Texas taxa of the genus Berlandiera (Asteraceae: Heliantheae)

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ABSTRACT

The state of Texas is recognized as having two species of Berlandiera, a widespread B. lyrata Benth., represented by the newly proposed var. purpurea B.L. Turner, var. nova., and a more localized species of high elevation, B. macvaughii B.L. Turner, sp. nov., of trans-Pecos, Texas. Photographs of the types are provided, along with maps showing their distribution.

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BERLANDIERA LYRATA Benth., Pl. Hartw. 17. 1839.

Two geomorphological population systems are recognized within this species; the typical var. lyrata is confined to Mexico, but var. purpurea extends into northwestern Mexico from the southwestern USA.

1. Disc florets yellow; se Chi, Dur, Agu, Zac, San, n Jal.................................................var. lyrata
1. Disc florets purple or brownish-purple; Son, n Chi, Coa, USA............................. var. purpurea

var. purpurea B.L. Turner, var. nov.
Berlandiera incisa Torr. & Gray

Resembling B. lyrata var. lyrata but the disc florets purple to brownish-purple (vs yellow), the involucres somewhat smaller (12-15 mm wide vs 15-20 mm), and the achenes mostly 5-6 mm long (vs 4-5); chromosome number, n = 15 pairs.

TYPE: USA. TEXAS: Jeff Davis Co.: Wild Rose Pass, on Hwy 17, ca 22 mi S of Balmorhea city limits, 16 May 1989, Lindsey Woodruff 296 [with Mark Mayfield] (Holotype: TEX). Fig. 1.


Most of the specimens of Texas represented on my dot maps were also examined and identified accordingly.

The novelty is named for its consistently purple or purplish disc florets (vs yellow, as occurs in var. lyrata).
BERLANDIERA MACVAUGHII B.L. Turner, sp. nov.

Perennial herbs 15-35 cm high, the stems arising from enlarged woody or lignescent roots. Leaves mostly basal, 10-18 cm long, 1.5-4.0 cm wide; petioles 2-7 cm long; blades ovate to linear-oblanceolate, passing into the petioles, scarcely lobed, if at all, the stem leaves mostly absent (except in occasional putative hybrids with B. lyrata), pinnately veined, sparsely pubescent above, more so beneath, the margins crenulate. Heads 3-5 cm across the extended rays, borne 1 or 2 to a peduncle, the latter 5-25 cm long. Involucres 4-5 seriate, scarcely gradate, the inner series broadly ovate, 10-15 mm long and as wide, their apices to some extent broadly acute to narrowly obtuse, not rounded. Pales linear oblanceolate, 5-8 mm long, 1-2 mm wide, their apices rounded. Ray florets 8, fertile; ligules 10-15 mm long, 3-5 mm wide, yellow on both surfaces, the lower surfaces with 8 or more weakly defined, yellowish veins (as opposed to the fewer, dark purple, well defined veins on the under-surfaces of ligules in B. lyrata), irregularly 3-lobed at apex. Achenes broadly ovate to cordate, 5-6 mm long, 3-5 mm wide, epappose; dorsal surfaces glabrous; ventral surfaces pubescent, their margins mostly w/o attached pales at maturity. Disc florets staminate, numerous; corollas yellow, 4-5 mm long; tube ca 0.5 mm long; throat ca 3 mm long, glabrous; lobes ca 0.5 mm long, pubescent.

TYPE: USA. TEXAS: Pecos Co.: “Rocky (limestone) slopes, main canyon on northeast side of Sierra Madera, about 25 miles south of Fort Stockton.” ca 1300 m, 25 May 1949, Rogers McVaugh 10649 (Holotype: TEX; isotype: SRSC). Fig. 2.


As might be noted, B. macvaughii is abundant in The Guadalupe Mts. of Culberson County. It is apparently rare in the higher elevations of the Glass and Sierra Madera Mts., to judge from the few collections assembled to date from the two sites. So far as known, the widespread, commonly encountered, B. lyrata does not grow with or near B. macvaughii.

The collection Correll & Correll 26043 from McKittrick Canyon has the general habit and stem-leaves of B. lyrata var. purpurea, but it is a larger plant with larger, more pinnatifid, basal leaves, having yellow disc florets and achenes with peripheral pales attached. This may prove to be a hybrid (perhaps ancestral) between the two taxa concerned, but so far as known the two species do not occur together.

Pinkava (2006), presumably, would position most of the specimens cited here in his broad concept of B. lyrata, noting that “Exceptional specimens that are scapiform (sometimes monoecephalic) with mostly undivided leaves and with wartlike hairs on peduncles occur at higher elevations (south-central New Mexico, trans-Pecos Texas, and Nuevo Leon). They have yellow disc corollas, as do most collections from Chihuahua, Durango, Nuevo Leon and Tamaulipas.” The material from New Mexico
and trans-Pecos, Texas, referred to by Pinkava I would assign to B. macvaughii; those from Nuevo Leon I treat as B. basalaris B.L. Turner (in prep).

In my treatment of Berlandiera for Mexico (in prep) I intend to recognize six taxa, including B. lyrata var. purpurea.

It is a pleasure to name the novelty for the late Rogers McVaugh (1909-2009), collector of the Type and well-known student of the trans-Pecos flora. As indicated, Rogers lived to be 100 years old, setting standards for those of my ilk, just ready to turn 90. I first met him in Alpine, Texas in 1947, while a pre-law student at Sul Ross State College, having taken a few botany classes on the side to satisfy my interest in natural history. My field trip up Cathedral Mt. with McVaugh and Warnock in the late 1940s largely convinced me that I had rather be a botanist than a lawyer. McVaugh remained one of my closest friends throughout the remainder of his life, always a guest at my house in Austin, Texas, while passing through on the way from Michigan to his first love, botanically speaking, Mexico.

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Thanks to my Academic son, Mike Powell, for helpful comments and calling to my attention the plants of B. macvaughii on file at SRSC, these cited above; and to my editorial colleague, Jana Kos, for meaningful input. The dot maps are largely based upon Turner et al. (2003), specimens on file at LLTEX, SRSC and from USDA records available on the web.

REFERENCES

Fig. 1. Holotype of *Berlandiera lyrata* var. *purpurea* (TEX).
Fig. 2. Holotype of *Berlandiera macvaughii* (TEX).
Map 1. Distribution of *Berlandiera lyrata* in the USA.

Map 2. Distribution of *Berlandiera macvaughii*.