

# *Cyperus excurrens* (Cyperaceae), a New Species from Karst Ponds in Southern Georgia, U.S.A.

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## ABSTRACT

A novel flatsedge from karst ponds in southwestern Georgia, *Cyperus excurrens*, is described, and the results of principal component analysis are presented in support of the recognition of this new species. A technical description, dichotomous key, comparative photographs of spikelets and achenes, distribution maps, habitat data, and specimen citations are included. The status of the related taxon, *Cyperus strigosus* var. *stenolepis*, is also evaluated.

**Key words:** Cyperaceae, *Cyperus*, karst, morphometric analysis, new species

## INTRODUCTION

In 1993 while conducting a rare plant inventory of Moody Air Force Base, the second author discovered an unusual sedge in an exsiccated pond. Subsequently, he found similar plants in the bottoms of drawn down karst ponds in additional counties of southwestern Georgia and identified a specimen collected by R.K. Godfrey from similar habitat in Baker County (Carter 2015). This unusual sedge with an annual habit appears to have affinities with the widely distributed North American sedge *Cyperus strigosus* L. (Figure 1), a common perennial found in a variety of wetland habitats, e.g., pond margins, ditches, and generally in disturbed, moist soils. Moreover, habitat, phenology, and seed germination cycle of our unusual plants resemble those noted by Kral (1973, 1983) for *Fimbristylis perpusilla* Harper. Like *F. perpusilla*, this plant, apparently restricted to karst ponds, appears to germinate and flourish sporadically, only when the ponds are exsiccated. Our putative new species is included provisionally as “*Cyperus species 2*” in Weakley et al. (2022).

We conducted a morphometric study to explore the relationship of these unusual plants with *Cyperus strigosus*, and we also included *C. strigosus* var. *stenolepis* (Torr.) Kük. [= *C. stenolepis* Torr.], a poorly known plant from the eastern United States, which has been relegated to synonymy under *C. strigosus* (see Torrey 1836; Tucker et al. 2002). Herein, we present (1) the results of multivariate and other numerical analyses of morphological characteristics, which provide evidence supporting the recognition of our new species, (2) a technical description, dichotomous key, and photographs to facilitate identification, (3) distributional maps and citations of specimens, and (4) comments about the status of *Cyperus strigosus* var. *stenolepis*. Much of this paper is extracted from the first author’s master’s thesis completed at Valdosta State University (Lowe 2018).

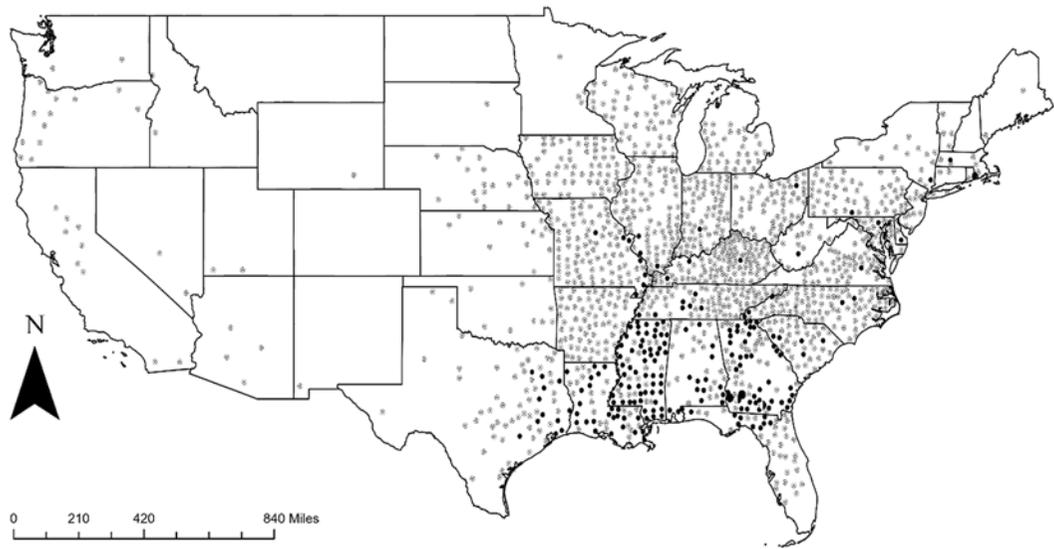
## MATERIALS AND METHODS

A study of the critical literature (Kükenthal 1935-1936; Reed 1936; Godfrey and Wooten 1979; Tucker 1983, 1994; Carter et al. 1999; Carter and Bryson 2000; Tucker et al. 2002) and voucher specimens identified 23 character variables for analysis (Table 1). All variables selected were continuous except for habit (annual or perennial). We chose 183 specimens from LSU and VSC herbaria that were complete in exhibiting all of the characters selected as variables: 171 specimens of *Cyperus strigosus* (including *C. strigosus* var. *stenolepis*) and 12 of the putative new species. Character states (i.e., variables)

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**Figure 1.** The distribution of *Cyperus strigosus* within the contiguous United States. Closed circles represent physical specimens examined, and open circles represent digital images examined via the SERNEC data portal (2021).

were evaluated for each of these specimens. Fine details were measured to the nearest 0.1 mm using an Olympus SZ 51 stereo dissecting microscope and a Minitool Micro-Scale (Minitool Inc., Campbell, California). Label data, *a priori* determinations, and variables were recorded in a Microsoft Excel spreadsheet (Microsoft Inc. Redmond, Washington). Source specimens for this morphometric analysis include type specimens and those specially designated in the Appendix. To show more completely the distribution of *C. strigosus*, digital images and data from herbarium vouchers were used to supplement data derived from physical specimens (SERNEC Data Portal 2021). Maps were generated in ESRI's ArcMap (ESRI 2021) using county level data from the herbarium records. All base maps were obtained from the United States Geological Survey (Georgia GIS Clearinghouse, USGS, Savannah, Georgia). Label data from these digitized specimens are available as supplemental data: [http://castaneajournal.com/supplemental\\_data/06\\_CAST87\(2\)\\_Carter\\_224-243\\_Suppl.xlsx](http://castaneajournal.com/supplemental_data/06_CAST87(2)_Carter_224-243_Suppl.xlsx).

The complete data set was subjected to principal component analysis (PCA) and a multivariate analysis of variance (MANOVA) using Minitab© 17 (2010). All data points plotted were identified uniquely by the combination of collector name and collection number and grouped initially by their *a priori* species determinations. The eigenvectors generated from the PCA were used to determine which character variables captured most variance.

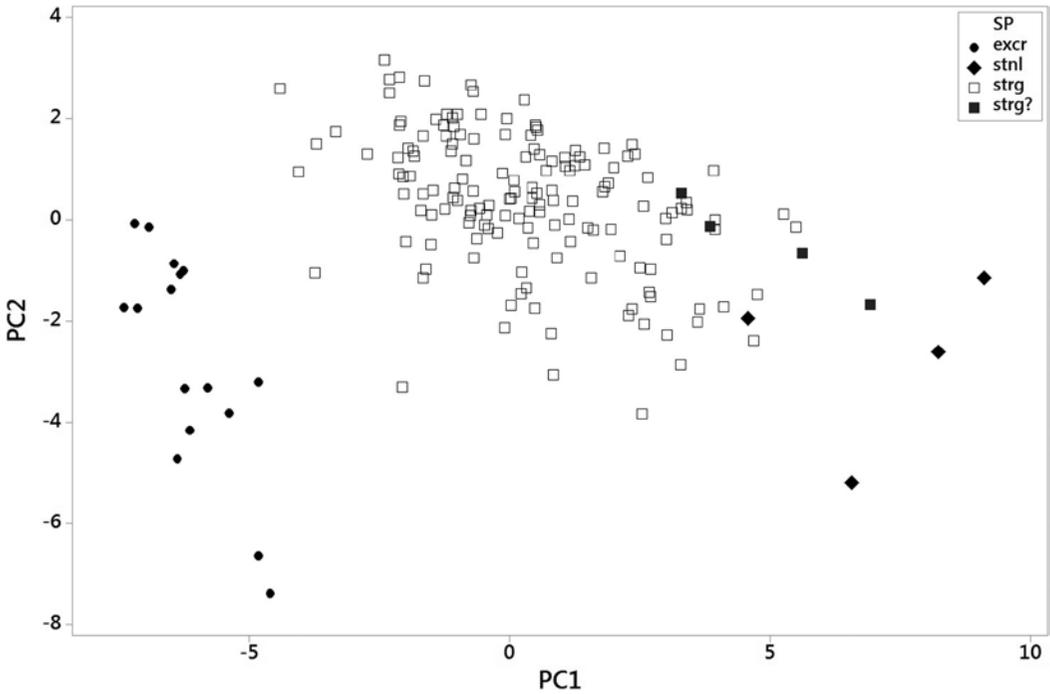
Scanning electron micrographs were made using a JSM-6480LV scanning electron microscope (JEOL, Tokyo, Japan). Representative achenes were obtained from voucher specimens and mounted to aluminum stubs with carbon paint, and the stubs were imaged at low magnification using a secondary electron detector. Images were then edited for contrast. Representative spikelets were photographed with an Olympus SZ60 stereo dissecting scope equipped with an Infinity 2 camera.

## RESULTS

Results of the PCA (Table 1, Figures 2 and 3) support the recognition of our unusual plants from southern Georgia as distinct from *Cyperus strigosus*. The eigenvalues indicate that PC1 and PC2 account for 51.6% of total variance. As shown in Table 1, the variance in PC1 is primarily influenced by the variables culm width (CULMW), bract width (BRCTW), ray length (RAYL), and culm length (CULML), and the variance in PC2 is primarily influenced by the variables floral scale number (SCALN), spikelet length (SPKLTL), spike width (SPKW), and length of floral scale awn (AWN).

Table 1. Eigenvalues and coefficients of the PCA.

	PC1	PC2	PC3	PC4	PC5	PC6
<b>EIGENVALUES</b>						
<b>PROPORTION</b>	8.821205	3.054789	2.038125	1.417522	1.21534	0.85624
<b>CUMULATIVE</b>	0.383531	0.132817	0.088614	0.061631	0.052841	0.037228
	0.383531	0.516348	0.604962	0.666593	0.719434	0.756662
<b>VARIABLE</b>						
ACHL	0.202707	-0.02062	0.258811	0.187907	0.186342	0.212514
ACHW	0.016101	0.100655	0.444072	0.094434	-0.18026	-0.19124
ANTHL	0.173763	0.092159	0.123171	0.185076	0.266132	-0.57098
AWN	-0.21361	-0.31367	-0.24139	0.203795	0.028272	0.061883
BRC1L	0.252656	-0.00434	-0.16803	-0.11656	0.221187	0.213779
BRC1N	0.214585	0.073023	-0.26531	-0.25299	-0.19306	-0.20059
BRC2W	0.280063	-0.03571	-0.08137	0.173865	-0.20529	-0.02451
CULML	0.273137	-0.06425	-0.06301	0.146861	0.261379	0.168827
CULMW	0.301051	-0.0493	-0.13652	0.043847	-0.08627	-0.0825
HABIT	-0.22106	-0.2863	-0.26211	0.220871	0.038358	0.055552
INFV	0.262631	-0.12433	-0.12736	-0.21015	-0.1241	-0.086653
LEAFL	0.250766	-0.02892	-0.07036	0.130608	0.263724	0.340287
LEAFW	0.239465	-0.02861	-0.05104	0.355171	-0.29916	-0.04384
NERVN	0.174646	-0.05467	0.030362	0.314464	0.309434	-0.38992
RAYL	0.280956	-0.09002	-0.08944	0.163377	-0.19167	0.014909
RAYN	0.233791	0.060699	-0.25313	-0.21528	-0.22473	-0.0573
SCALL	0.207306	0.02559	0.244875	0.060981	0.07121	0.347244
SCALN	-0.07842	-0.51804	0.118133	-0.04931	-0.0695	-0.07952
SCALW	0.138824	0.144618	0.333704	-0.37686	0.100935	0.048583
SPKL	0.208661	-0.20288	0.003367	-0.25364	-0.00133	0.035711
SPKL1L	0.052827	-0.49487	0.194793	-0.13196	0.063209	-0.05177
SPKL1W	0.048188	-0.09744	0.342342	0.215178	-0.51569	0.17615
SPKW	0.100295	-0.41236	0.169178	-0.25373	0.090081	-0.13596



**Figure 2.** Two-dimensional score plots for principal component 1 (PC1) and principal component 2 (PC2) showing *Cyperus excurrens* (excr), *C. strigosus* var. *strigosus* (strg), and *C. strigosus* var. *stenolepis* (stnl) and specimens appearing intermediate between *C. strigosus* var. *strigosus* and *C. strigosus* var. *stenolepis* (strg?).

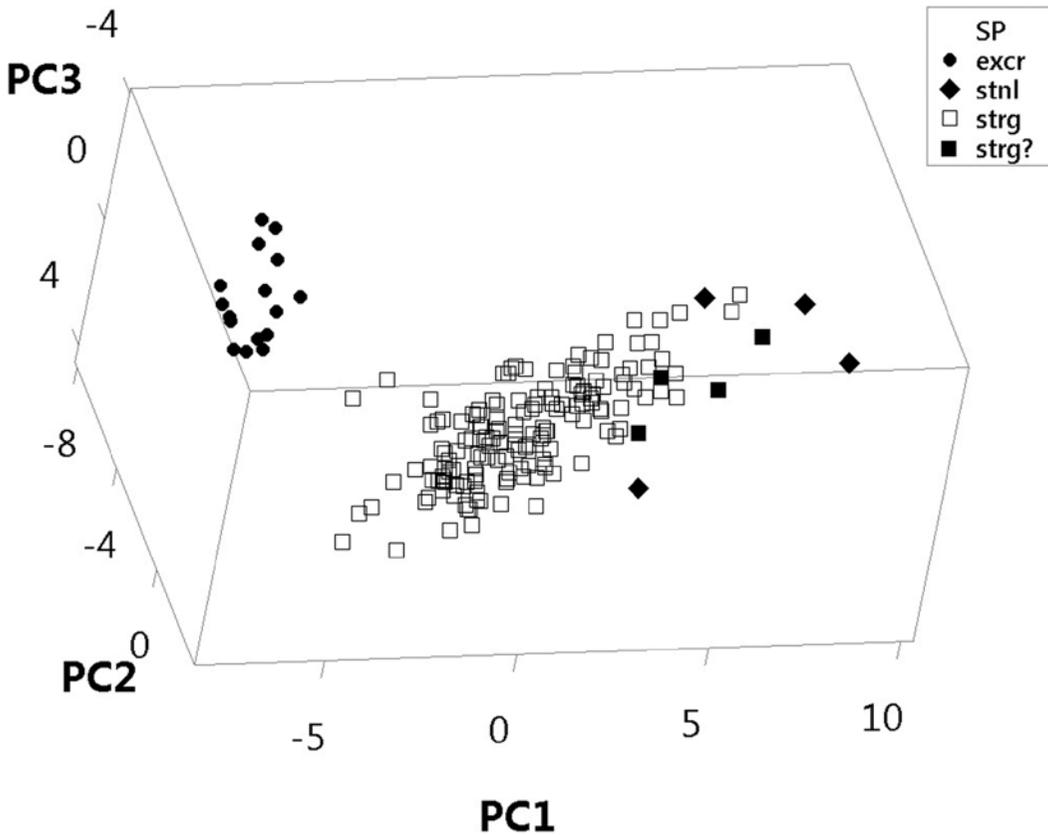
A dendrogram based on the diagnostic characters CULML, CULMW, RAYL, and AWNL groups the putative new species separately from *C. strigosus* (Figure 4). Boxplots presented in Figure 5 highlight differences in major variables for PC1 and PC2, and a comparison of photographs of representative spikelets (Figure 6) and achenes (Figure 7) reveals that our putative new species is markedly different from the common and widespread *Cyperus strigosus*.

**Status of *Cyperus strigosus* var. *stenolepis***

Although markedly robust individuals from peninsular Florida [e.g., *Carter 13852* (VSC), *Carter 21296* (VSC)] and Louisiana [e.g., *Reid 6856* (LSU)] appear to be quite different from the more common and widespread forms of *C. strigosus*, our results show that variation between *C. strigosus* and *C. stenolepis* is continuous (Figures 2, 3 and 5). Several specimens were clearly intermediate and could not be placed with a high degree of confidence in either taxon. Because of the strikingly different aspect of these most extreme specimens relative to most of *C. strigosus*, we conclude that taxonomic status may be in order. However, in the absence of any character that varies discontinuously between *C. stenolepis* and *C. strigosus*, we adopt the taxonomy of Kükenthal (1935-1936), which recognizes the variety *Cyperus strigosus* var. *stenolepis*.

**DISCUSSION**

Our findings support the recognition of these unusual plants from southern Georgia as a new species, morphologically distinct from *Cyperus strigosus*. In addition to its annual habit and diminutive size, our new plant has a narrower culm with average width (CULMW) less than half the average for *C. strigosus*. Spikelets of the novel plant also are much longer than *C. strigosus* of similar vegetative size, which imparts a loose, obconic appearance to the spikes as compared with the relatively tight cylindrical spikes of *C. strigosus*. The distinctive floral scales are perhaps the most

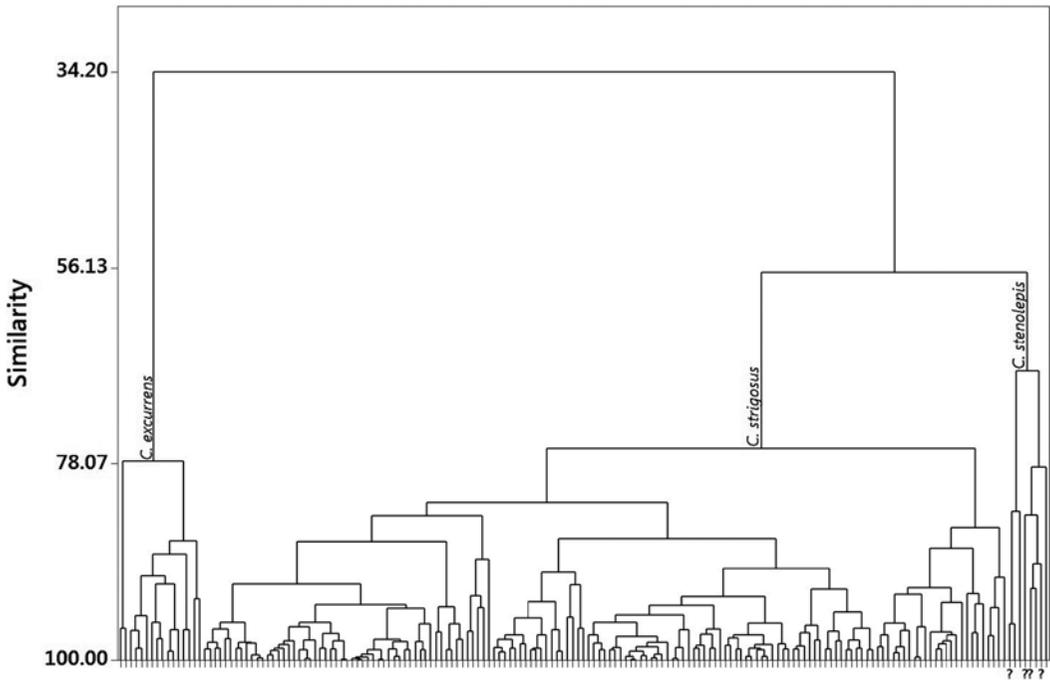


**Figure 3.** Three-dimensional score plots for principal component 1 (PC1), principal component 2 (PC2), principal component 3 (PC3), showing *Cyperus excurrens* (excr), *C. strigosus* var. *strigosus* (strg), and *C. strigosus* var. *stenolepis* (stnl) and specimens appearing intermediate between *C. strigosus* var. *strigosus* and *C. strigosus* var. *stenolepis* (strg?).

striking feature, having a conspicuously excurved awn and paler tawny brown sides. In contrast, *C. strigosus* has straight, awnless, golden-yellow-tinted floral scales.

Statistical analysis of the morphological data further supports our contention that these unusual plants are morphologically distinct. The PC1 and PC2 account for 51.6% of the variance (Table 1). The score plot of the PCA shows our putative new taxon forming a discrete cloud separated from *C. strigosus* (Figures 2 and 3). The PC1 causes most of the separation between the species, with culm width [CULMW], ray length [RAYL], bract width [BRCTW], and culm length [CULML] as the most important characters (Table 1). They show little to no overlap and are helpful in distinguishing between *C. strigosus* and our putative new species. The PC2 highlights meaningful interspecific differences in spikelet and scale structure with scale number [SCALN], spikelet length [SPKLTL], spike width [SPKW], and floral scale awn length [AWNLA] as the most important characters (Table 1), which complements our initial observations about the distinctive excurved floral scale awn being diagnostic.

Descriptive data as well as our PCA results support the hypothesis that this new taxon is morphologically distinct, differs sharply from its sister species, and represents a previously undescribed narrow endemic of coastal plain karst ponds. The discovery of a new narrowly endemic *Cyperus*—particularly one from a specialized habitat—is perhaps not so surprising in light of recently revised ideas about biodiversity of the North American Coastal Plain and its identification as a global biodiversity hotspot by Noss et al. (2015).



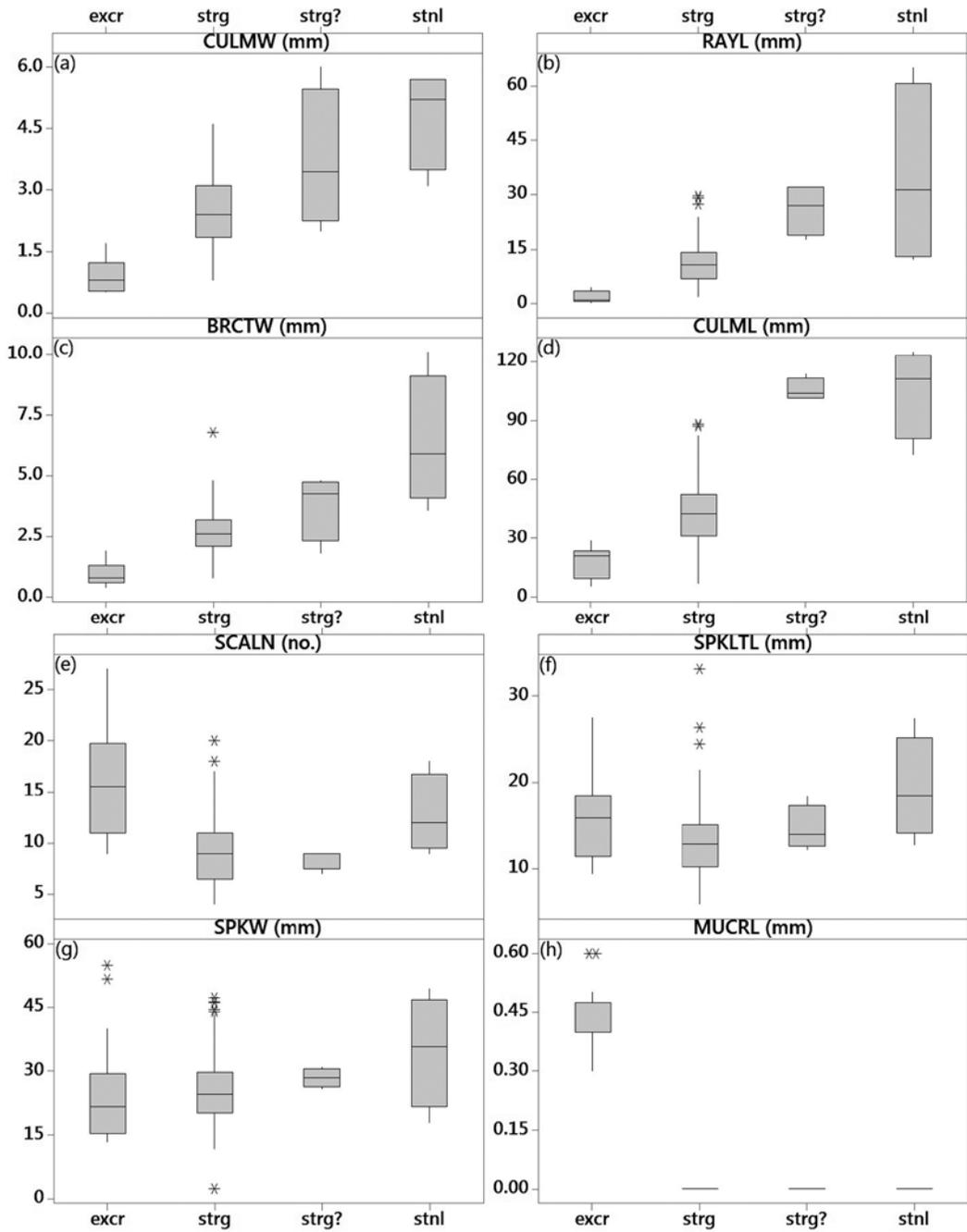
**Figure 4.** Dendrogram based on diagnostic characters culm length (CULML), culm width (CULMW), ray length (RAYL), and floral scale awn length (AWNLA) between *Cyperus excurrens*, *C. strigosus*, and *C. stenolepis*, and specimens apparently intermediate between *C. strigosus* var. *strigosus* and *C. strigosus* var. *stenolepis* identified as *strig?* in Figures 3 and 5.

**TAXONOMIC TREATMENT**

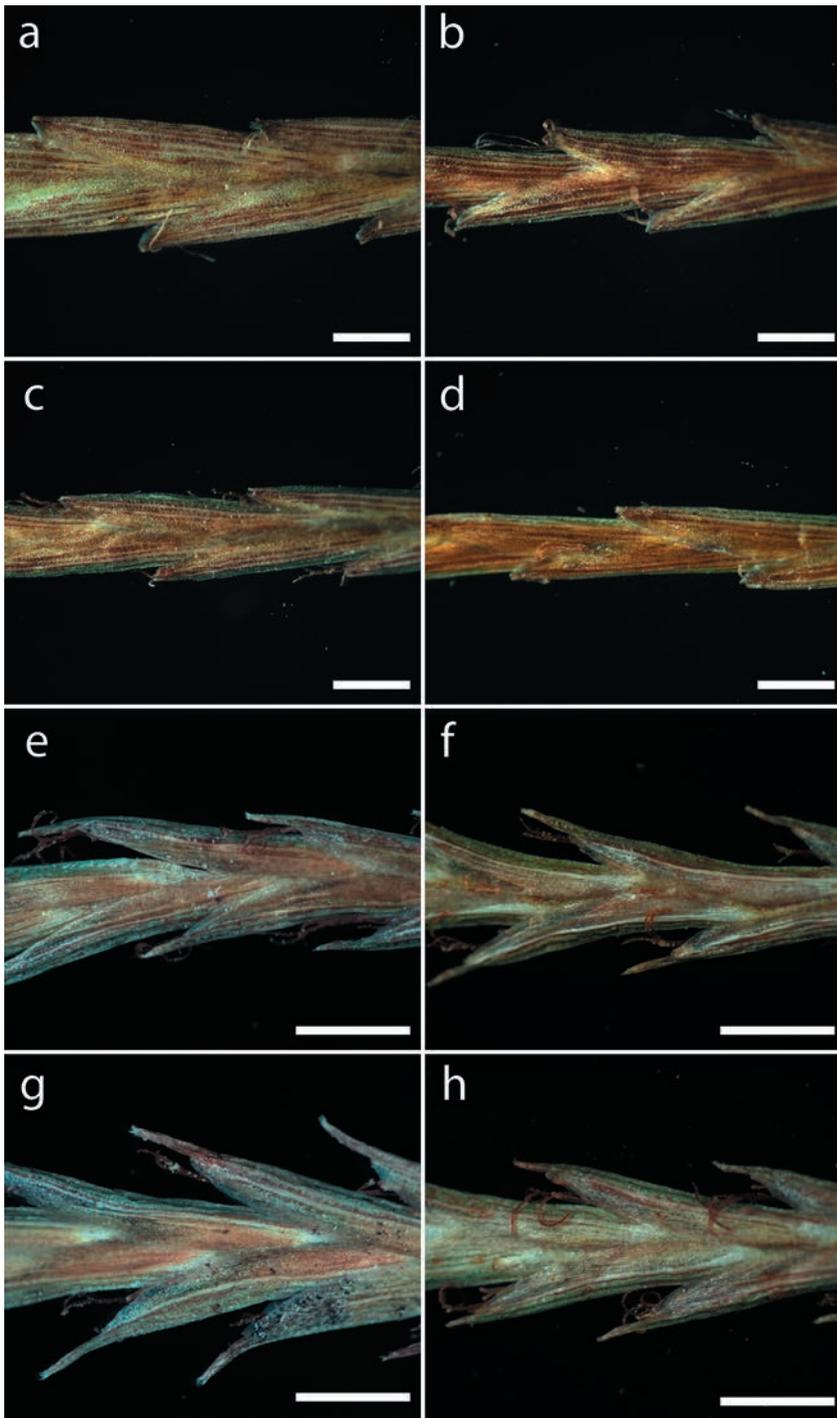
***Cyperus excurrens*** J.R. Carter and P.D. Lowe, sp. nov.—TYPE: **GEORGIA. Early County:** ca 2.75 airmiles WNW Cedar Springs, Williams Bluff TNC Preserve, 19 Jul 2007, *R. Carter 17789* (HOLOTYPE: GA; ISOTYPES: BRIT, FSU, GH, UNC, VSC). Figure 8.

PARATYPES: **GEORGIA. Baker County:** Alligator Pond, on the Joseph W. Jones Ecological Research Station (Ichauway Plantation), 9 Sep 1990, *R. Godfrey 83976* (VSC). **Dougherty County:** Nilo Plantation, 1.73 airmile SW headquarters, near southern end of Big Cypress Lake, 7 Aug 2007, *R. Carter 17920* (FLAS, GA, LSU, MMNS, TROY, VSC). **Early County:** ca 2.9 airmiles WNW Cedar Springs, Williams Bluff TNC Preserve, 19 Jul 2007, *R. Carter 17762* (GA, GH, MO, NY, VSC). **Lanier County:** Moody Air Force Base, ca. 1.0 mi S jct. Moore Loop and Shiner Pond Rd, ca. 100 m W jct. Moore Loop and Ward Strip, 30.972998° –83.143988°, 28 Aug 1993, *R. Carter 11266* (BRIT, GA, GH, NY, VSC).

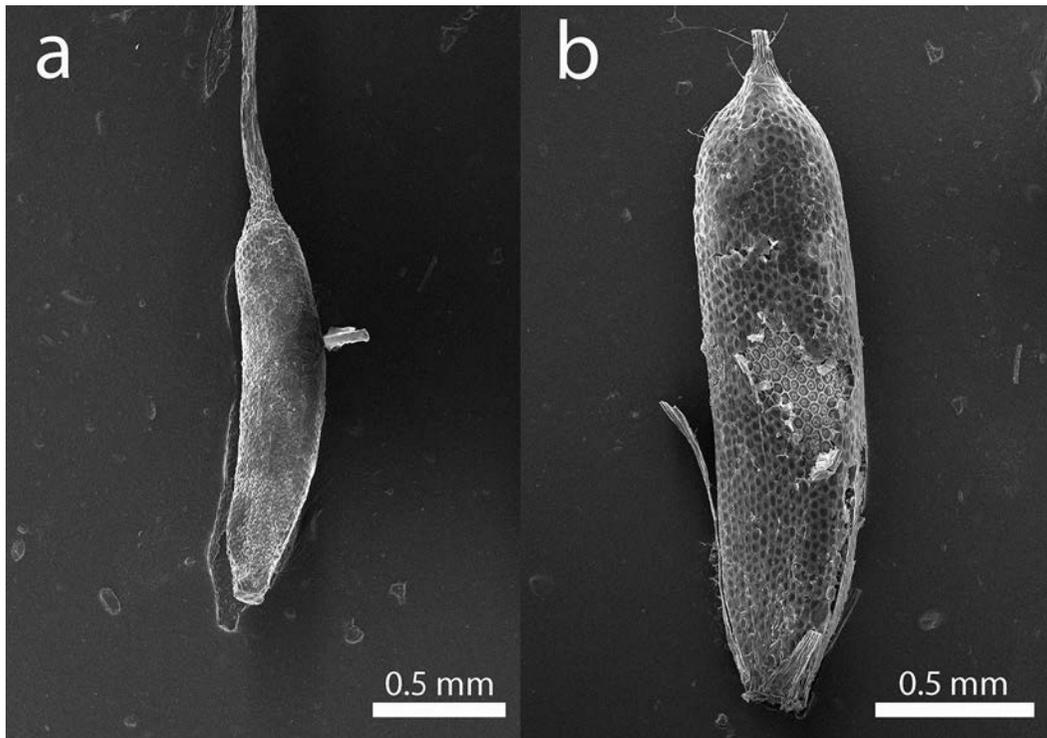
Annual herb, 1.1–3.0 (–3.5) dm high, caespitose. Culm 1.0–2.5 (–3.0) dm long, erect to mostly spreading, trigonous, 0.5–1.5 mm wide at mid-culm. Leaves 1–2 (–3) per culm; sheath dorsally chartaceous, ventrally membranous; blades usually light green to tan, v-shaped in cross-section, 5–25 cm long, 0.5–1.5 mm wide, prickle teeth infrequent along margin. Inflorescence of 3–6 rays, occasionally without apparent rays and appearing loosely obconic to hemispheric to oblong; rays erect to spreading, longest rays (0.5–1.0–2.5 cm long; peduncles slender, glabrous. Primary inflorescence bracts 3–5 (–7), spreading, 10–20 (–25) cm long, 0.5–1.5 (–2) mm wide. Spikes (12–) 15–30 mm × 15–30 mm, moderately loose, spikelets 20–40, 0.5–1.2 per mm of rachis; rachis (4.5–) 6.4–10.3 (–14.8); basal spikelets divaricate, gradually becoming spreading to erect at apex. Bracteoles narrowly triangular, 2.4–3 mm long. Spikelet prophylls triangular to oblong. Spikelets 10–20 mm long, 1–2 mm wide, with 9–20 [8–18 fertile] floral scales. Floral scales medially green to brown,



**Figure 5.** Boxplots of the major characters of PC1 and PC2 for *C. excurrens* (*excr*), *C. strigosus* var. *strigosus* (*strg*), and *C. strigosus* var. *stenolepis* (*stnl*) and specimens appearing intermediate between *C. strigosus* var. *strigosus* and *C. strigosus* var. *stenolepis* (*strg?*); asterisks indicate outliers.



**Figure 6.** Light micrographs of spikelets of *C. strigosus* var. *strigosus* (a–d) and *Cyperus excurrens* (e–h); all scale bars=1 mm; source specimens are (a) Wilson 321 [VSC], (b) Carter 7446 [VSC], (c) Carter 9161 [VSC], (d) Moore 1327 [VSC], (e) Godfrey 83976 [VSC], (f) Carter 11266 [VSC], (g) Carter 17789 [VSC], and (h) Carter 17920 [VSC].



**Figure 7.** Scanning electron micrographs of achenes of (a) *Cyperus excurrens* [Carter 11266] and (b) *Cyperus strigosus* [Carter 13852].

laterally pale to yellow to green to ochre, imbricate, narrowly oblong to linear, 3–4 mm long, 0.3–0.4 (–0.5) mm wide, appressed proximally, with an excurved aristate apex 0.3–0.4 (–0.6) mm long, nerves 7. Stamens 3, anthers oblong, (0.1) 0.2–0.3 (0.4) mm long, reddish brown. Style trifid, stigmas 3, exerted at anthesis. Achene tan to brown, ± stipitate, narrowly oblong, trigonous, face adjacent to rachilla slightly curved and slightly narrower than the other two, (1.1–) 1.4–1.6 × 0.3–0.4 mm, apiculate, surface papillate, sloughing readily, subsurface ornamented with hexagonal depressions.

**Diagnosis**—The following combination of characteristics distinguish this species from *C. strigosus* (incl. var. *stenolepis*): annual habit, shorter height, aristate floral scale with an excurved awn, and smaller achene. Figures 6 and 7.

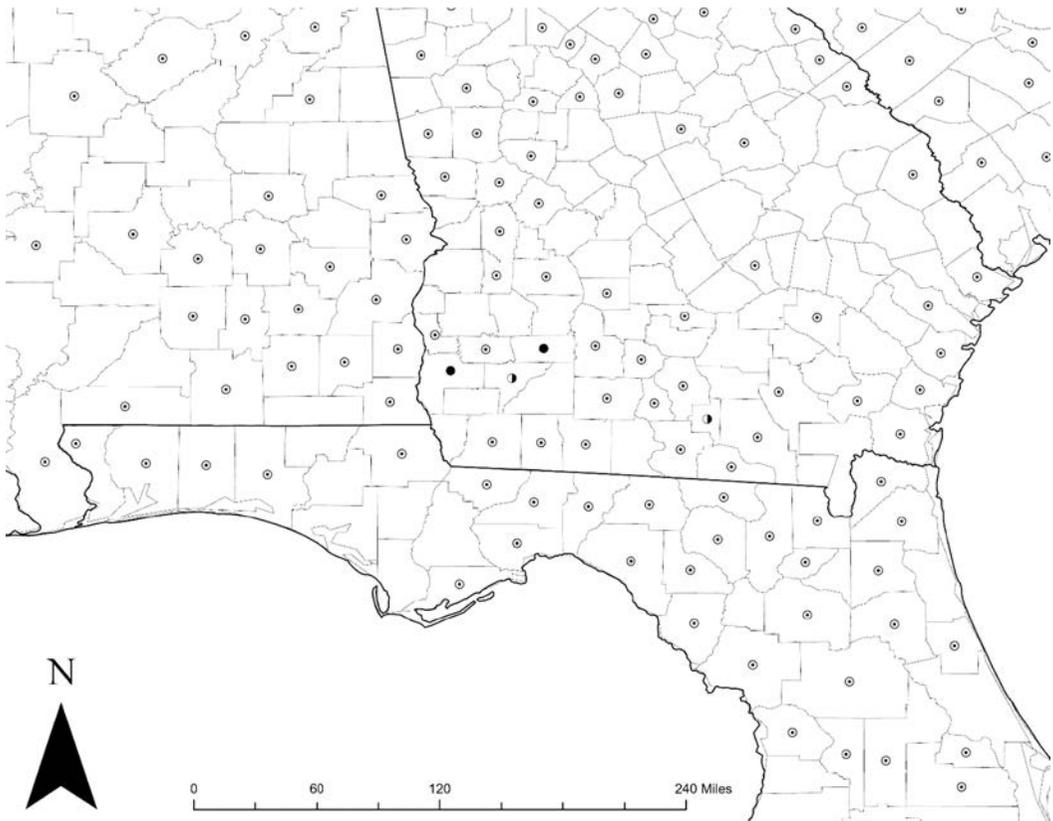
**Habitat and Distribution**—*Cyperus excurrens* is known from karst ponds in the Dougherty Plain (Level IV) Ecoregion of southwestern Georgia (Baker, Early, Dougherty counties) and from a seasonally wet, shallow cypress-gum pond in Lanier County just north of the mapped Valdosta Limesink (Level IV) Ecoregion (Griffith et al. 2001), both areas in the Gulf Coastal Plain (Figures 1 and 9). The Lanier County site, documented in 1993 (*R. Carter 11266*), has since been destroyed. *Cyperus excurrens* appears sporadically *en masse* in exsiccated ponds but is otherwise illusive. The second author revisited the ponds at the Williams Bluff TNC Preserve in Early County on 26 August 2016 only to find them inundated with no evidence of *C. excurrens*. Associated species in the exsiccated karst ponds at the Williams Bluff Preserve in Early County, Georgia, include *Clethra alnifolia* L., *Cyrilla racemiflora* L., *Dichantheium erectifolium* (Nash) Gould & C.A. Clark, *D. wrightianum* (Scribn.) Freckmann, *Drosera capillaris* Poir., *Fimbristylis autumnalis* (L.) Roem. & Schult., *Hypericum fasciculatum* Lam., *H. harperi* R. Keller, *Ilex myrtifolia* Walter, *Juncus repens* Michx., *Lachnocaulon minus* Small, *Lindernia dubia* (L.) Pennell, *Ludwigia ravenii* C.I.



Figure 8. Holotype of *Cyperus excurrens*.

Peng, *Polypremum procumbens* L., *Rhexia mariana* L., *R. salicifolia* Kral & Bostick, *R. virginica* L., *Rhynchospora careyana* Fernald, *R. glomerata* (L.) Vahl, *R. tracyi* Britton, *Rotala ramosior* (L.) Koehne, and *Xyris jupicai* Rich. (Figure 10). Additional populations should be sought in southern Alabama, northern Florida, and other areas with karst topography in Gulf and Atlantic Coastal Plain regions of the southeastern United States.

**Etymology**—The specific epithet, *excurrens*, refers to the excurved and aristate floral scale apex.



**Figure 9.** Distribution by county of *Cyperus excurrens* and *C. strigosus* in Georgia and adjacent states. Solid circles=*C. excurrens*, dotted circles=*C. strigosus*, half-circles=species sympatric.

**DICHOTOMOUS KEY TO CYPERUS EXCURRENS AND C. STRIGOSUS**

- 1a. Plant annual, 2-3 dm high; culm slender, 0.5-1 (-1.5) mm; floral scale with excurved aristate apex ..... *C. excurrens*
- 1b. Plant perennial, ≥ 3 dm high; culm wider, 1.8-3 mm; floral scale not aristate ..... 2
- 2a. Culm 3-8 (-11) dm; scales appressed to slightly gaping distally ..... *C. strigosus* var. *strigosus*
- 2b. Culm > 10 dm; scales more loosely arranged, tips gaping distally ..... *C. strigosus* var. *stenolepis*

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**Figure 10.** *Cyperus excurrens* habitat, exsiccated karst pond at the Williams Bluff Preserve in Early County, Georgia, paratype locality [Carter 17789], with the rare meadow-beauty, *Rhexia salicifolia*, and other herbaceous vegetation obscuring its abundance.

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## APPENDIX

## Additional Vouchers Examined

**Bold**=Vouchers used in statistical analysis

*Cyperus strigosus* Linnaeus, *Species Plantarum* 1:47. 1753.—TYPE: Habitat in paludibus Jamaicae, Virginiae, *Kalm s.n.*, Herb. Linn. No. 70.36 (LECTOTYPE: LINN, photograph seen).

**ALABAMA. Baldwin County:** Battleship Parkway, 1.1 mi E of Mobile City limit, 8 Aug 1989, *R. Carter 8105 (VSC)*. **Barbour County:** S side of Hwy AL 10, 1.1 mi E of Pike-Barbour County line (Pea River), 20 Aug 2011, *D. Morrison 23 (VSC)*. **Butler County:** Hwy 45 at the NW side of Persimmon Creek, 25 Jul 2009, *A.R. Diamond 20845 (VSC)*. **Calhoun County:** AL 77 8.6 mi S of Coosa River bridge, 23 Aug 1996, *R. Kral 86606 (VSC)*. **Clay County:** by AL 9, 2.6 mi N of jct AL 148 at Millersville, 17 Sep 2005, *R. Kral 96835 (VSC)*. **Covington County:** Hwy 55, 0.08 mi N of Covington County Hwy 107, 15 Aug 2009, *A.R. Diamond 20871 (VSC)*. **Crenshaw County:** by AL 106, 20.2 mi E of Georgiana, 26 Sep 1999, *R. Kral 88954 (VSC)*. **Dallas County:** by AL 41, by jct US 80, SE side Selma, 4 Oct 1994, *R. Kral 84301 (VSC)*. **Henry County:** 2.8 mi NE Abbeville, 8 Oct 1972, *R. Kral 48961 (VSC)*. **Houston County:** vic. Of Gordon, on Hwy 84 at 0.15 mi W of jct with Hwy 95, 10 Sep 1992, *J. MacDonald 5469 (VSC)*. **Lawrence County:** by AL 24, 9 mi WSW Trinity, 14 Sep 1971, *R. Kral 43988 (VSC)*. **Lowndes County:** by AL 41, 19 mi SSW Sardis, 7 Oct 1971, *R. Kral 44967 (VSC)*. **Madison County:** ca. 8 mi N Huntsville city limits; 8.5 mi N jct Hwy AL 53 & Mastin Lake Road; 0.7 mi N jct Hwy AL 53 & Harvest Rd; E of AL 53, 14 Jul 1994, *C. Bryson 13968 (VSC)*. **Mobile County:** Mobile; 0.95 mi W jct Hwys US 90 and AL 163 S; jct Commerical Park Blvd and Government St (Hwy US 90), 12 Sep 1995, *R. Carter 12709 (VSC)*. **Montgomery County:** Montgomery County Hwy 38, 0.77 mi N of the Pike County line, 9 Aug 2009, *A.R. Diamond 20866 (VSC)*; Montgomery County Hwy 30 at over-flow bridge N of Baskin's Mill Creek, 8 Sep 2009, *A.R. Diamond 20918 (VSC)*. **ARKANSAS. Baxter County:** Spring Lake Estates, at shoreline of Spring Lake, 15 Aug 1992, *P. Hyatt 4984.03 (VSC-4)*; Arkansas State University-Mtn. Home campus, 7 Oct 2001, *P. Hyatt 10645 (VSC)*. **Calhoun County:** Hampton vicinity, 10.2 mi S on US Hwy 167 at T15S R14 W S25 NE4 at only mapped crossroad in this S25, 13 Sep 2002, *P. Hyatt 11260 (VSC)*. **Chicot County:** Chicot Lake County Park, N side of Lake Chicot, 15 Oct 2004, *C. Bryson 20402 (VSC)*. **Cleveland County:** Kindsland vicinity, about 3.5 mi E on US Hwy 79 at Moro Creek. T10S R12W S16NW4NW4, 13 Sep 2002, *P. Hyatt 11280 (VSC)*. **Crawford County:** W of Rudy near jct of Hwys 59 and 348 on Kevin Brown's Evergreen Sod Farm, 25 Oct 1996, *John King s.n. (VSC)*. **Franklin County:** Cass, W of Hwy Ar 16; across hwy from work center, 12 Aug 1992, *C. Bryson 12048 (VSC)*. **Fulton County:** Ruth vicinity, about 3–4 mi due S at T19N R11W S15 NW4, 7 Oct 2001, *P. Hyatt 10635 (VSC)*. **Grant County:** Sheridan vicinity, about 2.5 mi N, at T4S R13W S27 NE4 at Big Creek bridge, 9 Oct 2000, *P. Hyatt 9807 (VSC)*; Sheridan vicinity, about 7 mi N on US Hwy 67 at probably T3S R14W S35 SW4, 14 Sep 2002, *P. Hyatt 11286 (VSC)*. **Greene County:** S of Paracould, by Hwy US 49; about 2 mi N of jct with Hwy AR 69, 20 Aug 1991, *R. Carter 8938 (VSC)*. **Izard County:** Clinton/Miller prison vicinity, on AR Hwy 5. This collection from Baxter County line at Moccasin Creek. T17N R11W W edge of S6 in SW4, 9 Oct 2000, *P. Hyatt 9747 (VSC)*. **Lafayette County:** State Line community vicinity; about 2 mi SE at T20S R24W S11 at center of NW4 (from Louisiana, 0.5 mi N of County Rd then left onto W C.C.C. Rd, 1.3 mi to intersection withing 200 ft shot of private road to right, 18 Jun 2000, *P. Hyatt 9500 (VSC)*; Bradley vicinity, about 1 mi S (actually 4.5 mi N of Louisiana on AR Hwy 29) at T19S R25W S24 NW4 of SW4, 20 May 2001, *P. Hyatt 10262 (VSC)*; T17N R15W S34 NE4 along gravel bed in river. Puffalo Point campground vicinity, 17 Aug 2001, *P. Hyatt 10555 (VSC)*; Walnut Hill on W side of town where a tributary to Poston Bayou crosses AR Hwy 160; T19S R25W E 1.2 of SW4 of S10, (VSC). **Lawrence County:** Walnut Ridge vicinity on US Hwy 63, 9 Sep 2008, *P. Hyatt 12201 (VSC)*. **Marion County:** T17N R15W S34 NE4 along gravel bed in river. Puffalo Point campground vicinity, 9 Oct 2000, *P. Hyatt 9787 (VSC)*. **Miller County:** Doddridge vicinity, a couple mi E on AR Hwy 160 (old route at river) at Red River. Immediately upstream from old ferry landing and downstream from the large new bridge, T19S R27W near center of S5, 17 Aug 2001, *P. Hyatt 10548 (VSC)*; 17 Aug 2001, *P. Hyatt 10549 (VSC)*. **Stone County:** confluence of stream from Blanchard Springs and Sylamore Creek, 29 Sep 1992, *P. Hyatt 5044 (VSC)*. **Union County:** Large clearcut pine woods beside AR 275, 3.3 mi N of the Louisiana State Line and 7.2 mi S of Strong, S16 T19S R12W, 6 Jul 1989, *R. Thomas 110968 (VSC)*; beside Amasen Rd just SE of US 167 SW of Calion S20 T16S R14W, 21 Jul 1989, *R. Thomas 111302 (VSC)*; Roadbank of paved road 0.1 mi W of AR 335 W of AR/NW of El Dorado; SW corner of S31 T16S R15W, 4 Aug 1989, *R. Thomas 111761 (VSC)*; Edge of pine woods and roadbank of AR 129, 1.1 mi NW of Lawson, S25 T17S R14W, 21 Aug 1989, *R. Thomas 112328 (VSC)*; along N side of paved road to Felsenthal Lock and Dam at Felsenthal; S15 T19S R10W, 1 Sep 1989, *R. Thomas 112446 (VSC)*; at Dollar Junction NW of Felsenthal and N of Huttig in SE corner of S12 T19S R11W, 1 Sep 1989, *R. Thomas 112503 (VSC)*; edge of pine woods beside dirt road and US 82 at jct of roads to Huttig and New London about 6 mi W of the Ouachita River; S23 T18S R11W, 1 Sep 1989, *R. Thomas 112572 (VSC)*; disturbed aread in woods N of CCC Rd 1.1 mi W of US 167 W of Calion S17 T16S R14W, 15 Sep 1989, *R. Thomas 112665 (VSC)*; Beside AR 129 at Frank LaPere

Creek S of Huttig, S36 T19S R11W, 22 Oct 1989, *R. Thomas 113983* (VSC); area around oil tanks beside dirt rd 2.1 mi N of Louisiana State Line and 1.7 mi SE of Aurelle; S30 T19S R12W, 13 Aug 1990, *R. Thomas 120243* (VSC); Along S side of US 82 at Felsenthal Rd N of Dollar Jct and Hutting; Sec. 23, T18S, R11W, 20 Sep 1990, *R. Thomas 121312* (VSC); 20 Sep 1990, *R. Thomas 121315* (VSC). **CALIFORNIA. Yuba County:** 12.5 mi ENE Marysville jct. Hwy CA 20 and Hwy CA 70, by Hwy CA 20, 31 Jul 2006, *R. Carter 17116* (VSC). **DELAWARE. Sussex County:** About 6 mi E of state line on Hwy 404, W of Bridgeville, 26 Aug 1983, *R. Carter 3766* (VSC). **FLORIDA. Columbia County:** 22.4 mi N of Lake City, near jct Hwy US 441 and Hwy FL 6, 3 Jul 1988, *R. Carter 6884* (VSC). **Escambia County:** S side of Ensley, wet ditch beside Hwy US 29, 8 Aug 1989, *R. Carter 8092* (VSC). **Gadsden County:** at junction of CR157 and CR153, generally SE of Havana, 12 Oct 2013, *L. Anderson 27564* (VSC). **Hamilton County:** 2.5 mi S of Jasper, along Hwy US 129, 7 Sep 1985, *R. Carter 4546* (VSC). **Lafayette County:** 18.1 mi SW on FL 51 from its jct with US 27 in Mayo, 10 Jul 1990, *S. Jones 7303* (VSC); 10 Jul 1991, *S. Jones 7299* (VSC); 10 Jul 1991, *S. Jones 7300* (VSC). **Leon County:** beside Lakeshore Drive under I-10 overpass in NW sector of Tallahassee. T1N, R1W, NW 1/4 of SE 1/4 of Sec 14., 25 Sep 2004, *L. Anderson 20954* (VSC). **Santa Rosa County:** vicinity milepost 24 of Hwy I-10, ca 5 mi E of Escambia Bay bridge, 15 Sep 1993, *R. Carter 11306* (VSC). **Suwannee County:** Intersection of Hwy I-75 and Hwy US 129, 17 Aug 1985, *R. Carter 4300* (VSC). **Taylor County:** 8.5 mi N of Perry, 13 Oct 1980, *R. Carter 2580* (VSC). **Wakulla County:** St. Marks Nat'l Wildlife Refuge 'Panacea Unit', beside Rd 407 just inside gate to Hwy 319, S of Sopchoppy, 3 Sep 2014, *L. Anderson 28398* (VSC). **GEORGIA. Bartow County:** Cartersville, vacant lot at corner of Tennessee St. 'Hwy GA 61' and Mary St, 13 Sep 1991, *R. Carter 9123* (VSC). **Ben Hill County:** Ocmulgee River in the NE corner of the county at Red Bluff, 19 Aug 1967, *W. Faircloth 4610* (VSC). **Berrien County:** 5.1 mi N of Lowndes-Berrien County line, or 11.6 mi N of Bemiss, 9 Aug 1987, *R. Carter 6066* (VSC). **Brantley County:** Hwy US 82, 6.0 mi W of jct. with Hwy US 301 in Nahunta, 21 Sep 1991, *R. Carter 9231* (VSC). **Butts County:** mowed interchange area at intersection of hwy US 23 and I-75, 2.7 mi N of Macon city limit, 9 Aug 1987, *R. Carter 6040* (VSC). **Camden County:** Cabin Bluff Preserve; USGS Kingsland NE Quad.; ca. 11.75 airmiles NNE St. Marys waterfront; 0.35 mi W Cabin Bluff Lodge; flatwoods between air strip and S entrance to sporting clay course train 'Red Bug Trail', 6 Oct 1995, *R. Carter 12870* (VSC); Kings Bay Submarine Base; ditch along N side H. L. Stimson Dr., 0.2 mi E of jct H. L. Stimson Dr. and James Madison Rd., 11 Oct 1996, *R. Carter 13874* (VSC). **Clay County:** Hwy GA 37, 6.7 mi W of intersection with Hwy US 27 in Sutton Corner, 28 Sep 1991, *R. Carter 9385* (VSC). **Clinch County:** 1.1 mi W of Hwy US 441 in Fargo; distrubed right-of-way along Hwy GA 94 in Suwannoochee Creek bottom at Hwy GA 94 bridge, 9 Jul 1991, *R. Carter 8842* (VSC). **Colquitt County:** NNW Moultrie, Hwy GA 33, 2.7 mi S New Elm, 26 Sep 2007, *R. Carter 18117* (VSC). **Columbia County:** just E of Dixie Mtn. about 3.5 mi (5.6 km) E of Hwy GA 104, off Burks Mountain Rd, 13 Aug 2006, *M. Morris s.n.* (VSC). **Cook County:** 2.5 miles NNE of Sparks, E of jct. Brushy Creek Rd and Webb Mathis Rd, by Webb Mathis Rd, 9 Oct 1999, *T. Howard 23* (VSC). **Coweta County:** Morgan Rd. between Senoia and Turin swampy area, 23 Jul 1967, *J. Griffin s.n.* (VSC). **Gilmer County:** about 6 mi S of Ellijay city center; base of steep road cut at jct of Hwys GA 382 and GA 5/515, 14 Sep 1991, *R. Carter 9146* (VSC). **Glynn County:** USGS Sterling GA Quad., 26 Aug 1988, *R. Carter 7424* (VSC); USGS Jekyll Island (GA) Quad., 26 Aug 1988, *R. Carter 7436* (VSC-2). **Gordon County:** E fo Fairmont by Hwy GA 53; Pleasant Grove Baptist Church grounds along S side of Hwy GA 53, 13 Sep 1991, *R. Carter 9126* (VSC). **Grady County:** by Grady County Sheriff's Office & Detention Center, N side of Cairo, just E of GA 111, 8 Aug 2001, *R. Kral 91779* (VSC); US 84, 5.5 mi E of Cairo, 10 Oct 2002, *R. Kral 93377* (VSC). **Gwinnett County:** Intersection of I-85 and GA 20 at onramp of S bound traffic on 20 heading E on 85, next to Hwy 20, 14 Aug 2004, *P. Hyatt 11764* (VSC); Mall of Georgia vicinity at Mill Creek Park, N end of park, trailside, 3 Sep 2006, *P. Hyatt 12070* (VSC); 3 Sep 2006, *P. Hyatt 12078* (VSC). **Habersham County:** US Hwy 441 at GA Hwy 385, NE corner of intersection, 31 Jul 2004, *P. Hyatt 11744* (VSC). **Hall County:** Hog Mountain Rd. and Spout Springs Rd. intersection, 14 Aug 2004, *P. Hyatt 11760* (VSC); Elachee Nature Preserve a.k.a. Chipowee Woods, 14 Aug 2004, *P. Hyatt 11766* (VSC). **Jasper County:** Monticello Glades, Chattahoochee-Oconee National Forest parcel 045 050; 4.7 km S of Monticello; bordered by Feldspar Rd. to S State Route 11 to E, 28 Jul 2012, *S. Sewell 594* (VSC). **Lanier County:** low, water filled drainage ditches alongside US-129, 0.5 mi N of Stockton, 30 Jul 1965, *W. Faircloth 2550* (VSC); Stockton, overgrown edge of lot along railroad and just E of Hwy US 129, 18 Sep 1991, *R. Carter 9161* (VSC); Bank's Lake National Wildlife Refuge, Hwy GA 122, 2 mi W of Lakeland, 18 Jun 2011, *Bobby Sanderson 737* (VSC). **Liberty County:** USGS Hinesville GA Quad., 26 Aug 1988, *R. Carter 7446* (VSC). **Lincoln County:** 1.4 mi E of Lincolnton, 1 Sep 1949, *W. Duncan 10164* (VSC). **Lowndes County:** 0.5 mi N Valdosta city limits, Inner Perimeter Rd., by Forrest St., then 1 mi by Mt. Zion Church Rd, 23 Aug 1987, *R. Carter 6183* (VSC); Moody Air Force Base, vic. Mission Pond, 22 Jul 1994, *C. Wilson 321* (VSC). **McIntosh County:** Darien, bank of Darien River at foot of Screven St, 21 Sep 1991, *R. Carter 9274* (VSC). **Paulding County:** 2.0 mi E of Hwy GA 61, vicinity of Dallas, 13 Sep 1991, *R. Carter 9112* (VSC); about 15 mi S of Cartersville; 2.2 mi W of Hwy GA 61 by Shoal Creek Rd, 13 Sep 1991, *R. Carter 9115* (VSC). **Pickens County:** pasture along Ninety Nine Branch 0.8 mi SE of GA 53, along dirt road intersecting HWY GA 53, 5 m W of Gordon-Pickens County line marker, 13 Sep 1991, *R. Carter 9133*

(VSC); just N of and along Hwy GA 5, 0.4 mi SE of jct with Hwy Hwy GA 136 in Talking Rock, 14 Sep 1991, *R. Carter 9139* (VSC). **Rabun County:** SW of Glade, 14 Aug 1949, *W. Duncan 10108* (VSC). **Richmond County:** Fort Gordon Military Reservation, Training Area 18, 28 Aug 1991, *M. Moore 1327* (VSC). **Spalding County:** Griffin, University of Georgia Experiment Station, 3 Sep 2013, *Patrick McCullough s.n.* (VSC). **Talbot County:** W edge of Talbotton, Hwy 80/41, 30 Aug 1980, *J. Manhart 107* (VSC); Talbotton. W ed of town, on Hwy 80, 30 Aug 1980, *J. Stutts 609* (VSC). **Thomas County:** Thomasville Airforce Base, Thomasville, 6 Oct 1945, *M. Fosberg 185* (VSC); just N of Thomasville city limit, 0.2 mi E of Hwy GA 3 by Pinetree Boulevard, 28 Sep 1991, *R. Carter 9314* (VSC). **Tift County:** Tifton, 2.4 mi NW jct of Hwy US 82 and Carpenter Rd; W of Carpenter Rd, 2 Aug 2001, *C. Bryson 18999* (VSC). **Towns County:** between Young-Harris and Hiawasee, 6.2 mi W of Hiawasee, 14 Sep 1991, *R. Carter 9152* (VSC). **Union County:** 8.1 mi W of new Hwy US 76 in Blairsville; 0.2 mi N of Philadelphia Baptist Church and cemetery and 0.5 mi NW of Old Hwy US 76, 14 Sep 1991, *R. Carter 9149* (VSC); roughly 14 mi W of Clayton on US Hwy 76 in the vicinity of Turkey Gap, 21 Aug 2004, *P. Hyatt 11752* (VSC); Unicoi Gap along the Appalachian Trail, 10 Sep 2004, *P. Hyatt 11770* (VSC). **Upson County:** Sprewell Bluff, ca. 0.35 mi ENE of boat ramp, 9 Sep 2007, *R. Carter 18048* (VSC). **Ware County:** ca 0.6 mi W Schlatterville, just W of county line marker on Hwy. US 84, 8 Aug 1988, *R. Carter 7308* (VSC). **Wheeler County:** Mc Rae Vicinity, intersection of US Hwy 280 and 319, 1 Oct 2004, *P. Hyatt 11794* (VSC). **White County:** 2.1 mi N of Helen, 14 Sep 1991, *R. Carter 9153* (VSC). **ILLINOIS. Johnson County:** Cache River bottom, 4.5 mi W of Vienna by Hwy IL 146, 31 Jul 1989, *R. Carter 7974* (VSC); along Hwy IL 146, 3.5 mi W of Vienna, 31 Jul 1989, *R. Carter 7979* (VSC). **Madison County:** E of Hwy 3 NW of Granite City, 0.9 mi S of Pontoon Rd, 23 Jul 1989, *R. Carter 7938* (VSC). **Randolph County:** W of Hwy IL 4, 1.1 mi N of Sparta, 31 Jul 1989, *R. Carter 7962* (VSC); Ditch along Hwy IL 3, S of Chester, 0.8 mi N of Turkey Bluff overlook, 31 Jul 1989, *R. Carter 7969* (VSC). **INDIANA. Monroe County:** Right-of-way in Ind. 37, 0.8 mi S of Ind. 46 in W part of Bloomington, 17 Aug 1991, *R. Thomas 124807* (VSC). **KENTUCKY. Daviess County:** S side of Hwy US 60 ca 1.8 mi W of Audobon Elementary School, 25 Jul 1993, *R. Mears 120* (VSC). **Madison County:** Fort Boonesborough State Park, SW of jct of KY 627 and the Kentucky River, 19 Sep 1993, *J. Abbott 6340* (VSC). **Marshall County:** roadside along highway I-24, 4 mi W of Purchase Parkway, 31 Jul 1989, *R. Carter 7982* (VSC). **LOUISIANA. Acadia Par.:** 0.5–1.0 mi E of Jct Hwys LA 124 and US 90 in Estherwood, prairie strip along N side of Southern Pacific Railroad, btwn railroad and Hwy US 90, 3 Sep 1992, *R. Carter 10445* (VSC). **Beauregard Par.:** woods on Joe Bruce' property at end of Guillery Rd N of LA 12 near Cowpen Creek W of Ragley, Sec. 32 T6S R9W, 28 Jun 1992, *R. Thomas 130183* (VSC). **Caddo Par.:** on SWEPCO power line right of way in Walter Jacobs Nature Park, 2.5 mi W and 1.0 mi S of Blanchard, S7 T18N R15W, 19 Jul 1991, *L. Raymond 1575* (VSC); 19 Jul 1991, *L. Raymond 1588* (VSC). **Calcasieu Par.:** Chloe, ca. 0.20 mi N of jct of Hwys US 90 and LA3256, 7 Sep 1992, *R. Carter 10519* (VSC). **East Baton Rouge Par.:** Roadbank and along railroad tracks at Highland Dr E of I-10 at Kleinpeter S of Baton Rouge, S65 T8S R2E, 22 May 1990, *R. Thomas 116791* (VSC); Along the Mississippi River levee W of LA 437 at the Louisiana State University Vet. School, S61 T7S R1W, 14 Jul 1990, *R. Thomas 119449* (VSC). **East Feliciana Par.:** ca 2 mi SE of Clinton by Hwy LA 63, 19 Sep 1993, *R. Carter 11378* (VSC). **Jackson Par.:** Chatham Lake area at dam beside LA 34 at Chatham, S2 T15N R1W, 23 Jul 1990, *R. Thomas 119560* (VSC). **Jefferson Davis Par.:** prairie strip beside US 165 about 1 mi S of Fenton, 8 Sep 1990, *C. Allen 17125* (VSC). **Jefferson Par.:** Woods E of LA 45 N of Jean Lafitte National Historical Park and 2.8 mi S of LA 3134 S of Marrero, 15 Jun 1991, *R. Thomas 123832* (VSC). **Livingston Par.:** 1.3 mi N of Bayou Manchac, ditch beside Hwy US 61, 11 Sep 1979, *R. Carter 2079* (VSC); 11 Sep 1979, *R. Carter 2082* (VSC); 11 Sep 1979, *R. Carter 2083* (VSC); 11 Sep 1979, *R. Carter 2085* (VSC). **Morehouse Par.:** along railroad tracks S of Hayne Avenue and E of Washington St., LA 139, in Bastrop, S24 & S25 T21N R5E, 20 Sep 1990, *R. Thomas 121070* (VSC); N of LA 134 and W of Coulee Wildlife Management Area E of Oak Ridge, S15 T19N R6E, 23 Oct 1991, *R. Thomas 126661* (VSC). **Natchitoches Par.:** Roadbank of Government Road, NP 102, at LA 9 S of Readhimer, S20 T13N R6W, 14 Aug 1989, *R. Thomas 112095* (VSC). **Ouachita Par.:** beside Leonard Rd off Red Cut Loop Road E of Luna, S5 T15N R3E, 9 Sep 1990, *R. Thomas 121036* (VSC). **Plaquemines Par.:** on S side of LA 39, 0.2 mi W of the St. Bernard Parish Lane and 2.1 mi E of Braithwaite, S6 T14S R13E, 15 Jun 1991, *R. Thomas 123767* (VSC). **Pointe Coupee Par.:** on E side of Atchafalaya River off LA 975 just N of US 190 E of Krotz Springs, S12 & S13 T6S R7E, 21 Jul 1990, *R. Thomas 116544* (VSC). **Saint Bernard Par.:** E of LA 46 S of Violet and 1.3 mi N of LA 39, S11 T13S R13E, 15 Jun 1991, *R. Thomas 123723* (VSC); 2.7 mi N of Chalmette jct Hwys LA 46 and LA 47, 15 Oct 1993, *R. Carter 11525* (VSC). **Saint James Par.:** E of LA 20 at US 61 in Grammercy, S85 T11S R3E, 22 May 1990, *R. Thomas 117280* (VSC). **Saint Mary Par.:** 4 mi S of Jeanerette on LA 182, 10 Sep 1979, *R. Carter 2077* (VSC). **Saint Tammany Par.:** Slidell, 0.84 mi W of jct Hwy US 190E and Interstate 10, 200 m W of jct Hwy US 190E and Possum Hollow Rd, 15 Oct 1993, *R. Carter 11499* (VSC). **Union Par.:** N of LA 2 in pine woods, 5.3 mi W of Crossroads and LA 143 W of Sterlington, S6 T20N R2E, 29 Sep 1991, *R. Thomas 126019* (VSC); 29 Sep 1991, *R. Thomas 126021* (VSC). **Vermilion Par.:** W of Kaplan, 0.50 mi W of jct Hwys LA 14 and LA 13, 5 Sep 1992, *R. Carter 10489a* (VSC). **Vernon Par.:** in or near Fullerton Lake W of LA 399, S4 T1S R4W, 19 Jun 2002, *C. Allen 18977* (VSC); N of 11th St just E of baseball field & W of stable, S27

T2N R8W, 24 Jul 2002, *C. Allen 19031* (VSC); W of Wiskey Chitto and E of N-S Rd, S30 T1N R7W, 14 Aug 2002, *C. Allen 19084* (VSC). **West Baton Rouge Par.:** 2 mi W of Mississippi River Bridge on shoulder of I-10, 10 Sep 1979, *R. Carter 2078* (VSC). **West Feliciana Par.:** E of US 61 about 2.4 mi S of the Mississippi State Line N of Wakefield, S73 T1S, R2W, 26 May 1990, *R. Thomas 118084* (VSC). **Winn Par.:** beside Saline Creek N of US 84 W of Castor Creek and W of Tullos, S22 T10N R1E, 28 Sep 1990, *R. Thomas 121345* (VSC); along rights-of-way of LA 156 and railroad 2 mi E of Goldonna and just E of Saline Bayou, S28 T12N R3W, 3 Jul 1991, *R. Thomas 124344* (VSC). **MARYLAND. Baltimore County:** at the jct of Cromwell Bridge Rd and Glenerm Rd, 24 Aug 1970, *D. Windler 3258* (VSC). **MASSACHUSETTS. Hampshire County:** near jct of Sylvester and Ryan Rds, Northhampton, 2 Sep 1977, *H. Ahles 84796A* (VSC). **MISSISSIPPI. Adams County:** vicinity of Kingston, ca 2.0 mi NNW of Kingston Methodist Church, 200 m SE of jct Kingston Hwy and Hawes Rd, 20 Sep 1993, *R. Carter 11398* (VSC). **Alcorn County:** NW of Corinth, jct of Hwys US 45 & MS 2, T1S R2E S24, 29 Sep 1993, *C. Bryson 13078* (VSC). **Amite County:** Crosby, vacant lot about 1 block E of Hwy MS 33 and N of Forster Creek, 20 Sep 1993, *R. Carter 11406* (VSC). **Attala County:** ca 3.5 mi SE of Kosciusko along Hwy 19, 10 Aug 1985, *C. Bryson 4055* (VSC). **Bolivar County:** 0.3 mi S Hushpuckena, E of Hwy US 61, T25N R5W S31, 13 Sep 1993, *C. Bryson 13025* (VSC); SE of Rosedale, ca 1.5 mi SE jct Hwys MS 1 & MS 8, W side of Hwy MS 1, T23N R8W S22, 17 Jun 1996, *C. Bryson 15342* (VSC). **Choctaw County:** 1.4 mi N Ackerman, T17N R11E n/2 S18, W of MS Hwy 15, 5 Oct 1988, *C. Bryson 8428* (VSC); along Byway Creek, 0.7 mi N jct of MS Hwy 9 and Natchez Trace Pkwy, E of MS Hwy 9, T19N R10E S3, 6 Sep 1990, *C. Bryson 10371* (VSC); S of Choctaw-Webster Co line along Hwy MS 9, S of Big Black River, S of Eupora, 31 Oct 1991, *C. Bryson 11148* (VSC). **Claiborne County:** ca 9 mi NNW of Port Gibson, E side of Hwy US 61, 30 Sep 2008, *C. Bryson 22950* (VSC). **Clarke County:** Pachuta, near intersection of Hwys MS 18 and MS 11, 28 Aug 1991, *R. Carter 9086* (VSC). **Clay County:** 0.6 mi N of Clay County line, on Hwy 389, Intersection of RR, T20N R13E Sec. 20 SE4 and Sec. 21 SW4, 5 Sep 1987, *J. Duncan 210* (VSC); West Point, W of Hwy US 45 Alt at site of old livestock sales barn to N of Fisher Marine Boat County, 9 Aug 1994, *C. Bryson 14165* (VSC). **Coahoma County:** 2.1 mi N jct Hwys US 49 & 61 and E of US 61, E of Lula, T30N R3W S25 NE/4, 13 Sep 1993, *C. Bryson 12996* (VSC). **Copiah County:** jct Hwys MS 12 & US 51, 8 Oct 1993, *John Byrd s.n.* (VSC). **Covington County:** 1/2 mi S of Collins and 1/2 mi E of Hwy US 49 on county road, 12 Sep 1979, *R. Carter 2160* (VSC); just S of Mt. Olive, along Hwy US 49, 26 Aug 1991, *R. Carter 9024* (VSC). **DeSoto County:** Walls, W of Hwy US 61, T1S R9W S33, 20 Oct 1992, *C. Bryson 12082* (VSC); Horn Lake, 1.2 mi W jct Hwys I-55 & MS 302; N of MS 302, T1S R8W S35, 13 Sep 1993, *C. Bryson 13010* (VSC); Olive branch, City Park, S of Goodman Rd (=hwy MS 302), T1S R6W S33, 7 Oct 1993, *C. Bryson 13110* (VSC-3); 500 yds NW jct Robertson Rd & Wheeler Rd, 30 Aug 1994, *John Byrd s.n.* (VSC). **George County:** E lucedale, 2.3 mi E jct Hwys MS 26 & 63, 1.8 mi S jct Hwys US 98 & MS 63, T1S R6W s/2 Sec 26, 17 Sep 1991, *C. Bryson 11079* (VSC). **Grenada County:** ca 5 mi SW of Holcomb, T21N R2E S12 NE, Loess Bluffs-Delta transition area, 18 Sep 1987, *M. Morris 3049* (VSC); 3.9 mi W jct MS Hwys 8 & 32, Oxberry, N of MS Hwy 8, 14 Sep 1990, *C. Bryson 10424* (VSC); Camp McCain, grounds around Headquarters Building, "Cantonment" area, T21N R6E S7 SW4, 22 Aug 1994, *J. MacDonald 7475* (VSC). **Hancock County:** SE of Napoleon, E of jct of Hwy I-10 & MS 607, T8S R16W S26 or S27, 9 Aug 1993, *C. Bryson 12609* (VSC). **Harrison County:** 1 block N of main intersection in Cuevas, 11 Sep 1979, *R. Carter 2106* (VSC); 4 mi N of Gulf of Mexico on Hwy US 49, 12 Sep 1979, *R. Carter 2121* (VSC); 12 Sep 1979, *R. Carter 2122* (VSC); just S of Wollmarket, at interchange of Hwys US I-10 & MS 67, 27 Aug 1991, *R. Carter 9051* (VSC); N Biloxi, jct Hwys I-10 & MS 67 (at exit 41 on I-10), 16 Sep 1991, *C. Bryson 11023* (VSC). **Itawamba County:** 1.6 mi N Dorsey at Dorsey/Fawn Grove exit with new (4-lane) hwy US 78, T9S R7E S25, 26 Aug 1993, *C. Bryson 12785* (VSC). **Jackson County:** Ocean Springs, recently distrubed vacant lot just NW of corner of Hwy US 90 and Washington, 27 Aug 1991, *R. Carter 9072* (VSC); Moss Point, ditch along W side of Hwy MS 63 between Fredrick St and Dr. Martin Luther King Dr, ca 0.7 mi S of Escatawpa River bridge, 16 Sep 1993, *R. Carter 11317* (VSC). **Jasper County:** Tallahala Wildlife Mngmt Area, ca 2 mi S of Randall Hill Cemetary, T4N R10E S24 SW4, 8 Sep 1988, *D. Carraway 355* (VSC). **Jefferson Davis County:** S of Prentiss, jct of Hwys US 84/MS 13 & MS 42, T7N R19W S11 NE/4, 12 Aug 1993, *C. Bryson 12706* (VSC). **Jones County:** ca 1 mi E of Sandersville on roadside, Sect. 32, 29 Sep 1978, *D. Morgan 1301* (VSC); ca 4 mi ENE of Sandersville in low area beside road, NW4 Sect. 28, 29 Sep 1978, *D. Morgan 1323a* (VSC); 5.5 mi ENE of Laurel on roadside, Sect. 20, 30 Sep 1978, *D. Morgan 1353* (VSC); field beside railroad in Sandersville, SE4 Sect. 31, 6 Oct 1978, *D. Morgan 1399* (VSC); 1 mi S of Sandersville in dumping area, Sect. 8, 6 Oct 1978, *D. Morgan 1412* (VSC); open distrubed area near I-59 and Hwy 84 intersection, SE4 Sect. 32, 7 Oct 1978, *D. Morgan 1461* (VSC). **Lafayette County:** Puskus Lake, Holly Springs National Forest, T7S R1W S30 SW/4 SW/4, 29 Sep 1993, *C. Bryson 13056* (VSC). **Lauderdale County:** by I-20, 2.5 mi E of jct Exit 165, 7.1 mi E of Russell, 10 Sep 2002, *R. Kral 93243* (VSC). **Lee County:** SW part of Tupelo, Michael Circle, 20 Jul 1985, *C. Bryson 4028* (VSC); 21 Jul 1985, *C. Bryson 4036* (VSC). **Leflore County:** NW of Sidon, between Sidon cut-off and old Yazoo River run, T18N R1E Sect. 19 MSEA Project Area, 14 May 1999, *C. Bryson 17137* (VSC). **Lowndes County:** Aliceville Lake, ca 10 mi S Columbus, T20S R18E NW1/4 Sec. 11, 5 Jul 1986, *C. Bryson 4438* (VSC); at bridge crossing Buttahatchee River along Hwy 45,

just S of Monroe County & N of Columbus, 8 Sep 1994, *J. MacDonald 7626* (VSC). **Madison County:** just SW of Flora, 0.1 mi S of jst of Hwys US 49 and MS 22, slope along Hwy US 49, 22 Aug 1991, *R. Carter 8953* (VSC); Madison, ca 0.5 mi W of jct Hwy I-55 and MS 463 and N of Hwy MS 463, 1 Oct 2004, *C. Bryson 20374* (VSC). **Marion County:** 1.4 mi N jct of Hwys MS 13 & 43, W of MS 13, 0.6 mi S of Dillon Creek, 29 Jul 1994, *C. Bryson 14051* (VSC). **Marshall County:** NW of Holly Springs, jct of Hwys MS 7 & 311, 30 Aug 1994, *John Byrd s.n.* (VSC). **Monroe County:** vicinity of Aberdeen, E bank of Tenn./Tombigbee Waterway, 4 Sep 1994, *J. MacDonald 7595* (VSC). **Montgomery County:** 0.5 mi N of US Hwy 82, T19N R6E Sec. 27 NW/4 of NW/4, 6 Sep 1990, *C. Bryson 10338* (VSC); E of Kilmichael, 1.2 mi E jct US Hwy 82 & MS Hwy 413, N of US Hwy 82, T18N R7E Sec. 10, 6 Sep 1990, *C. Bryson 10352* (VSC); Winona, along Illinois Central RR just S Liberty St along RR, 31 Oct 1991, *C. Bryson 11167* (VSC). **Newton County:** 2.8 mi E Newton, T16N R12E Sec. 30, S of US Hwy 80, E of Riser Creek, 9 Aug 1986, *C. Bryson 4740* (VSC); 9 Aug 1986, *C. Bryson 4742* (VSC). **Oktibbeha County:** ca 9.4 mi W of Starkville, N of US Hwy 82, T19N R12E, NE1/4 Sec. 24, 27 Aug 1987, *C. Bryson 7017* (VSC); ca 3.2 mi SW of Starkville along Hwy 12, T18N R13E, S23 NE1/4 E1/2, 19 Jul 1988, *D. Carraway 179* (VSC). **Panola County:** just N Askw, 0.7 mi S Panola-Tanica County line, ca 4 mi S jct Hwys MS 3 & 4, T6S R9W, E/2 E/2 Sec. 19, 12 Sep 1991, *C. Bryson 10908* (VSC); just SE jct Hwys MS 6 & 315, T9S R6W SE/4 SE/4 Sec. 2, 12 Sep 1991, *C. Bryson 10955* (VSC); 3.5 mi W of jct Hwy US 51 & MS 6, T28N R3E S14 SW/4 of SE/4, 24 Aug 1993, *C. Bryson 12720* (VSC); E of Como, just SE of Hwys I-55 & MS 310, T6S R7W S3 NE/4, 24 Aug 1993, *C. Bryson 12724* (VSC). **Pearl River County:** 2.5 mi N of Carriere, 26 Aug 1991, *R. Carter 9003* (VSC). **Perry County:** New Augusta, NW jct Hwys US 98 & MS 29, between US 98 and RR, 17 Sep 1991, *C. Bryson 11116* (VSC); Richton, 1.1 mi S of jct of Hwys MS 15 & 42, in front of Perry County Multi-purpose Bldg., 7 Sep 1994, *C. Bryson 14319* (VSC); New Augusta, NE of jct of Hwys US 98 & MS 29, 7 Sep 1994, *C. Bryson 14338* (VSC). **Pike County:** Percy Quinn State Park, SE of dam of Percy Quinn Lake, T3N R7E S32 SE/4, 28 Sep 1994, *C. Bryson 14467* (VSC). **Pontotoc County:** W of Pontotoc, 6.3 mi W of jct Hwys MS 6 & 15, T9S R2E S28, 24 Aug 1993, *C. Bryson 12754* (VSC). **Scott County:** Roosevelt State Park, NE of lake, T6N R6E NW1/4 Sec. 34, 16 Aug 1987, *C. Bryson 6925* (VSC). **Sharkey County:** ca 12 mi SSE of Rolling Fork, Delta National Forest, T10 R6W E1/2 Sec. 3, 4 Sep 1987, *C. Bryson 7074* (VSC); 4 Sep 1987, *C. Bryson 7075* (VSC). **Simpson County:** vicinity of D'Lo, 26 Aug 1991, *R. Carter 9033* (VSC); near Mendenhall, 1 Oct 1993, *Perry Lee s.n.* (VSC). **Stone County:** SW Wiggins, 0.4 mi S jct Hwys US 49 & MS 26, W of US 49, T2S R12W Sec. 25, 16 Sep 1991, *C. Bryson 10984* (VSC). **Tate County:** 3.1 mi S jct Hwys US 51 & MS306 S of Coldwater, T5S R7W Sec. 13, 12 Sep 1991, *C. Bryson 10931A* (VSC); Senatobia, 0.8 mi N jct of Hwys US 51 & MS 4, W of US 51, T5S R7W S30, 7 Oct 1993, *C. Bryson 13098A* (VSC). **Tippah County:** Ripley, W of Hwy MS 15, T4S R3E S23, 29 Sep 1993, *C. Bryson 13072* (VSC). **Tunica County:** 0.3 mi N Tunica-Panola County line, ca 3.2 mi S jct Hwys MS 3 & 4, 1.2 mi S Sarah, T6S R10W NE/4 NE/4 Sec. 24, 12 Sep 1991, *C. Bryson 10920* (VSC); Tunica, SW of jct Hwy US 61 & MS 4 (in town), 13 Sep 1993, *C. Bryson 12994* (VSC). **Union County:** New Albany, jct hwy US 78 & MS 15, T7S R3E S17 SE/4, 29 Sep 1993, *C. Bryson 13057* (VSC). **Walthall County:** N of Tybertown, 0.7 mi E jct of Hwys US 98 & MS 27, T12N R11E S19, 29 Jul 1994, *C. Bryson 14082* (VSC). **Warren County:** S of Redwood, 0.8 mi S of jct Hwys US 61 & MS 3, along US 61, 29 Oct 1993, *C. Bryson 13283* (VSC). **Washington County:** Greenville, ca 2 mi S jct of Hwy US 81 & MS 1, T18N R8W Sec. 34 NE/4, 27 Sep 2004, *C. Bryson 20347* (VSC). **Wayne County:** Waynesboro, NE jct Hwy MS 63 & Chickasawhay River, T8N R7W S23 SW/4, 1 Sep 1993, *C. Bryson 12922* (VSC). **Webster County:** Mathiston, just W jct MS 15 & US 82 SE4 S2, 19N2E, 6 Aug 1986, *S. McDaniel 28908* (VSC); 0.5 mi W Mathiston, intersection of US Hwy 82 and Natchez Trace Parkway, 25 Jul 1987, *C. Bryson 6652* (VSC); Mathiston, 0.3 mi N jct Hwys US 82 & MS 15, E of Horton St across from Wood Community College, 31 Oct 1991, *C. Bryson 11139* (VSC); Eupora, vacant lot N Factory Rd between Gould Ave. and Hwy MS 9, 31 Oct 1991, *C. Bryson 11162* (VSC). **Wilkinson County:** N of Woodville, 0.5 mi N jct Hwys US 61 & MS 563, T2N R2W S12 SW/4, 29 Sep 1994, *C. Bryson 14497* (VSC). **Winston County:** Noxubee Crest Natural Area, Tombigbee National Forest, T16N R12E S31, 14 Aug 1992, *A. Moore 695* (VSC). **Yalobusha County:** Just N Oakland, SE jct Hwys US 51 & MS 32, 12 Sep 1991, *C. Bryson 10964* (VSC); Holly Springs Forest Service Recreational Area, Tillatoba Lake, T24N R5E S6 E/2, S side of lake, 1 Aug 1993, *C. Bryson 12528* (VSC); 1.5 mi S jct of Hwys MS 7 & 32, SW of Water Valley, 1 Aug 1994, *C. Bryson 14121* (VSC); ca. 5 mi SSW of Water Valley, NW community of Velma, E side of Hwy MS 7, T25N R6E Sec. 3 N/2, 17 Aug 2002, *C. Bryson 19603* (VSC). **Yazoo County:** Bentonina, ditch and slope by Hwy US 49 (new) at junction with Hwy MS 433, 22 Aug 1991, *R. Carter 8960* (VSC). **MISSOURI. Boone County:** University of Missouri Bradford Farms, ca 6-7 mi E of Columbia, near inter. of S Rangeline and Vermer's Ford Rd, T 48N R12W NE1/4 of the NE1/4 of the SE 1/4 of Sec. 36, 11 Sep 1993, *P. McKenzie 1296* (VSC); 9 Oct 1993, *P. McKenzie 1311* (VSC). **Dunklin County:** Campbell, jct of Hwys 53 & 62, 20 Aug 1991, *R. Carter 8931* (VSC). **New Madrid County:** just W of jct I-55 and MO Hwy 80, N of MO Hwy 80, T25N R14E Sec. 34 SW/4, 27 Sep 1990, *C. Bryson 10515* (VSC); ca 100-200 m S of the inter. of W end of Des Cyprie Slough and Sections 13/18 and Ranges 13E/14E border, 7 Sep 1993, *P. McKenzie 1277* (VSC). **Perry County:** along Mississippi River, 1.1 mi E of intersection of state routes C & E, and end of County Rd 220, 9 Jul 1989, *R. Carter 7916* (VSC). **Saint Charles County:** along and S of

Hwy US 67, just W of Alton bridge and old lock & dam, 23 Jul 1989, *R. Carter 7950* (VSC). **Saint Louis County:** Bank of Meramec River, vicinity of boat launch in Castlewood State Park, 10 Sep 1989, *R. Carter 8283* (VSC-2). **Scott County:** NW jct I-55 and US Hwy 62 and between Sikeston Inn & I-55, 25 Sep 1990, *C. Bryson 10449* (VSC); 2.5 mi E jct County Rds C & H, S of County Rd C, T27N R14E Sec. 6 N/2, 26 Sep 1990, *C. Bryson 10488* (VSC); at jct of Hwys US I-55 and MO 77, just E of Lambert/Benton, 20 Aug 1991, *R. Carter 8917* (VSC). **NEW YORK. Putnam County:** town of Patterson, edge of "The Great Swamp," on E side of railroad, 100–300 m NE of railroad station, 29 Jul 1989, *G. Tucker 4700* (VSC). **NORTH CAROLINA. Cherokee County:** 4.2 mi SW of Murphy, in median of US Hwy 64, 26 Jul 1987, *C. Bryson 6709* (VSC). **Graham County:** 2.4 mi N Topton, E side of NC Hwy 129, 30 Jul 1987, *C. Bryson 6861* (VSC). **Nash County:** W of Nashville, 24 Sep 1981, *R. Carter 2933* (VSC); Roadside and edge of woods in creek bottom, 2.2 mi N of Nashville by Hwy 1004, 24 Sep 1981, *R. Carter 2937* (VSC). **Wake County:** along Neuse River at County Rt 1900 bridge, 21 Aug 1972, *S. Leonard 5530* (VSC). **OHIO. Portage County:** along Lincon St between East School and Summitt Streets, Kent, Franklin Township, 19 Sep 1966, *A. Cusick 3213* (VSC). **PENNSYLVANIA. Fulton County:** on alluvium of Licking Creek just N of Harrisonville, 25 Aug 1959, *W. Westerfeld 20860* (VSC). **SOUTH CAROLINA. Abbeville County:** Town of Due West, 27 Sep 1963, *W. Ellison 6392704* (VSC); N section of Due West near and alongside drainage of seepage "stream" on abandoned farmland, 18 Oct 1963, *W. Ellison 10631807* (VSC). **Florence County:** Lynchess River State Park, 15 Sep 1977, *L.F. Swails s.n.* (VSC). **Greenwood County:** Aluvial Woods, Coronaca Creek, near US 221, 5 mi NE of Greenwood, 7 Jul 1957, *A. Radford 26643* (VSC). **Orangeburg County:** frequent on wet roadside ditch of US 21 on E side of small flooded Carolina bay, midway between Rowesville and Branchville, 10 Sep 1991, *J. Nelson 11203* (VSC-2). **Richland County:** edge of ditch along NE side of Beauregard St, NW of Sumter St, 16 Jul 1991, *J. Nelson 10753* (VSC). **TENNESSEE. Bedford County:** by I-24, ca 14 mi NW Manchester, 11 Sep 1974, *R. Kral 54147* (VSC). **Davidson County:** shoulder of I-40 through oak-hickory woods, 2.6 mi, 23 Sep 1995, *R. Kral 85695* (VSC). **Hardeman County:** Hickory Valley, W of Hwy TN 18, just S of P.O. Open roadside ditch, 28 Sep 1993, *C. Bryson 13046* (VSC). **Hickman County:** ca 16 mi N Hehenwald, 30 Sep 1970, *R. Kral 41342* (VSC). **Lewis County:** ca 5 mi N Hehenwald, 30 Sep 1970, *R. Kral 41334* (VSC); 6 mi S of intersx of Hwy 64 and Natchez Trace and 1/4 mi S of Trace at Glenrock Church, 20 Aug 1982, *R. Carter 3362* (VSC). **Maury County:** NE side Columbia by TN 99, 27 Aug 1973, *R. Kral 51486* (VSC). **Shelby County:** Memphis, vacant lot E of Hwy I-240, N of Popular Ave, 20 Oct 1992, *C. Bryson 12089* (VSC); Memphis, between Perkins Dr. and Mall of Memphis, 13 Sep 1993, *C. Bryson 13016* (VSC); 13 Sep 1993, *C. Bryson 13024* (VSC). **Unicoi County:** Alongside Hwy US 23, 10 Sep 1976, *M. Norsworthy 422* (VSC). **TEXAS. Chambers County:** 15.6 mi S of intersection in Dayton of Hwys US 90 & TX 146, 27 Aug 1980, *R. Carter 2570* (VSC); South of CO RD 562, 3.5 km W of its intersection with CO RD 1985, more or less S of the town of Double Bayou, 1 Jul 2010, *D. Rosen 5019* (VSC). **Cherokee County:** Ditch along Hwy US 84, 2.6 mi W of Reklaw, 17 Aug 1989, *R. Carter 8239* (VSC). **Colorado County:** Attwater Prairie Chicken NWR, 1.0 airmi NW, heading 303.48, of refuge headquarters, 29 Jul 2012, *R. Carter 20601* (VSC). **Hardin County:** Roy E. Larsen Sandyland Sanctuary, on and N of State Hwy 327, between the towns of Sillsbee and Kountze, 8 Oct 2006, *D. Rosen 3948* (VSC). **Houston County:** 150 m SE on Davy Crockett (NF) Rd 533 from its jct with TX 7, SW on Kennard, 25 Aug 1991, *S. Jones 7396* (VSC); 1.35 mi SE on Davy Crockett (NF) Rd 533 from its jct with TX 7, then NE (left) 0.5 mi on an unnamed dirt road, 25 Aug 1991, *S. Jones 7404* (VSC). **Jefferson County:** along access road at exit from I-10, 0.1–0.2 mi SW of F.M. 365, ca 1 mi WNW of Fannett, 9 Sep 1992, *W. Carr 12302* (VSC); N roadside of Hwy 87, 2.4 mi W of the town of Sabine Pass and S of Port Arthur, 16 Aug 2002, *D. Rosen 2251* (VSC). **Montgomery County:** about 1 mi S of Conroe along I-45, on interstate right of way, 23 Aug 1980, *R. Carter 2502* (VSC). **Newton County:** off Texas 63 ca 1/2 mi W of the Sabine River and ca 12 mi E of Burkeville, 30 Jun 2007, *C. Allen 20186* (VSC); N of Texas 12 ca 1/4 mi E of jct with Texas 87 in Deweyville, 2 Nov 2007, *C. Allen 20584* (VSC); S of Texas 12 ca 1.7 mi W of Deweyville, 2 Nov 2007, *C. Allen 20592* (VSC); Texas F.M. 692 ca 4 mi S of Toledo Village, 12 Nov 2007, *C. Allen 20693* (VSC); Caney Creek Park S of US 190 in Newton, 30 Oct 2008, *C. Allen 21094* (VSC); 30 Oct 2008, *C. Allen 21105* (VSC); 30 Oct 2008, *C. Allen 21101A* (VSC); Jesse Lee Prk off Texas 363 E of Bleakville, 4 Sep 2009, *C. Allen 21667* (VSC); off Texas 63 ca 9 mi E of Burkeville, 9 Oct 2009, *C. Allen 21721* (VSC); off Texas 363 ca 6.8 mi SW of Bon Weir, 25 Jun 2010, *C. Allen 21972* (VSC); off Texas 63 ca 7.6 mi E of Burkeville, 17 Jul 2010, *C. Allen 22030* (VSC); off Texas 87 north edge of Newton, just north of In with hwy 2626, 26 May 2012, *C. Allen 22545* (VSC). **Panola County:** 3.5 mi S on TX 31 from its jct with FR 2517, S of DeBerry, then 0.5 mi W on county road 446, 10 Jul 1990, *S. Jones 7210* (VSC). **San Jacinto County:** roadside ditch N of Hwy 150, 1.4 mi W of its intersection with Hwy 59, W of the town of Shepherd, 11 Sep 2003, *D. Rosen 2628* (VSC). **Smith County:** S side of I-20 1 mi W of exit 552 (F.M. road 849), 4 mi W of US 69 W of Tyler, 15 Aug 1990, *R. Thomas 120550* (VSC). **Van Zandt County:** along Hwy US I-10, 11.3 mi W of jct with Hwy TX 110 at Van, 22 Jul 1987, *R. Carter 6005* (VSC). **VIRGINIA. Chesterfield County:** S of city of Richmond, W of Harrowgate Road (SR 144), 3 mi S of its intersection with Hwy 10, 15 Oct 2003, *D. Rosen 2658* (VSC).

*Cyperus strigosus* var. *stenolepis* (Torrey) Kükenthal, Repert. Spec. Nov. Regni Veg. 23: 189. 1926. *Cyperus stenolepis* Torrey, Ann. Lyceum Nat. Hist. New York 3: 263, 282. 1836.—TYPE: North Carolina. New Hanover County, Wilmington, *Curtis s.n.* (HOLOTYPE: NY, photograph seen).

**FLORIDA. Alachua County:** across the Styx River on the S side of FL 346, ca 3.5 mi E of Micanopy, 5 Nov 1982, *L. Hacker 57* (VSC). **Okeechobee County:** N of Okeechobee, along E side Hwy US 441, ca 5 mi S Fort Drum, 22 Sep 1996, *R. Carter 13852* (VSC-2); ca. 17 mi N of Okeechobee jct. Hwy. US 441 and Hwy. FL 70, along Hwy. US 441, 19 Aug 2013, *R. Carter 21296* (VSC-2). **LOUISIANA. LaFourche Par.:** N. part of Lake Boeuf, ca. 1.2 mi NW of mouth of Theriot Canal, ca. 6 air mi NNW of Raceland, 14 Oct 2008, *C. Reid 6856* (LSU).