Three Noteworthy Vascular Plant Records from Alabama

Alfred Schotz

Alabama Natural Heritage Program and Auburn University Museum of Natural History, Auburn University, Auburn, AL 36849, U.S.A.
Correspondence: ars0002@auburn.edu

Abstract

Three vascular plant taxa are documented as new or noteworthy to the flora of Alabama. *Astragalus obcordatus*, previously unknown from the state, is here substantiated for the first time from Alabama based on a collection made from Dallas County. *Eleocharis rostellata* and *Pilea fontana*, formerly represented in the state from one location each are newly reported from Baldwin County and Jackson County, respectively.

Astragalus obcordatus Elliott (Fabaceae)

Dallas County — In deep, sandy soil near Portland Landing, ca. 7.8 air km NNE of downtown Camden; T14N, R9E, NW ¼ of NW ¼ of Section 33; 32.148833° N, 87.181306° W; 28 April 2010, *Schotz 2160* (AUA, UNA).

Significance

This collection represents the first documented occurrence of *Astragalus obcordatus* in Alabama. Previously known from scattered locations across northern Florida and southern Mississippi (Kartesz 2014; NatureServe 2014), it was anticipated that this species would eventually be discovered in Alabama. A modest occurrence of approximately 60 plants inhabit well-drained sandy soils in association with *Stylisma pickeringii* (Torr. ex M.A. Curtis) Gray var. *pickeringii*, *Carex tenax* Chapman, *Cnidoscolus stimulosus* (Michx.) Engelm. & Gray, *Stillingia sylvatica* Garden ex L., *Lechea mucronata* Raf., *Rubus cuneifolius* Pursh, and *Hypericum gentianoides* (L.) B.S.P., under an open to lightly shaded canopy of *Quercus hemisphaerica* Bartr. ex Willd., and *Quercus margarettae* Ashe ex Small associated with a series of relictual sand ridges along the Alabama River.

The Alabama Natural Heritage Program (2014) has assigned this species a conservation rank of G3–G4/S1, recognizing the uncommon status of the taxon throughout its range and its extreme rarity in Alabama. The occurrence of *A. obcordatus* in the state assumes a cryptic disposition, given its relative isolation from existing sites further west and south and the availability of suitable habitat in between. While specific details pertaining to the life history of this species are unknown, studies discussing the reproductive systems of similar taxa within the genus (Karron 1989) may offer valuable insight from which parallels might be drawn regarding establishment and distribution patterns. Self-fertilization is not uncommon in *Astragalus* and could be an important factor in the ability of some taxa to colonize specialized habitats and harsh environments such as riverine sand ridges (Fig. 1).

Eleocharis rostellata (Torrey) Torrey (Cyperaceae)

Baldwin County — Coastal marshland complex near the headwaters of Caney Bayou, ca. 3.4 air km NNE of downtown Lilian; T7S, R6E, NE ¼ of NW ¼ of Section 13; 30.440722° N, 87.424389° W; 13 August 2011, *Schotz 2173* (TROY, UNA, UWAL).

Significance

This collection is the first record of this taxon from Baldwin County and the second reported occurrence from Alabama (Alabama Plant Atlas Editorial Committee 2014). *Eleocharis rostellata* is a widely distributed species occurring throughout most of North America, extending south into Mexico and the West Indies (Smith *et al* 2002). The species assumes a sporadic distribution in the Southeast being primarily confined to brackish marshlands and

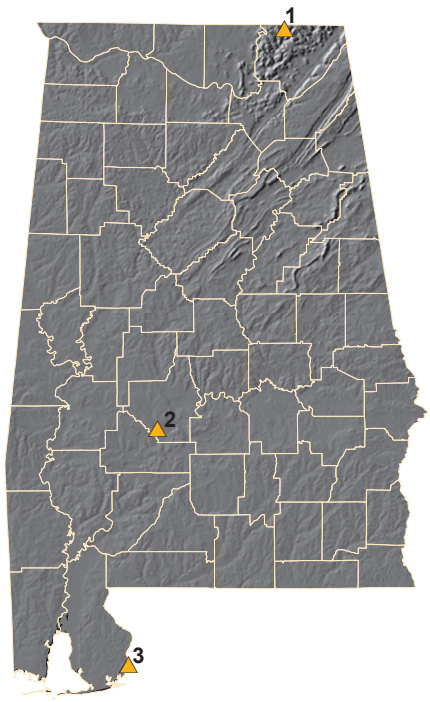

Figure 1. Collection localities for the novel occurrences of 1) *Pilea fontana*, 2) *Astragalus obcordatus* and 3) *Eleocharis rostellata*.

calcareous prairies along the Atlantic and Gulf coasts, often establishing nearly monospecific stands. First documented in Alabama from Mobile County by the author on 29 June 2000 [*Schotz 1786* (AUA, VDB)], this second population was discovered in similar conditions in a vast coastal wetland complex near the headwaters of Caney Bayou, a low-gradient stream contained within the Perdido River watershed. Both known occurrences in Alabama inhabit slightly elevated zones of coastal marshlands adjacent to *Pinus elliottii* Engelm. var. *elliottii* dominated flatwoods in association with *Juncus roemerianus* Scheele, *Fimbristylis castanea* (Michx.) Vahl, *Panicum virgatum* L., and *Asclepias lanceolata* Walt.

Pilea fontana (Lunell) Rydberg (Urticaceae)

Jackson County — Small bottomland swale on the west side of Hurricane Creek ca. 12.4 air km N of the junction of State Routes 79 and 146 near Skyline; T1S, R5E, SE 1/4 of SW 1/4 of Section 9; 34.963500° N, 86.108111° W; 11 October 2012, *Schotz 2179* (AMAL, AUA).

Significance

Prior to this account, *Pilea fontana* was documented only once in Alabama (Kartesz 2014), along Irwin Mill Creek near the entrance to Chattahoochee State Park in Houston County based on a specimen gathered by R.K. Godfrey on 14 October 1978 [*Godfrey 76760* (FSU)]. Considered rare and local throughout much of its range the species is often overlooked, becoming easily confused with its more common congener, *Pilea pumila* (L.) Gray, particularly during early development of the achenes. Upon maturity the achenes of *P. fontana* ripen to a uniformly blackish coloration readily distinguishing the species from the stramineous hue of *P. pumila* (Boufford 1986).

Both taxa inhabit parallel habitat conditions – moist to wet areas in marshes and along streams – typically preferring light to moderate shade. The Jackson County occurrence consists of approximately 125 individuals that coexist with *Leersia virginica* Willd., *Lobelia cardinalis* L., *Chelone glabra* L., *Rudbeckia laciniata* L. var. *digitata* (Mill.) Fiori, and *Symphyotrichum lateriflorum* (L.) Á. Löve & D. Löve in a shallow streamside depression under a lightly shaded canopy of *Platanus occidentalis* L., *Liquidambar styraciflua* L., and *Acer negundo* L. The site is part of the Hurricane Creek watershed, an area of the Cumberland Plateau physiographic region long recognized for its aesthetic qualities and exceptional biodiversity.

Acknowledgments

I thank Michael Barbour for preparing the localities map and Brian Keener and Dan Spaulding for peer review that greatly improved this paper. This work is contribution no. 708 of the Auburn University Museum of Natural History.

References

Alabama Natural Heritage Program (2014) Alabama Inventory List: The Rare, Threatened, and Endangered Plants & Animals of Alabama. Published by the Alabama Natural Heritage Program. www.alnhp.org/tracking_list.php.

Alabama Plant Atlas Editorial Committee (2014) Alabama Plant Atlas. www.floraofalabama.org. [Landry S, Campbell K, original application development, Florida Center for Community Design and Research. University of South Florida].

Boufford D (1986) *Pilea*. In *Flora of North America North of Mexico* (edited by Flora of North America Editorial Committee), vol. 3, pp. 408–411. Oxford University Press, New York and Oxford.

Karron J (1989) Breeding systems and levels of inbreeding depression in geographically restricted and widespread species of *Astragalus* (Fabaceae). *American Journal of Botany*, **76**, 331–340.

Kartesz J (2014) The Biota of North America Program (BONAP): *Taxonomic Data Center*. www.bonap.org.

NatureServe (2014) NatureServe Explorer: an online encyclopedia web of life. www.natureserve.org/explorer.

Smith S, Bruhl J, Gonzales-Elizondo M, Menapace F (2002) *Eleocharis*. In *Flora of North America North of Mexico* (edited by Flora of North America Editorial Committee), vol. 23, pp. 60–120. Oxford University Press, New York and Oxford.

Citation: Schotz A, (2014) Three noteworthy vascular plant records from Alabama. *Paysonia* **3**, 1–3.

Keywords: Alabama flora, *Astragalus*, *Eleocharis*, *Pilea*, floristics.

Peer Review: Brian Keener, University of West Alabama and Dan Spaulding, Anniston Museum of Natural History.