, the lobes lanceolate, ca. as long as the tube. **Petals** as described for *D. lanata* (by Barneby) but somewhat smaller, a paler purple, the banner ca. 4 mm long (blade ca. 2.1 mm long; stipe ca. 1 mm long), having well-developed terminal pustules. **Legume** ca. 2.5 mm long, densely villose; seeds ca. 2 mm long.

TYPE: **U.S.A. TEXAS. Jim Hogg Co.:** E side of F. M. 1017, "{3 roadmiles S of jct. With smaller road at Agua Nueva," ca. 450 ft, 26 51 38N, 98 36 46W, 7 Oct 1993, *W.R. Carr 13205* (Holotype: TEX).

ADDITIONAL COLLECTIONS EXAMINED(LL, TEX): **Brooks Co.:** E side of US 281, 3 mi S of F.M. 3066, 4 Jun 1998, *Carr 17524*; NE part of Encinitos Ranch, 14 Jun 2006, *Carr 24623*; 3.4 mi N of Encino, 9 Jul 1954, *Johnston 541201.* **Cameron Co.:** sand dunes, mouth of Rio

Grande, 13 Jul 1957, *Correll & Johnston 17967*; Brazos Island State Park, 13 Aug 1977, *Richardson 2525*; sand flats near mouth of Rio Grande, 18 Jun 1931, *Runyon 1428*; Brazos Santiago Island, 5 Sep 1938, *Runyon 1945*; sand dunes at Boca Chica, 7 Oct 1939, *Runyon 2078*. **Jim Hogg Co.:** 1.7 mi S of Agua Nueva, 9 Oct 1954, *Tharp & Johnston 541859*. **Kenedy Co.:** Norias Division of King Ranch, 18 Jun 1953, *Johnston s.n.* **Starr Co.:** ca. 2 mi NE of Santa Elena, 13 Sep 1955, *Johnston 2777*.

Nearly all of the above collections were reportedly obtained from loose sand on active or stabilized dunes, but a few were obtained from "sandy flats."

Dalea austrotexana is clearly more closely related to *D. lanata* than it is to *D. glaberrima*, as noted by both Barneby (1977) and Isely (1997). Thus, I might with equal validity have described it as but a variety of the former. But such recognition would ignore its morphological divergence and isolated geographic position, presumably a reflection of its relict confinement to the dune sands of southern Texas, following the movement of populations of *D. lanata* northwards after the most recent glacial retreats. Alternatively, these might reflect long distance dispersal events over the past 10,000 years or so. What is known, however, is that the populations concerned have diverged from their common grassland's ancestor, *D. lanata*, and were not derived from the more montane, upstream, populations of *D. glaberrima* from along the Rio Grande.

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LITERATURE CITED

Barneby, R.C. 1977. Dalea Imagines. Mem N. Y. Bot. Gard. 27: 1-892.

Isely, D. 1998. Native and Naturalized Leguminosae (Fabaceae) of the United States. Brigham Young Univ., Provo, Utah

Turner, B.L. et al. 2003. Atlas of the Vascular Plants of Texas. Sida, Bot. Misc. 24: 1-888.

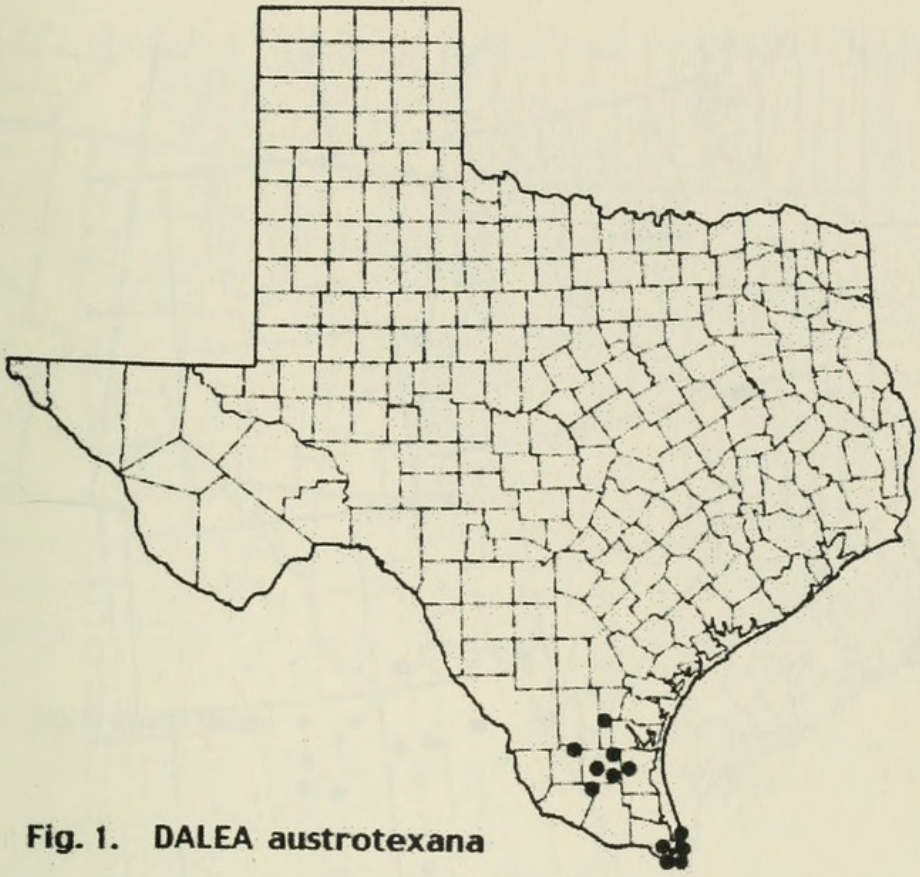

Fig. 1. DALEA austrotexana

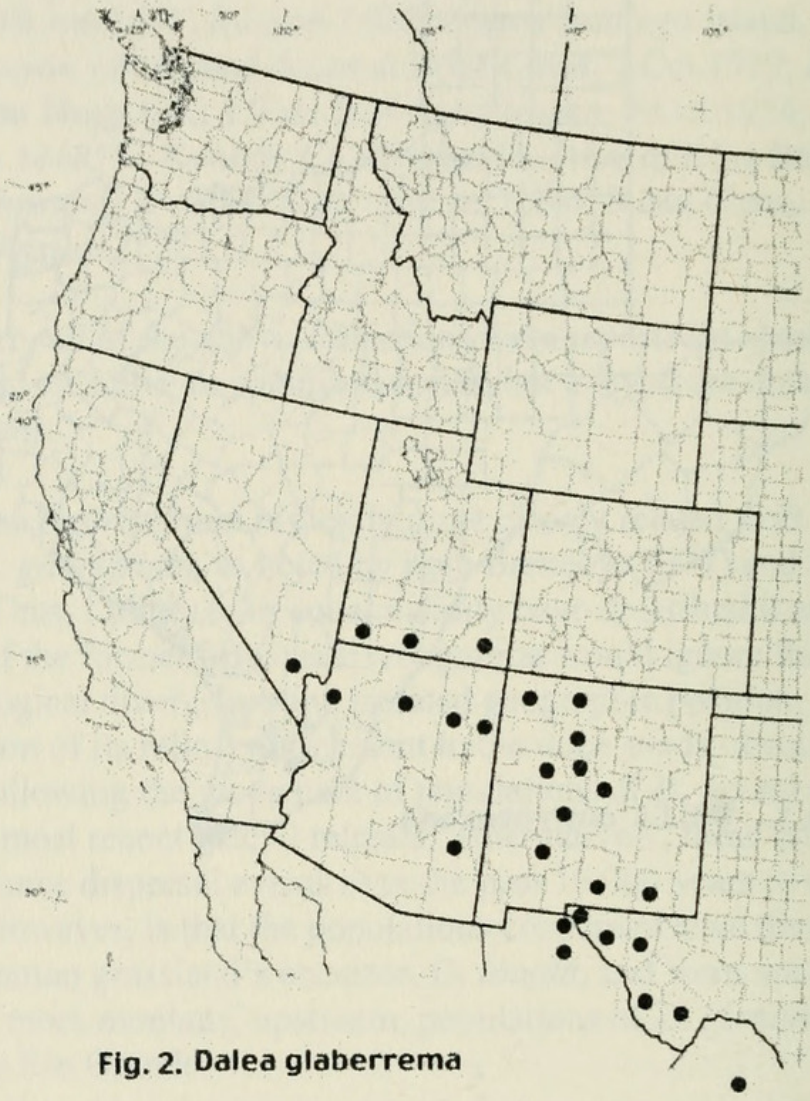

Fig. 2. Dalea glaberrema

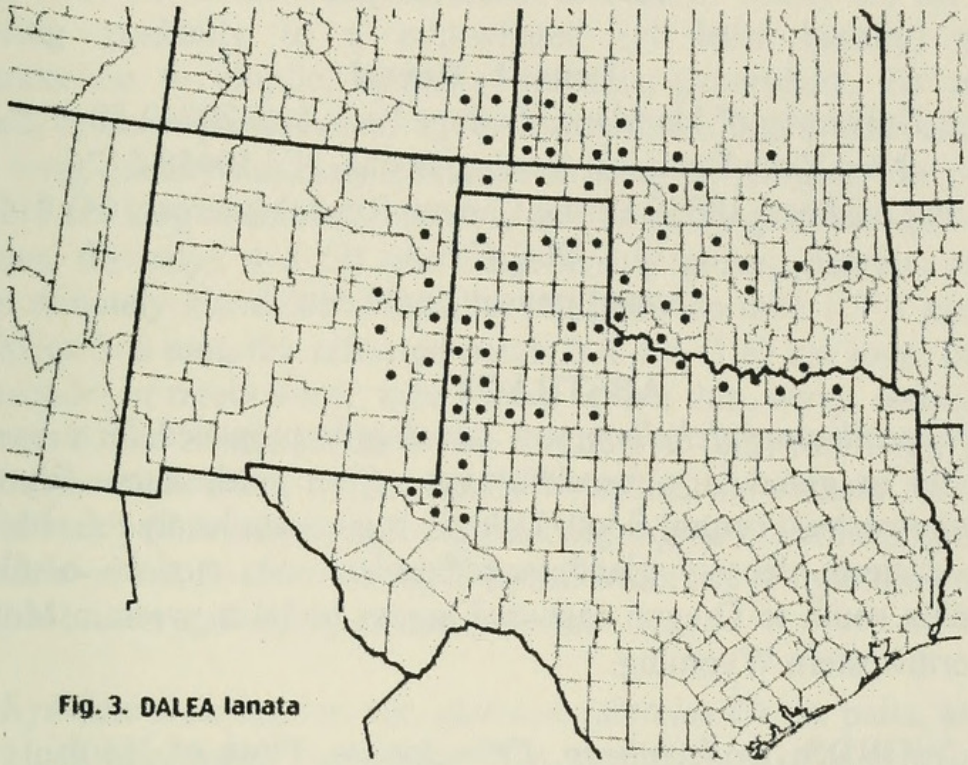

Fig. 3. DALEA lanata