

## MUHLENBERGIA DUBIA (POACEAE) IN CENTRAL TEXAS

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*Muhlenbergia dubia* Four. ex Hemsl. is a wide ranging species known from Texas and New Mexico, south through northeastern and north central Mexico to Michoacán, the state of México, Puebla, Oaxaca, and Veracruz (Correll & Johnston 1970; Gould 1975; Powell 1994; Herrera-Arrieta 2001). In Texas, it has been considered to be confined the Trans-Pecos region (Correll & Johnston 1970; Gould 1975; Powell 1994). It is a species primarily found on rocky hilltops and canyons in open oak-juniper/pine woodlands.

In 1912, M.E. Jones described a new species, *Muhlenbergia metcalfei*, from Grant County, New Mexico. Hitchcock (1951), Gould (1975), Powell (1994), and Jones et al. (1997) recognized *M. metcalfei* as distinct from *M. dubia* Four. ex Hemsl. and *M. rigida* (Kunth) Kunth. These two species are often difficult to distinguish from each other and both are reported as occurring in trans-Pecos Texas. However, Correll and Johnston (1970) and Martin and Hutchins (1980) recognized *M. metcalfei* as synonymous with *M. dubia*. Powell (1994) only tentatively recognized these taxa as distinct 'pending further studies.' He commented that it is 'difficult to defend specific status for such close entities with sympatric distribution.' Peterson et al. (2001) reduced *M. metcalfei* to synonymy with *M. rigida* (Kunth) Kunth in their synopsis of Poaceae, subfamily Chloridoideae, however, the reasons for this taxonomic placement are not presented.

There is no published record of *Muhlenbergia dubia* in central Texas. However, during field work for a flora of the Nature Conservancy of Texas' Love Creek Nature Preserve in Bandera County, Texas in the southern Edwards Plateau, *M. dubia* was collected by the author. Surveys conducted revealed numerous, large populations primarily in the uplands of the preserve, a habitat very similar to habitats in which the species occurs throughout its range. The original specimens were collected from a population on a sloping, open area with various grasses, scattered *Sophora secundiflora* (Ortega) Lag. ex DC, *Juniperus ashei* J. Buchholz, and *Diospyros texana* Scheele, and a few individuals of *Quercus fusiformis* Small and cacti. The substrate was a very thin, rocky, limestone soil. Subsequent collections were made from five other populations on the preserve, and one on a roadside that is very similar in habitat in Kerr County, Texas.

A review of the TEX, LL and TAES herbaria revealed that *Muhlenbergia*

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*dubia* actually was collected on the Edwards Plateau as early as 1967. A specimen of *M. dubia*, identified as *M. metcalfei*, from Edwards County, Texas, on the western edge of the Edwards Plateau, was collected in 1967 by Albert Jenkins. A specimen of *M. dubia* was collected by M.C. Johnston in Travis County, Texas in 1977. It was, however, originally misidentified as *M. rigens*, a similar species also from the trans-Pecos area of Texas. The existence of *M. dubia* on the Edwards Plateau of Texas is also known to the native plant nursery industry in central Texas (Dan Hosage, pers. comm.). Additional specimens should be expected from other counties throughout the Edwards Plateau. The species is relatively easy to distinguish from other central Texas species of *Muhlenbergia* by its contracted panicles, densely caespitose habit, and rounded, erect culms.

Specimens cited: **TEXAS. Bandera Co.:** Love Creek Nature Preserve. ca. 10 mi W of Medina, uplands of preserve, 1 Nov 2000, *Denny 16* (TEX); 26 Nov 2000, *Denny 60* (TEX); 26 Nov 2000, *Denny 61* (TEX); 15 Oct 2001, *Denny 359* (TEX); 15 Oct 2001, *Denny 361* (TEX); 17 Oct 2001, *Carr 20366* (TEX); stream terrace near hunter's cabin; 2 Sep 2001, *Denny 327* (TEX). **Edwards Co.:** (without specific locality) 14 Oct 1967, *Jenkins 49* (TAES). **Kerr Co.:** roadside of Highway 16, 9.3 mi N of Medina on E side of road, growing in rocks and thin rocky soil, 29° 54.761' N, 99° 15.204' W, 15 Oct 2001, *Denny 358* (TEX). **Travis Co.:** above the pour-off in Wildcat Hollow, the farthest up-river corner of Lake Austin, 26 Oct 1977, *M.C. Johnston 12442* (LL, TAES).

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