THE STATUS OF *CAREX TENAX* CHAPMAN (CYPERACEAE) IN THE WEST GULF COASTAL PLAIN

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ABSTRACT

Carex tenax Chapman is uncommon over much of its range. Recent discoveries of new locations of this species in east Texas prompts this review of its status in the West Gulf Coastal Plain, where it is now known from six counties in east Texas and three parishes in adjacent Louisiana. It occurs in xeric sandylands and arenic dry uplands, and its absence in many apparently suitable sites suggests that the species is truly rare in the West Gulf Coastal Plain.

KEY WORDS: *Carex tenax* Chapman, Cyperaceae, West Gulf Coastal Plain.

Carex tenax is endemic to the Atlantic and Gulf Coastal plains, extending from North Carolina to east Texas (Ball 2002). It is reported as being rare in Florida, Louisiana, and North Carolina (Kartesz & Meacham 1999). In the West Gulf Coastal Plain, it is known from Texas (Correll & Johnston 1970; Turner et al. 2003) and Louisiana (Thomas & Allen 1993) but has not been found in Arkansas (Hyatt 1998) or Oklahoma (Taylor & Taylor 1989). In Louisiana, it is listed as an S2 species (Louisiana Natural Heritage Program 1999) and is reported from Natchitoches and Vernon parishes (MacRoberts &

MacRoberts 1995a; Thomas & Allen 1993). In Texas, it has been reported from Hardin County only (Correll & Johnston 1970; Matos & Rudolph 1985; Turner et al. 2003). It is not currently listed as rare in Texas (Texas Natural Heritage Program 1995; Texas Organization of Endangered Species 1993), although it once was (Matos & Rudolph 1985).

We recently located *C. tenax* in Shelby and San Augustine counties, Texas, and at a new location in Hardin Co., Texas. In Shelby Co., we found it at three sites within a one mile radius centering on 31° 39' 50"N and 94° 14' 40"W, which is about 9.5 miles SSW of Center. The single San Augustine Co. site is about 13 miles south of Center at 31° 35' 54" N and 94° 11' 37" W. The new Hardin Co. site is in the Turkey Creek Unit of the Big Thicket National Preserve on the Sandhill Loop of the Kirby Nature Trail. These new sites ranged in elevation from 75 to 426 feet. All are found in xeric sandylands (grossarenic dry uplands, arenic dry uplands) (MacRoberts & MacRoberts 1995a; Turner et al. 1999). *Carex tenax* was found almost invariably near or under an oak or pine (several areas had pine plantations) in partial shade. Our observations on the species in Louisiana and Texas are similar: the species, while inhabiting open xeric sandylands, apparently prefers to be in partial shade and is an "edge" species. Plant associates include *Berlandiera pumila, Bulbostylis ciliatifolia, Carya texana, Cnidoscolus texanus, Croptilon divaricatum, Croton glandulosus, C. michauxii, Cyperus grayioides, C. retrofractus, Dalea villosa, Diodia teres, Eriogonum longifolium, E. multiflorum, Froelichia floridana, Helianthus debilis, Liatris elegans, Loeflingia squarrosa, Matelea cynanchoides, Mimosa hystricina, Mirabilis albida, Monarda punctata, Opuntia humifusa, Paspalum setaceum, Penstemon murrayanus, Paronychia drummondii, Polanisia erosa* var. *erosa, Quercus incana, Q. margaretta, Selaginella arenicola* ssp. *riddellii, Stylisma pickeringii, Tradescantia reverchonii, Yucca louisianensis* (authorities can be read in Kartesz & Meacham 1999). The habitat in which *C. tenax* occurs --- xeric sandylands and arenic dry uplands--- is found virtually throughout the West Gulf Coastal Plains (McBryde 1933; Bridges & Orzell 1989; MacRoberts & MacRoberts 1994, 1995b, 1995b, 1996; MacRoberts et al. 2002a,

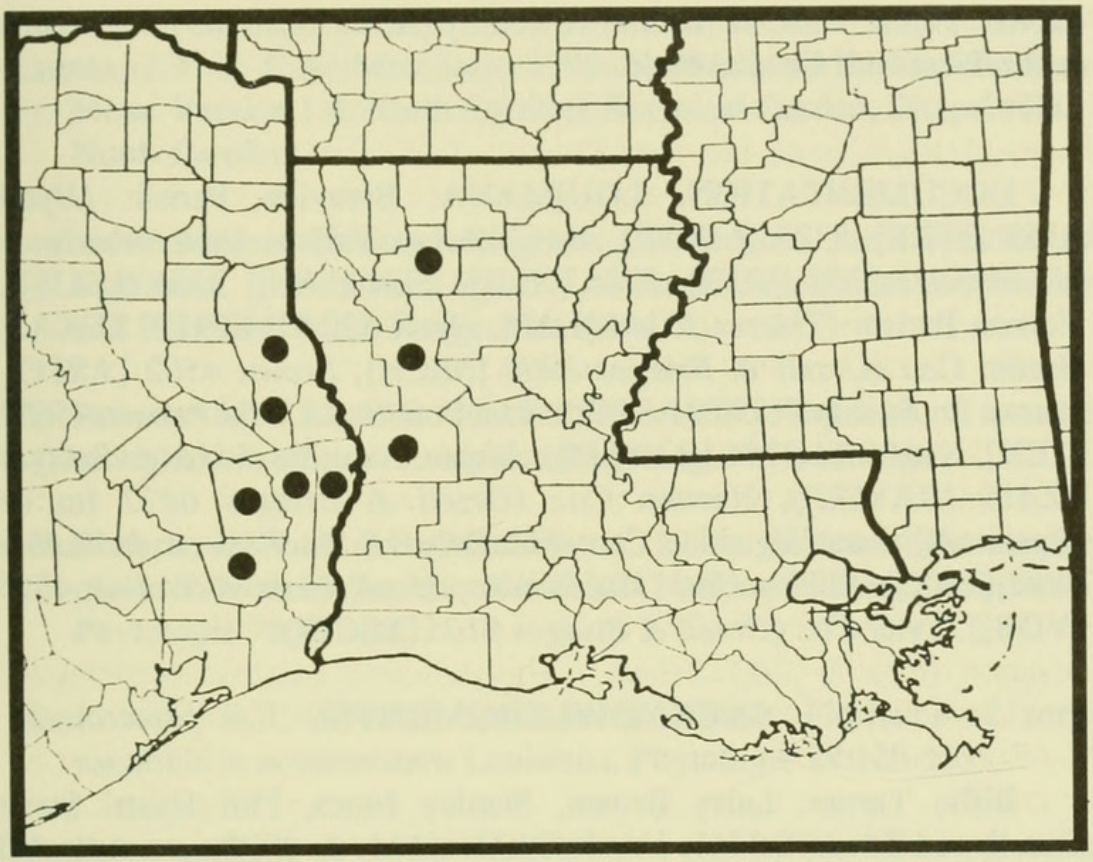

Figure 1. Distribution of Carex tenax in the West Gulf Coastal Plain.

2002b; Turner et al. 1999). Searches for *C. tenax* in northwestern Louisiana have failed to locate a population (MacRoberts & MacRoberts 1995b) as have searches for the species in Texas in the Post Oak Savanna region, e.g., xeric sites in Anderson County (MacRoberts et al. 2002a; Singhurst et al. in prep.). The absence of *C. tenax* in apparently suitable sites in east Texas and west Louisiana suggests that the species is truly rare in the West Gulf Coastal Plain.

We searched, or had curators search, ASTC, BRCH, BRIT, VDB, TAMU, SBSC, LSU, LSUS, SFRP, and TEX. We also contacted knowledgeable individuals who might have additional information. As a result we located specimens of *C. tenax* from Bienville Parish, Louisiana (Phil Hyatt, pers. comm.) and Newton and Tyler counties, Texas (Edwin Bridges and Steve Orzell, pers. comm.). These specimens also come from xeric sandyland and arenic dry upland

habitat. Figure 1 shows the known county/parish locations for *C. tenax* in the West Gulf Coastal Plain.

DOCUMENTATION: LOUISIANA: Bienville Parish: (*Hyatt 8368* [SFRP] *8370* [MICH]), Natchitoches Parish: (*MacRoberts & MacRoberts 2282* [VDB], *2294* [NLU], *2334* [LSU], *2356* [LSUS]), Vernon Parish: (*Thieret 30144* [LAF], *Hyatt 8224* [MICH]). TEXAS: Hardin Co.: (*Orzell & Bridges 8900* [MICH], *Brown 4502* [ASTC]. *Matos & Rudolph 556* [ASTC]), *MacRoberts & MacRoberts 5631* [TEX], *Singhurst 2494* [BAYLU]), Jasper Co.: (*Singhurst & Bridges* 12,419 [BAYLU]), Newton Co.: (*Orzell & Bridges 6322* [to be deposited]), San Augustine Co.: (*MacRoberts, MacRoberts & Walker 4907* [TEX]), Shelby Co.: (*MacRoberts, MacRoberts & Walker 4695* [VDB]), Tyler Co.: (*Orzell & Bridges 9105* [MICH]).

ACKNOWLEDGMENTS

Billie Turner, Larry Brown, Stanley Jones, Phil Hyatt, Steve Orzell, and Edwin Bridges aided with this study as did the curators and staff of all herbaria cited.

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