

## REDISCOVERY OF *ELEOCHARIS OBTUSE-TRIGONA* (CYPERACEAE) IN TEXAS

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### ABSTRACT

*Eleocharis obtuse-trigona* (Lindl. & Nees) Steud. has been rediscovered in the Lower Rio Grande Valley of Texas (in Willacy Co.). Apparently decreasing in abundance and extent in the northern extent of its range, it is proposed here for G3/S1 conservation status.

*Eleocharis obtuse-trigona* (Lindl. & Nees) Steud ranges continuously from South America (with a disjunct occurrence in the Galapagos Islands) through Central America and Mexico, into the Texas Lower Rio Grande Valley (Rosen & Hatch 2006). However, Texas collections of *E. obtuse-trigona* are few (four sites in Cameron County and one in Kenedy County) and historic in that the most recent was made in 1959. Field work in 2004 by the first author led to the disappointing conclusion that it was probably extirpated at the historic collection sites due to drainage of wetlands for development and agriculture. Recent collecting in the Texas Lower Rio Grande Valley led to the rediscovery of *Eleocharis obtuse-trigona* at a new site and new county.

**Texas.** Willacy Co.: E roadside Hwy 77, ca. 1 mi N of Yturria Station and 1 mi S of the Kenedy Co. line; locally rare in shallow water of seasonal freshwater pond with *Callitriche terrestris*, *Eleocharis quadrangulata*, *E. macrostachya*, *Rumex crispus*, *Utricularia gibba*, and *Echinodorus cordifolius*, 21 Nov 2015, Richardson & King 4592 (RUNYON, TEX; Fig. 1).

*Eleocharis obtuse-trigona* belongs to subg. *Limnochloa*, a group of over 35 species worldwide, differing from other *Eleocharis* in that they are emergent and robust wetland plants with cartilaginous floral scales and culms that are usually as thick as the cylindrical spikelets. Other members of subg. *Limnochloa* in the Texas Lower Rio Grande Valley include *E. cellulosa* Torr., *E. interstincta* (Vahl) Roem. & Schult., and *E. quadrangulata* (Michx.) Roem. & Schult. The following key distinguishes between them.

### Key for identification of members of *Eleocharis* subg. *Limnochloa* in the Texas Lower Rio Grande Valley

1. Culms hollow with conspicuous complete transverse septa ..... ***Eleocharis interstincta***
1. Culms internally spongy with incomplete transverse septa.
  2. Floral scales with many fine cellular-lineate veins (raised veins not clearly discernible at 20×); achene apex gradually narrowed into a stout spongy region of the same texture and color as the achene; perianth bristles usually smooth or rarely retrorsely spinulose ..... ***Eleocharis cellulosa***
  2. Floral scales coarsely many veined (raised veins clearly discernible at 20×); achene apex markedly constricted to a short neck, neck sometimes obscured by the style base; perianth bristles finely to coarsely retrorsely spinulose.

- 3. Culms +- terete or distally obscurely 3-5-angled; achenes with ca. 15 longitudinal rows of epidermal cells (most appear transversely reniform at 40×) ..... **Eleocharis obtusetrigona**
- 3. Culms sharply quadrangular, never terete or distally obscurely 3-5-angled; achenes with ca. 22 longitudinal rows of transversely oblong epidermal cells ..... **Eleocharis quadrangulata**



Figure 1. *Eleocharis obtusetrigona*. Richardson & King 4592 (TEX).

*Eleocharis obtuse-trigona* is common in South America, especially in Brazil where it is often dominant in large freshwater wetlands (Rafael Trevisan, pers. comm.). Although its abundance in Central America is unknown, populations of *E. obtuse-trigona* were difficult to find during field work by the first author in Mexico (Veracruz). Some historic collection sites in Mexico have been destroyed (Socorro Gonzalez, pers. comm.). Though now rediscovered at the northern extent of its range, *E. obtuse-trigona* is possibly still rare in the Texas Lower Rio Grande Valley. The population at the newly discovered site in Willacy County is small, and plants were not seen in other suitable habitats nearby. Until populations are discovered on public lands or protected sites, its persistence is not assured given the likely continued loss of wetlands. We suggest that it is of conservation concern in Texas and recommend a listing of G3/S1 as defined by Poole et al. (2008). We also encourage *E. obtuse-trigona* be considered for freshwater wetland restoration projects throughout its historic Texas range.

#### **ACKNOWLEDGEMENTS**

We thank George Yatskievych for preparing Figure 1.

#### **LITERATURE CITED**

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