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The Vascular Flora of Ichauway, Baker County, Georgia: A Remnant Longleaf Pine/Wiregrass Ecosystem

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ABSTRACT

The vascular flora of the Jones Ecological Research Center (Ichauway), a remnant longleaf pine/wiregrass ecosystem located in the Coastal Plain of Georgia, was inventoried. High species richness and large numbers of rare and endemic plants are associated with the open, fire-maintained longleaf pine forests and associated depressional wetlands and riparian hardwood forests. The study identified 1,013 taxa in 466 genera and 134 families. The total includes 392 species that are the first record of occurrence for Baker County, Georgia. The Georgia Natural Heritage Program lists 25 of these species as endangered, rare, or of special concern in the state of Georgia, two of which, *Lindera melissaefolium* and *Schwalbea americana,* are listed as federally endangered. Ninety-three (9%) of the taxa are introduced.

INTRODUCTION

The Jones Ecological Research Center Preserve (Ichauway) is 11,300 ha located in Baker County, Georgia (Figure 1). The site harbors approximately 6,000 ha of open longleaf pine (*Pinus palustris*) forest, with nearly 4,000 ha of wiregrass (*Aristida stricta*) as an understory component. Because of the presence of wiregrass these areas are assumed to have a history of minimal soil disturbance and frequent fire (Clewell 1989).

The longleaf pine/wiregrass ecosystem at Ichauway is a remnant of the vast regional landscape that occupied most of the uplands of the Southeastern Coastal Plain (SCP) between 5,000 years before present and the time of settlement (Sargent 1884, Delcourt and Delcourt 1985). Presettlement range of longleaf pine (Figure 2) covered between 22 and 37 million ha (Frost 1993, Ware et al. 1993), but is now reduced to <3% of its original range (Ware et al. 1993, Landers et al. 1995) and is among the most endangered ecosystems (Means and Grow 1985, Noss 1989). Factors contributing to decline include naval stores industries, timber harvest, agricultural clearing, grazing by feral hogs, and fire suppression (Lipscomb 1989, Frost 1993, Stout and Marion 1993, Ware et al. 1993). The drastic decline of the longleaf pine/wiregrass ecosystem and its importance in terms of regional biodiversity and rare species habitat has created the impetus for the increasing interest in the conservation and restoration of this system.

The longleaf pine ecosystem is characterized by low intensity groundfires of frequent (1–10 year return interval) occurrence that maintain an open, savanna-like appearance and diverse herbaceous groundcover. These systems are extremely species rich (Wells 1928, Wells and Shunk 1931, Lemon 1949, Clewell 1986, Rome 1988). For example, Walker and Peet (1983) report up to 42 species per 0.25 m^2 and 84 species per 625 m^2 in North Carolina, and Kirkman et al. (1996) report a range of 35 to 50 species per 3 m^2 in mesic stands at Ichauway. These small scale species richness values are the highest reported in North America, and comparable to some of the higher values reported in the world literature (Walker and Peet 1983). Large

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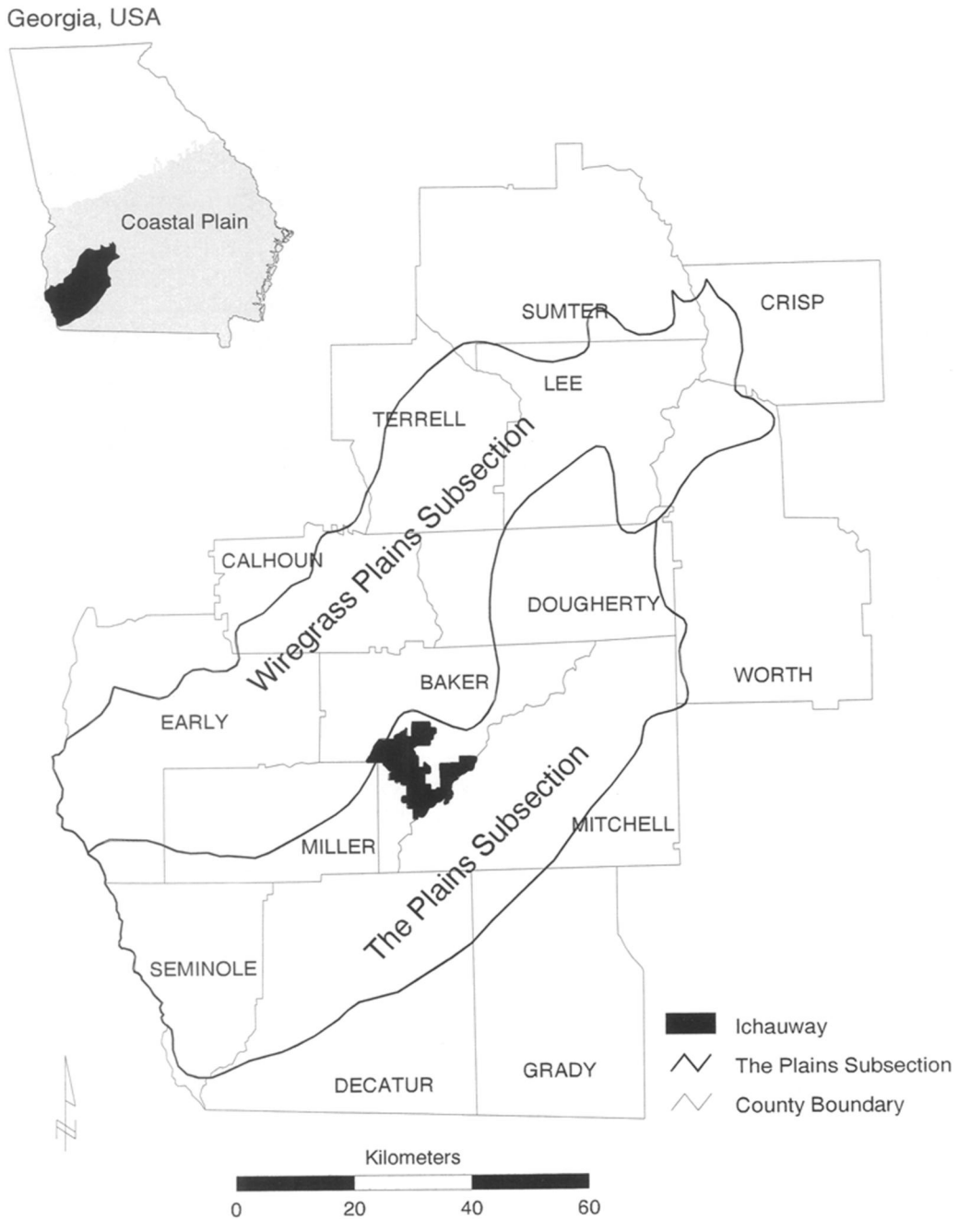

Figure 1. General location map of Ichauway study area.

numbers of rare and endemic plant species are associated with longleaf pine/wiregrass and associated depressional wetlands and riparian hardwood hammocks (Hardin and White 1989, Walker 1993, Kirkman and Sharitz 1994, Sutter and Kral 1994). Conservation of this ecosystem is therefore important for protection of rare species as well as regional biodiversity.

The longleaf pine/wiregrass ecosystem depends on fire for maintenance and reproduction (Wahlenberg 1946). Early accounts describe fires extending thousands of hectares and burning

Figure 2. Presettlement range of longleaf pine in the southeastern United States (modified from Ware et al. 1993).

for weeks at a time in the absence of natural fire-breaks of the undissected SCP (Bartram 1791, Harper 1911). Although aboriginals influenced regional fire ecology to some degree, the high incidence of lightning strikes resulting in wildfire in the SCP is thought to be sufficient for the evolution of a fire-maintained ecosystem (Komarek 1968, 1974; Robbins and Myers 1992, Ware et al. 1993). Longleaf pine is extraordinarily fire tolerant (Wahlenberg 1946) and, in the absence of fire, is rapidly replaced by southern mixed hardwood forest dominated by hardwoods (Monk 1965, Ware et al. 1993) with the concurrent loss of wiregrass (Clewell 1989).

Most of the original longleaf pine forest occurring on fertile soils was cleared to create large cotton plantations by the mid 1900's, leaving only the more sandy, less fertile areas as forestland or rangeland (Brueckheimer 1979). Relatively fertile, undisturbed upland soils, such as those on Ichauway, are therefore rare and of particular ecological significance. The first commercial timber harvesting on Ichauway was in the mid- to late 1800's. Timber and naval stores industries were active on the site through the early 1900's. From 1928 through 1991, the property was managed as a quail shooting plantation with minimal timber harvest, frequent winter burns, and small scale agriculture (i.e., relatively small fields and food plots for wildlife with no irrigation). Present management is primarily for applied ecosystem research and enhancement of long-term ecological values. Currently, between 4 and 6 thousand ha are prescription-burned annually (Atkinson et al. 1996).

Few comprehensive floristic studies have been conducted in southwestern Georgia. Thorne (1949, 1954) collected intensively in the region, but published only a regional list without county locality or specimen citations (1954). Other regional floras include Central South Georgia (Faircloth 1971), and the Panhandle of Florida (Clewell 1985). Harper (1900, 1901, 1903, 1904,

1905a, 1905b) collected extensively in South Georgia, but no records from Baker County were published. The objective of this study was to provide floristic documentation of a remnant longleaf pine/wiregrass ecosystem useful for future ecosystem management and restoration efforts. Specifically, our goals were: 1) to inventory the vascular flora of Ichauway with the concurrent development of a reference herbarium for ongoing ecological studies, 2) to identify locality records for Baker County, Georgia, resulting from our collections, as well as from the documentation of unpublished records by Thorne (1949) and those vouchered at the University of Georgia Herbarium (Jones and Coile 1988), and 3) to document the presence of rare plant species.

CLIMATE, PHYSIOGRAPHY, SOILS, AND PLANT HABITATS

The local climate of southwestern Georgia is characterized by hot summers, mild winters, and abundant rainfall. Mean annual temperature is 20°C; mean monthly temperatures range from 28°C (July) to 10.5°C (January). Yearly precipitation is 130 cm and is evenly distributed (National Climate Data Center, Asheville, North Carolina). Moist tropical air masses from the Gulf of Mexico produce frequent afternoon thunderstorms of short duration and high intensity in the summer, whereas winter precipitation events are generally longer in duration and of more moderate intensity. Tropical depressions and hurricanes occasionally affect local weather from mid-summer to late fall (Hayes et al 1983).

Ichauway is located entirely within the Dougherty Plain physiographic region (Beck and Arden 1983) in the Gulf Coastal Plain Province of Walker and Coleman (1987) or the Lower Coastal Plain and Flatwoods (LCPF) section (Plains and Wiregrass Plains subsections) of McNab and Avers (1995). The LCPF Province is a flat, weakly dissected alluvial plain formed by deposition of continental sediments onto a submerged, shallow continental shelf subsequently exposed by sea level subsidence. Elevation ranges from 25 to 200 m. The study site is primarily within the Plains subsection, with a small area in the Wiregrass Plains subsection (Figure 1). The Plains subsection was formed from Tertiary and Quaternary clayey sand and clayey sand solution sediment (residuum) deposited on Ocala limestone (Eocene series) during times of inundation by the sea. The underlying Ocala limestone is easily removed by solution forming a karst topography characterized by lack of surface drainage and marked by numerous sinkholes where isolated wetlands often form. The Plains subsection is a region of low relief; elevations range from 30 to 100 m above sea level (Hunt 1974, Keys et al. 1995). Two active stream valleys are located on Ichauway. The Ichauwaynochaway Creek is a Coastal Plain brownwater stream that flows for 23 km through the site, and the Flint River, originating in the Piedmont physiographic region of Georgia, flows 20 km along its eastern border. Both systems drain a porous karst landscape.

Soils on Ichauway are primarily Ultisols (95%) and Entisols (5%). Well-drained Wagram, Norfolk, Orangeburg, and Lucy soils and moderately well-drained Bonneau soils are loamy sands and sandy loams over sandy clay loams and comprise the principal upland soil series. Grady soils are poorly drained, sandy loams and clay loams over clays that occur in upland depressional wetlands. Soils of more recent alluvial sediments on stream terraces along the Flint River and Ichauwaynochaway Creek are moderately well drained Hornesville with sandy loams and sandy clays over sandy clay loams, and somewhat poorly drained Wahee with sandy loams and sandy clays over clays (USDA Soil Conservation Service 1986). An additional 20 soil series occur infrequently on site (<3% total coverage). The range of wet-mesic to extremely xeric upland soils at Ichauway provides diverse habitat for vegetation associated with the longleaf pine ecosystem. The complex moisture-nutrient gradient interacting with fire regime (frequency and intensity) has been hypothesized (Figure 3) to determine plant community structure (Robbins and Myers 1992, Christensen 1993, Peet and Allard 1993, Kirkman et al. 1996, Palik et al. 1997). An ecological site classification of Ichauway based on landforms, soils, and vegetation has been developed (Palik et al. 1997). Modified results of this study identify 11 plant habitat types: mesic riparian forests, wet-mesic longleaf pine forests, dry-mesic longleaf pine forests, xeric longleaf pine forests, mesic live oak depressions, xeric sand live oak depressions,

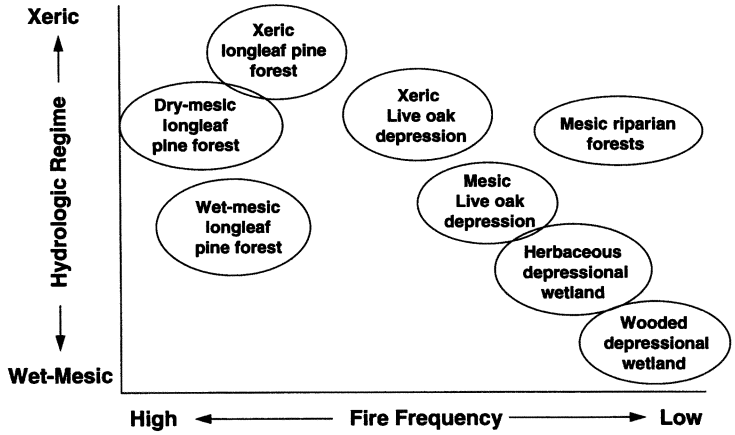

Figure 3. Hypothesized relationship between plant communities, hydrology, and fire frequency (after Palik et al. 1997).

herbaceous depressional wetlands, wooded depressional wetlands, old fields, disturbed areas, and old home sites.

Mesic riparian forests are floodplains, levees, and bluff hammocks located along Ichauwaynochaway Creek and the Flint River, occurring 0 to 3 m above the stream at flood stage. Soils are moderately well drained with thick (approximately 100 cm or greater) fine sands to sandy clay loams over loamy sands to sandy loams. Dominant plant taxa include *Carya glabra, Magnolia grandiflora, Quercus virginiana, Liquidambar styraciflua, Acer saccharum* subsp. *floridanum, Fraxinus americana, F. caroliniana, Celtis laevigata, Sabal minor, Sebastiania fruticosa, Serenoa repens,* and *Itea virginica.*

Wet-mesic longleaf pine forests are uplands and pond margins characterized by flat to undulating terrain with relatively low topographic variability. Soils are poorly to moderately poorly drained with thin (approximately 50 cm or less) loamy sands to sandy loams over sandy loams to clays, and have redoximorphic features (i.e., indicators of anaerobic conditions due to prolonged periods of saturation) within 125 cm of the surface. Dominant plant taxa include *Pinus palustris, P. elliottii, Diospyros virginiana, Aristida stricta, Gaylussacia dumosa, Rubus cuneifolius, Andropogon virginicus, Sorghastrum secundum,* and *S. nutans.*

Dry-mesic longleaf pine forests are characterized by undulating terrain with relatively high topographic variability. Soils are moderately well drained to well drained with thick (approximately 90 cm) loamy sands to fine sands over sandy loams to sandy clay loams, and have redoximorphic features more than 200 cm below the surface. Dominant plant taxa include *Pinus palustris, Quercus incana, Q. laevis, Aristida stricta, Dyschoriste oblongifolia, Schizachyrium tenerum, Sorghastrum secundum, S. nutans,* and *Stylisma humistrata.*

Xeric longleaf pine forests are located on well drained sand ridges with thick (>200 cm), fine sands. Elevations range from 2 to 7 m above the stream at flood stage. Dominant plant taxa include *Pinus palustris, Quercus laevis, Q. margaretta, Q. incana, Vaccinium arboreum, Serenoa repens, Aristida stricta, Bulbostylis barbata, Stylisma humistrata,* and *Triplasis americana.*

Mesic live oak depressions are shallow depressions with poorly drained soils with thin (approximately 50 cm) sands to sandy loams over sandy clay loams to clays. Dominant plant taxa include *Quercus virginiana, Q. nigra, Q. hemisphaerica,* and *Diospyros virginiana. Campsis radicans* and *Smilax* spp. dominate the sparse groundcover.

Xeric sand live oak depressions are shallow depressions with well drained soils with thick (approximately 130 cm) sands over sandy clay loams. Dominant plant taxa include *Quercus geminata, Pinus palustris, Q. virginiana, Aristida stricta,* and *Stylisma humistrata.*

Herbaceous depressional wetlands are upland depressions with periodic inundation. Soils

are poorly drained with thin (approximately 50 cm) sandy clays to sandy clay loams over sandy clays to clays. Dominant plant taxa include *Panicum hemitomon, P. erectum, P. wrightianum, Stylisma aquatica, Rhynchospora corniculata, R. tracyi, Leersia hexandra, Rhexia mariana,* and *Manisuris rugosa.*

Wooded depressional wetlands are upland depressions with periodic inundation. Soils are poorly drained with a thick (50–100 cm) organic layer. Dominant plant taxa include *Taxodium ascendens, Nyssa biflora, Cephalanthus occidentalis, Liquidambar styraciflua, Clethra alnifolia, Lyonia lucida,* and *Styrax americana.*

Old fields are previously cultivated areas at various stages of succession. Some of these pine stands are at least 60 years old, and are generally recognized as old field by the absence of wiregrass. These areas are managed with frequent prescribed burns. Dominant plant taxa include *Pinus palustris, P. elliottii, P. taeda, P. echinata, Andropogon virginicus, Sorghastrum elliottii,* and *S. secundum.*

The disturbed areas habitat type includes roadsides, field margins, wet ditches, and firebreaks. Old home sites often contain escaped or naturalized species.

METHODS

Vascular plants were collected between 1992 and 1996. All specimens are located in the Ichauway Herbarium and/or the Angus K. Gholson Herbarium (Chattahoochee, Florida). Some duplicates are located in the University of Georgia (GA) and Florida State University (FSU) Herbaria. Specimens collected by R.F. Thorne (1949) are located primarily in the Bailey Hortorium at Cornell University (BH); some duplicates are located in Emory University Herbarium (GEO) and GA. Nomenclature follows Clewell (1985) with the exception of *Panicum* species and *Brachiaria texanum* which follow Lelong (1986). Species not listed in Clewell (1985) include: *Anagallis arvensis, Arabidopsis thaliana, Carya ovata, Claytonia virginica, Hymenocallis occidentalis, Lindera melissaefolium, Leucojum aestivum, Plantago heterophylla, Polygala nuttallii, Rhexia aristosa, Rosa wichuraiana, Silphium asteriscus, Triticum aestivum, Viola arvensis* and *Vaccinium elliottii* which follow Radford et al. (1968), *Bumelia thornei* which follows Godfrey (1988), *Fimbristylis perpusilla* which follows Godfrey and Wooten (1979), *Hydrolea ovata* which follows Godfrey and Wooten (1981), *Hackelochloa granularis* and *Bouteloua hirsuta* which follow Hall (1978), *Solanum pseudo-capsicum* and *Triumfetta semitriloba* which follow Small (1933), *Jasminum nudiflorum* which follows Huxley et al. (1992), and *Rottboellia cochinchinensis* which follows Mabberley (1987). *Aristida* follows Clewell (1985) although *A. beyrichiana* has recently been resurrected for *A. stricta* in this region (Peet 1993). Verification of difficult taxa was provided by A.F. Clewell (*Lespedeza*); M. Lelong (*Panicum*); D. Hall (*Aristida, Andropogon,* and *Desmodium*); R. Kral (*Rhynchospora, Rhexia, Sagittaria* and *Xyris*); and L. Anderson (portions of many genera including *Carex, Cenchrus, Cyperus, Eleocharis, Galactia, Hypericum,* and *Solidago*).

RESULTS AND DISCUSSION

Entries in the annotated checklist include the taxon name arranged alphabetically by family, genus and species under the main headings: PTERIDOPHYTES (ferns and fern allies), GYMNOSPERMS, ANGIOSPERMS (MONOCOTS), and ANGIOSPERMS (DICOTS). Voucher numbers follow the plant name (A = L. Anderson collection, G = A.K. Gholson collection, H = M.J. Hainds collection, J = E. Jacqmain collection, K = L.K. Kirkman collection). On-site abundance, based on subjective observations made during the study, is indicated by R = rare (<10 locations), U = uncommon (between 10 and 40 locations), O = occasionally encountered in widespread habitat, or common in somewhat restricted habitat, and C = commonly encountered in widespread habitat(s). Numbers 1 through 11 indicate the plant habitat(s) in which the species occurs, where 1 = Mesic riparian forests, 2 = Wet-mesic longleaf pine forest, 3 = Dry-mesic longleaf pine forest, 4 = Xeric longleaf pine forests, 5 = Mesic live oak depressions, 6 = Xeric sand live oak depressions, 7 = Herbaceous depressional wetlands, 8 = Wooded depressional wetlands, 9 = Old field, 10 = Disturbed areas, 11 = Old home sites. Life history of each species is indicated by: A = annual, B = biennial, P = perennial. "THORNE" indicates a spec-

Table 1. Plant taxa and rankings of species considered rare by Georgia Heritage Program as of 30 December 1996

Taxa	Federal Protection[1]	State Protection[1]	Global Rank[2]	State Rank[2]
Agrimonia incisa T.&G.	—	—	G3	S3
Asplenium heteroresiliens Wagner	—	T	G2Q	S1
Amphicarpum muhlenbergianum (Schult.) Hitchc.	—	—	G4	S2
Carex dasycarpa Muhl.	—	R	G4?	S3
Cassia deeringiana (Small & Pennell) MacBride	—	—	G2G3	S1?
Croton elliottii Chapm.	—	—	G2G3	S2S3
Epidendrum conopseum R. Brown	—	U	G3G4	S3
Evolvulus sericeus Sw. var. *sericeus*	—	E	G5T?	S1
Fimbristylis perpusilla Harper	—	E	G2G3	S1
Iris brevicaulis Raf.	—	—	G4	S1
Galactia floridana T.&G.	—	—	G2G4	S1
Habernaria quinqueseta (Michx.) Eaton	—	—	G4G5T?	S1
Leitneria floridana Chapm.	—	—	G2G3	S1
Lindera melissaefolium (Walt.) Blume	LE	E	G2	S1
Lobelia boykinii T.&G.	—	—	G2	S2S3
Matelea flavidula (Chapm.) Woodson	—	—	G3	SU
Platanthera nivea (Nutt.) Luer	—	—	G5	S3
Polygala boykinii Nutt.	—	—	G3G4	S3
Eulophia ecristata (Fern.) Ames	—	—	G2G3	S1
Quercus arkansana Sarg.	—	—	G3	S2S3
Quercus austrina Small	—	—	G5	S3?
Rhapidophyllum hystrix (Pursh) Wendl. & Drude	—	—	G4	S3S4
Rhexia aristosa Britt.	—	—	G3	S2
Schwalbea americana L.	LE	E	G2	S1
Spiranthes longilabris Lindl.	—	—	G3	S1

[1] LE = listed endangered (federal); R = Listed rare (state of Georgia); E = Listed endangered (state of Georgia); T = Listed threatened (state of Georgia); U = Listed unusual (State of Georgia).

[2] S1(G1) = Critically imperiled in state (globally) because of extreme rarity (≤5 occurrences); S2(G2) = Imperiled in state (globally) because of rarity (6 to 20 occurrences); S3(G3) = Rare or uncommon in state (rare and local throughout range or in a special habitat) (21 to 100 occurrences); S4(G4) = Apparently secure in state (globally); S5(G5) = Demonstrably secure in state (globally); SU = Possibly in peril in state, but status is uncertain; Q = Questionable taxon; ? = Questionable ranking.

imen cited in Thorne (1949), and is followed by the collection number; UGA indicates an unpublished record in GA; an asterisk (*) indicates a Baker County record from this study. Introduced taxa are indicated by **bold** type.

A total of 1,013 species in 466 genera and 134 families was identified from the site, 394 of which are new county records. Families represented by the largest number of species are Gramineae (126 species), Compositae (123 species), Cyperaceae (89 species), and Leguminosae (76 species). Genera represented by the largest number of species are *Carex* (27 species), *Panicum* (22 species), *Quercus* (21 species), *Rhynchospora* (18 species), and *Cyperus* (17 species). Taxa currently listed as rare by the state of Georgia (Georgia Natural Heritage Program 1996) include two federally endangered species, *Lindera melissaefolium* and *Schwalbea americana* (Table 1). Other notable records are *Evolvulus sericeus* var. *sericeus* and *Fimbristylis perpusilla* (both endangered in Georgia), *Asplenium heteroresiliens* (threatened in Georgia), and *Carex dasycarpa* (rare in Georgia). Although lacking state or federal protection, 6 additional species, *Eulophia ecristata, Galactia floridana, Habenaria quinqueseta, Iris brevicaulis, Leitneria floridana,* and *Spiranthes longilabris,* are considered critically imperiled in the state.

Longleaf pine forest habitats (3, 4, and 5) harbor 413 species (41% of total). Roughly 30% (282 species) of the flora occurs in upland depressional wetlands. The habitats with the highest

number of species occurrences are mesic riparian forests (391) and wet-mesic longleaf pine forest (284). Xeric sand live oak depressions (21), and mesic live oak depressions (32) have the fewest species. A small number of species are associated exclusively with old home sites. Ninety-three taxa are introduced (9% of total), and as expected, most (85%) occur in disturbed areas. About one fourth of the introduced taxa occur in mesic riparian forests where surface flow presumably disperses seed of ruderal taxa as well as creates bare soil for germination by scouring action. Few (<3%) introduced taxa occur in longleaf pine stands or wetlands.

The number of vascular plant species for the study area is notably high in comparison to other comprehensive floristic studies. Thorne (1954) lists 1,747 species for southwestern Georgia which includes the Red Hills physiographic region in addition to the Dougherty Plain, and encompasses an area (1,300,000 ha) more than 100 times larger than Ichauway. Clewell (1985) lists 2,359 taxa for the entire Panhandle of Florida (approximately 3,860,000 ha) also representing an area of much greater physiographic variability. The low number of introduced taxa on Ichauway relative to Thorne's (1954) flora of southwestern Georgia (12% introduced taxa) and Clewell's (1985) flora of the Panhandle of Florida (16% introduced taxa), suggests that land use history and past management practices of Ichauway have discouraged the introduction of non-native plant species. The representation of relatively undisturbed regional flora and the presence of numerous rare plants on Ichauway underscore the importance of the site in terms of regional biodiversity which, with continuation of the frequent prescribed fire can serve as a model for restoration of the longleaf pine ecosystem.

ANNOTATED CHECKLIST

PTERIDOPHYTES

ASPIDIACEAE

Onoclea sensibilis L.—*K-2488*; U; 1; P; (*)

LYCOPODIACEAE

Lycopodium alopecuroides L.—*K-2628*; R; 2; P; (UGA)

OPHIOGLOSSACEAE

Botrychium biternatum (Sav.) Underw.—*K-2666*; U; 1; P; (UGA)
Botrychium dissectum Spreng.—*K-3455*; U; 1; P; (THORNE-1955)

OSMUNDACEAE

Osmunda cinnamomea L.—*K-2138*; U; 1,2,8; P; (*)
Osmunda regalis L.—*K-2117*; U; 1,2,5,8; P; (*)

POLYPODIACEAE

Asplenium heteroresiliens Wagner—*K-2839*; O; 1; P; (*)
Asplenium platyneuron (L.) B.S.P.—*K-2575*; U; 1,9; P; (THORNE-1543)
Polypodium polypodioides (L.) Watt—*K-2013*; C; 2,5,6,8; P; (THORNE-1641)
Polystichum acrostichoides (Michx.) Schott—*K-2023*; O; 1; P; (UGA)
Pteridium aquilinum (L.) Kuhn—*K-3032*; C; 2,3,11; P; (THORNE-7228)
Pteris multifida Poir.—*K-2728*; R; 1; P; (*)
Thelypteris quadrangularis (Fee) Schelpe var. versicolor (St. John) A.R. Smith—*K-2729*; O; 1; P; (*)
Woodwardia areolata (L.) Moore—*K-3416*; O; 1,8; P; (*)

SCHIZAEACEAE

Lygodium japonicum (Thunb.) Sw.—*K-2015*; U; 1,10; P; (THORNE-7578)

GYMNOSPERMS

CUPRESSACEAE

Juniperus virginiana L.—*K-2693*; O; 1; P; (THORNE-1669)

PINACEAE

Pinus echinata Mill.—*K-3164*; O; 9; P; (THORNE-1652)
Pinus elliottii Engelm.—*K-3209*; C; 2,7,8,9; P; (*)
Pinus glabra Walt.—*K-2779*; O; 1; P; (*)
Pinus palustris Mill.—*K-2727*; C; 2,3,4,6,9,11; P; (THORNE-1653)
Pinus taeda L.—*K-2974*; O; 9; P; (THORNE-1624)

TAXODIACEAE

Taxodium ascendens Brongn.—*K-2362*; C; 8; P; (THORNE-1442)
Taxodium distichum (L.) L. Rich.—*K-2663*; C; 1; P; (THORNE-1534)

ANGIOSPERMS (MONOCOTS)

AGAVACEAE

Polianthes virginica (L.) Shinners—*K-2303*; R; 3,4; P; (THORNE-1922)
Yucca flaccida Haw.—*K-2269*; R; 1,3,4; P; (THORNE-4510)

ALISMATACEAE

Echinodorus parvulus Engelm.—*K-2416*; U; 7; P; (*)
Sagittaria graminea Michx.—*K-2060*; O; 7; P; (THORNE-1427)
Sagittaria isoetiformis J. G. Sm.—*K-2176*; R; 7; P; (UGA)

AMARYLLIDACEAE

Hymenocallis occidentalis (LeConte) Kunth—*K-2980*; O; 1; P; (THORNE-8611)
Leucojum aestivum L.—*K-2813*; R; 1; P; (*)

Zephyranthes atamasco (L.) Herb.—*K-1986*; C; 1,10; P; (THORNE-2409)

ARACEAE

Arisaema dracontium (L.) Schott—*K-2002*; C; 1; P; (*)

ARECACEAE (SEE PALMAE)

BROMELIACEAE

Tillandsia usneoides (L.) L.—*K-2230*; C; 1,2,3,4,5,6,8,9; P; (THORNE-1495)

BURMANNIACEAE

Burmannia capitata (Walt.) Mart.—*K-2733*; R; 7; A; (*)

COMMELINACEAE

Commelina communis L.—*K-3012*; C; 1,9,10; A; (*)
Commelina erecta L.—*K-2427*; C; 3,4,6,9; P; (THORNE-4387)
Commelina virginica L.—*K-3077*; C; 1; P; (THORNE-5694)
Tradescantia hirsutiflora Bush—*K-3075*; O; 3,4,9,10; P; (*)
Tradescantia ohiensis Raf.—*K-1995*; O; 1,2,3,4,9,10; P; (THORNE-2385)

CYPERACEAE

Bulbostylis barbata (Rottb.) Clarke—*K-2771*; U; 1,3,4,10; A; (*)
Bulbostylis ciliatifolia (Ell.) Fern.—*K-2380*; C; 1,3,4,9,10; A/P; (THORNE-5025)
Carex abscondita Mackenz.—*K-2876*; O; 1; P; (*)
Carex albolutescens Schw.—*G-11633*; U; 1; P; (*)
Carex amphibola Steud.—*K-2895*; U; 1; P; (*)
Carex caroliniana Schw.—*K-1991*; O; 1; P; (*)
Carex cephalophora Muhl. ex Willd.—*K-2168*; U; 1,10; P; (*)
Carex complanata Torr. & Hook.—*A-16,420*; U; 1; P; (UGA)
Carex crebriflora Wieg.—*K-1989*; O; 1; P; (*)
Carex dasycarpa Muhl.—*K-2100*; U; 1; P; (THORNE-9150)
Carex debilis Michx.—*G-11610*; U; 1; P; (*)
Carex digitalis Willd.—*K-2880*; U; 1; P; (THORNE-9147)
Carex festucacea Schk. ex Willd.—*K-3085*; U; 1; P; (*)
Carex flaccosperma Dewey—*G-11587*; U; 1; P; (*)
Carex fissa Mackenz.—*K-2086*; U; 1; P; (*)
Carex floridana Schw.—*K-3247*; U; 1; P; (THORNE-9149)
Carex gigantea Rudge—*K-2357*; O; 1,8; P; (THORNE-4838)
Carex glaucescens Ell.—*K-3064*; O; 1,7,8; P; (THORNE-1595)
Carex intumescens Rudge—*K-1990*; O; 1,8; P; (*)
Carex joorii Bailey—*K-3109*; O; 1,8; P; (*)
Carex louisianica Bailey—*K-2964*; U; 1; P; (*)
Carex physorhyncha Liebm.—*K-2816*; U; 1; P; (*)
Carex reniformis (Bailey) Small—*G-11,609*; U; 1; P; (*)
Carex striatula Michx.—*K-2877*; U; 1; P; (*)
Carex tenax Chapm.—*K-2449*; U; 4; P; (*)
Carex typhina Michx.—*K-2102*; U; 1; P; (*)
Carex verrucosa Muhl.—*K-3068*; U; 7,8; P; (THORNE-1505)
Carex walteriana Bailey—*K-3386*; U; 8; P; (THORNE-4885)
Carex willdenowii Schk. ex Willd.—*K-2878*; O; 1; P; (*)
Cyperus compressus L.—*K-3292*; U; 3,4,10; A; (THORNE-6419)
Cyperus erythrorhizos Muhl.—*A-15969*; O; 1,7; A; (UGA)
Cyperus esculentus L.—*K-3293*; O; 9,10; P; (*)
Cyperus filiculmis Vahl—*K-2436*; O; 2,3,4; P; (THORNE-4386a)
Cyperus haspan L.—*K-2387*; U; 7,8; A; (THORNE-4857)
Cyperus iria L.—*K-3297*; O; 1,7; A; (THORNE-4862)
Cyperus lanceolatus Poir.—*K-3121*; U; 7,8; A; (*)
Cyperus odoratus L.—*K-3134*; U; 10; A; (UGA)
Cyperus polystachyos Rottb.—*A-15824*; U; 7; A; (*)
Cyperus pseudovegetus Steud.—*K-3045*; O; 1,8; P; (THORNE-4820)
Cyperus retrofractus (L.) Torr.—*K-2439*; O; 3,4,10; P; (*)
Cyperus retrorsus Chapm.—*K-2386*; U; 3,4,7,10; P; (THORNE-4850)
Cyperus robustus Kunth—*A-15845*; U; 7; P; (*)
Cyperus rotundus L.—*A-15848*; O; 9,10; P; (UGA)
Cyperus strigosus L.—*A-15853*; U; 7; P; (THORNE-6662)
Cyperus sesquiflorus (Torr.) Mattf. & Kuekenth.—*K-3492*; U; 10; A; (*)
Cyperus virens Michx.—*K-2356*; U; 8; P; (THORNE-1596)
Dichromena latifolia Baldw. ex Ell.—*K-2216*; R; 2,7; P; (*)
Eleocharis acicularis (L.) R.&S.—*G-11,718*; U; 7; P; (THORNE-6195)
Eleocharis baldwinii (Torr.) Chapm.—*K-3485*; R; 7; A; (*)
Eleocharis melanocarpa Torr.—*K-3090*; U; 7,10; P; (*)
Eleocharis microcarpa Torr.—*K-3413*; U; 7,8; A; (THORNE-1905)
Eleocharis obtusa (Willd.) Schultes in R.&S.—*K-3304*; U; 7; A/P; (THORNE-1904)
Eleocharis tricostata Torr.—*K-2372*; U; 7; P; (THORNE-1812)
Fimbristylis autumnalis (L.) R.&S.—*A-15820*; U; 1,2,7; A; (THORNE-7207)
Fimbristylis carolinianus (Lam.) Fern.—*G-11,657*; U; 7; P; (*)
Fimbristylis miliacea (L.) Vahl—*A-15844*; O; 7,8; A; (*)
Fimbristylis perpusilla Harper—*G-11704*; R; 7; A; (*)
Fimbristylis puberula (Michx.) Vahl—*K-2266*; O; 2,7,8; P; (THORNE-3821)
Fimbristylis vahlii (Lam.) Link—*K-3462*; R; 7; A; (*)
Fuirena breviseta (Coville) Coville in Harper—*K-2188*; U; 2,7,8; P; (*)
Fuirena squarrosa Michx.—*K-2400*; O; 2,7,8; P; (THORNE-1835)
Lipocarpha maculata (Michx.) Torr.—*A-15962*; R; 1; A; (THORNE-4869)
Psilocarya nitens (Vahl) Wood—*K-2613*; U; 7,10; A; (THORNE-2294)
Rhynchospora cephalantha Gray—*K-2401*; U; 7,8; P; (THORNE-4860)
Rhynchospora corniculata (Lam.) Gray—*K-3048*; U; 7; P; (THORNE-1638)
Rhynchospora debilis Gale—*K-3463*; R; 2,8; P; (THORNE-4834)
Rhynchospora filifolia Gray—*K-2732*; O; 2,7; P; (*)
Rhynchospora globularis (Chapm.) Small var. globularis—*A-15,823*; O; 7,9,10; P; (THORNE-3820)
Rhynchospora globularis (Chapm.) Small var. pinetorum (Small) Gale—*K-2172*; U; 7; P; (*)
Rhynchospora grayi Kunth—*K-1980*; O; 1,2,3,4,9; P; (THORNE-3743)
Rhynchospora harveyi Boott—*K-2213*; O; 2,3,7; P; (THORNE-4106)
Rhynchospora inundata (Oakes) Fern.—*K-2410*; U; 7,8; P; (*)
Rhynchospora megalocarpa Gray—*K-2748*; R; 1,3,6; P; (THORNE-7441)

Rhynchospora microcarpa Baldw. ex Gray—*K-2405*; O; 7; P; (*)
Rhynchospora perplexa Britt. ex Small—*K-3116*; O; 2,7; P; (THORNE-4889)
Rhynchospora pleiantha (Kukenth.) Gale—*K-3476*; U; 7; P; (*)
Rhynchospora plumosa Ell.—*K-2255*; U; 2; P; (THORNE-4835)
Rhynchospora pusilla Chapm.—*K-3503*; O; 7; P; (*)
Rhynchospora rariflora (Michx.) Ell.—*K-2611*; U; 7,8; P; (THORNE-4885)
Rhynchospora recognita (Gale) Kral—*K-2133*; U; 8; P; (*)
Rhynchospora tracyi Britt.—*K-2411*; U; 7; P; (UGA)
Scirpus cyperinus (L.) Kunth—*K-2565*; R; 7; P; (THORNE-1916)
Scleria ciliata Michx.—*K-2064*; C; 2,3,4,9; P; (THORNE-3227)
Scleria georgiana Core—*K-2177*; U; 2,7; P; (THORNE-5034)
Scleria hirtella Sw.—*K-2115*; U; 2,8; P; (*)
Scleria oligantha Michx.—*K-2104*; U; 1; P; (*)
Scleria reticularis Michx.—*K-2453*; O; 7; A/P; (THORNE-7204)
Scleria triglomerata Michx.—*K-2137*; U; 2,8; P; (THORNE-NO #)
Scleria verticillata Muhl. ex Willd.—*K-3118*; U; 2,8; A; (THORNE-1837)

DIOSCOREACEAE

Dioscorea quaternata (Walt.) Gmel.—*K-2018*; O; 1; P; (THORNE-2026)

ERIOCAULACEAE

Eriocaulon compressum Lam.—*K-2214*; U; 2,7,8; P; (*)
Eriocaulon decangulare L.—*K-3120*; O; 2,7,8; P; (THORNE-1848)
Lachnocaulon anceps (Walt.) Morong—*K-2069*; U; 7,8; P; (THORNE-4370)
Lachnocaulon minus (Chapm.) Small—*K-2409*; U; 7,8; P; (THORNE-2024)

GRAMINEAE

Agrostis hiemalis (Walt.) B.S.P.—*K-2123*; O; 1,2,3,9,10; A; (THORNE-4741)
Agrostis perennans (Walt.) Tuckerm.—*K-2726*; O; 1; P; (*)
Amphicarpum muhlenbergianum (Schult.) Hitchc.—*K-3275*; U; 7; P; (*)
Andropogon floridanus Scribn.—*K-2754*; U; 3,4,11; P; (*)
Andropogon gerardii Vitman—*K-3184*; O; 2; P; (THORNE-16479a)
Andropogon gyrans Ashe—*K-2600*; O; 3,4,9,10; P; (UGA)
Andropogon ternarius Michx.—*K-3478*; O; 2,3; P; (THORNE-7442)
Andropogon tracyi Nash—*K-2755*; U; 3,4; P; (*)
Andropogon virginicus L—*A-15836*; C; 1,2,3,4,7,9,10,11; P; (THORNE-6975)
Anthaenantia villosa (Michx.) Beauv.—*K-2514*; C; 2,3,4; P; (THORNE-5718)
Aristida lanosa Muhl. ex Ell.—*K-3344*; R; 3,4; P; (THORNE-7307)
Aristida longespica Poir. in Lam.—*K-3276*; R; 7; A; (UGA)
Aristida oligantha Michx.—*G-11,749*; U; 4; A; (*)
Aristida palustris (Chapm.) Vasey—*K-2714*; O; 7; P; (THORNE-6955)
Aristida purpurescens Poir.—*K-3339*; C; 2,7; P; (THORNE-6955)
Aristida stricta Michx.—*K-2587*; C; 2,3,4; P; (THORNE-4536)
Aristida tuberculosa Nutt.—*K-3426*; R; 4; A; (THORNE-7430)
Arundinaria gigantea (Walt.) Muhl.—*K-2090*; O; 1; P; (*)
Axonopus furcatus (Fluegge) Hitchc.—*K-2371*; U; 1,7; P; (THORNE-1836)
Bouteloua hirsuta Lag.—*K-2537*; R; 4; P; (*)
Brachiaria platyphylla (Griseb.) Nash—*K-3300*; U; 2,7; A; (*)
Brachiaria ramosa (L.) Stapf.—*K-3328*; U; 10; A; (*)
Brachiaria texanum Buckl.—*K-3162*; U; 9,10; A; (*)
Briza minor L.—*K-2122*; R; 10; A; (*)
Bromus unioloides (Willd.) H.B.K.—*K-2975*; R; 10; A; (*)
Cenchrus echinatus L.—*K-2311*; C; 1,3,4,9,10; A; (*)
Cenchrus incertus M.A. Curtis—*K-2549*; O; 1,3,4,9,10; P; (THORNE-5722)
Chasmanthium latifolium (Michx.) Yates—*K-2320*; O; 1; P; (THORNE-4524)
Chasmanthium nitidum (Baldw. ex Ell.) Yates—*K-2719*; O; 1; P; (THORNE-5057)
Chasmanthium sessiliflorum (Poir.) Yates—*K-3326*; O; 1,5,8; P; (*)
Chloris floridana (Chapm.) Wood—*K-2522*; U; 3,4; P; (THORNE-4517)
Chloris glauca (Chapm.) Wood—*K-2720*; U; 1; P; (cited in Hitchcock 1950)
Chloris petraea Sw.—*A-15861*; U; 3,4; P; (THORNE-5063)
Ctenium aromaticum (Walt.) Wood—*K-2221*; O; 2; P; (*)
Cynodon dactylon (L.) Pers.—*K-3302*; C; 7,10; P; (*)
Dactyloctenium aegyptium (L.) Beauv.—*K-3072*; U; 10; A; (UGA)
Danthonia sericea Nutt.—*A-16434*; R; 1; P; (*)
Digitaria ciliaris (Retz.) Koel.—*K-3092*; C; 10; A; (UGA)
Digitaria filiformis (L.) Koel.—*K-3471*; O; 3,4,9,10; A; (UGA)
Echinochloa colonum (L.) Link—*A-15805*; C; 7; A; (UGA)
Echinochloa crusgalli (L.) Beauv.—*K-3296*; C; 7; A; (*)
Eleusine indica (L.) Gaertn.—*K-3410*; O; 10; A; (UGA)
Elymus virginicus L.—*K-3011*; U; 10; P; (THORNE-4526)
Elyonurus tripsacoides Humb. & Bonpl. ex Willd.—*K-3407*; U; 7; P; (UGA)
Eragrostis capillaris (L.) Nees—*K-3518*; O; 10; A; (THORNE-6422)
Eragrostis elliottii S. Wats.—*K-3515*; U; 1,10; P; (THORNE-6640)
Eragrostis hirsuta (Michx.) Nees—*K-2511*; O; 7,9,10; P; (*)
Eragrostis hypnoides (Lam.) B.S.P.—*K-2784*; U; 7; A; (UGA)
Eragrostis refracta (Muhl.) Scribn.—*K-3278*; U; 2,7; P; (THORNE-5727)
Eragrostis spectabilis (Pursh) Steud.—*K-3315*; O; 3,4; P; (*)
Eremochloa ophiuroides (Munro) Hack.—*K-2723*; R; 1; P; (*)
Erianthus alopecuroides (L.) Ell.—*K-3197*; O; 2,3; P; (*)
Erianthus brevibarbis Michx.—*K-2580*; U; 2,7,8; P; (THORNE-2299)
Erianthus contortus Baldw.—*K-3154*; U; 2,3,9,10; P; (UGA)
Erianthus giganteus (Walt.) Muhl.—*K-3182*; O; 2,7,8; P; (*)
Erianthus strictus Baldw.—*K-3207*; U; 1; P; (THORNE-6655)

Gymnopogon ambiguus (Michx.) B.S.P.—*K-2553*; O; 3,4; P; (UGA)
Gymnopogon brevifolius Trin.—*A-15752*; O; 2; P; (*)
Hackelochloa granularis (L.) Kuntze—*K-3395*; R; 1,10; A; (*)
Heteropogon melanocarpus (Ell.) Benth.—*K-3159*; R; 10; A; (THORNE-NO #)
Hordeum pusillum Nutt.—*K-2968b*; U; 10; A; (UGA)
Leersia hexandra Sw.—*K-2367*; O; 7; P; (THORNE-1925)
Leersia lenticularis Michx.—*A-15767*; U; 7; P; (THORNE-7044)
Leersia virginica Willd.—*A-15764*; U; 1; P; (*)
Lolium perenne L.—*K-2843*; U; 9,10; P; (*)
Manisuris rugosa (Nutt.) Kuntze—*K-2581*; O; 7; P; (*)
Manisuris tessellata (Steub.) Scribn.—*K-3424*; R; 3; P; (*)
Melica mutica Walt.—*K-3369*; U; 1; P; (*)
Muhlenbergia capillaris (Lam.) Trin.—*K-2510*; O; 2,3; P; (THORNE-7038)
Oplismenus setarius (Lam.) R.&S.—*K-2645*; R; 1; P; (*)
Panicum aciculare Desv. ex Poir.—*K-2029*; O; 2,3,4,7,9,10; P; (THORNE-3213a)
Panicum acuminatum Sw. var. *implicatum* Scribner—*K-2369*; U; 2,7; P; (*)
Panicum acuminatum Sw. var. *longiligulatum* (Nash) Lelong—*K-3507*; U; 2; P; (*)
Panicum anceps Michx. var. *rhizomatum* (Hitchc. & Chase) Fernald—*K-2513*; U; 2,3,4; P; (*)
Panicum angustifolium Ell.—*K-3465*; C; 2,3,4; P; (*)
Panicum boscii Poir.—*A-16,006*; U; 1; P; (*)
Panicum commutatum Schult.—*K-1957*; O; 1; P; (THORNE-3733)
Panicum dichotomiflorum Michx.—*A-15912*; U; 7; A; (*)
Panicum dichotomum L. var. *dichotomum* L.—*K-3320*; U; 1; P; (*)
Panicum erectifolium Nash—*K-3101*; O; 7; P; (*)
Panicum hemitomon Schult.—*K-2388*; O; 7; P; (THORNE-1827)
Panicum hians Ell.—*K-2253*; U; 2,7; P; (THORNE-4376)
Panicum ovale Ell. var. *villosum* (A. Gray) Lelong—*K-2066*; O; 3,4; P; (*)
Panicum rigidulum Nees var. *combsii* (Scribn. & Ball) Lelong—*K-2626*; O; 7; P; (*)
Panicum rigidulum Nees var. *rigidulum*—*K-2483*; O; 1; P; (*)
Panicum sphaerocarpon Ell.—*K-2561*; U; 1,2,7; P; (THORNE-3735a)
Panicum strigosum Muhl.—*K-3500*; C; 2,3,7,9; P; (*)
Panicum tenerum Beyr. ex Trin.—*K-3461*; U; 7; P; (*)
Panicum tenue Muhl.—*K-3421*; C; 1,2,3,4,7,9; P; (THORNE-4082)
Panicum verrucosum Muhl.—*K-2612*; C; 7,8; A; (THORNE-6967)
Panicum virgatum L.—*K-3188*; C; 1,2,3,4,9; P; (THORNE-5719)
Panicum wrightianum Scribn.—*K-3192*; O; 7,8; P; (THORNE-7202)
Paspalum bifidum (Bertol.) Nash—*K-3468*; U; 3; P; (*)
Paspalum boscianum Fluegge—*A-15867*; U; 7,10; P; (*)
Paspalum dissectum (L.) L.—*A-15821*; O; 7; P; (*)
Paspalum floridanum Michx.—*K-2434*; U; 2,7,8; P; (THORNE-4827)
Paspalum laeve Michx.—*K-3506*; O; 2,7,9; P; (THORNE-4818)
Paspalum notatum Fluegge—*K-3023*; C; 9,10; P; (*)
Paspalum plicatulum Michx.—*K-2457*; U; 2,5,7,8; P; (THORNE-4374)
Paspalum setaceum Michx.—*K-2262*; O; 2,7; P; (*)
Paspalum urvillei Steud.—*K-2592*; O; 9,10; P; (THORNE-4118)
Poa annua L.—*K-2856*; U; 1,10; A; (*)
Rottboellia cochinchinensis (Lour.) W. Clayton—*A-15928*; O; 10; P; (*)
Schizachyrium scoparium (Michx.) Nash—*K-2756*; C; 2,3,4,10; P; (*)
Schizachyrium tenerum Nees—*K-2599*; C; 2,3,4,9; P; (*)
Setaria corrugata (Ell.) Schult.—*K-3091*; U; 10; A; (THORNE-6645)
Setaria geniculata (Lam.) Beauv.—*K-2472*; U; 10; P; (THORNE-4125)
Setaria glauca (L.) Beauv.—*K-3125*; U; 10; A; (*)
Sorghastrum elliottii (Mohr) Nash—*A-15665*; O; 2,3; P; (*)
Sorghastrum nutans (L.) Nash—*K-2598*; C; 2,3,4; P; (*)
Sorghastrum secundum (Ell.) Nash—*K-2589*; C; 2,3,4; P; (*)
Sorghum halepense (L.) Pers.—*K-2590*; U; 10; P; (*)
Sphenopholis obtusata (Michx.) Scribn.—*K-2969B*; U; 9,10; P; (*)
Sporobolus clandestinus (Biehler) Hitchc.—*A-15999*; O; 3; P; (*)
Sporobolus floridanus Chapm.—*K-2502*; C; 2,7; P; (THORNE-6963)
Sporobolus indicus (L.) R. Br.—*K-2603*; U; 1,10; P; (THORNE-4029)
Sporobolus junceus (Michx.) Kunth—*K-2445*; C; 3,4; P; (THORNE-3207)
Stipa avenacea L.—*K-2108*; O; 1; P; (UGA)
Tridens ambiguus (Ell.) Schult.—*K-2398*; O; 2,7; P; (THORNE-4871)
Tridens carolinianus (Steud.) Henr.—*K-3306*; U; 2,3,10; P; (*)
Tridens flavus (L.) Hitchc.—*K-2763*; U; 2,10; P; (*)
Tridens strictus (Nutt.) Nash—*K-2593*; U; 10; P; (THORNE-7051)
Triplasis americana Beauv.—*K-2652*; O; 4; P; (*)
Tripsacum dactyloides (L.) L.—*K-2446*; R; 1; p; (UGA)
Triticum aestivum L.—*K-2929*; R; 10; A; (*)
Vulpia octoflora (Walt.) Rydb.—*K-2936*; U; 10; A; (THORNE-2443)

HAEMODORACEAE

Lachnanthes caroliniana (Lam.) Dandy—*K-2276*; U; 7,8; P; (UGA)

HYPOXIDACEAE

Hypoxis leptocarpa (Engelm. & Gray) Small—*K-2911*; O; 1,2,9; P; (THORNE-6500)

IRIDACEAE

Iris brevicaulis Raf.—*K-2203*; U; 1,8,10; P; (*)
Sisyrinchium nashii Bickn.—*K-1975*; O; 2,7; P; (THORNE-3017)
Sisyrinchium xerophyllum Greene—*K-1973*; O; 2,3,4; P; (*)

JUNCACEAE

Juncus bufonius L.—*K-2150*; O; 7,10; A; (*)
Juncus dichotomus Ell.—*K-2134*; O; 1,7,8; P; (UGA)
Juncus effusus L.—*K-3060*; U; 8; P; (THORNE-1609)
Juncus elliottii Coville—*K-2055*; U; 7,8; P; (THORNE-4810)
Juncus marginatus Rostk.—*K-2374*; O; 7,8; P; (THORNE-1825)

Juncus polycephalus Michx.—*K-3059*; U; 7,8; P; (THORNE-1486)
Juncus repens Michx.—*K-2412*; U; 7,8; P; (THORNE-1441)
Juncus scirpoides Lam.—*K-2456*; U; 7,10; P; (THORNE-1814)
Juncus tenuis Willd.—*K-3358*; U; 1,10; P; (THORNE-4654)

LEMNACEAE

Spirodela punctata (Meyer) Thompson—*K-2789*; R; 8; A; (*)

LILIACEAE

Aletris aurea Walt.—*K-3522*; R; 2; P; (*)
Aletris farinosa L.—*K-2959*; U; 2,3; P; (THORNE-3508)
Aletris lutea Small—*K-2116*; U; 2,8; P; (*)
Allium bivalve (L.) Kuntze—*K-1998*; U; 1,10; P; (*)
Allium canadense L.—*K-2886*; C; 2,3,9,10; P; (UGA)
Lilium catesbaei Walt.—*K-3403*; R; 2; P; (*)
Polygonatum biflorum (Walt.) Ell.—*K-1983*; U; 1; P; (*)
Uvularia floridana Chapm.—*K-2836*; R; 1; P; (UGA)

ORCHIDACEAE

Calopogon pallidus Chapm.—*K-2142*; R; 2; P; (*)
Calopogon tuberosus (L.) B.S.P.—*K-2991*; R; 2,3; P; (THORNE-NO #)
Corallorhiza wisteriana Conrad—*K-2802*; R; 1; P; (UGA)
Epidendrum conopseum R. Br.—*K-2633*; R; 1,8; P; (THORNE-2393)
Eulophia ecristata (Fern.) Ames—*K-2481*; R; 2,7; P; (*)
Habenaria quinqueseta (Michx.) A. Eaton—*K-2591*; R; 1; P; (*)
Platanthera ciliaris (L.) Lindl.—*K-2304*; R; 2; P; (THORNE-4887)
Platanthera cristata (Michx.) Lindl.—*K-2292*; R; 2; P; (*)
Platanthera nivea (Nutt.) Luer—*K-2260*; R; 2; P; (*)
Spiranthes laciniata (Small) Ames—*K-3375*; U; 2; P; (THORNE-4370a)
Spiranthes longilabris Lindl.—*K-3475*; R; 2; P; (*)
Spiranthes praecox (Walt.) S. Wats.—*K-2129*; U; 2; P; (*)
Spiranthes tuberosa Raf.—*K-2271*; U; 2; P; (THORNE-4592)

PALMAE

Rhapidophyllum hystrix (Pursh) Wendl. & Drude—*K-2764*; R; 1; P; (THORNE-NO #)
Sabal minor (Jacq.) Pers.—*K-2751*; C; 1; P; (THORNE-1539)
Serenoa repens (Bartr.) Small—*K-2785*; C; 1,3,4; P; (THORNE-7516)

POACEAE (SEE GRAMINEAE)

POTAMOGETONACEAE

Potamogeton diversifolius Raf.—*K-3419*; R; 7; P; (THORNE-1919)

SMILACACEAE

Smilax auriculata Walt.—*K-2776*; O; 3,4,5,6; P; (THORNE-7605)
Smilax bona-nox L.—*K-2905*; C; 1,5,6; P; (UGA)
Smilax ecirrhata (Engelm. ex Kunth) S. Wats.—*K-2911*; U; 1; P; (*)
Smilax glauca Walt.—*K-2968*; U; 2,5,8; P; (*)
Smilax lasioneuron Hook.—*K-2089*; U; 1; P; (*)
Smilax laurifolia L.—*K-2709*; O; 1,5,8; P; (THORNE-1608)
Smilax pumila Walt.—*K-2680*; O; 1,5,6; P; (THORNE-1937)
Smilax rotundifolia L.—*K-3335*; O; 2; P; (*)
Smilax smallii Morong—*K-3156*; C; 1,5,6,10; P; (THORNE-2321)
Smilax tamnoides L.—*K-2085*; C; 1; P; (*)
Smilax walteri Pursh—*K-2708*; O; 1,8; P; (THORNE-2347)

TYPHACEAE

Typha latifolia L.—*K-2564*; R; 7; P; (*)

XYRIDACEAE

Xyris ambigua Beyr. ex Kunth—*K-2264*; O; 2,7,8; P; (THORNE-4837)
Xyris caroliniana Walt.—*K-2263*; O; 2,7,8; P; (THORNE-5067)
Xyris iridifolia Chapm.—*A-15875*; R; 2,7,8; P; (THORNE-1484)
Xyris jupicai L. Rich.—*K-2383*; R; 2,7,8; P; (THORNE-1820)
Xyris smalliana Nash—*A-15773*; U; 2,7,8; P; (THORNE-6965)

ANGIOSPERMS (DICOTS)

ACANTHACEAE

Dicliptera brachiata (Pursh) Spreng.—*K-2293*; U; 1; P; (*)
Dicliptera halei Ridd.—*K3449*; U; 10; P; (THORNE-5814)
Dyschoriste oblongifolia (Michx.) Kuntze—*K-1966*; C; 2,3,4,9; P; (THORNE-3401)
Elytraria caroliniensis (Walt. ex Gmel.) Pers.—*K-2575*; R; 1; P; (THORNE-1584)
Justicia ovata var. *lanceolata* (Walt.) Lindau—*K-2966*; O; 1,7,8; P; (THORNE-7201)
Ruellia caroliniensis (Walt. ex Gmel.) Steud.—*K-1967*; O; 1,3,4; P; (THORNE-1571)

ACERACEAE

Acer rubrum L.—*K-3211*; O; 1,8,10; P; (THORNE-1591)
Acer saccharinum L.—*K-3238*; R; 1; P; (THORNE-7582)
Acer saccharum (Marsh.) subsp. *floridanum* (Chapm.) Desmarais—*K-3260*; C; 1; P; (THORNE-1659)

AIZOACEAE

Mollugo verticillata L.—*K-2312*; O; 1,7,10; A; (*)

AMARANTHACEAE

Alternanthera sessilis (L.) R. Br. ex DC.—*A-15992*; U; 1; P; (*)
Amaranthus hybridus L.—*K-3520*; U; 9,10; A; (THORNE-5717)
Amaranthus spinosus L.—*K-3187*; U; 10; A; (THORNE-4038)
Froelichia floridana (Nutt.) Moq.—*K-2353*; O; 3,4,10; A; (THORNE-4599)

ANACARDIACEAE

Rhus copallina L.—*K-2440*; C; 1,3,4,9,10; P; (THORNE-1535)
Rhus glabra L.—*K-3030*; U; 10; P; (THORNE-4265)
Toxicodendron radicans (L.) Kuntze—*K-2075*; O; 1,8,10; P; (*)
Toxicodendron toxicarium (Salisb.) Gillis—*K-2958*; C; 1,2,3,4,5,6,9,10; P; (*)

ANNONACEAE

Asimina longifolia Kral—*K-2050*; C; 2,3,4; P; (UGA)
Asimina parviflora (Michx.) Dunal—*K-1948*; O; 1; P; (THORNE-2842)

APIACEAE (SEE UMBELLIFERAE)

APOCYNACEAE

Amsonia ciliata Walt.—*K-1952*; O; 1,3,4; P; (THORNE-1662)
Amsonia rigida Shuttlew.—*K-3041*; O; 1,2,5,10; P; (THORNE-4052)
Amsonia tabernaemontana Walt.—*K-3239*; U; 1; P; (THORNE-4520)
Apocynum cannabinum L.—*K-2951*; U; 1,2,10; P; (*)
Trachelospermum difforme (Walt.) Gray—*K-2186*; U; 1; P; (*)

AQUIFOLIACEAE

Ilex ambigua (Michx.) Torr.—*K-2545*; O; 1,3,4; P; (THORNE-1629)
Ilex decidua Walt.—*K-2664*; O; 1; P; (THORNE-1658)
Ilex glabra (L.) Gray—*K-2712*; O; 2,7,8; P; (THORNE-3811)
Ilex myrtifolia Walt.—*K-2162*; O; 7,8; P; (*)
Ilex opaca Ait.—*K-2752*; O; 1; P; (THORNE-1625)
Ilex vomitoria Ait.—*K-2673*; C; 1,2,3,4,7,8,9; P; (THORNE-1951)

ARALIACEAE

Aralia spinosa L.—*K-3035*; U; 10; P; (*)

ARISTOLOCHIACEAE

Aristolochia serpentaria L.—*K-3323*; U; 1,2,3; P; (THORNE-4109)
Aristolochia tomentosa Sims—*K-2017*; U; 1; P; (*)
Hexastylis arifolia (Michx.) Small—*K-2019*; R; 1; P; (*)

ASCLEPIADACEAE

Asclepias amplexicaulis Smith—*K-2938*; O; 3,4; P; (THORNE-3514)
Asclepias cinerea Walt.—*K-3484*; R; 2,3,4; P; (THORNE-1927)
Asclepias humistrata Walt.—*K-1978*; U; 3,4; P; (THORNE-1968)
Asclepias lanceolata Walt.—*K-2329*; U; 7,8; P; (THORNE-NO #)
Asclepias longifolia Michx.—*K-2226*; U; 2,7,8; P; (THORNE-7048)
Asclepias michauxii Decne. in DC.—*K-2049*; O; 2,3,4,7,8,9; P; (THORNE-4848)
Asclepias obovata Ell.—*K-2470*; O; 2,9,10; P; (*)
Asclepias perennis Walt.—*K-3097*; R; 1; P; (UGA)
Asclepias tuberosa L.—*K-2146*; O; 2,3,4; P; (THORNE-3959a)
Asclepias variegata L.—*K-2092*; U; 1; P; (*)
Asclepias verticillata L.—*K-2429*; U; 1,2,3,4; P; (THORNE-1946)
Asclepias viridiflora Raf.—*K-3422*; R; 2; P; (*)
Matelea flavidula (Chapm.) Woodson—*K-3106*; U; 1; P; (*)
Matelea gonocarpa (Walt.) Shinners—*K-3368*; R; 1; P; (THORNE-4514)

ASTERACEAE (SEE COMPOSITAE)

BERBERIDACEAE

Nandina domestica Thumb.—*K-3005*; R; 11; P; (*)

BETULACEAE

Alnus serrulata (Ait.) Willd.—*K-2524*; O; 1; P; (*)
Betula nigra L.—*K-3228*; O; 1; P; (THORNE-2834)
Carpinus caroliniana Walt.—*K-2819*; O; 1; P; (THORNE-1667)
Ostrya virginiana (Mill.) K. Koch—*K-2750*; O; 1; P; (*)

BIGNONIACEAE

Bignonia capreolata L.—*K-2900*; O; 1; P; (THORNE-1952)
Campsis radicans (L.) Seem. ex Bureau—*K-2217*; C; 1,5,10; P; (THORNE-1487)
Catalpa bignonioides Walt.—*K-2990*; O; 1; P; (THORNE-7604)

BORAGINACEAE

Heliotropium indicum L.—*K-2684*; R; 10; A; (THORNE-NO #)
Lithospermum caroliniense (Gmel.) MacMill.—*K-1976*; C; 3,4,9; P; (THORNE-3542)
Myosotis macrosperma Engelm.—*A-16,428*; U; 1; A/B; (*)
Onosmodium virginianum (L.) A. DC.—*K-2197*; R; 2,3,4; P; (THORNE-3574)

BRASSICACEAE (see Cruciferae)

CABOMBACEAE

Brasenia schreberi Gmel.—*K-2198*; R; 7; P; (THORNE-1433)

CACTACEAE

Opuntia humifusa (Raf.) Raf.—*K-2956*; U; 4; P; (THORNE-3731a)

CALLITRICHACEAE

Callitriche heterophylla Pursh—*A-16,168*; R; 7; A; (UGA)
Callitriche peploides Nutt.—*G-11,597*; U; 1; A; (*)

CALYCANTHACEAE

Calycanthus florida L.—*K-2871*; R; 1; P; (*)

CAMPANULACEAE

Lobelia amoena Michx.—*K-3208*; R; 1; P; (*)
Lobelia boykinii T.&G.—*K-2208*; U; 7; P; (*)
Lobelia cardinalis L.—*K-2519*; R; 1; P; (*)
Lobelia glandulosa Walt.—*K-2586*; O; 2; P; (THORNE-2292)
Lobelia puberula Michx.—*K-2493*; U; 2; P; (*)
Triodanus biflora (R.&P.) Greene—*K-2930*; C; 10; A; (THORNE-3579)
Triodanus perfoliata (L.) Nieuwl.—*K-2888*; C; 10; A; (THORNE-3578)
Wahlenbergia marginata (Thunb.) A. DC.—*K-2011*; C; 10; P; (*)

CAPRIFOLIACEAE

Lonicera japonica Thunb.—*K-2926*; O; 1,5,9,10,11; P; (THORNE-2034)
Lonicera sempervirens L.—*K-3081*; O; 1,5; P; (THORNE-1964)
Sambucus canadensis L.—*K-3003*; R; 10; P; (*)
Viburnum dentatum L.—*K-2324*; U; 1; P; (THORNE-1531)
Viburnum obovatum Walt.—*K-2523*; U; 1; P; (THORNE-1545)
Viburnum rufidulum Raf.—*J-067*; R; 1; P; (THORNE-1935)

CARYOPHYLLACEAE

Cerastium glomeratum Thuill.—*K-3223*; C; 10; A; (*)
Paronychia baldwinii (T.&G.) Fenzl—*K-2378*; U; 1,2,3,4,10; P; (THORNE-4519)
Paronychia rugelii Shuttlew. ex Chapm.—*K2543*; O; 3,4; A; (THORNE-5734)
Sagina decumbens (Ell.) T.&G.—*K-3218*; U; 10; A; (THORNE-2344)
Silene antirrhina L.—*K-2903*; U; 10; A; (*)
Stellaria media (L.) Vill.—*K-2797*; O; 10; A; (*)
Stipulicida setacea Michx.—*K-1931*; U; 3,4; A; (THORNE-2936)

CELASTRACEAE

Euonymous americanus L.—*K-1988*; O; 1; P; (*)

CHENOPODIACEAE

Chenopodium album L.—*K-2791*; U; 10; A; (*)
Chenopodium ambrosioides L.—*K-2681*; U; 7,10; A; (*)

CHRYSOBALANACEAE

Licania michauxii Prance—*K-2334*; C; 4; P; (*)

CISTACEAE

Helianthemum carolinianum (Walt.) Michx.—*K-1984*; O; 2,3; P; (THORNE-2395)
Helianthemum rosmarinifolium Pursh—*K-2678*; C; 3,4,7,9; P; (THORNE-4512)
Lechea minor L.—*K-3396*; C; 2,3,4,9; P; (*)
Lechea mucronata Raf.—*K-2319*; O; 2,3,4,10; P; (THORNE-5026)
Lechea sessiliflora Raf.—*A-15838*; C; 2,3,4; P; (THORNE-5550)

CLETHRACEAE

Clethra alnifolia L.—*K-2231*; O; 1,8; P; (THORNE-1425)

COMPOSITAE

Acanthospermum australe (Loefl.) Kuntze—*K-3311*; U; 10; A; (THORNE-4040)
Acanthospermum hispidum DC.—*K-3152*; U; 10; A; (THORNE-3537)
Ageratina aromatica (L.) Spach—*K-3334*; O; 2,3,4; P; (*)
Ambrosia artemisiifolia L.—*K-2585*; C; 9,10; A; (*)
Ambrosia psilostachya DC.—*K-3459*; U; 10; P; (*)
Aster adnatus Nutt.—*K-2762*; C; 2,3,4,9; P; (*)
Aster concolor L.—*K-2711*; C; 2,3,4; P; (THORNE-7229)
Aster dumosus L.—*K-2607*; C; 2,3,4,9; P; (THORNE-7199)
Aster lateriflorus (L.) Britt.—*A-15986*; U; 1; P; (THORNE-7436)
Aster linariifolius L.—*K-2700*; O; 1,3,4; P; (THORNE-7312)
Aster pilosus Willd.—*K-3177*; U; 1,10; P; (*)
Aster sagittifolius Wedem. ex Willd.—*K-3138*; U; 1,5; P; (THORNE-7443)
Aster tortifolius Michx.—*K-3099*; O; 3,4; P; (THORNE-1979)
Aster vimineus Lam.—*K-3511*; U; 10; P; (THORNE-7310)
Baccharis halimifolia L.—*K-2706*; O; 10; P; (*)
Balduina uniflora Nutt.—*K-2505*; O; 2,7,8; P; (THORNE-1855)
Bidens bipinnata L.—*K-3103*; U; 1; A; (THORNE-6742)
Bidens frondosa L.—*K-2562*; U; 1,7,8; A; (THORNE-7154)
Bigelowia nudata (Michx.) DC.—*K-2498*; C; 2,7,8; P; (THORNE-1926)
Boltonia diffusa Ell.—*K-3341*; U; 2,7,8,9; P; (THORNE-6970)
Carphephorus odoratissimus (Gmel.) Herb.—*K-2497*; O; 2,3; P; (THORNE-4886)
Chaptalia tomentosa Vent.—*K-2043*; O; 2,8; P; (*)
Chrysopsis gossypina (Michx.) Ell.—*K-3150*; O; 3,4; P; (THORNE-6649)
Chrysopsis mariana (L.) Ell.—*K-3330*; C; 2,3,4,9; P; (UGA)
Cirsium altissimum (L.) Spreng.—*K-2647*; R; 9,10; B; (THORNE-7511)
Cirsium horridulum Michx.—*K-2256*; U; 2,3,9,10; B; (*)
Conoclinium coelestinum (L.) DC.—*K-2484*; O; 1,10; P; (THORNE-1657)
Conyza bonariensis (L.) Cronq.—*K-3497*; U; 10; A; (*)
Conyza canadensis (L.) Cronq. var. *pusilla* (Nutt.) Cronq.—*K-2450*; O; 10; A; (*)
Conyza canadensis (L.) Cronq. var *Canadensis*—*K-3029*; O; 9,10,11; A; (THORNE-5439)
Coreopsis lanceolata L.—*K-1981*; C; 1,2,3,9; P; (*)
Coreopsis major Walt.—*K-3016*; O; 3; P; (*)
Coreopsis nudata Nutt.—*K-2207*; U; 2,7,8; P; (THORNE-3277)
Coreopsis tripteris L.—*K-3313*; U; 1; P; (*)
Eclipta alba (L.) Hassk.—*K-3130*; U; 7,10; A; (*)
Elephantopus carolinianus Raeusch.—*K-3127*; O; 1; P; (*)
Elephantopus elatus Bertol.—*K-2462*; C; 3,4,9; P; (UGA)
Elephantopus nudatus Gray.—*K-2601*; O; 2,3; P; (*)
Erechtites hieracifolia (L.) Raf. ex DC.—*K-2775*; C; 2,7,10; A; (*)
Erigeron strigosus Muhl. ex Willd.—*K-2920*; U; 9,10; A; (THORNE-4093)
Erigeron vernus (L.) T.&G.—*K-2945*; O; 2,7,10; P; (*)
Eupatorium album L.—*K-3015*; U; 2,3; P; (THORNE-7156)
Eupatorium capillifolium (Lam.) Small—*K-2674*; C; 9,10; A; (THORNE-7216)
Eupatorium compositifolium Walt.—*K-2672*; C; 9,10; P; (THORNE-4511)
Eupatorium cuneifolium Willd.—*K-3347*; U; 2,3,4,10; P; (THORNE-4826)
Eupatorium hyssoptfolium L.—*K-3098*; O; 2,3; P; (THORNE-6198)
Eupatorium leptophyllum DC.—*K-2582*; O; 2,7; P; (THORNE-7032)
Eupatorium leucolepis (DC.) T.&G.—*K-3281*; O; 2,7; P; (*)
Eupatorium mohrii Green—*K-2499*; C; 2,3,7; P; (THORNE-7208)
Eupatorium pilosum Walt.—*K-2364b*; U; 2,7,8; P; (*)
Eupatorium rotundifolium L.—*K-2490*; C; 2,7,8; P; (THORNE-1834)
Eupatorium semiserratum DC.—*K-2605*; O; 1,2,9; P; (THORNE-1903)
Eupatorium serotinum Michx.—*K-2639*; O; 1; P; (*)
Euthamia minor (Michx.) Greene—*K-2618*; C; 2,7,8; P; (*)
Euthamia tenuifolia (Pursh) Nutt.—*A-15929*; R; 2; P; (*)
Facelis retusa (Lam.) Sch.-Bip.—*A-16,068*; R; 10; A; (*)
Gaillardia aestivalis (Walt.) Rock—*K-2425*; R; 4,10; A; (THORNE-3730)
Gnaphalium falcatum Lam.—*K-2915*; O; 10; A; (THORNE-3259)
Gnaphalium obtusifolium L.—*K-3094*; O; 3,4,9,10; A; (UGA)
Gnaphalium pensilvanicum Willd.—*K-2796*; O; 10; A; (THORNE-2324)
Gnaphalium purpureum L.—*K-1999*; O; 3,10; A; (THORNE-3224)

Haplopappus divaricatus (Nutt.) Gray—*K-2737*; C; 9,10; A; (UGA)
Helenium amarum (Raf.) Rock—*K-3000*; C; 9,10; A; (THORNE-3219)
Helenium autumnale L.—*K-2604*; U; 1; P; (THORNE-6641)
Helenium flexuosum Raf.—*K-3464*; U; 2,3; P; (*)
Helenium pinnatifidum (Nutt.) Rydb.—*K-2947*; O; 7,8; P; (*)
Helianthus angustifolius L.—*K-2621*; C; 2,7,9; P; (THORNE-7226)
Helianthus heterophyllus Nutt.—*K-2738*; U; 3; P; (*)
Helianthus microcephalus T.&G.—*K-3294*; U; 10; P; (THORNE-7378a)
Helianthus radula (Pursh) T.&G.—*K-3169*; C; 2,3,4; P; (THORNE-6659)
Heliopsis helianthoides (L.) Sweet—*K-2091*; R; 1; P; (*)
Heterotheca subaxillaris (Lam.) Britt. & Rusby—*K-3171*; R; 10; A/B; (UGA)
Hieracium gronovii L.—*K-2960*; O; 3,4,9; P; (UGA)
Hymenopappus scabiosaeus L'Her.—*K-2953*; R; 10; P; (*)
Hypochoeris glabra L.—*K-2901*; C; 10; P; (*)
Iva microcephala Nutt.—*K-2620*; O; 7; A; (THORNE-6411)
Krigia cespitosa (Raf.) Chambers—*K-3359*; O; 10; A; (*)
Krigia dandelion (L.) Nutt.—*K-2943*; U; 10; P; (*)
Krigia virginica (L.) Willd.—*K-3248*; O; 10; A; (THORNE-2397)
Kuhnia eupatorioides L.—*A-15896*; U; 2; P; (THORNE-7240)
Lactuca canadensis L.—*K-3286*; O; 3,9,10; B; (*)
Lactuca floridana (L.) Gaertner—*K-2566*; U; 3,10; B; (*)
Lactuca graminifolia Michx.—*K-3423*; U; 10; B; (*)
Liatris aspera Michx.—*K-2429b*; R; 10; P; (*)
Liatris elegans (Walt.) Michx.—*K-2507*; C; 3,4,9; P; (UGA)
Liatris gracilis Pursh—*K-2655*; C; 1,2,3,4; P; (*)
Liatris graminifolia (Walt.) Willd.—*K-2588*; C; 2,3; P; (THORNE-7047)
Liatris tenuifolia Nutt.—*K-2559*; O; 3; P; (THORNE-6417)
Lygodesmia aphylla (Nutt.) DC.—*K-2034*; C; 3,4,9,10; P; (THORNE-3739)
Melanthera nivea (L.) Small—*K-2327*; O; 1; P; (*)
Mikania scandens (L.) Willd.—*K-2486*; U; 1; P; (UGA)
Pityopsis adenolepis (Fern.) Semple—*K-2302*; O; 2,3; P; (*)
Pityopsis graminifolia (Michx.) Nutt.—*K-2741*; C; 2,3,9; P; (THORNE-4388)
Pluchea camphorata (L.) DC.—*K-2563*; O; 1,10; A/P; (*)
Pluchea rosea Godfrey—*K-2254*; C; 2,7,8; P; (UGA)
Prenanthes serpentaria Pursh—*K-3331*; U; 1; B; (*)
Pterocaulon pycnostachyum (Michx.) Ell.—*K-2042*; O; 2,3; P; (*)
Pyrrhopappus carolinianus (Walt.) DC.—*K-2366*; C; 10; A; (UGA)
Rudbeckia hirta L.—*K-2982*; C; 2,3,4,9; P; (THORNE-4092)
Rudbeckia mohrii Gray—*K-3112*; O; 2,7,8; P; (*)
Sclerolepis uniflora (Walt.) B.S.P.—*K-2192*; O; 7,8; P; (THORNE-1900)
Senecio anonymus Wood—*K-2946*; O; 10; P; (*)
Senecio tomentosus Michx.—*K-3458*; U; 2,3; P; (THORNE-2537)
Silphium asteriscus L.—*K-2541*; O; 3,4; P; (THORNE-1975)
Silphium simpsonii Greene—*K-2321*; C; 1,2,3,4,9,10; P; (*)
Solidago arguta Ait.—*K-2347*; U; 1; P; (THORNE-5807)
Solidago canadensis L.—*K-3141*; C; 9,10; P; (*)
Solidago fistulosa Mill.—*K-3501*; U; 2,8; P; (*)
Solidago gracillima T.&G.—*K-2574*; O; 1,4; P; (*)
Solidago leavenworthii T.&G.—*A-15828*; C; 2,3,7,9; P; (THORNE-6197)
Solidago odora Ait.—*K-3143*; C; 2,3; P; (THORNE-7145)
Solidago petiolaris Ait.—*K-3314*; U; 4; P; (THORNE-7241)
Solidago stricta Ait.—*K-2625*; C; 2,7,8; P; (THORNE-6968)
Solidago tortifolia Ell.—*K-3155*; U; 3,4; P; (*)
Sonchus asper (L.) Hill—*K-3235*; O; 10; A; (*)
Spilanthes americana (Mutis) Hieron.—*K-2573*; R; 1; P; (THORNE-6501)
Tetragonotheca helianthoides L.—*K-1922*; R; 3,4; P; (THORNE-3398)
Verbesina aristata (Ell.) Heller—*K-3022*; O; 2,3; P; (THORNE-4509)
Verbesina virginica L.—*K-3126* O; 1; P; (THORNE-7378a)
Vernonia angustifolia Michx.—*K-2299*; C; 2,3,4; P; (THORNE-4051)
Vernonia gigantea (Walt.) Trel.—*K-2485*; O; 1; P; (*)
Xanthium strumarium L.—*K-2624*; U; 10; A; (THORNE-4039)
Youngia japonica (L.) DC.—*K-2787*; U; 10; A; (*)

CONVOLVULACEAE

Calystegia sepium (L.) R. Br.—*G-11,630*; U; 10; P; (*)
Cuscuta campestris Yuncker—*K-2354*; R; 10; A; (*)
Dichondra carolinensis Michx.—*K-2817*; U; 10; P; (THORNE-2339)
Evolvulus sericeus Sw. var. *sericeus*—*K-3479*; R; 2; P; (*)
Ipomoea hederacea Jacq.—*K-2568*; O; 10; A; (THORNE-NO #)
Ipomoea hederifolia L.—*K-2569*; O; 10; A; (THORNE-2013)
Ipomoea pandurata (L.) G.F.W. Meyer—*K-2179*; C; 3,4,9,10; P; (THORNE-4086)
Ipomoea quamoclit L.—*K-2363*; O; 10; A; (UGA)
Jacquemontia tamnifolia (L.) Griseb.—*K-2317*; O; 1,9,10; A; (*)
Stylisma aquatica (Walt.) Ref.—*K-2153*; C; 7,8; P; (UGA)
Stylisma humistrata (Walt.) Chapm.—*K-2466*; C; 3,4; P; (*)
Stylisma patens (Desr.) Myint—*K-2236*; C; 2,3,4,9; P; (THORNE-6651)

CORNACEAE

Cornus asperifolia Michx.—*K-2183*; U; 1; P; (THORNE-6656)
Cornus florida L.—*K-2846*; O; 1,11; P; (THORNE-1603)
Cornus foemina Mill.—*J-063*; U; 1; P; (THORNE-1604)

CRUCIFERAE

Arabidopsis thaliana (L.) Heynhold—*K-2841*; R; 10; A; (*)
Brassica napus L.—*K-3227*; C; 10; A; (*)
Cardamine pensylvanica Muhl. ex Willd.—*K-3240*; O; 1; P; (*)
Lepidium virginicum L.—*K-2149*; O; 10; A; (*)
Rhaphanus raphanistrum L.—*K-2790*; O; 10; A; (*)

CUCURBITACEAE

Melothria pendula L.—*K-2350*; U; 1,7,10; A; (THORNE-NO #)

CYRILLACEAE

Cyrilla racemiflora L.—*K-2158*; R; 2,8; P; (THORNE-1953)

DROSERACEAE

Drosera brevifolia Pursh—*K-2028*; C; 2,7,8; P; (*)
Drosera capillaris Poir.—*K-2062*; O; 2,7,8; P; (THORNE-4874)

EBENACEAE

Diospyros virginiana L.—*K-2059*; C; 1,2,3,4,5,7,8,9,10; P; (THORNE-1636)

ERICACEAE

Gaylussacia dumosa (Andrz.) T.&G.—*K-2919*; C; 2,3,4; P; (THORNE-3231)
Gaylussacia frondosa (L.) T.&G.—*K-2232*; O; 2,3,4; P; (*)
Leucothoe racemosa (L.) Gray—*K-2160*; O; 8; P; (THORNE-1473)
Lyonia lucida (Lam.) K. Koch—*K-2120*; O; 8; P; (THORNE-1423)
Rhododendron austrinum (Small) Rehder—*K-1928*; U; 1; P; (UGA)
Rhododendron canescens (Michx.) Sweet—*K-2867*; R; 1; P; (THORNE-1527)
Vaccinium arboreum Marsh.—*K-2725*; C; 1,2,3; P; (THORNE-1538)
Vaccinium corymbosum L.—*K-2118*; O; 2,8; P; (THORNE-2349)
Vaccinium darrowii Camp—*K-3374*; C; 2,3; P; (*)
Vaccinium elliottii Chapm.—*K-2829*; O; 2,3,5,6,8; P; (THORNE-4033)
Vaccinium myrsinites Lam.—*A-16,185*; C; 2,3,4,9; P; (UGA)
Vaccinium stamineum L.—*K-1963*; O; 1,2,3,4; P; (THORNE-3228)

EUPHORBIACEAE

Acalypha gracilens Gray—*K-2471*; C; 2,3,4,9,10; A; (THORNE-4595)
Acalypha rhomboidea Raf.—*A-15983*; O; 1; A; (*)
Aleurites fordii Hemsl.—*K-3018*; R; 10; P; (THORNE-7586)
Chamaesyce cordifolia (Ell.) Small—*K-2332*; U; 4; A; (THORNE-4530)
Chamaesyce hyssopifolia (L.) Small—*K-2339*; U; 1,10; A; (*)
Chamaesyce maculata (L.) Small—*K-3444*; O; 10; A; (THORNE-4384)
Chamaesyce nutans (Lag.) Small—*A-16002*; U; 10; A; (THORNE-1983)
Cnidoscolus stimulosus (Michx.) Engelm. & Gray—*K-1950*; O; 2,3,9,10; P; (UGA)
Croton argyranthemus Michx.—*K-2939*; C; 3,4,9; P; (UGA)
Croton capitatis Michx.—*K-3014*; U; 1,10; A; (THORNE-NO #)
Croton elliottii Chapm.—*K-2370*; O; 7; P; (UGA)
Croton glandulosus L.—*K-3176*; U; 10; A; (THORNE-4380)
Crotonopsis linearis Michx.—*K-2333*; U; 3,4; A; (THORNE-1586)
Euphorbia cyathophora Murr.—*K-3113*; U; 10; P; (*)
Euphorbia pubentissima Michx.—*K-2442*; C; 1,2,3,4,9,10; P; (THORNE-1520)
Phyllanthus caroliniensis Walt.—*A-16009*; U; 1; A; (*)
Phyllanthus urinaria L.—*K-2538*; U; 1,10; A; (*)
Sebastiania fruticosa (Bartr.) Fern.—*K-2006*; O; 1; P; (THORNE-1533)
Stillingia sylvatica Garden ex L.—*K-1977*; O; 2,3,4; P; (THORNE-1518)
Tragia smallii Shinners—*A-15667*; C; 2,3,9; P; (*)
Tragia urens L.—*K-2426*; C; 2,3,4,9; P; (THORNE-4601)
Tragia urticifolia Michx.—*K-2588*; O; 2,3,4; P; (THORNE-5695)

FABACEAE (SEE LEGUMINOSAE)

FAGACEAE

Castanea pumila (L.) Mill.—*K-2178*; U; 1,10; P; (THORNE-1536)
Fagus grandifolia Ehrh.—*K-3373*; O; 1; P; (*)
Quercus alba L.—*K-3327*; O; 1; P; (*)
Quercus arkansana Sarg.—*J-no #*; R; 6; P; (*)
Quercus austrina Small—*K-3202*; O; 1; P; (*)
Quercus falcata Michx.—*K-2648*; C; 3,4,6,9; P; (THORNE-2388)
Quercus geminata Small—*K-3167*; C; 6; P; (THORNE-3251)
Quercus hemisphaerica Bartr.—*K-3163*; C; 1,3,4; P; (UGA)
Quercus incana Bartr.—*K-3166*; O; 3,4,6; P; (THORNE-2822)
Quercus laevis Walt.—*K-2649*; C; 3,4,6; P; (THORNE-7314)
Quercus laurifolia Michx.—*K-2670*; C; 1,2,5,8; P; (UGA)
Quercus lyrata Walt.—*K-2721*; O; 1; P; (THORNE-7042)
Quercus margaretta Ashe—*K-2152*; C; 3,4; P; (THORNE-7225)
Quercus marilandica Muenchh.—*K-3321*; R; 9; P; (THORNE-2390)
Quercus michauxii Nutt.—*K-2660*; U; 1; P; (THORNE-7042a)
Quercus minima (Sarg.) Small—*J-049*; U; 3; P; (THORNE-NO #)
Quercus nigra L.—*K-2676*; C; 1,3,4,5,6,9,10; P; (THORNE-1631)
Quercus phellos L.—*K-3178*; O; 1,9; P; (*)
Quercus pumila Walt.—*K-3139*; U; 5; P; (*)
Quercus shumardii Buckl.—*K-2778*; U; 1; P; (THORNE-7142)
Quercus stellata Wang.—*K-3198*; U; 3,9; P; (*)
Quercus velutina Lam.—*K-3322*; R; 1; P; (THORNE-7508)
Quercus virginiana Mill.—*K-2669*; C; 1,2,3,4,5,6,9; P; (THORNE-1632)

GENTIANACEAE

Bartonia verna (Michx.) Muhl.—*K-3483*; R; 2; A; (*)
Gentiana villosa L.—*A-15894*; R; 2; P; (UGA)
Sabatia calycina (Lam.) Heller—*A-15972*; R; 1; P; (THORNE-1544)
Sabatia dodecandra (L.) B.S.P.—*K-3057*; U; 2,3,7; P; (THORNE-1478)
Sabatia stellaris Pursh—*K-2273*; O; 2,7,8; A; (*)

GERANIACEAE

Geranium carolinianum L.—*K-2852*; O; 9,10; A; (*)

GUTTIFERAE

Hypericum brachyphyllum (Spach) Steud.—*K-2306*; U; 2,7,8; P; (*)
Hypericum crux-andreae (L.) Crantz—*K-2489*; C; 2,3; P; (THORNE-1852)
Hypericum drummondii (Grev. & Hook.) T.&G.—*A-16008*; O; 1; A; (THORNE-6741)
Hypericum galioides Lam.—*K-2761*; U; 1; P; (THORNE-1838)
Hypericum gymnanthum Engler & Gray—*K-3436*; U; 7; P; (UGA)

Hypericum gentianoides (L.) B.S.P.—*K-2368*; O; 7,9,10; A; (UGA)
Hypericum harperi R. Keller—*K-2361*; C; 2,7,8; P; (THORNE-2023)
Hypericum hypericoides (L.) Crantz—*K-2482*; O; 2,3,4; P; (THORNE-1853)
Hypericum mutilum L.—*K-2535*; U; 1,7; P; (THORNE-1615)
Hypericum myrtifolium Lam.—*K-2169*; U; 7; P; (THORNE-NO #)
Hypericum nitidum Lam.—*K-2555*; U; 7,8; P; (*)
Hypericum pseudomaculatum Bush—*K-2343*; U; 2,10; P; (THORNE-1521)
Hypericum setosum L.—*A-15750*; U; 2,7; P; (*)
Hypericum suffruticosum Adams & Robson—*K-2055*; C; 2,7,8; A/B; (THORNE-3506)
Triadenum virginicum (L.) Raf.—*K-3186*; R; 8; P; (THORNE-1466)
Triadenum walteri (Gmel.) Gl.—*K-3415*; R; 8; P; (*)

HALORAGACEAE

Proserpinaca palustris L.—*A-15787*; U; 8; P; (THORNE-1429)
Proserpinaca pectinata Lam.—*K-2143*; O; 7; P; (THORNE-1898)

HAMAMELIDACEAE

Hamamelis virginiana L.—*K-2749*; O; 1; P; (THORNE-1532)
Liquidambar styraciflua L.—*K-2731*; C; 1,8; P; (THORNE-1634)

HIPPOCASTANACEAE

Aesculus pavia L.—*K-2037*; O; 1; P; (THORNE-1540)

HYDROPHYLLACEAE

Hydrolea ovata Nutt.—*K-2477*; U; 8,10; P; (THORNE-1896)
Hydrolea corymbosa MacBride ex Ell.—*K-3488*; U; 8; P; (*)

HYPERICACEAE (SEE GUTTIFERAE)

JUGLANDACEAE

Carya aquatica (Michx. f.) Nutt.—*K-3132*; O; 1; P; (THORNE-7236)
Carya cordiformis (Wang.) K. Koch—*K-2637*; O; 1; P; (THORNE-7521a)
Carya glabra (Mill.) Sweet—*K-2661*; C; 1; P; (THORNE-1666)
Carya ovalis (Wang.) Sarg.—*K-2744*; U; 1; P; (*)
Carya ovata (Mill.) K. Koch—*K-3175*; U; 1; P; (THORNE-7141)
Carya tomentosa (Poir. in Lam.) Nutt.—*K-2646*; C; 1,10; P; (THORNE-1656)

LABIATAE

Calamintha georgiana (Harper) Shinners—*K-2529*; O; 1,3,4,6; P; (*)
Dicerandra linearifolia (Ell.) Benth.—*K-2692*; R; 1,4; A; (THORNE-6638)
Hyptis alata (Raf.) Shinners—*K-2501*; O; 1,2,7,8; P; (THORNE-1840)
Hyptis mutabilis (A. Rich.) Briq.—*K-3284*; O; 10; P; (*)
Lamium amplexicaule L.—*K-2840*; C; 9,10; A; (*)
Leonotis nepetifolia (L.) R. Br.—*K-2570*; R; 1,10; P; (THORNE-1551)
Lycopus angustifolius Ell.—*K-3342*; O; 2,7,8; P; (*)
Lycopus rubellus Moench—*K-2629*; O; 7,8; P; (THORNE-6508)
Monarda punctata L.—*K-2560*; U; 1,10; P; (THORNE-2032)
Perilla frutescens (L.) Britt.—*K-2577*; R; 10; A; (THORNE-6191)
Prunella vulgaris L.—*K-2955*; O; 10; P; (*)
Pycnanthemum albescens T.&G.—*K-3317*; U; 1; P; (*)
Salvia azurea Lam.—*K-3289*; U; 3,4,10; P; (*)
Salvia lyrata L.—*K-1956*; U; 10; A; (*)
Scutellaria incana Biehler—*K-3351*; O; 1,4; P; (THORNE-8609)
Scutellaria integrifolia L.—*K-2095*; C; 1,2,3,4; P; (THORNE-3516)
Stachys floridana Shuttlew.—*K-2893*; U; 10; P; (*)
Trichostema dichotomum L.—*K-2557*; C; 1,3,4,9,10; P; (UGA)

LAMIACEAE (SEE LABIATAE)

LAURACEAE

Lindera melissaefolium (Walt.) Blume—*K-2229*; R; 8; P; (UGA)
Persea borbonia (L.) Spreng.—*J-023*; R; 1; P; (THORNE-1943)
Persea palustris (Raf.) Sarg.—*K-3210*; R; 8; P; (THORNE-1627)
Sassafras albidum (Nutt.) Nees—*K-2164*; C; 1,2,3,9,10; P; (THORNE-2389)

LEGUMINOSAE

Albizia julibrissin Durazz.—*K-2165*; O; 10; P; (THORNE-4378)
Amorpha fruticosa L.—*K-1961*; O; 1; P; (THORNE-1949)
Amphicarpaea bracteata (L.) Fern.—*K-3316*; R; 1; A; (*)
Apios americana Medic.—*K-2944*; R; 1,10; P; (*)
Baptisia alba (L.) R. Br.—*K-1958*; U; 1; P; (THORNE-3513)
Cassia deeringiana (Small&Pennell) MacBride—*H-231*; U; 3,4; P; (*)
Cassia fasciculata Michx.—*K-2354*; C; 3,4,10; A; (*)
Cassia nictitans L.—*K-3136*; C; 2,3,9,10; A; (THORNE-6650)
Cassia obtusifolia L.—*K-2572*; O; 10; A; (*)
Cassia occidentalis L.—*K-2578*; O; 10; A; (UGA)
Centrosema virginianum (L.) Benth.—*K-2337*; C; 1,2,3,4,9; P; (*)
Cercis canadensis L.—*K-2036*; O; 1; P; (THORNE-1944)
Clitoria mariana L.—*K-2167*; C; 1,2,3,4,9; P; (THORNE-1605)
Crotalaria brevidens Benth.—*K-2703*; O; 10; P; (*)
Crotalaria lanceolata E. Meyer—*H-185*; O; 4,9,10; A; (*)
Crotalaria purshii DC.—*K-2246*; C; 2,3; P; (*)
Crotalaria rotundifolia Walt. ex Gmel.—*K-2424*; C; 2,3,4,9; P; (THORNE-2829)
Crotalaria spectabilis Roth—*K-2594*; O; 10; A; (*)
Desmodium ciliare (Muhl. ex Willd.) DC.—*K-3337*; C; 3,4,9,10; P; (*)
Desmodium floridanum Chapm.—*H-158*; U; 3,4,10; P; (*)
Desmodium glabellum (Michx.) DC.—*K-3473*; U; 1,10; P; (*)
Desmodium laevigatum (Nutt.) DC.—*K-2531*; O; 1,10; P; (THORNE-8605)
Desmodium lineatum DC.—*K-3525*; U; 2,3; P; (UGA)

Desmodium marilandicum (L.) DC.—*H-154*; C; 3,4,9; P; (THORNE-NO #)
Desmodium obtusum (Muhl. ex Willd.) DC.—*H-157*; U; 10; P; (*)
Desmodium paniculatum (L.) DC.—*H-171*; U; 3,4,10; P; (THORNE-6660)
Desmodium perplexum Schubert—*K-3474*; U; 1; P; (THORNE-7155)
Desmodium strictum (Pursh) DC.—*H-152*; O; 3,4,10; P; (*)
Desmodium tortuosum (Sw.) DC.—*K-2476*; C; 9,10; P; (*)
Desmodium viridiflorum (L.) DC.—*K-2548*; U; 1; P; (THORNE-4084)
Dioclea multiflora (T.&G.) Mohr—*K-3319*; R; 1; P; (*)
Erythrina herbacea L.—*K-2759*; O; 1; P; (*)
Galactia erecta (Walt.) Vail—*K-2291*; C; 2,3,9; P; (THORNE-3749)
Galactia floridana T.&G.—*K-2278*; U; 2,3,4; P; (*)
Galactia microphylla (Chapm.) Hall & Ward—*K-3397*; O; 3,4; P; (*)
Galactia mollis Michx.—*K-2289*; O; 3,4; P; (THORNE-4389)
Galactia volubilis (L.) Britt.—*K-3026*; O; 1,2,3; P; (THORNE-5073)
Gleditsia aquatica Marsh.—*K-2718*; R; 1; P; (THORNE-1557)
Indigofera caroliniana Mill.—*K-2458*; U; 2,3; P; (THORNE-4085)
Indigofera hirsuta Harv.—*K-3137*; U; 1,10; A; (*)
Kummerowia striata (Thunb.) Schindl.—*K-3285*; U; 10; A; (THORNE-6737)
Lespedeza angustifolia (Pursh) Ell.—*K-3145*; C; 2,3,4,9; P; (THORNE-6960)
Lespedeza bicolor Turcz.—*K-3025*; C; 9,10; P; (*)
Lespedeza capitata Michx.—*H-200*; O; 2,3,4; P; (*)
Lespedeza hirta (L.) Hornem. subsp. *curtisii* Clewell—*H-107*; O; 3,4; P; (*)
Lespedeza procumbens Michx.—*H-163*; O; 1,3; P; (*)
Lespedeza repens (L.) Bart.—*K-2237*; C; 2,3; P; (*)
Lespedeza stuevei Nutt.—*H-166*; O; 3,4,10; P; (THORNE-6739)
Lespedeza thunbergii (DC.) Nakai—*K-2431*; U; 3,10; P; (*)
Lespedeza virginica (L.) Britt.—*K-3157*; C; 1,3,4,9; P; (THORNE-7154a)
Lupinus perennis L.—*K-1970*; U; 3,4; P; (*)
Lupinus villosus Willd.—*K-1972*; U; 3,4; P; (THORNE-3206)
Petalostemon albidum (T.&G.) Small—*K-2509*; O; 3,4; P; (THORNE-1970)
Petalostemon pinnatum (Walt. ex. Gmel.) Blake—*K-2610*; U; 3,4; P; (THORNE-6504)
Phaseolus sinuatus Nutt. ex T.&G.—*H-207*; R; 1,9,10; P; (*)
Psoralea canescens Michx.—*K-2211*; O; 2,3,4; P; (THORNE-4083)
Psoralea lupinellus Michx.—*K-2248*; O; 3,4; P; (THORNE-4089)
Pueraria lobata (Willd.) Ohwi—*K-3404*; R; 10; P; (*)
Rhynchosia difformis (Ell.) DC.—*K-3020*; U; 3,4; P; (THORNE-5743)
Rhynchosia reniformis (Pursh) DC.—*K-2045*; C; 2,3,4,9; P; (UGA)
Rhynchosia tomentosa (L.) H.&A.—*K-2212*; U; 2,3,4; P; (THORNE-5055)
Robinia pseudoacacia L.—*K-2911*; U; 1,10; P; (*)
Schrankia microphylla (Dry.) MacBride—*K-2057*; C; 2,3,4,9,10; P; (*)
Strophostyles umbellata (Muhl. ex Willd.) Britt.—*K-2508*; C; 1,2,3,4; P; (THORNE-7152)
Stylosanthes biflora (L.) B.S.P.—*K-2126*; C; 2,3,4,9; P; (THORNE-3747)
Tephrosia florida (Dietr.) Wood—*H-NO #*; U; 3,4; P; (THORNE-3747)
Tephrosia spicata (Walt.) T.&G.—*K-3033*; O; 2,3,4; P; (*)
Tephrosia virginiana (L.) Pers.—*K-2051*; C; 2,3,4,9; P; (THORNE-3403)
Trifolium campestre Schreber—*K-3226*; U; 10; A; (*)
Trifolium carolinianum Michx.—*K-2899*; U; 10; P; (*)
Trifolium incaratum L.—*K-2855*; U; 10; A; (*)
Trifolium reflexum L.—*K-2910*; U; 1; A/B; (THORNE-3515)
Vicia dasycarpa Ten.—*H-236*; U; 10; A; (*)
Vicia sativa L.—*K-2842*; U; 10; A; (*)
Wisteria frutescens (L.) Poir.—*K-2927*; O; 1; P; (THORNE-1971)
Zornia bracteata (Walt.) Gmel.—*K-2331*; O; 2,3,4; P; (THORNE-3960)

LEITNERIACEAE

Leitneria floridana Chapm.—*K-3128*; R; 1; P; (*)

LENTIBULARIACEAE

Pinguicula lutea Walt.—*K-2113*; U; 2,7,8; P; (THORNE-2683)
Utricularia biflora Lam.—*A-15834*; U; 7,8,10; P; (THORNE-1488)
Utricularia cornuta Michx.—*K-2406*; U; 2,7,8; P; (THORNE-1816)
Utricularia purpurea Walt.—*K-2984*; R; 7,8; P; (THORNE-1434)
Utricularia radiata Small—*K-2026*; U; 7,8; P; (UGA)
Utricularia subulata L.—*K-2025*; U; 7,8; P; (THORNE-2025)

LINACEAE

Linum floridanum (Planch.) Trel. var. *chrysocarpum* Rogers—*A-15751*; O; 2,3,4; P; (*)
Linum medium (Planch.) Britt.—*K-3051*; C; 2,3; P; (THORNE-4531)

LOGANIACEAE

Gelsemium sempervirens (L.) Ait. f.—*K-2804*; C; 1,10; P; (THORNE-2348)
Mitreola petiolata (Gmel.) T.&G.—*K-2480*; O; 1,7,8; A; (THORNE-1511)
Mitreola sessilifolia (Walt.) G. Don—*K-2359*; O; 2,3,7,8; A; (THORNE-5046)
Polypremum procumbens L.—*K-2282*; C; 1,3,4,9,10; P; (THORNE-1522)
Spigelia marilandica L.—*K-1992*; C; 1; P; (THORNE-3007)

LORANTHACEAE

Phoradendron serotinum (Raf.) M.C. Johnston—*K-2792*; C; 1,2,5,6; P; (THORNE-2682)

LYTHRACEAE

Cuphea carthagenensis (Jacq.) MacBride—*K-3298*; U; 7,8; A; (*)
Lagerstroemia indica L.—*K-3002*; R; 10,11; P; (UGA)

Lythrum alatum Pursh var. *lanceolatum* (Ell.) T.&G. ex Rothr.—*K-3133*; U; 1; P; (THORNE-1572)
Rotala ramosior (L.) Koehne—*K-2420*; U; 7; A; (THORNE-4880)

MAGNOLIACEAE

Magnolia grandiflora L.—*K-2657*; O; 1; P; (THORNE-7513)

MALVACEAE

Hibiscus aculeatus Walt.—*K-2328*; U; 2; P; (THORNE-1626)
Hibiscus moscheutos L.—*K-2257*; U; 1,2; P; (THORNE-4491)
Sida elliottii T.&G.—*K-3007*; U; 3,4; P; (THORNE-3837)
Sida rhombifolia L.—*K-2300*; O; 1,9,10; A; (*)

MELASTOMATACEAE

Rhexia alifanus Walt.—*K-2280*; C; 2,3; P; (THORNE-2018)
Rhexia aristosa Britt.—*K-2307*; U; 2,7; P; (THORNE-7213)
Rhexia cubensis Griseb.—*K-2379*; R; 2,7,8; P; (THORNE-1822)
Rhexia mariana L.—*K-3043*; C; 2,7,8; P; (THORNE-2019)
Rhexia petiolata Walt.—*K-3052*; R; 2,8; P; (*)
Rhexia virginica L.—*A-15745*; O; 2,7; P; (THORNE-1516)
Rhexia virginica × *aristosa* det. R. Kral—*K-2308*; R; 2,7; P; (*)

MELIACEAE

Melia azedarach L.—*K-2166*; O; 1,10,11; P; (THORNE-3256)

MENISPERMACEAE

Calycocarpum lyonii (Pursh) Gray—*K-2642*; U; 1; P; (*)
Cocculus carolinus (L.) DC.—*K-3010*; U; 1; P; (THORNE-1950)

MENYANTHACEAE

Nymphoides aquatica (Walt.) Kuntze—*K-2414*; U; 7; P; (THORNE-1474)

MORACEAE

Broussonetia papyrifera (L.) Vent.—*K-3493*; R; 11; P; (THORNE-7532)
Morus rubra L.—*K-3004*; O; 1; P; (*)

MYRICACEAE

Myrica cerifera L.—*K-2707*; C; 2,3,7,8,9; P; (THORNE-1829)
Myrica heterophylla Raf.—*J-70*; R; 1; P; (*)

NYMPHAEACEAE

Nelumbo lutea (Willd.) Pers.—*K-2391*; U; 7; P; (THORNE-4369)
Nymphaea odorata Ait.—*K-2432*; U; 7; P; (THORNE-1501)

NYSSACEAE

Nyssa aquatica L.—*K-3420*; C; 1; P; (THORNE-3754)
Nyssa biflora Walt.—*K-2710*; C; 1,8; P; (THORNE-1475)
Nyssa ogeche Bartr. ex Marsh.—*K-2073*; O; 1; P; (THORNE-7150)
Nyssa sylvatica Marsh.—*K-3376*; O; 1,8; P; (THORNE-1655)

OLEACEAE

Chionanthus virginicus L.—*K-1924*; C; 1; P; (THORNE-1526)
Forestiera acuminata (Michx.) Poir.—*A-16429*; R; 1; P; (*)
Forestiera ligustrina (Michx.) Poir.—*K-2525*; O; 1; P; (THORNE-1978)
Fraxinus americana L.—*K-3366*; O; 1; P; (THORNE-7584)
Fraxinus caroliniana Mill.—*K-2079*; O; 1; P; (THORNE-1948)
Fraxinus profunda (Bush) Bush—*J-013*; U; 1; P; (THORNE-1936)
Jasminium nudiflorum Lindl.—*K-2889*; U; 11; P; (*)
Ligustrum sinense Lour.—*K-3087*; O; 1; P; (THORNE-4382)
Osmanthus americanus (L.) Benth. & Hook. ex Gray—*K-1926*; O; 1; P; (*)

ONAGRACEAE

Gaura filipes Spach.—*K-2528*; O; 3,4; P; (THORNE-5733)
Ludwigia alternifolia L.—*K-3061*; U; 2,7,8; P; (*)
Ludwigia decurrens Walt.—*K-3117*; U; 1; P; (THORNE-1914)
Ludwigia glandulosa Walt.—*K-3044*; U; 7,8; P; (THORNE-1444)
Ludwigia hirtella Raf.—*K-3063*; U; 2,7,8; P; (THORNE-4845)
Ludwigia leptocarpa (Nutt.) Hara—*A-15957*; U; 1; P; (*)
Ludwigia linearis Walt.—*K-3039*; O; 2,7,8; P; (THORNE-2020)
Ludwigia linifolia Poir. in Lam.—*K-3102*; O; 7,8; P; (UGA)
Ludwigia palustris (L.) Ell.—*K-3299*; U; 7; P; (THORNE-1594)
Ludwigia pilosa Walt.—*K-3065*; U; 2,8; P; (UGA)
Ludwigia repens Forst.—*K-3524*; U; 1; P; (THORNE-1564)
Ludwigia spathulata T.&G.—*K-2418*; U; 7,8; P; (*)
Ludwigia sphaerocarpa Ell.—*K-2358*; O; 7,8; P; (THORNE-4055)
Ludwigia suffruticosa Walt.—*K-2330*; C; 2,7; P; (THORNE-1546)
Ludwigia virgata Michx.—*K-2281*; C; 2,7; P; (THORNE-1517)
Oenothera biennis L.—*K-2475*; C; 9,10; B (THORNE-4809a)
Oenothera curtisii (Rose) Small—*K-2448*; U; 4,10; B/P; (UGA)
Oenothera fruticosa L.—*K-1935*; O; 2,3,10; P; (THORNE-3013)
Oenothera laciniata Hill—*K-2297*; C; 9,10; P; (UGA)

OROBANCHACEAE

Conopholis americana (L.) Wallr.—*K-2008*; R; 1; P; (THORNE-NO #)
Orobanche uniflora L.—*K-3361*; R; 2; P; (*)

OXALIDACEAE

Oxalis corniculata L.—*K-1936*; O; 1,9,10; P; (*)
Oxalis priceae Small—*K-2949*; O; 1,10; P; (THORNE-2678)
Oxalis rubra St. Hil.—*K-3230*; R; 10; P; (*)

PAPAVERACEAE

Argemone albiflora Hornem.—*K-3447*; R; 10; A; (THORNE-NO #)
Sanguinaria canadensis L.—*K-2815*; O; 1; P; (THORNE-NO #)

PASSIFLORACEAE

Passiflora incarnata L.—*K-2144*; O; 10; P; (*)
Passiflora lutea L.—*K-2344*; U; 1; P; (THORNE-1938)

PHYTOLACCACEAE

Phytolacca americana L.—*K-2223*; O; 1,9,10; P; (*)

PLANTAGINACEAE

Plantago aristata Michx.—*K-3521*; U; 10; A; (*)
Plantago heterophylla Nutt.—*A-16,169*; U; 10; A; (UGA)
Plantago virginica L.—*K-1940*; C; 10; A; (THORNE-2689)

PLATANACEAE

Platanus occidentalis L.—*K-2662*; U; 1; P; (THORNE-7160)

POLEMONIACEAE

Phlox carolina L.—*K-2097*; O; 1; P; (*)
Phlox floridana Benth.—*K-2220*; U; 1,2,3; P; (THORNE-4096)
Phlox pilosa L.—*K-1997*; O; 1; P; (THORNE-2841)

POLYGALACEAE

Polygala boykinii Nutt.—*K-3028*; U; 1; P; (THORNE-4373)
Polygala chapmanii T.&G.—*K-3069*; U; 2,7; A; (*)
Polygala cruciata L.—*K-3280*; U; 1,7; A; (*)
Polygala cymosa Walt.—*K-2206*; O; 7; B; (*)
Polygala grandiflora Walt.—*K-2288*; C; 2,3; P; (THORNE-3736)
Polygala incarnata L.—*K-2244*; U; 2,7; A; (*)
Polygala lutea L.—*K-2114*; C; 2,3,7; A; (*)
Polygala mariana Mill.—*K-2155*; U; 2,7; A; (THORNE-4849)
Polygala nana (Michx.) DC.—*K-2030*; C; 2,7; A; (THORNE-1861)
Polygala nuttallii T.&G.—*K-2408*; U; 2,7; A; (THORNE-6196)
Polygala polygama Walt.—*K-2125*; U; 2,3,4; B; (THORNE-3018)
Polygala ramosa Ell.—*K-2394*; O; 2,7; A; (THORNE-4367)

POLYGONACEAE

Brunnichia ovata (Walt.) Shinners—*K-3009*; O; 1; P; (THORNE-6661)
Eriogonum tomentosum Michx.—*K-2437*; O; 3,4,9; P; (THORNE-1622)
Polygonella gracilis (Nutt.) Meisn.—*K-2546*; O; 3,4; A; (THORNE-7347)
Polygonella polygama (Vent.) Engelm. & Gray—*K-3149*; U; 3,4; P; (THORNE-5726a)
Polygonum caespitosum Blume var. ***longisetum*** (DeBr.) Stew.—*K-3523*; U; 1; A; (*)
Polygonum hydropiperoides Michx.—*K-2201*; O; 7,8; P; (THORNE-1436)
Polygonum lapathifolium L.—*K-3303*; R; 7; A; (*)
Polygonum punctatum Ell.—*A-15851*; U; 1; P; (*)
Rumex crispus L.—*K-2046*; O; 10; P; (*)
Rumex hastatulus Baldw. ex. Ell.—*K-1951*; C; 4,10; A; (THORNE-2345)

PORTULACACEAE

Claytonia virginica L.—*K-2803*; R; 1; P; (UGA)

PRIMULACEAE

Anagallis arvensis L.—*K-2977*; U; 10; A; (*)
Lysimachia lanceolata Walt.—*A-15988*; U; 1; P; (*)
Samolus parviflorus Raf.—*K-2965*; R; 1; P; (THORNE-1560)

PYROLACEAE

Monotropa uniflora L.—*K-2736*; R; 5; P; (THORNE-7317)

RANUNCULACEAE

Clematis crispa L.—*K-2913*; O; 1; P; (THORNE-1542)
Clematis glaucophylla Small—*K-2932*; O; 1,5,10; P; (THORNE-1668)
Ranunculus carolinianus DC.—*K-2924*; R; 1; P; (*)
Ranunculus parviflorus L.—*A-16,178*; R; 10; A; (*)
Ranunculus pusillus Poir.—*K-2972*; R; 1,7; A; (THORNE-2833)
Thalictrum pubescens Pursh—*K-2016*; R; 1; P; (*)

RHAMNACEAE

Berchemia scandens (Hill) K. Koch—*K-2962*; C; 1,8; P; (THORNE-1490)
Ceanothus americanus L.—*K-2024*; U; 1,10; P; (UGA)
Ceanothus microphyllus Michx.—*K-2536*; O; 2,3,4; P; (THORNE-3248)

ROSACEAE

Agrimonia incisa T.&G.—*K-2435*; R; 3; P; (*)
Agrimonia microcarpa Wallr.—*K-2696*; U; 1; P; (THORNE-1958)
Amelanchier arborea (Michx. f.) Fern.—*K-2833*; U; 1; P; (THORNE-2384)
Aronia arbutifolia (L.) Ell.—*K-2135*; O; 2,7,8; P; (*)
Crataegus aestivalis (Walt.) T.&G.—*K-2844*; O; 7,8; P; (THORNE-1637)
Crataegus flava Ait.—*K-2870*; C; 3,4,5,6; P; (*)
Crataegus marshallii Eggl.—*K-3220*; U; 1,5; P; (THORNE-7143)
Crataegus pulcherrima Ashe—*K-2896*; O; 1; P; (*)
Crataegus spathulata Michx.—*K-2894*; O; 1,3,4; P; (THORNE-2028)
Crataegus uniflora Muenchh.—*K-2081*; O; 1; P; (THORNE-7509)
Crataegus viridis L.—*K-3486*; U; 1; P; (THORNE-7158a)
Prunus angustifolia Marsh.—*K-2820*; C; 1,9,10; P; (THORNE-1617)
Prunus caroliniana (Mill.) Ait.—*K-2643*; O; 1; P; (THORNE-1984)
Prunus serotina Ehrh.—*K-2124*; C; 1,10; P; (*)
Prunus umbellata Ell.—*K-3031*; C; 1,10; P; (THORNE-1524)
Rosa carolina L.—*K-2952*; U; 1; P; (*)
Rosa palustris Marsh.—*K-2112*; U; 2; P; (THORNE-1483)
Rosa wichuraiana Crepin—*K-2981*; R; 10; P; (*)
Rubus argutus Link—*K-2907*; O; 2,8; P; (*)
Rubus cuneifolius Pursh—*K-2052*; C; 1,2,3,5,9; P; (THORNE-3211)
Rubus trivialis Michx.—*K-2811*; U; 1; P; (THORNE-2355)

RUBIACEAE

Borreria laevis (Lam.) Griseb.—*A-15865*; U; 1; A; (THORNE-5808a)
Cephalanthus occidentalis L.—*K-2199*; O; 7,8; P; (THORNE-1431)
Diodia teres Walt.—*K-2315*; C; 3,4,9,10; A; (THORNE-5737)
Diodia virginiana L.—*K-2286*; C; 2,7; P; (THORNE-1815)
Galium aparine L.—*K-2012*; C; 1; A; (*)
Galium circaezans Michx.—*K-2101*; O; 1; P; (UGA)

Galium hispidulum Michx.—*K-2631*; O; 1,10; P; (THORNE-4516)
Galium pilosum Ait.—*K-2341*; O; 1,10; P; (THORNE-4593)
Galium uniflorum Michx.—*K-3504*; U; 1; P; (*)
Hedyotis boscii DC.—*K-3279*; O; 1,7; P; (THORNE-7202a)
Hedyotis corymbosa (L.) Lam.—*A-15994*; U; 1,10; A; (*)
Hedyotis crassifolia Raf.—*K-3212*; U; 10; A; (*)
Hedyotis procumbens (Walt. ex Gmel.) Fosb.—*K-1937*; C; 1,2,3,4; P; (THORNE-1862)
Hedyotis uniflora (L.) Lam.—*K-2634*; R; 1,2; A; (THORNE-NO #)
Mitchella repens L.—*K-2021*; O; 1,5; P; (UGA)
Pentodon pentandrus (Schum. & Thonn.) Vatke—*K-2518*; U; 1; A; (*)
Richardia scabra L.—*K-2316*; C; 9,10; A; (THORNE-4381)
Spermacoce glabra Michx.—*K-3131*; U; 1; P; (THORNE-5808)

RUTACEAE

Ptelea trifoliata L.—*K-1953*; O; 1; P; (THORNE-3010)

SALICACEAE

Populus deltoides Bartr. ex Marsh.—*K-3195*; R; 1; P; (THORNE-2383)
Salix humilis Marsh.—*K-2906*; R; 7; P; (*)
Salix nigra Marsh.—*K-2922*; U; 1,8; P; (THORNE-2835)

SAPOTACEAE

Bumelia lanuginosa (Michx.) Pers.—*K-3107*; O; 1; P; (THORNE-1620)
Bumelia reclinata (Michx.) Vent.—*K-3371*; U; 1; P; (THORNE-1555)
Bumelia thornei Cronq.—*K-3105*; R; 1; P; (UGA)

SAURURACEAE

Saururus cernuus L.—*K-3401*; R; 8; P; (THORNE-1477)

SAXIFRAGACEAE

Decumaria barbara L.—*K-3398*; O; 1; P; (THORNE-1745)
Itea virginica L.—*K-2074*; C; 1,8; P; (THORNE-1503)

SCROPHULARIACEAE

Agalinis fasciculata (Ell.) Raf.—*K-3505*; U; 7; A; (THORNE-6738)
Agalinis linifolia (Nutt.) Britt.—*K-3502*; U; 2; P; (*)
Agalinis obtusifolia Raf.—*K-2494*; C; 2,7; A; (THORNE-6971)
Agalinis pinetorum Pennell—*K-2494a*; U; 2,7; A; (*)
Agalinis setacea (Gmel.) Raf.—*K-3174*; C; 2,3,9; A; (THORNE-7231)
Agalinis tenuifolia (Vahl) Raf.—*A-15990*; U; 1; A; (THORNE-7158)
Aureolaria flava (L.) Farw.—*K-2468*; U; 3,4; P; (THORNE-1945)
Aureolaria pedicularia (L.) Raf.—*K-2447*; U; 3,4; P; (*)
Bacopa caroliniana (Walt.) Robins.—*K-2413*; O; 7; P; (THORNE-1426)
Buchnera floridana Gand.—*K-2283*; O; 2,3; P; (THORNE-1854)
Gratiola brevifolia Raf.—*K-2234*; C; 2,7,8; P; (THORNE-1601)
Gratiola pilosa Michx.—*K-2245*; O; 2,7; P; (THORNE-1523)
Gratiola ramosa Walt.—*K-2070*; O; 2,7,8; P; (UGA)
Linaria canadensis (L.) Dumont—*K-1933*; C; 10; A/B; (THORNE-2340)
Linaria texana Scheele—*K-2845*; C; 10; A/B; (THORNE-2688)
Lindernia anagallidea (Michx.) Pennell—*K-2419*; U; 7; A; (THORNE-4811)
Lindernia dubia (L.) Pennell—*A-15857*; U; 7; A; (THORNE-4065)
Mecardonia acuminata (Walt.) Small—*K-2504*; C; 2,7,8; P; (THORNE-1843)
Micranthemum umbrosum (Walt.) Blake—*A-15856*; U; 2,7,8,10; A; (THORNE-1435)
Penstemon australis Small—*K-1944*; C; 2,3,4; P; (THORNE-3541)
Penstemon laevigatus Solander—*K-2096*; U; 1; P; (THORNE-4594)
Schwalbea americana L.—*K-2209*; R; 2; P; (UGA)
Seymeria cassioides (Walt.) Blake—*K-3173*; C; 3,4,9; A; (THORNE-4860a)
Seymeria pectinata Pursh—*K-2533*; O; 3,4; A; (UGA)
Veronica arvensis L.—*K-2824*; C; 10; A; (*)
Veronica peregrina L.—*K-2973*; U; 10; A; (THORNE-3577)

SOLANACEAE

Physalis angulata L.—*K-3310*; O; 3,4,9,10; A; (*)
Physalis heterophylla Nees—*A-15675*; O; 3,4,10; P; (*)
Physalis pubescens L.—*K-2348*; O; 1; A; (THORNE-4596)
Physalis virginiana Mill.—*K-2025*; U; 1,10; P; (THORNE-3237a)
Physalis viscosa L.—*K-3472*; U; 3,4,10; P; (THORNE-3237)
Solanum americanum Mill.—*K-2685*; U; 10; A; (*)
Solanum carolinense L.—*K-2009*; U; 1,3,4,10; P; (THORNE-5729)
Solanum nigrescens Mart. & Gal.—*A-15995*; U; 1; A; (*)
Solanum pseudo-capsicum L.—*K-2933*; R; 1,10; P; (*)

STERCULIACEAE

Melochia corchorifolia L.—*A-16003*; U; 10; P; (*)

STYRACACEAE

Halesia carolina L.—*K-2760*; C; 1; P; (THORNE-1939)
Halesia diptera Ellis—*K-2111*; O; 1; P; (UGA)
Styrax americana Lam.—*K-2136*; C; 1,8; P; (THORNE-1438)

SYMPLOCACEAE

Symplocos tinctoria (L.) L'Her.—*K-2864*; C; 1; P; (*)

TILIACEAE

Tilia caroliniana Mill.—*K-2098*; O; 1; P; (*)
Triumfetta semitriloba Jacq.—*K-2579*; U; 10; P; (UGA)

TURNERACEAE

Piriqueta caroliniana (Walt.) Urban—*K-2463*; C; 2,3,4,9; P; (THORNE-3959)

ULMACEAE

Celtis laevigata Willd.—*K-2641*; C; 1; P; (*)
Celtis tenuifolia Nutt.—*K-2747*; O; 1; P; (THORNE-1530)
Planera aquatica Walt. ex Gmel.—*K-3201*; O; 1; P; (THORNE-2329)
Ulmus alata Michx.—*K-2835*; C; 1,10; P; (*)
Ulmus americana L.—*K-2921*; O; 1; P; (THORNE-2391)

UMBELLIFERAE

Angelica venenosa (Greenway) Fern.—*K-3006*; U; 3,9,10; P; (*)
Apium leptophyllum (Pers.) F. Muell.—*K-2914*; U; 7,10; P; (THORNE-3260)
Centella asiatica (L.) Urban—*K-2258*; O; 2,7,8; P; (THORNE-1824)
Chaerophyllum tainturieri Hook.—*K-2033*; U; 1,10; A; (*)
Daucus carota L.—*K-2967*; U; 10; B; (*)
Daucus pusillus Michx.—*K-3487*; R; 10; A; (*)
Eryngium prostratum Nutt.—*K-2154*; O; 2,7; P; (THORNE-1482)
Eryngium yuccifolium Michx.—*K-2180*; O; 2,3; P; (THORNE-5402)
Hydrocotyle verticillata Thunb.—*K-2722*; U; 1; P; (*)
Oxypolis filiformis (Walt.) Britt.—*K-3114*; R; 2,7; P; (*)
Ptilimnium capillaceum (Michx.) Raf.—*K-1939*; O; 1,10; A; (THORNE-1467)
Sanicula canadensis L.—*K-2202*; O; 1,9, 10; P; (THORNE-4538)
Sanicula marilandica L.—*K-1982*; O; 1; P; (THORNE-NO #)
Spermolepis divaricata (Walt.) Raf. ex Seringe—*K-2902*; U; 10; A; (*)
Thaspium trifoliatum (L.) Gray—*K-2950*; U; 1; P; (*)
Zizia trifoliata (Michx.) Fern.—*K-1947*; U; 1; P; (THORNE-3580)

URTICACEAE

Boehmeria cylindrica (L.) Sw.—*K-3062*; O; 1,8; P; (THORNE-1496)
Pilea pumila (L.) Gray—*K-2686*; O; 1; A; (*)

VALERIANACEAE

Valerianella radiata (L.) Dufr.—*K-2948*; U; 10; A; (*)

VERBENACEAE

Callicarpa americana L.—*K-2609*; C; 1,2, 10,11; P; (THORNE-1537)
Clerodendrum indicum (L.) Kuntze—*A-15979*; U; 10; P; (THORNE-NO #)
Glandularia pulchella (Sweet) Troncoso—*K-2467*; C; 10; P; (THORNE-2353)
Lantana camara L.—*K-2430*; U; 10,11; P; (THORNE-4377)
Stylodon carneus (Medic.) Moldenke—*K-2038*; O; 3,4; P; (THORNE-3582)
Verbena brasiliensis Vell.—*K-2352*; U; 1,10; P; (*)

VIOLACEAE

Viola affinis LeConte—*K-2808*; O; 1; A; (*)
Viola arvensis Murray—*K-2851*; O; 10; A; (*)
Viola lanceolata L.—*K-2056*; U; 2,7,8; P; (THORNE-2356)
Viola septemloba LeConte—*K-3216*; O; 1,2,3; P; (THORNE-2337)
Viola sororia Willd.—*K-2872*; O; 1; P; (*)
Viola villosa Walt.—*K-3307*; U; 1,2,3; P; (THORNE-3220)
Viola walteri House—*K-2872*; O; 1; P; (*)

VITACEAE

Ampelopsis arborea (L.) Koehne—*K-2277*; C; 1,10; P; (THORNE-1498)
Parthenocissus quinquefolia (L.) Planch.—*K-3079*; C; 1,5; P; (*)
Vitis aestivalis Michx.—*K-2935*; O; 1,5; P; (THORNE-1864)
Vitis rotundifolia Michx.—*K-2934*; C; 1,10; P; (THORNE-1966)

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