

FIFTEEN NOTEWORTHY COLLECTIONS FROM MISSISSIPPI, U.S.A.

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ABSTRACT

Mississippi is an “under-botanized” state, with no state flora or atlas, a paucity of voucher specimens from many counties, and few county or local floristic inventories. 12 taxa are reported new to the flora of Mississippi or with only false, dubious, or unsubstantiated previous record; three significantly rare taxa with little previous record in the state are reported for new counties or ecoregions. Voucher specimens for each taxon are deposited at the Mississippi Museum of Natural Science (MMNS) or University of North Carolina, Chapel Hill (NCU) herbarium, and duplicates for some taxa at the University of West Alabama (UWAL), Austin Peay State University (APSC), University of Southern Mississippi (USMS), and Mississippi State University (MISSA) herbaria. I have excluded detailed locality information here, as all of the native taxa are significantly rare in the state and on unprotected land. The habitat, rarity, and distribution within the state of each taxon are discussed.

RESUMEN

Mississippi es un estado “poco botánico”, sin flora estatal ni atlas, escasez de especímenes testigo de muchos condados y pocos inventarios florísticos locales o del condado. Se informan 12 taxones nuevos para la flora de Mississippi o solo con registros previos falsos, dudosos o sin fundamento; Se informan tres taxones significativamente raros con pocos registros previos en el estado para nuevos condados o ecoregiones. Los especímenes testigos para cada taxón se depositan en el Museo de Ciencias Naturales de Mississippi (MMNS) o en el herbario de la Universidad de Carolina del Norte, Chapel Hill (NCU), y los duplicados de algunos taxones en la Universidad de West Alabama (UWAL), la Universidad Estatal de Austin Peay (APSC), la Universidad del Sur de Mississippi (USMS) y los herbarios de la Universidad Estatal de Mississippi (MISSA). He excluido información detallada de la localidad aquí, ya que todos los taxones nativos son significativamente raros en el estado y en tierras desprotegidas. Se discute el hábitat, la rareza y la distribución dentro del estado de cada taxón.

NOTEWORTHY COLLECTIONS

Helianthus verticillatus Small (ASTERACEAE)—Voucher specimen: **Holmes Co.:** J.C. Kees 806 (APSC, MISSA, NCU). This is the first report for the Mississippi Delta and appears to be only the third report for the state of Mississippi; the two other known occurrences are in the northern Loess plains of Marshall County. In Holmes County this species was found scattered in a roadside ditch bordering an agricultural field, with *Hymenocallis liriosme*, probably associated with open wetlands and alluvial prairies in the area which were cleared for agriculture. Mississippi occurrences of this species make little phylogeographic sense, and may only represent infraspecific variation within *Helianthus grosseserratus*, which they closely resemble, except for the conspicuously whorled leaves. Investigation of other roadside populations of *H. grosseserratus*, which is abundant in the region, may turn up additional occurrences of this whorled entity.

Laphangium luteoalbum (L.) Tzvelev (ASTERACEAE)—Voucher specimen: **Hinds Co.:** J.C. Kees 925 (NCU). This is the first report for the state of Mississippi and Hinds County. A small number of plants were found growing in gravel in an abandoned urban lot in south Jackson, Mississippi. This species has been collected in southeastern Alabama, and should be expected in similar anthropogenic habitats throughout the southern half of the state.

Packera dubia (Spreng.) Trock & Mabb. (ASTERACEAE)—Voucher specimens: **Madison Co.:** J.C. Kees 639, **DeSoto Co.:** J.C. Kees 720 (NCU). These are the first two collections for the state of Mississippi, Madison County, and DeSoto County. The DeSoto County occurrence was discovered by Darrel Brown in spring 2019, reported via iNaturalist, a citizen science platform. Discovery of the Madison County occurrence was

facilitated by social media; an identification request was posted on the Mississippi Native Plant Society Group Facebook page by Jeanette Phillips Morgan, the landowner, who gave permission to access the site. At both sites it is associated with grassland remnants over loamy soils derived from Loess (Grenada and Providence series), probably fragipan woodlands dominated by Post Oak (*Quercus stellata*) and Southern Red Oak (*Q. falcata*) and an undescribed Loess plains prairie type, occurring in DeSoto County with *Rudbeckia grandiflora* var. *alismifolia* and *Tephrosia onobrychoides*, and in Madison County in the vicinity of a roadside grassland remnant with *Baptisia alba*, *Asclepias hirtella*, and *Sabatia campestris*, in an area with many large prairies mapped by General Land Office surveyors.

Silphium integrifolium Michx. var. ***gattereri*** L.M. Perry (ASTERACEAE)—Voucher specimen: **Clarke Co.:** J.C. Kees 869 (APSC, NCU). This appears to be the first collection of this taxon from Mississippi, although it is reported by Weakley (2020). At the site it was collected in Clarke County, plants corresponding to var. *gattereri* occur with both *S. integrifolium* and *S. asteriscus* var. *latifolium* in a disturbed, mesic Jackson prairie opening, and probably only represent intergradation between the two species.

Symphytotrichum oolentangiense (Riddell) G.L. Nesom var. ***poaceum*** (E.S. Burgess) G.L. Nesom (ASTERACEAE)—Voucher specimen: **Madison Co.:** J.C. Kees 371 (NCU). This appears to be the first legitimate collection of *S. oolentangiense* from the state of Mississippi; it is not currently tracked and all previous collections available on SERNEC are misidentifications of *S. undulatum* and *S. shortii*, although Small (1913) gives the range of this taxon from Georgia to Texas. *S. oolentangiense* is critically imperiled in both Alabama and Tennessee, with populations known only from limestone glades in the Interior Plateau, all presumably the type variety. Plants were collected in a small system of open Chinkapin oak limestone barren woodland over an isolated group of deposits of Oligocene-aged Glendon limestone on ridgetops in the Loess plains. These populations face an uncertain future, as the barrens are degraded or destroyed by *Juniperus virginiana* encroachment and suburban development. Multiple bicycle trails have been bulldozed in the past two years through the barren which supports the bulk of the *S. oolentangiense* population. The small size of these limestone barren plants is striking compared to West Gulf Coastal Plain material; most are about 2-3dm tall, with persistent basal rosettes, few heads and cauline leaves, and stems glabrous below the arrays.

Symphytotrichum pilosum (Willd.) G.L. Nesom var. ***pringlei*** (A. Gray) G.L. Nesom. (ASTERACEAE)—Voucher specimen: **Noxubee Co.:** J.C. Kees 891 (NCU), with John Michael Kelley. This is the first report of *S. pilosum* var. *pringlei* for the state of Mississippi, approximately 110 miles distant from the nearest occurrence in the Black Belt portion of Autauga County, Alabama. *S. pilosum* var. *pringlei* is one of a number of taxa known from the Black Belt of Alabama but not previously reported for Mississippi; most of these species should be expected in the Black Belt of Mississippi. It occurs in a particularly xeric, highly eroded phase of Black Belt prairie, in highly calcareous soils less than a foot deep over Demopolis chalk, associated with *Symphytotrichum pratense*.

Symphytotrichum puniceum (L.) Á. Löve & D. Löve var. ***puniceum*** (ASTERACEAE)—Voucher specimens: **Marshall Co.:** J.C. Kees 548, **Smith Co.:** J.C. Kees 1057 (NCU). This appears to be only the third collection from Mississippi. *S. puniceum* is represented by two historic collections in Mississippi, one from Grenada County and one from Lauderdale County (the latter originally determined as var. *scabricaula* and likely no longer extant). In Smith County, *S. puniceum* var. *puniceum* was collected in disturbed bottomland hardwoods at the edge of an open wetland between two Jackson prairie openings, with *Scirpus lineatus*; in Marshall County, over seepage in a powerline right-of-way. It is not common at either site and probably extremely rare in the state.

Dryopteris erythrosora (D.C. Eaton) Kuntze (DRYOPTERIDACEAE)—Voucher specimen: **Lincoln Co.:** J.C. Kees 4 (MMNS, NCU). This is the first report of *D. erythrosora* in the state of Mississippi, collected while conducting an inventory of a tract in Lincoln County in 2018. Umstead & Diggs (2018) speculate *D. erythrosora* is likely to become a serious invasive species in the southeast; its aggressive spread in Lincoln County, along with *Deparia petersenii*, would support such a conclusion. Since it was collected, the population has expanded

from several isolated plants to a dense colony, aggressively displacing a number of native ferns, and dispersed to three new locations along a small stream. It presumably arrived by long-distance spore dispersal, as there are no cultivated plants in the vicinity.

Oenothera capillifolia Scheele ssp. **capillifolia** (ONAGRACEAE)—Voucher specimen: **Jasper Co.:** J.C. Kees 845 (NCU). This is the first collection of *O. capillifolia* for the state of Mississippi and the Jackson prairie ecoregion, and only the second east of the Mississippi river, the first approximately 215 miles distant over black belt chalk outcrops in Russell County, Alabama. The nearest report west of the Mississippi river is approximately 230 miles distant in Iberia Parish, Louisiana. *O. capillifolia* is primarily a plant of calcareous soils of east and central Texas westward. It is clearly native in Jasper County, Mississippi; thousands of plants occur where it was collected in a remnant mosaic of xeric Jackson prairies over highly calcareous, eroded Yazoo clay outcrops. These eastern variants of the Jackson prairie, termed “shell prairie” by Hilgard (1860), are particularly poorly studied, but rich and likely to yield many more state and county records.

Orthochilus ecristatus (Fernald) Bytebier (ORCHIDACEAE)—Voucher specimens: **Lincoln Co.:** J.C. Kees 3 (NCU), **Hinds Co.:** J.C. Kees 989 (NCU), with Nate Venarske. Other than a single historic collection from Chickasaw county, all other reports of this S1G2 species in the state are from southeast Mississippi in remnant longleaf pine (*P. palustris* Mill.) savannahs. Most reports are historic and likely no longer extant; small populations only from Hancock and Perry counties have been observed within the past 30 years. These two collections are the first for the Mississippi River Valley Loess Plains Level III ecoregion and represent a new habitat and considerable range extension north and west within the state. At the Hinds County locality, *O. ecristatus* occurs with a number of relict prairie plants including *Baptisia alba*, *Sorghastrum nutans*, *Symphytotrichum concinnum*, *Asclepias viridiflora*, and *Asclepias hirtella* over loamy soils with a fragipan (Byram series), where the Jackson formation calcareous clay is deeply buried; here it was presumably associated with extensive, loamy, noncalcareous “Loessial” or “gypseous” prairies encountered by GLO surveyors in the region, now virtually all converted to agriculture and later suburban development, represented only by a handful of imperiled roadside fragments in Madison County and Hinds County. Most of these Loessial remnants are on roadsides or commercial real estate and likely to be cleared in the near future. At the Lincoln County locality this species is locally abundant throughout two old fields dominated by *Schizachyrium scoparium* on Falaya series soils of a raised terrace, probably originally associated with open mixed pine and hardwood flatwoods.

Bromus hordeaceus L. var. **hordeaceus** (POACEAE)—Voucher specimen: **Lincoln Co.:** J.C. Kees 114 (MMNS). This collection from 2018 is the first report for the state of Mississippi and Lincoln County, filling in a range gap. *B. hordeaceus* is abundant and weedy in the old bahiagrass (*Paspalum notatum* Flüggé) pasture where it was collected. It is probably overlooked and relatively widely distributed in the state, given its similarity to other weedy exotic *Bromus* species.

Paspalum nicorae Parodi (POACEAE)—Voucher specimen: **Amite Co.:** J.C. Kees 962 (NCU). This is the first collection of *P. nicorae* for the state of Mississippi and Amite County, approximately 160 miles distant from the nearest occurrence in Washington County, Alabama. Only a small number of plants were observed, confined to mowed paths through longleaf pine woodland maintained with prescribed burns. *P. nicorae* appears to be expanding its range in the southeast.

Polygonella americana (Fisch. & C.A. Mey) Small (POLYGONACEAE)—Voucher specimens: **Monroe Co.:** J.C. Kees 759 (MMNS, NCU, UWAL); J.C. Kees 841 (NCU), with Ryan Folk and Nicholas J. Engle-Rye. *P. americana* was erroneously attributed to Mississippi by McCook and Kartesz (2000) and later Weakley (2020) based on collections from the Mississippi river in Missouri (Heather Sullivan, State Heritage Botanist, pers. comm.); this is the first legitimate report for the state of Mississippi. *P. americana* is locally abundant on sandy and gravelly dredge deposits along the Tombigbee River south of Aberdeen, associated with an undescribed sand barren grassland community known from xeric alluvial deposits along the Tombigbee River south into Alabama. These openings appear to be naturally rare and are threatened by a number of anthropogenic uses,

especially discing for wildlife food plots. However, a number of sand barren species, including *P. americana*, are abundant on the extensive dredge deposits on Corps of Engineers land created by the construction of the Tennessee-Tombigbee waterway.

***Crataegus viridis* L. var. *velutina* (Sarg.) J.B. Phipps (ROSACEAE)**—Voucher specimen: **Jasper Co.: J.C. Kees 870** (NCU), det. Ron Lance. This is the first collection of *C. viridis* var. *velutina* for the state of Mississippi, the Jackson prairie ecoregion, and east of the Mississippi river, found near the edge of a disturbed Jackson prairie. It is approximately 270 miles distant from the nearest occurrence reported on SERNEC, in Poinsett County, Arkansas. The relative distribution of recognized varieties within the *C. viridis* complex is poorly understood; var. *velutina* should be sought in other calcareous soil regions of Mississippi and Alabama, particularly the black belt.

***Ulmus americana* L. var. *floridana* (Chapm.) Little (ULMACEAE)**—Voucher specimen: **Rankin Co.: J.C. Kees 640** (NCU). This is the first report of this taxon for the state of Mississippi and Rankin County. Only a single individual was observed in disturbed remnant calcareous forest over outcrops of Vicksburg group limestone. Although this community is naturally rare and imperiled by logging, quarrying, and development within the state, *U. americana* var. *floridana* almost certainly occurs in other remnant limestone forests in central and south MS and has simply been overlooked or confused with *U. serotina* Sarg.

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