

ANNOTATED CHECKLIST OF THE VASCULAR FLORA OF THE LOBLOLLY UNIT
OF THE BIG THICKET NATIONAL PRESERVE, LIBERTY COUNTY, TEXAS

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ABSTRACT

An annotated, vouchered checklist is provided of the vascular plant taxa of the 222 hectare Loblolly Unit of the Big Thicket National Preserve in Liberty County, Texas. Documented for the unit are 305 taxa including 34 (11%) exotics

RESUMEN

Se aporta un catálogo comentado y respaldado con testigos de los taxa de plantas vasculares de las 222 hectáreas de la unidad Loblolly de la Reserva Big Thicket National en el condado de Liberty, Texas. Se documentan para la unidad 305 taxa incluyendo 34 (11%) exóticas.

INTRODUCTION

This paper is the 6th part of an inventory, based on available voucher specimens, of the vascular flora of the Big Thicket National Preserve in southeastern Texas. In 5 previous papers, we provided annotated checklists of the Hickory Creek, Turkey Creek, Big Sandy Creek, Lance Rosier, and Beech Creek units (MacRoberts et al. 2002; Brown et al. 2005, 2006a, 2006b, 2008). At this time, the Menard Creek Unit has been inventoried, and a paper is anticipated in the near future. Here, we provide an annotated checklist of the Loblolly Unit.

SITE AND METHODS

The Big Thicket is located in the West Gulf Coastal Plain in southeastern Texas (see Diggs et al. 2006 for literature and description). Peacock (1994) reported 12 units for the Big Thicket National Preserve. Since then the Big Sandy Creek Corridor (1,798 hectares), the Canyonlands (350 hectares), and Village Creek Corridor (2,059 hectares) have been added. The addition of these 3 units has added 4,207 hectares to the 34,000 reported by Peacock in 1994. However, Deanna Boensch, Big Thicket fire ecologist (pers. comm.), indicated the total hectares are now 40,088. The units range from 222 to 10,000 hectares and are scattered over 7 Texas counties. The Loblolly Unit consists of 222 hectares in Liberty County (Fig. 1). It is located on the Beaumont formation on Aldine-Aris/Gyron-Aldine, Vamont, and Waller soils, and is topographically flat, and poorly drained with very slow permeability (Deshotel 1978; Aronow 1981; Shelby et al. 1992; Griffith 1996). Elevation is about 30 meters. After heavy rain falls, standing water is present in the flatwoods for extended periods of time. The Unit consists of basically 1 plant community complex: Floodplain and/or Flatland Hardwood Forest, a common association in the area (Ajilvsgi 1979; Marks & Harcombe 1981; Bezanson 2000).

It has been suggested that a century ago the Loblolly Unit was prairie; but, because of fire suppression and other human activities, it has become Flatland Hardwood Forest (Watson 1979; Peacock 1994; Diggs et

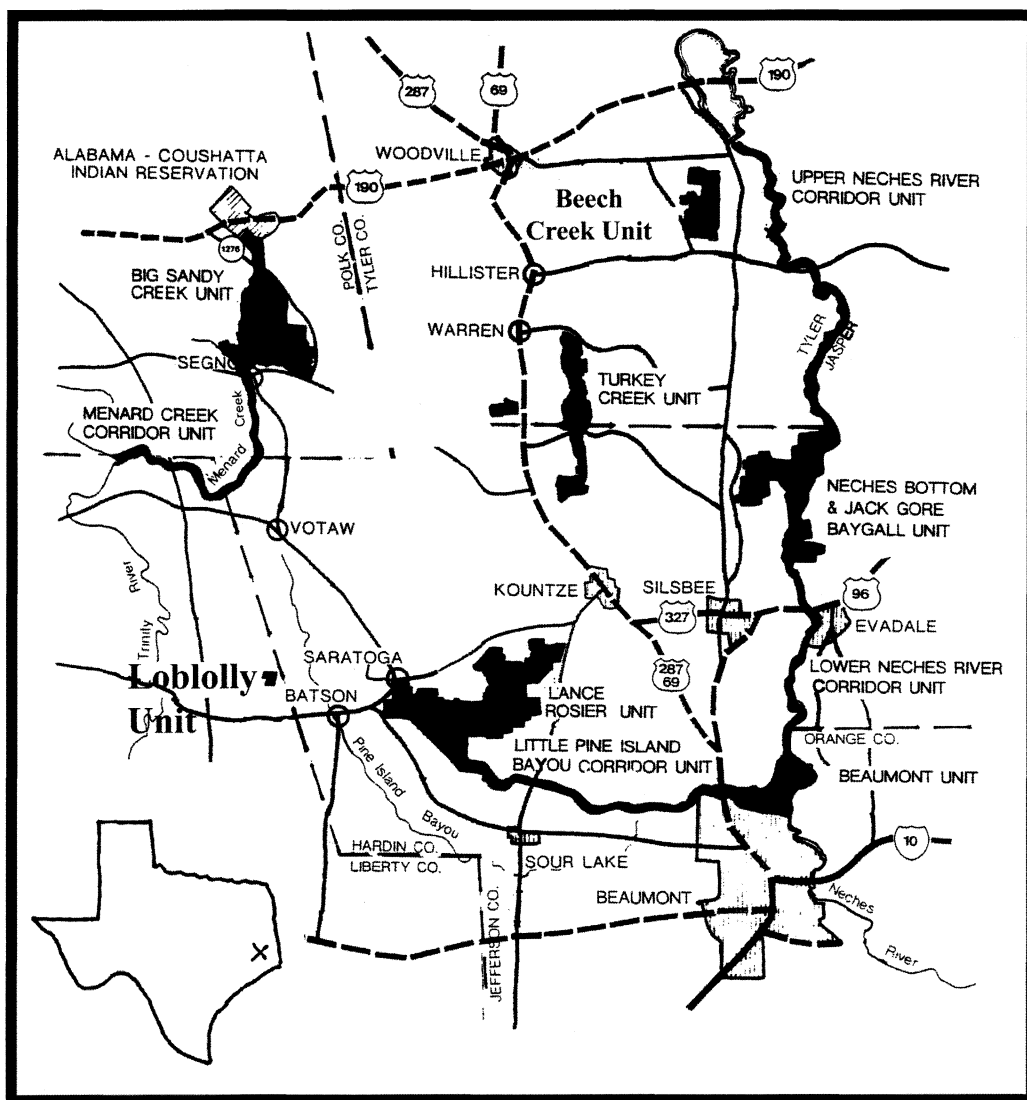


Fig. 1. Location of the Loblolly Unit, Big Thicket National Preserve, Texas.

al. 2006). However, others have questioned this interpretation maintaining that it has always been Flatland Hardwood Forest although it may have been cleared in the past (Harcombe & Marks 1979). Our study of the Loblolly Unit found no prairie species or any remnant prairie habitat. Therefore, the flora is clearly a Flatland Hardwood Forest (Harcombe & Marks 1979; Marks & Harcombe 1981).

Like all units of the Big Thicket National Preserve, the Loblolly Unit has not previously been the subject of a detailed floristic inventory.

Because our purpose is to produce a list of taxa known to occur on the Loblolly Unit, a vouchered specimen was considered to be the only evidence acceptable for inclusion in the list. A total of 471 herbarium specimens form the data for this report. All specimens have been annotated by Larry Brown.

Larry Brown collected 277 specimens during 11 field days from 5 August 1978 to 14 June 2008. The

MacRoberts' collected 127 specimens during 5 field days from 30 July 2007 to 18 May 2008. Sandra Elsik and Warren Pruess collected 35 specimens during 2007. Susan Walker collected 23 specimens on 22 October 2007. Geraldine Watson collected 9 specimens over several years in the late 1970s and early 1980s.

In most cases, nomenclature follows Jones et al. (1997); Kartesz (1999); and Diggs et al. (2006). In cases of multiple collections, no more than 4 are listed for each taxon.

RESULTS

The following is an annotated list of the Loblolly Unit taxa. Abbreviations used are given below.

GW = Geraldine Watson. Her specimens are at TAES.

LB = Larry Brown. His specimens with collection numbers above 29,000 are at TAES and those few with numbers below 29,000 are at SBSC.

MM = Barbara and Michael MacRoberts. Their specimens are at TAES.

SEWP = Sandra Elsik and Warren Pruess. Their specimens are at TAES.

SH = Shawn Harper, grandson of LB.

SW = Susan Walker. Her specimens are at TAES.

* = exotic

+ = see note at end of list.

Acanthaceae

Glycyphila lacustris (Schlecht. & Cham.) Nees, LB 32266
Justicia ovata (Walter) Lindau var. *lanceolata* (Chapm.) R.W.
 Long, LB 32200, 29281, 29298; MM 7930
Ruellia caroliniensis (J.F. Gmel.) Steud., LB 29318; MM 8231;
 LBSH 33675

Aceraceae

Acer rubrum L., SEWP 3044; MM 7906, 8094

Amaryllidaceae

Hymenocallis lirioides (Raf.) Shinnars, LBSH 33311

Anacardiaceae

Rhus copallinum L., LB 32264
Toxicodendron radicans (L.) Kuntze, LB 32254

Apiaceae

Centella erecta (L.f.) Fernald, MM 8012; LB 32315
Chaerophyllum tainturieri Hook. var. *dasyarpum* Hook. ex S.
 Watson, SEWP 3044
Chaerophyllum tainturieri Hook. var. *tainturieri*, LBSH 33302
 **Cyclospermum leptophyllum* (Pers.) Sprague ex Britton & P.
 Wilson, LB 29314
Cynosciadium digitatum DC., LB 32202
Eryngium prostratum Nutt. ex DC., LB 32187
Hydrocotyle verticillata Thunb., LB 32193, 29323; MM 7918
Limnoscium pumilum (Engelm. & A. Gray) Mathias & Cons-
 tance, LBSH 33486
Ptilimnium capillaceum (Michx.) Raf., LB 32205
Sanicula canadensis L., LB 29289

Apocynaceae

Trachelospermum difforme (Walter) A. Gray, LB 32412

Aquifoliaceae

Ilex decidua Walter, LBSH 33298; SW 139
Ilex opaca Aiton, LB 32278
Ilex vomitoria Aiton, LB 32251

Araceae

Arisaema triphyllum (L.) Schott., MM 8004

Araliaceae

Aralia spinosa L., LB 32306; MM 7895

Arecaceae

Sabal minor (Jacq.) Pers., LB 32415

Aristolochiaceae

Aristolochia serpentaria L., MM 7990

Asclepiadaceae

Asclepias perennis Walter, LB 32211, 29285; MM 7923; SW
 151

Asteraceae

Acmella oppositifolia (Lam.) Jansen, LB 32206; MM 7935
Ambrosia trifida L., LB 32431; MM 7975
Baccharis halimifolia L., MM 7998
Conoclinium coelestinum (L.) DC., LB 32269
Coreopsis tinctoria Nutt., LB 32261; MM 7926
Eclipta prostrata (L.) L., MM 7934, 8010; LB 5849
Elephantopus carolinianus Raeusch., LB 32425; MM 7968
Elephantopus tomentosus L., LB 32414; MM 8011
Erechtites hieraciifolia (L.) Raf., LB 32274, 32413; MM 8070
Erigeron philadelphicus L., SEWP 3034
Eupatorium capillifolium (Lam.) Small, MM 7999
 +*Eupatorium semiserratum* DC., GW 2159
Eupatorium serotinum Michx., LB 32284
Euthamia leptocephalata (Torr. & A. Gray) Greene ex Porter &
 Britton, LB 32290
Gamochaeta pensylvanicum (Willd.) Cabrera, SEWP 3030
Gamochaeta purpurea (L.) Cabrera, LBSH 33305, 33488
Helenium amarum (Raf.) Rock var. *amarum*, LB 32265; MM
 7902
Krigia cespitosa (Raf.) K.L. Chambers var. *cespitosa*, LBSH
 33292
Mikania scandens (L.) Willd., LBSH 33666

Pluchea camphorata (L.) DC., LB 32426; MM 8002
Pluchea foetida (L.) DC., MM 8006
Pyrrhopappus carolinianus (Walter) DC., LB 32436
Pyrrhopappus pauciflorus (D. Don) DC., LB 29309a
Solidago altissima L., MM 7976
Solidago rugosa Mill. var. *asper* (Aiton) Fernald, LB 32293;
 MM 8087

**Sonchus asper* (L.) Hill, LBSH 33309

**Sonchus oleraceus* L., MM 8232

Symphyotrichum lateriflorum (L.) Love & Love, MM 8099

Symphyotrichum racemosum (Elliott) Nesom, LB 32270

Vernonia missurica Raf., MM 7908

**Youngia japonica* (L.) DC., LBSH 33308

Berberidaceae

Podophyllum peltatum L., LBSH 33507

Betulaceae

Carpinus caroliniana Walter, SW 140

Ostrya virginiana (Mill.) K. Koch, LB 32424

Bignoniaceae

Bignonia capreolata L., LB 32252, 29317

Campsis radicans (L.) Seem. ex Bureau, LB 32443

Catalpa bignonioides Walter, LB 32442

Blechnaceae

Woodwardia areolata (L.) T. Moore, MM 7983; LBSH 33484

Boraginaceae

**Heliotropium indicum* L., MM 8100

Heliotropium procumbens Mill., LB 29312, 5852

Myosotis macrosperma Engelm., LBSH 33297

Brassicaceae

Rorippa sessiliflora (Nutt.) Hitchc., LBSH 33284

Bromeliaceae

Tillandsia usneoides (L.) L., SW 137

Buddlejaceae

Polypremum procumbens L., LB 32437

Campanulaceae

Lobelia cardinalis L., MM 8009; LB 14856

Caprifoliaceae

**Lonicera japonica* Thunb., SEWP 3028

Sambucus nigra L. subsp. *canadensis* (L.) Bollii, LB 32255;
 MM 7899

Viburnum dentatum L., LB 29305

Caryophyllaceae

**Cerastium glomeratum* Thrill., SEWP 3042

**Stellaria media* (L.) Vill., SEWP 3041

Commelinaceae

Commelina diffusa Burm f., MM 8077

Commelina virginica L., LB 32272; MM 7925

Convolvulaceae

Dichondra carolinensis Michx., SEWP 3027; MM 7896

Ipomoea cordatotriloba Dennst., MM 7904

Ipomoea lacunosa L., MM 8007

Cornaceae

Cornus florida L., SEWP 3005; SW 145; LBSH 33672

Cornus foemina Mill., LB 29320, 29304; SW 138

Nyssia biflora Walter, LB 32304; LBSH 33301

Nyssia sylvatica Marsh., LB 29306; MM 8085; LBSH 33506

Crassulaceae

Penthorum sedoides L., LB 32433, 14866; MM 7916

Cucurbitaceae

Cayaponia quinqueloba (Raf.) Shinnery, SW 149

Cyperaceae

Carex abscondita Mack., LBSH 33504

Carex blanda Dewey, MM 8233

Carex complanata Torr. & Hook., LB 32248

Carex caroliniana Schwein., LBSH 33293

Carex cherokeensis Schwein., LBSH 33289

Carex crus-corvi Shutlew. ex Kunze, LB 32189; SEWP 3022

Carex debilis Michx., LB 32246

Carex flaccosperma Dewey, LBSH 33487

Carex frankii Kunth, LB 32191, 29319; MM 7927, 8230

Carex intumescens Rudge, LBSH 33485

Carex jooii L. H. Bailey, LB 32277, 3724; MM 7996

Carex louisianica Bailey, LB 29296, 29300, 32419; MM 7997

Carex reniformis (L.H. Bailey) Small, LBSH 33287

Carex triangularis Boeck., LBSH 33285, 33481; LB 29324

Carex tribuloides Wahlenb. var. *sangamonensis* Clokey, LB
 32186, 32195; LBSH 33502, 33680

Cyperus acuminatus Torr. & Hook. ex Torr., LBSH 33492

**Cyperus entrerianus* Bockeler, LB 32242; LBSH 33479; SW
 159

Cyperus erythrorhizos Muhl., MM 8005 b

Cyperus ochraceus Vahl, MM 7977

Cyperus pseudovegetus Steud., LB 32283, 32310

Cyperus virens Michx., LB 32247

Eleocharis engelmannii Steud., LBSH 33668

Eleocharis microcarpa Torr., MM 8022

Eleocharis montana (Kunth) Roem. & Schult., LB 32285

Eleocharis montevidensis Kunth, LB 32267; SEWP 3024

**Fimbristylis miliacea* (L.) Vahl, MM 8089

Isolepis carinata Hook. & Arn. ex Torr., LBSH 33299

+*Kyllinga pumila* Michx., LB 32258, 17501a; MM 7987, 8080

Rhynchospora caduca Elliott, LB 32286, 32307, 32196, 32192

Rhynchospora corniculata (Lam.) A. Gray; LB 32245; MM
 7922

Rhynchospora glomerata (L.) Vahl, LB 32301, 32317; LBSH
 33678

Rhynchospora inexpansa (Michx.) Vahl, LB 32201; LBSH
 33674

Rhynchospora mixta Britton, LB 29295; LBSH 33480

Scirpus cyperinus L., LB 32212; SW 132

Scleria oligantha Michx., LB 32423

Scleria triglomerata Michx., LB 29286

Dennstaedtiaceae

Pteridium aquilinum (L.) Kuhn var. *pseudocaudatum* (Clute)
 A. Heller, LB 32416

Dryopteridaceae

Onoclea sensibilis L., LB 32289, 29288; MM 7984
Polystichum acrostichoides (Michx.) Schott, MM 8095; LBSH 33505

Ebenaceae

Diospyros virginiana L., LB 29284

Ericaceae

Vaccinium arboreum Marshall, LB 29294

Euphorbiaceae

Acalypha gracilens A. Gray, LB 32308
Phyllanthus carolinensis Walter, LB 32411, 33132
 **Phyllanthus urinaria* L., MM 7917
 **Triadica sebiferum* (L.) Small, LB 32268; MM 7905

Fabaceae

**Albizzia julibrissin* Durazz., MM 8109
Centrosema virginianum (L.) Benth., GW 2156
Desmodium glabellum (Michx.) DC., GW 2157; MM 7992; LBSH 33494
 **Medicago lupulina* L., MM 8228
 **Trifolium campestre* Schreb., LBSH 33291
 **Trifolium repens* L., LBSH 33283
Vicia ludoviciana Nutt. subsp. *ludoviciana*, LBSH 33290

Fagaceae

Quercus alba L., MM 8101
Quercus falcata Michx., MM 8103, 8093
Quercus laurifolia Michx., LB 32275a
Quercus michauxii Nutt., LB 29283; MM 7911
Quercus nigra L., MM 8084, 8092; LB 32275
Quercus phellos L., LB 32250, 29290
Quercus shumardii Buckley, SW 135
 +*Quercus velutina* Lam., MM 8083, 8090; SW 144, 141; LBSH 33677

Gentianaceae

**Centaurium pulchellum* (Sw.) Druce, MM 8229

Geraniaceae

Geranium carolinianum L., SEWP 3045

Haloragaceae

Proserpinaca palustris L. var. *crebra* Fernald & Griscom, LB 32276; LBSH 33671

Hammamelidaceae

Liquidambar styraciflua L., LB 29291

Hydrophyllaceae

Hydrolea uniflora Raf., SW 153

Hypericaceae

Hypericum hypericoides (L.) Crantz, LB 29315; MM 7915
Hypericum mutilum L., LB 32299; MM 8087
Triadenum walteri (J. G. Gmel.) Gleason, LB 29293; MM 7978

Hypoxidaceae

Hypoxis curtissii Rose, MM 8237
Hypoxis wrightii (Baker) Brackett, LBSH 33287

Iridaceae

Sisyrinchium rosulatum E.P. Bicknell, LB 29311; SEWP 3026; MM 8236

Juglandaceae

Carya aquatica (Michx. f.) Nutt., SW 136
Carya glabra (Mill.) Sweet, LB 32292; MM 8087; LBSH 33496; SW 134

Juncaceae

Juncus acuminatus Michx., LB 32313
Juncus coriaceus Mack., LB 32243; SEWP 3043
Juncus dichotomus Elliott, LB 32267a
Juncus diffusissimus Buckley, LBSH 33490
Juncus effusus L., LB 31938; SEWP 3025
Juncus tenuis Willd., LBSH 33493
Juncus validus Coville, LB 32244

Lamiaceae

Hedeoma hispida Pursh, LBSH 33495
Hyptis alata (Raf.) Shinnery, MM 8003
Lycopus rubellus Moench., MM 8000
Lycopus virginicus L., GW 2086; MM 8072
Micromeria brownei (Sw.) Benth. var. *pilosiuscula* A. Gray, LB32207; SEWP 3037
Prunella vulgaris L., LB 29308
Salvia lyrata L., SEWP 3040
Scutellaria integrifolia L., LB 32287
Stachys tenuifolia Willd., LB 32190, 32260; MM 7921; LBSH 33669

Lauraceae

Sassafras albidum (Nutt.) Nees, SEWP 3014; MM 7901, 7993

Liliaceae

Nothoscordum bivalve (L.) Britton, SEWP 3010

Linaceae

Linum striatum Walter, LB 32439

Loganiaceae

Gelsemium sempervirens (L.) Aiton f., SEWP 3015
Mitroela petiolata (J. F. Gmel.) Torr. & A. Gray, LB 32188; MM 7931; SW 155

Lygodiaceae

**Lygodium japonicum* (Thunb. ex Murray) Sw., LB 29316; SEWP 3016; MM 7909

Lythraceae

**Cuphea carthagenensis* (Jacq.) J. F. Macbr., LB 32305, 5593; MM 7928

Magnoliaceae

Magnolia grandiflora L., SW 146

Malvaceae

Modiola caroliniana (L.) G. Don, SEWP 3038
Sida rhombifolia L., LB 32294; MM 7970

Melastomataceae

Rhexia mariana L. var. *mariana*, LB 32295

Moraceae

Morus rubra L., MM 7903

Myricaceae

Morella cerifera (L.) Small, SEWP 3011

Oleaceae

- Chionanthus virginicus* L., MM 8086
Fraxinus americana L., LB 29303
Fraxinus pennsylvanica Marsh., LB 32309, 32432; MM 8107;
 SW 156

Onagraceae

- Ludwigia decurrens* Walter, MM 8001
Ludwigia glandulosa Walter, LB 32210
Ludwigia hirtella Raf., LB 32438
Ludwigia octovalvis (Jacq.) P. H. Raven; MM 7933, 7979
Ludwigia palustris (L.) Elliott, LB 32194
Ludwigia sphaerocarpon Elliott, GW 2399
Oenothera speciosa Nutt., SEWP 3035

Ophioglossaceae

- Botrychium biternatum* (Savogny) Underwood, MM 7995,
 8104

Oxalidaceae

- Oxalis corniculata* L. var. *wrightii* (A. Gray) B.L. Turner, SEWP
 3031; LBSH 33304

Passifloraceae

- Passiflora incarnata* L., LB 32298; MM 8098
Passiflora lutea L., LB 32253

Pinaceae

- Pinus taeda* L., LB 32291, 32319

Plantaginaceae

- **Plantago major* L., LB 32184; MM 7973, 8234
Plantago rhodosperma Decne., LBSH 33310
Plantago virginica L., MM 8238

Platanaceae

- Platanus occidentalis* L., LB 32420; SW 133

Poaceae

- Agrostis hyemalis* (Walter) Britton, Sterns & Poggenb., LBSH
 33499
Axonopus fissifolius (Raddi) Kuhlmann, LB 32314, 32303a;
 GW 2177
Axonopus furcatus (Flugge) A. S. Hitchc., LB 32427
 **Briza minor* L., LBSH 33288
 **Bromus japonicus* Thunb. ex Murray, LB 32181
Chasmanthium laxum (L.) H.O. Yates, GW 2314
Dichanthelium acuminatum (Sw.) Gould & C.A. Clark var.
acuminatum, LB 29301a, 32320
Dichanthelium acuminatum (Sw.) Gould & C.A. Clark var. *lin-*
dheimeri (Nash) Gould & C.A. Clark, LBSH 33489
Dichanthelium commutatum (Schult.) Gould subsp. *commu-*
tatum, LB 29287, 32422; LBSH 33679
Dichanthelium dichotomum (L.) Gould subsp. *dichotomum*,
 LB 29301; MM 7988
Dichanthelium dichotomum (L.) Gould subsp. *microcarpon*
 (Muhl. ex Elliott) Freckmann & Lelong, LB 32197, 32257,
 32323; LBSH 33478
Dichanthelium laxiflorum (Lam.) Gould, LB 32435
Dichanthelium ovale (Elliott) Gould & C.A. Clark subsp. *villosi-*
simum (Nash) Freckmann & Lelong, LB 32321
Dichanthelium sphaerocarpon (Elliott) Gould, SEWP 3020;
 LBSH 33491

- Digitaria ciliaris* (Retz) Koeler, LB 32297
 +**Echinochloa colonum* (L.) Link, MM 7980
 **Eleusine indica* (L.) Gaertn., MM 8067
Elymus virginicus L., LB 32203; MM 8227
Eragrostis hypnoides (Lam.) Britton, Sterns & Poggenb., GW
 2168
Leersia lenticularis Michx., GW 2162; LB 32204; SW 158
Leersia virginica Willd., LB 32208
Oplismenus hirtellus (L.) P. Beauv. subsp. *setarius* (Lam.) Mez ex
 Ekman, GW 2313; MM 8067; LBSH 33670
Panicum anceps Michx., LB 32300, 32318
Panicum dichotomiflorum Michx., MM 8076
Panicum gymnocarpon Elliott, LB 5595, 32428; MM 7925
Panicum rigidulum Nees, LBSH 33503
 **Paspalum dilatatum* Poir., LB 32409; MM 7974
 +*Paspalum conjugatum* P.J. Bergius, LB 32303
Paspalum laeve Michx. var. *laeve*, LB 32440
Paspalum notatum Flugge, LB 32273
Paspalum praecox Walter, LB 32302
Paspalum repens P.J. Bergius, LB 17502
Paspalum setaceum Michx., LB 32312
 **Paspalum urvillei* Steud., LBSH 33497
Phalaris angusta Nees ex Trin., LBSH 33498; MM 8235
Phalaris caroliniana Walter, LBSH 33482
 **Poa annua* L., LBSH 33294
Saccharum giganteum (Walter) Pers., SW 147
 **Sacciolepis indica* (L.) Chase, GW 2324
Setaria parviflora (Poir.) Kerguelen, LB 32209
Sphenopholis obtusata (Michx.) Scribn., LBSH 33500

Polygonaceae

- Polygonum densiflorum* Meisn., MM 8102
Polygonum hydropiperoides Michx., LB 32198, 29302; SEWP
 3032; MM 8008

Polypodiaceae

- Pleopeltis polypodioides* (L.) E.B. Andrews & Windham subsp.
michauxiana (Weatherby) E.B. Andrews & Windham,
 MM 8091

Primulaceae

- **Anagallis arvensis* L., LB 29322; SEWP 3036
Samolus valerandi L. subsp. *parviflorus* (Raf.) Hulten, LB 29313,
 32182; SEWP 3018; MM 7920

Ranunculaceae

- **Ranunculus muricatus* L., SEWP 3047

Rhamnaceae

- Berberis scandens* (Hill) K. Koch, LB 29321, 32322; SEWP
 3021

Rosaceae

- Crataegus marshallii* Eggl., MM 8097
Crataegus opaca Hook. & Arn. ex Hook., LB 32282, 29284a,
 29307
 **Duchesnea indica* (Andr.) Focke, SEWP 3033; SW 154
Prunus serotina Ehrh. var. *serotina*, SEWP 3012; LBSH 33483
Rubus argutus Link, LB 32280, SEWP 3023, 3007; MM 7986

Rubiaceae

- Cephalanthus occidentalis* L., LB 32429; MM 7914

Diodia virginiana L., LB 32259; MM 7912

**Galium aparine* L., SEWP 3046

Galium tinctorium L., LBSH 33304, 33306

Houstonia pusilla Schoepf., LBSH 33283a

Mitchella repens L., LB 29310

Saururaceae

Saururus cernuus L., LB 29283a; MM 7913

Scrophulariaceae

Bacopa monnieri (L.) Penn., LB 32262; MM 8088

Gratiola virginiana L., LB 31938; SEWP 3002

Leucospora multifida (Michx.) Nutt., LB 29309

**Lindernia crustacea* (L.) F. von Muell., LB 32410; MM 7969, 8081; SW 157

Lindernia dubia (L.) Penn., LB 32288

Mecardonia acuminata (Walter) Small, MM 7972

Mecardonia procumbens (Mill.) Small, SEWP 3029; MM 7919, 7971

Micranthemum umbrosum (J.F. Gmel.) S.F. Blake, MM 8106

Mimulus alatus Aiton, MM 7932; SW 143

Scoparia dulcis L., LB 32296; MM 7897

Veronica peregrina L. var. *peregrina*, LBSH 33305a

Smilacaceae

Smilax bona-nox L., MM 7989; LB 32316

Smilax glauca Walter, MM 8096

Smilax rotundifolia L., SEWP 3008; LB 29297; MM 7985

Smilax smallii Morong, SEWP 3006

Solanaceae

Physalis cinerascens (Dunal) A.S. Hitchcock var. *cinerascens*, LB 29310a

Solanum carolinense L., LB 32256; MM 7910

Styracaceae

Styrax americana Lam., LB 32279

Symplocaceae

Symplocos tinctoria (L.) L. Her., LB 29282; LBSH 33300; SW 148

Thelypteridaceae

Thelypteris kunthii (Desv.) Morton, LB 29281a, 32185; MM 7991

Ulmaceae

Ulmus americana L., LB 32249; SEWP 3001; SW 150; LBSH 33676

Urticaceae

Boehmeria cylindrica (L.) Sw., LB 5595; MM 7894

Valerianaceae

Valerianella radiata (L.) Dufur., LBSH 33286

Verbenaceae

Callicarpa americana L., LB 32281; MM 7898

Phyla nodiflora (L.) Greene, MM 7929

**Verbena brasiliensis* Vell., LBSH 33667

Verbena scabra Vahl, MM 7981

Verbena urticifolia L., LB 32183

Violaceae

Viola lanceolata L., LBSH 33296

Viola sororia Willd. var. *missouriensis* (Green) McKinney, SEWP 3009

Vitaceae

Ampelopsis arborea (L.) Koehne, LB 32271

Parthenocissus quinquefolia (L.) Planch., LB 32311; MM 8079

Vitis aestivalis Michx., SW 142; MM 8232

Vitis cinerea (Engelm.) Engelm. ex Millardet var. *cinerea*, LB 29299, 32418

Vitis rotundifolium Michx., LB 32263; MM 7893

Xyridaceae

Xyris ambigua Bey. ex Kunth, GW 2224; LB 32436

NOTES

Eupatorium semiserratum. This species is usually found in low moist areas which are frequent in this Unit. See Brown et al. (2007) for a discussion of this species in Texas.

Kyllinga pumila. *Kyllinga odorata* is the most common *Kyllinga* in the Houston area (Harris and surrounding counties) but not present in this Unit. *K. pumila* is rare in the Houston area but common along C.R. 2071 that extends through the center of the Unit.

Quercus velutina. This woody plant, as of now, has not been observed as a tree in the Houston area but grows as a small understory shade species. It is separated from the similar *Q. falcata* by the longer erect branched hairs on the abaxial surface of the shade leaves. On *Q. falcata* these trichomes are smaller and appressed [see the key in Smith (1994)].

Echinochloa colonum. Most books use *colona* as the specific epithet. See Ward (2005) for this change in orthography.

Paspalum conjugatum. Turner et al. (2003) mapped this species in Cameron County in extreme south Texas with 1 record from Hardin County in the Pineywoods region of east Texas. Diggs et al. (2006) consider the Hardin County specimen to be from a plant cultivated as a lawn grass. For now, the only east Texas collections of native plants are from Liberty County in the Trinity River National Refuge and the Loblolly Unit. The

plants were frequent along the southern edge west from the junction with C.R. 2071. Additional specimens at SBSC are from the various units of the National Wildlife Refuge complex in Brazoria County.

DISCUSSION

There are 88 families and 201 genera for the 305 taxa (271 native) on the Loblolly Unit list. Eight families, Poaceae (42 taxa), Cyperaceae (36 taxa), Asteraceae (31 taxa), Scrophulariaceae (11 taxa), Apiaceae (10 taxa), Lamiaceae (9 taxa), Fagaceae (8 taxa), and Fabaceae (7 taxa) account for 50 % of all taxa collected.

We compared the present list of species for Loblolly Unit with the species reported by Turner et al. (2003) in their *Atlas of the Vascular Plants of Texas* and found that 115 taxa, 37.7 % of the species on the Loblolly Unit list, are not reported in Liberty County in that source. This result is not surprising considering that, until recently, little focused collecting has been undertaken in the Big Thicket region.

While it is the case that our list is incomplete, as are all floras, we believe that we have collected probably 90+ % of the taxa. We estimate that the Loblolly Unit has about 281 to 290 native species/taxa. Of the 7 Units inventoried so far, the following taxa are reported only for the Loblolly Unit: *Hymenocallis liriosme*, *Cynosciadium digitatum*, *Rorippa sessiliflora*, *Commelina diffusa*, *Ipomoea lacunosa*, *Eleocharis engelmannii*, *Hydrolea uniflora*, *Hypoxis wrightii*, *Micromeria brownei*, *Ludwigia sphaerocarpa*, *Paspalum conjugatum*, *Ranunculus muricatus*, *Physalis cinerascens* var. *cinerascens*, and *Verbena urticifolia*. Only 14 taxa are new to this Unit. Thus 95% of the taxa in the Loblolly Unit had already been collected in other units of the Big Thicket National Preserve, which is to be expected since most of the other units possess Floodplain and/or Flatland Hardwood forest communities.

ACKNOWLEDGMENTS

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BOOK NOTICE

SABEEHA MERCHANT, WINSLOW R. BRIGGS, AND VICKI L. CHANDLER (eds). 2008. **Annual Review of Plant Biology: Volume 59**. (ISBN 978-0-8243-1346-3, hbk; ISSN 1543-5008). Annual Reviews Inc., 4139 El Camino Way, P.O. Box 10139, Palo Alto, CA 94303-0139, U.S.A. (**Orders:** www.AnnualReviews.org, science@annualreviews.org, 800-523-8635, 650-493-4400, 650-424-0910 fax). \$89.00 indiv., 831 pp., 7 5/8" × 9 3/8".

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Cumulative Index of Contributing Authors, Volumes 49–59

Cumulative Index of Chapter Titles, Volumes 49–59

ANNOTATED CHECKLIST OF THE VASCULAR FLORA OF THE
MENARD CREEK CORRIDOR UNIT OF THE BIG THICKET NATIONAL PRESERVE,
POLK, LIBERTY, AND HARDIN COUNTIES, TEXAS

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ABSTRACT

An annotated, vouchered checklist is provided of the vascular plant taxa of the 1,537 hectare Menard Creek Corridor Unit, Big Thicket National Preserve, in Polk, Liberty, and Hardin counties, Texas. Documented for the unit are 689 taxa of which 70 (10%) are exotics.

RESUMEN

Se realiza un catálogo con anotaciones y testigos de los taxa de plantas vasculares de las 1,537 hectáreas de la Menard Creek Corridor Unit, Big Thicket National Preserve, en los condados de Polk, Liberty, y Hardin, Texas. Se documentan para la unidad 689 taxa de los que 70 (10%) son exóticos.

INTRODUCTION

This is the 7th part of an inventory, based upon available voucher specimens, of the vascular flora of the Big Thicket National Preserve, southeastern Texas. In six previous papers, we provided annotated checklists of the Hickory Creek, Turkey Creek, Big Sandy Creek, Lance Rosier, Beech Creek, and Loblolly units (MacRoberts et al. 2002; Brown et al. 2005, 2006a, 2008, 2008b). In this paper, we provide an annotated checklist of the Menard Creek Corridor Unit.

SITE AND METHODS

The Big Thicket is located in the West Gulf Coastal Plain in southeastern Texas (see Diggs et al. 2006 for literature and description). Peacock (1994) reported 12 units for the Big Thicket Biological Preserve. Since then the Big Sandy Creek Corridor (1,798 hectares), the Canyonlands (350 hectares), and the Village Creek Corridor (2,059) have been added. The addition of these 3 units has added 4,207 hectares to the 34,000 reported by Peacock in 1994. However, Deanna Boensch (per. comm.) indicated the total hectares are now 40,088. The units range from 222 to 10,000 hectares and are scattered over 7 Texas counties. The Menard Creek Corridor Unit (1,537 hectares) follows Menard Creek through parts of Polk, Liberty, and Hardin counties (Fig. 1). It is located on the Deweyville/Fluviatile formation within a small channel and narrow bottomlands consisting of Bibb sandy loam and Hatliff fine sandy loam soils that are frequently flooded (Deshotels 1978; Aronow 1981; Shelby et al. 1992; Griffith 1996). Elevation ranges from about 46 meters at the Highway 943 bridge over Menard Creek in Polk County to 13 meters at the confluence with the Trinity River in Liberty County. The unit consists of bottomland forest next to the stream and lower slope-hardwood pine forest and upper slope pine-oak forest (Harcombe & Marks 1979; Marks & Harcombe 1981). Some other small distinct habitats that are mostly in Liberty County are Beech-Magnolia slopes where *Prenanthes*

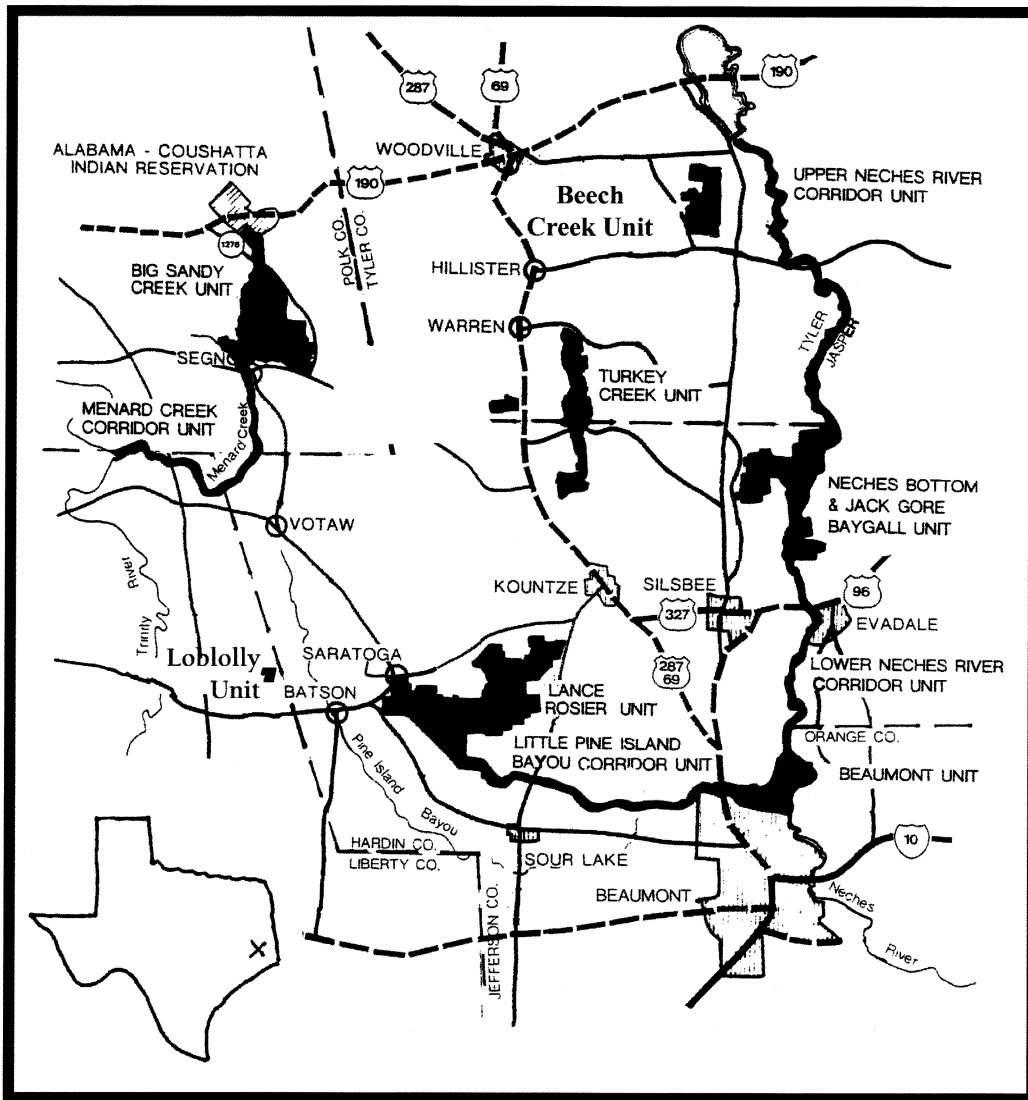


FIG. 1. Location of the Menard Creek Corridor Unit, Big Thicket National Preserve, Texas.

barbata, *Viburnum acerifolium*, *Cynoglossum virginianum*, and *Carex abscondita* are found; areas of deep sands where *Sida lindheimeri*, *Setaria corrugata*, *Mitracarpus hirta*, and *Silene subciliata* grow; alkaline soils with heliophyte plants such as *Verbesina helianthoides*, *Stenanthium gramineum*, *Liatris asper*, *Phyllanthus pudens*, and the 2 *Silphium* taxa. Another small habitat with a distinct flora is the alluvial soil exposed by receding water during late summer and fall at the confluence of Menard Creek and the Trinity River. Some of the plants only or mostly on these drawn-down sites are *Fimbristylis vahlii*, *Eragrostis reptans*, *Leptochloa panicea* subsp. *mucronata*, *Cyperus squarrosus*, *Cyperus odoratus*, *Eragrostis japonica*, *Marsilea vestita*, *Panicum virgatum*, and *Spermacoce glabra*.

Like all units of the Big Thicket National Preserve, the Menard Creek Corridor Unit had not previously been the subject of a detailed floristic inventory.

Because our purpose is to produce a list of taxa known to occur on the Menard Creek Corridor Unit, a vouchered specimen was considered to be the only evidence acceptable for inclusion in the list. In all, 1,137 herbarium specimens form the data for this report. All specimens have been annotated by Larry Brown.

Larry Brown collected 1,020 specimens beginning in the late 1980s and early 1990s and during 16 field days in 2007 and 2008. Geraldine Watson collected 106 specimens over several years in the late 1970s and early 1980s. The collection total of a few others is 13 and is designated by the appropriate abbreviation below.

In most cases, nomenclature follows Jones et al. (1997), Kartesz (1999), and Diggs et al. (2006). In cases of multiple collections, no more than 4 are listed for each taxon.

RESULTS

The following is an annotated list of the Menard Creek Corridor Unit taxa. Abbreviations used are given below.

- CP** = Charles Peterson. His one Azalea collection is at SBSC.
DB = Deanna Boensch. Big Thicket fire ecologist. She collected with LB and those are at TAES.
GW = Geraldine Watson. Her specimens are at TAES.
JL = Joe Liggio. His orchid specimens are at SBSC.
JS = Jeff Schultz. His one orchid collection is at SBSC.
LB = Larry Brown. His specimens with collection numbers above 23,000 are at TAES and those with numbers below 23,000 are at SBSC.
MM = Barbara and Michael MacRoberts. Their specimens are at TAES.
PR = Paul Roling. His collections are at TAES.
SH = Shawn Harper (Grandson of LB).
SM = Sam Harper (Grandson of LB).
WH = **Walter Hesson. His one fern collection is at SBSC.**
WRC = Bill Carr. His specimens are at TEX.
 * = exotic
 + = see note at end of list.
 ! = taxa with this symbol have only been collected in the Menard Creek Unit when compared with the 7 other surveyed units which includes a preliminary species list of the Jack Gore-Neches Bottom unit.
 A collection number followed by a (P) is from Polk County. A collection number followed by (H) was collected in Hardin County. All others are from Liberty County.
- Acanthaceae**
 !*Dicliptera brachiata* (Pursh) Spreng., GW 3293, LB 32845
Hygrophila lacustris (Schlecht. & Cham.) Nees, LB 18779, 26104 (P)
Justicia ovata (Walter) Landau var. *lanceolata* (Chapm.) Long, LB 32694
Ruellia caroliniensis (Walter) Steud., LB 32913 (P)
 !*Ruellia pedunculata* Torr. ex A. Gray, PR s.n.
 !*Ruellia strepens* L., LB 18705, 33097
- Aceraceae**
 !*Acer negundo* L., GW 3236; LB 32523
Acer rubrum L., LB 33147, 26111 (P)
- Agavaceae**
Manfreda virginica (L.) Rose, LB 32563, 32879
- Alismataceae**
Sagittaria latifolia Willd. LBJL 32970, 32982 (P), LB 26113 (P), 5829 (P)
 !*Sagittaria montevidensis* Cham. & Schlttdl. subsp. *calycina* (Engelm.) Bogin, LB 18831
- Alliaceae**
Allium canadense L. var. *canadense*, LBSH 33219
Allium canadense L. var. *mobilense* (Regel) Ownbey, LBSH, 33434 (P)
Nothoscordum bivalve (L.) Britton, LB 32847
- Amaranthaceae**
 !*Amaranthus tuberculatus* (Moq.) Sauer (including *A. rudis* Sauer), LB 18827; LBJL 32985
Froelichia floridana (Nutt.) Moq., LB 28810 (SBSC)
 !*Iresine rhizomatosa* Standl., LB 32884
- Anacardiaceae**
Rhus copallinum L., LB 32700
Toxicodendron radicans (L.) Kuntze, LB 32528
- Annonaceae**
Asimina parviflora (Michx.) Dunal, LB 32574; LBSH (H)
- Apiaceae**
Chaerophyllum tainturieri Hook. var. *tainturieri*, LBSH 33212
Cicuta maculata L., LBSM 33547
 **Cyclospermum leptophyllum* (Pers.) Sprague ex Britton & P. Wilson, LBSM 33542
Cynosciadium digitatum DC., GW 3247, 3255; LBSH 33419
 !*Daucus pusillus* Michx., GW 3260
 !*Eryngium hookeri* Walp., LB 32919
Eryngium prostratum Nutt. ex DC., LB 18616
Hydrocotyle verticillata Thunb., LB 28243 (P)
Limnoscium pumilum (DC.) Mathias & Constance, LBSH 33420
Ptilimnium capillaceum (Michx.) Raf., LBSH 33415
Sanicula canadensis L., LB 32505; LBSH 33405
Spermolepis divaricata (Walter) Raf., LBPR 33356
 !*Spermolepis inermis* (Nutt.) Mathias & Constance, LBSH 33451 (P)
Thaspium trifoliatum (L.) A. Gray var. *aureum* Britton, GW 247; LB 18477, 32691; LBSH 33388
 !**Torilis arvensis* (Huds.) Link, GW 3248; LBDB 33655
Trepocarpus aethusae Nutt. ex DC., GW 3262; LBSH 33245
- Apocynaceae**
Amsonia tabernaemontana Walter, GW 3344
Trachelospermum difforme (Walter) A. Gray, LB 32714 (P), 32823, 25185

Aquifoliaceae

- Ilex ambigua* (Michx.) Torr., LB 18846; LBJL 32974
Ilex decidua Walter, LB 25179, 32908 (P); GW 3296a
Ilex longipes Chapm. ex Trell., GW 3157; LBJL 32983 (P), LB 33128; LBSH 33461 (P)
Ilex opaca Aiton, LB 32534, 22564
Ilex vomitoria Aiton, LB 32636

Araceae

- Arisaema dracontium* (L.) Schott., LB 23880; LBPR 33361
Arisaema triphyllum (L.) Schott., LB 18525, 23880a, 27734 (P); LBJL 32964

Araliaceae

- Aralia spinosa* L., LBSH 33332
 **Hedera helix* L., LBSH 33399

Arecaceae

- Sabal minor* (Jacq.) Pers., LB 32856

Aristolochiaceae

- Aristolochia serpentaria* L., LB 33168 (P)

Asclepiadaceae

- Asclepias perennis* Walter, LB 18574
Asclepias tuberosa L., LB 32565
Asclepias variegata L., LBPR 33351
Matelea gonocarpos (Walter) Shinnery, LB 32519

Aspleniaceae

- Asplenium platyneuron* (L.) Britton, Sterns & Poggenb., GW 3217; LB 32717

Asteraceae

- Acmella repens* (Walter) Richard, LB 18860
Ageratina altissima (L.) R. King & H. Rob. var. *altissima*, LB18832, 33149, 33174 (P); LBJL 32957
Ambrosia artemisiifolia L., LB 32854
Ambrosia trifida L., LB 32844, 32820, 32874
Arnoglossum ovatum (Walter) H. Rob. LB 15403
 !*Arnoglossum plantagineum* Raf., LBSH 33323
Baccharis halimifolia L., GW 3297; LB 32859
Bidens aristosa (Michx.) Britton, LB 18553, 32920, 33105; LBJL 32954
Bidens bipinnata L., GW 3286; LB 32930, 32916
Bidens discoidea (Torr. & A. Gray) Britton, LB 18820b (P)
Bidens frondosa L., LB 18511, 18859, 18241
Bradburia pilosa (Nutt.) Semple, LB 32552, 18743, 26108 (P)
 !*Calyptocarpus vialis* Less., LBSH 33372
Chrysopsis mariana (L.) Elliott, LBJL 32978; LBSM 33540
Cirsium horridulum Michx. var. *megacanthum* (Nutt.) D.J. Keil, LBSH 33386
Conoclinium coelestinum (L.) DC., LB 32878
 **Conyza bonariensis* (L.) Cronquist, GW 3251
Conyza canadensis (L.) Cronquist, LB 32654
 !*Coreopsis basalis* (A. Dietr.) S.F. Blake, GW 3277; LB 18606, 32463
Coreopsis lanceolata L., LBSH 33411
Coreopsis tinctoria Nutt. var. *tinctoria*, LB 32938; LBSM 33525 (P)
Croptilon divaricatum (Nutt.) Raf., LB 32575, 32576
Echinacea sanguinea Nutt., LBSH 33516

- Eclipta prostrata* (L.) L., LB 18856, 32825
Elephantopus carolinianus Raeusch, LB 33155 (P)
Elephantopus nudatus A. Gray, GW 3284
Elephantopus tomentosus L., LB 32575, 18726
Erechtites hieraciifolia (L.) Raf. ex DC., LB 32747
Erigeron annuus (L.) Pers., GW 3276; LBSH 33377, 33443 (P); LBSM 33544
Erigeron philadelphicus L., LBSH 33467
Erigeron strigosus Muhl. ex Willd., GW 3267; LBSH 33512, 33468
Erigeron tenuis Torr. & A. Gray, LBPR 33353; LBSH 33392, 33416
Eupatorium capillifolium (Lam.) Small, LB 33129
 +*Eupatorium semiserratum* DC., LB 32675, 33153
Eupatorium serotinum Michx., LB 32877
Eurybia hemispherica (Alexander) G.L. Nesom, GW 3473; LB 32812
Euthamia leptoccephala (Torr. & A. Gray.) Greene, LB 32753, 32821
Gaillardia pulchella Foug. var. *pulchella*, LB 32688
 **Gamochaeta coarctata* (Willd.) Kerguelen, LBSH 33378
Gamochaeta pennsylvanica (Willd.) Cabrera, LBSH 33244 (P)
Gamochaeta purpurea (L.) Cabrera, LBSH 33431, 33449a (P)
Helenium amarum (Raf.) H. Rock var. *amarum*, LB 33260, 32706, 32928; LBSH 33438 (P)
Helianthus hirsutus Raf., GW 3512; LB 32705
Heterotheca subaxillaris (Lam.) Britton & Rusby, LB 32924
Hieracium gronovii L., GW 3311; LB 32504
Iva annua L., LB 32906 (P)
Krigia cespitosa (Raf.) K.L. Chambers var. *cespitosa*, GW 3369; LBSH 33240
Krigia cespitosa (Raf.) K.L. Chambers var. *gracilis* (DC.) K.L. Chambers, LBSH 33247 (P)
 !*Krigia dandelion* (L.) Nutt., LBSH 33325
Krigia virginica (L.) Willd. LBSH 33316
Krigia wrightii (A. Gray) K.L. Chambers ex K.J. Kim LBSH 33313
Lactuca canadensis L., LB 32656
Lactuca floridana (L.) Gaertn., LB 32846
 !*Lactuca hirsuta* Muhl., LBSM 33535
 !*Liatis asper* Michx., GW 3503, 3504, 3505; LB 32562
Mikania scandens (L.) Willd., LB 32750
Packera glabella (Poir.) C. Jeffrey, LBSH 33225a, 33231
Packera obovata (Muhl. ex Willd.) W.A. Weber & Á. Löve, GW 3324; LBSH 33321
Packera tampicana (DC.) C. Jeffrey, LB 18532
Pluchea camphorata (L.) DC., LBJL 32977
Pluchea foetida (L.) DC., LB 32939
 !+*Prenanthes barbata* (Torr. & A. Gray) W.L. Milstead ex Cronquist, LBJL 32972
Pyrrhopappus carolinianus (Walter) DC., LB 33103
Pyrrhopappus pauciflorus (D. Don) DC., LBSH 33249 (P)
Rudbeckia hirta L., LB 32697
 !*Silphium asteriscus* L. var. *asteriscus* L., LB 32744
 !*Silphium asteriscus* L. var. *simpsonii* (Greene) J.S. Cleveinger, LBSM 33538
Solidago altissima L., LB 32850
Solidago ludoviciana (A. Gray) Small, LB 5839a

Solidago rugosa Mill. var. *asper* (Aiton) Fernald, LB 18854, 18865

Solidago tortifolia Elliott, LBJL 32979

**Soliva sessilis* Ruiz & Pavon, LBPR 33338

**Sonchus asper* (L.) Hill, LBSH 33242

**Sonchus oleraceus* L., LBSH 32264

Smallanthus uvedalia K. Mack. ex Small, LB 18707

!*Symphotrichum drummondii* (Lindl.) G.L. Nesom, LB 32508; GW 3238

Symphotrichum dumosum (L.) G.L. Nesom, LB 32873, 32872

!*Symphotrichum ericoides* (L.) G.L. Nesom, LB 33154 (P)

!*Symphotrichum lanceolatum* (Willd.) G.L. Nesom, LB 33083, 33130, 33133, 33145

Symphotrichum lateriflorum (L.) Á. Löve & D. Löve, LB 18863, 18862

Symphotrichum patens (Aiton) G.L. Nesom, LBSM 33541

Symphotrichum racemosum (Elliott) G.L. Nesom, LB 18826, 19767, 33104; LBJL 32955

+*Verbesina helianthoides* Michx., LB 32568

Verbesina virginica L., LB 32564

Vernonia missurica Raf., LB 26102 (P), 32640; GW 3280

Vernonia texana (A. Gray) Small, LB 32566

Xanthium strumarium L., LB 32826

**Youngia japonica* (L.) DC., GW 3279

Berberidaceae

!**Nandina domestica* Thunb., LB 32830

Podophyllum peltatum L., PR s.n.

Betulaceae

Betula nigra L., LB 18603, 33122 (P), 33159 (P), 28249 (P)

Carpinus caroliniana Walter, LB 18600a

Ostrya virginiana K. Koch, LB 32628

Bignoniaceae

Bignonia capreolata L., LB 32517, 18502, 27743 (P)

Campsis radicans (L.) Seem. ex Bureau, LB 32689

Catalpa bignonioides Walter, LBSH 33460 (P)

Blechnaceae

Woodwardia areolata (L.) T. Moore, LB 26118 (P), 32555, 18520, 18744

Woodwardia virginica (L.) Sm., LB 19025, 33158 (P)

Boraginaceae

Cynoglossum virginianum L., GW 3195, 3239; LBPR 33358

**Heliotropium indicum* L., LB 18825, 32842, 17515 (P)

Heliotropium procumbens Mill., LB 18842, 32887

Myosotis macrosperma Engelm., LB 18497

Brassicaceae

**Cardamine hirsuta* L., LBSH 33205

Cardamine parviflora L. var. *arenicola* (Britton) O.E. Schulz, GW 3204a, 3205

Lepidium virginicum L., LB 32647; LBSH 33317

Rorippa sessiliflora (Nutt.) Hitchc., GW 3189, 3204b; LB 18829, 32899

Buddlejaceae

Polypremum procumbens L., LB 32935

Burmanniaceae

Burmannia biflora L., LB 18778

Callitrichaceae

Callitriche heterophylla Pursh, LBSH 33253 (P)

Campanulaceae

Lobelia appendiculata A. DC., LBPR 33352, 33440 (P); LBSM 33539

Lobelia cardinalis L. var. *cardinalis*, LB 32935

Lobelia puberula Michx., LB 32927; LBJL 32958

Triodanis biflora (Ruiz & Pav.) Greene, LBSH 33457a

!*Triodanis lamprosperma* McVaugh, LBSH 33423, 33456 (P)

Triodanis perfoliata (L.) Nieuwl., GW 3234, 3235; LBSH 33398

**Wahlenbergia marginata* (Thunb.) A. DC., LBSH 33448 (P)

Caprifoliaceae

**Lonicera japonica* Thunb., LB 32718

Lonicera sempervirens L., LBSH 33236

Sambucus nigra L. subsp. *canadensis* (L.) Bollii, LB 32516; LBJL 32962

!*Symphoricarpos orbiculatus* Moench., LB 18529, 18708

Viburnum acerifolium L., 18516, 24130, 33125

Viburnum dentatum L., LB 32634, 32624

Viburnum nudum L., LB 18499

Viburnum rufidulum Raf., LB 32812

Caryophyllaceae

**Cerastium glomeratum* Thuill., LBSH 33208

Loeflingia squarrosa Nutt., LBPR 33355

Sagina decumbens (Elliott) Torr. & A. Gray, LBPR 33353

**Stellaria media* (L.) Vill., LBSH 33222

!*Silene antirrhina* L., LBSH 33447 (P)

!**Silene gallica* L., LBSH 33457 (P)

+*Silene subciliata* Robins., LB 18727, 18162, 32633; LBJL 32953

Celastraceae

Euonymus americana L., LB 32551

Chenopodiaceae

Dysphanis ambrosioides (L.) Mosyakin & Clemants, LB 33138

Cistaceae

Helianthemum georgianum Chapm., LBSH 33511

Commelinaceae

Commelina diffusa Burm. f., LB 32897

Commelina erecta L. var. *angustifolia* (Michx.) Fernald, LB 32653; LBSM 33548

Commelina virginica L., LB 18597, 32893

Convolvulaceae

Dichondra carolinensis Michx., LB 32837

Evolvulus sericeus Sw., GW 3271

Ipomoea cordatotriloba Dennst. var. *cordatotriloba*, LB 32849

Ipomoea lacunosa L., LB 32827

Cornaceae

!*Cornus drummondii* C.A. Mey., GW 3254; LB 32524, 18530

Cornus florida L., LB 32543, 18595

Nyssa aquatica L., LB 18601

Nyssa sylvatica Marshall, LB 32540, 18518, 18735

Crassulaceae

Penthorum sedoides L., LB 18851, 18780

Cucurbitaceae

Cayaponia quinquefolia (Raf.) Shinnery, LB 32836
Melothria pendula L., LB 32757

Cupressaceae

Juniperus virginiana L., LBJL 32960
Taxodium distichum (L.) Rich., LB 32631a

Cuscutaceae

Cuscuta gronovii Willd. ex Schult., GW 3294, LB 32929

Cyperaceae

Bulbostylis barbata (Rottb.) C.B. Clarke, LB 28808
Carex abscondita Mack., LB 27762, 29426; LBSM 33537
Carex albicans Willd. ex Spreng. var. *australis* (L.H. Bailey) Ret-
 tig, LBSH 33374
Carex albolutescens Schwein., LB 18507, 18575
Carex atlantica L.H. Bailey subsp. *capillacea* (L.H. Bailey)
 Reznicek, LB 27724 (P), 19023; LBSH 33334, 33404 (H)
Carex basiantha Steud., LB 27765, 29429
Carex blanda Dewey., LB 27759, 27752, 25183
Carex brevior (Dewey) Mack. ex Lunell, LB 18505b
Carex caroliniana Schwein., LB 27740(P); LBSH 33376
Carex cephalophora Muhl. ex Willd., LBPR 33359
Carex cherokeensis Schwein., LB 32506
Carex complanata Torr. & Hook., LB 18523; LBPR 33344
Carex corrugata Fernald, LB 27767, 18534
Carex crebriflora Wiegand, LB 27764, 2774; LBSH 33259 (P),
 33369
Carex crus-corvi Shuttlew. ex Kunze, LBSM 33517
Carex debilis Michx. var. *debilis*, LB 27758, 23878, 18491
Carex digitalis Schkuhr ex Willd. var. *floridana* (L.H. Bailey) Naczi
 & Bryson, LB 27761, 27760, 27756, 27737
Carex festucacea Schkuhr ex Willd., LBPR, 33363; LBSH 33425
Carex flaccosperma Dewey, LB 27749, 27738; LBPR 33362
Carex frankii Kunth, LB 15433(P), 28249 (P)
Carex glaucescens Elliott, LB 33161 (P)
 !*Carex hyalina* Boott, LBSM 33523
Carex intumescens Rudge, LB 27722, 18576
Carex jooii L.H. Bailey, LB 18734, 15501, 15441 (P)
Carex leavenworthii Dewey, LB 27766
Carex leptalea Wahlenb. subsp. *harperi* (Fernald) W. Stone, LB
 27728(P), 33163 (P); LBJL 19024
Carex longii Mack., LBSH 33389
Carex lupulina Muhl. ex Willd., LBSH 33463 (P)
Carex oxylepis Torr. & Hook., LB 27754, 18537; LBSH 33426
Carex planispicata Naczi, LB 27757; LBPR 33357
Carex reniformis (L.H. Bailey) Small, LBPR 33343; LBSH 33407,
 33370, 33429
Carex retroflexa Muhl. ex Willd., LB 18531
Carex striatula Michx., LB 29427, 27755, 18605, 18501
Carex triangularis Boeck., LBPR 33341; LBSH 33381
Carex tribuloides Wahlenb. var. *sangamonensis* Clokey, LB28245
 (P), 18507, 24134
 !+ *Carex typhina* Michx., LBSM 33518
Cyperus acuminatus Torr. & Hooker ex Torr., LB 32875, 33114 (P)
Cyperus croceus Vahl, LB 28806
Cyperus erythrorhizos Muhl., LB 18839a, 32989
 **Cyperus esculentus* L., LB 33109
Cyperus haspan L., LB 18613, 5828 (P), 32677, 18100a (P)

Cyperus odoratus L., LB 18839b, 33085, 33095
Cyperus retroflexus Buckley var. *retroflexus*, LB 32573
Cyperus squarrosus L., LB 33091
 !*Cyperus strigosus* L., LB 15500
Cyperus surinamensis Rottb., LB 33146
Cyperus thyrsoflorus Jungh., LB 32824; LBSM 33532
Cyperus virens Michx., LB 32876
Eleocharis microcarpa Torr., LB 32679
Eleocharis montana (Kunth) Roem. & Schult., LB 32285
Eleocharis montevidensis Kunth, LBSH 33414
Eleocharis tuberculosa (Michx.) Romer & Schult., LB 18611,
 32676, 15434a (P), 26615 (P)
Fimbristylis autumnalis (L.) Romer & Schult., LB 32902
 **Fimbristylis miliacea* (L.) Vahl, LB 32681, 33094
Fimbristylis vahlii (Lam.) Link, LB 18833, 33087, 17510 (P),
 33111 (P)
Fuirena breviseta Coville, LB 26125 (P)
 !*Fuirena pumila* (Torr.) Spreng., LB 22566 (P)
Isolepis carinata Torr., LB 18510
Rhynchospora caduca Elliott, LBSM 33531
Rhynchospora corniculata (Lam.) A. Gray, LBSM 33530
Rhynchospora globularis (Chapm.) Small var. *globularis*, LB
 32707
Rhynchospora glomerata (L.) Vahl, LB 15429 (P), 26122 (P),
 18741, 32940
Rhynchospora inexpansa (Michx.) Vahl, LB 32936, 15432 (P);
 WRC 11352
Rhynchospora mixta Britton, LB 28248 (P), 22862 (P); LBJL
 32966, 19176
Scirpus cyperinus (L.) Kunth, LBJL 32969
Scleria oligantha Michx., LB 18480
Scleria triglomerata Michx., WRC 11349; LB 20592

Cyrtaceae

Cyrtilla racemiflora L., LB 26114 (P), 18873, 33142

Dennstaedtiaceae

Pteridium aquilinum (L.) Kuhn var. *Pseudocaudatum* (Clute)
 A. Heller, LB 32556

Dioscoreaceae

Dioscorea villosa L., GW 2288, 3194, 3282; LB 32831; LBSH
 33230a

Droseraceae

Drosera brevifolia Pursh, LBSH 32262, 33257 (P)

Dryopteridaceae

Athyrium filix-femina (L.) Roth subsp. *asplenioides* (Michx.)
 Hulten, LB 28250 (P), 32554, 18517, WH s.n.
Onoclea sensibilis L., LB 28246 (P), 27735 (P), 18495, 33108 (P)
Polystichum acrostichoides (Michx.) Schott, LB 29422, 32553,
 18515, 18604

Ebenaceae

Diospyros virginiana L., LB 32860

Ericaceae

Rhododendron canescens (Michx.) Sweet, LB 27747 (P),
 18748, 18487, 32625
Rhododendron viscosum (L.) Torr., LB18512, 20170 (P), 33151 (P);
 CP s.n. (P)

Vaccinium arboreum Marshall, LB 18580, 33173 (P); LBSH 33455 (P)

Vaccinium corymbosum L., LB 32548, 18489, 18586

Euphorbiaceae

Acalypha gracilens A. Gray, GW 3230, 3288

Acalypha rhomboidea Raf., LB 32904 (P), 32946, 33110 (P)

Chamaesyce humistrata (Engelm.) Small, LB 18818a (P)

Chamaesyce maculata (L.) Small, LBDB 33660

Chamaesyce nutans (Lag.) Small, LB 32632a, 32948

Croton capitatus Michx., WRC 11350; LB 32861

Croton glandulosus L. var. *glandulosus*, GW 3291, LB 32941a

Croton monanthogynus Michx., LB 32640

Euphorbia corollata L., LB 32561

Euphorbia dentata Michx., GW 3432; LB 32693

Euphorbia spathulata Lam., LB 18532b

Phyllanthus carolinensis Walter, LB 18857a, 33115 (P)

! *Phyllanthus pudens* Wheeler, LB 18818b (P)

* *Phyllanthus urinaria* L., WRC 11355; LB 18866

Sebastiania fruticosa (Bartr.) Fernald, LB 27732 (P), 32547, 18485, 18598

* *Triadica sebiferum* (L.) Small, LB 32544

Fabaceae

Aeschynomene indica L., LB 17513 (P)

* *Albizia julibrissin* Durazz., LB 32699; LBSM 33543

Baptisia nuttalliana Small, LB 18539, 24237

Centrosema virginianum (L.) Benth., LB 18687

Cercis canadensis L. var. *canadensis*, LB 32754

Chamaecrista fasciculata (Michx.) Greene, LB 18729, 33136

Chamaecrista nictitans Moench, LB 32663

Clitoria mariana L., LB 32743

Crotalaria sagittalis L., LB 18615; LBSH 33452 (P)

Dalea phleoides (Torr. & A. Gray) Shinners var. *phleoides*, GW 3509

! *Desmodium canescens* (L.) DC., LBDB 33653

Desmodium ciliare (Willd.) DC., GW 3313b; LB 32881

Desmodium glabellum (Michx.) DC., GW 3290, 3313a; LB32755, 32817

Desmodium paniculatum (L.) DC., LB 18161, 32922; LBDB 33665

! *Desmodium pauciflorum* (Nutt.) DC., LB 29428

Erythrina herbacea L., LB 32882

Galactia volubilis (L.) Britton, GW 3285, 3304, 3312; LB 18244

Gleditsia triacanthos L., LB 32541

Glottidium vesicarium (Jacq.) Harper, LB 32840

* *Indigofera suffruticosa* Mill., LB 32570, 28805 (SBSC)

* *Kummerowia striata* (Thunb.) Schindler, LB 32698, 32811a

Lespedeza procumbens Michx., LB 32855, 32880

Lespedeza repens (L.) Barton, LB 32819

Lespedeza virginica (L.) Britton, GW 3511; LBSM 33524; LBDB 33658

! * *Medicago arabica* (L.) Huds., LBSH 33223

* *Medicago lupulina* L., GW 3190a, 3219a, LBSH 33210

* *Medicago polymorpha* L., GW 3219b; LBSH 33233a

Mimosa hystricina (Small) B.L. Turner, LB 32858a

Mimosa latidens (Small) B.L. Turner, LBSH 33514

Mimosa strigillosa Torr. & A. Gray, LB 32712 (P), 33090

! *Rhynchosia minima* (L.) DC., LB 32822

Senna marilandica (L.) Link, GW 3227; LB 18828, 32745

Senna obtusifolia (L.) H.S. Irwin & Barneby, LB 18828, 17514 (P)

Sesbania drummondii (Rydb.) Cory, LB 33106

Sesbania herbacea (Mill.) McVaugh, LB 32918

! * *Sesbania punicea* Benth., LB 22567 (P)

Sophora affinis Torr. & A. Gray, LB 32503, 33102

Strophostyles helvula (L.) Elliott, LB 32637

Strophostyles umbellata (Willd.) Britton, LB 32719

Stylosanthes biflora (L.) Britton, Sterns, & Poggenb., GW 3305; LB 32811

* *Trifolium campestre* Schreb., LBSH 33227

* *Trifolium dubium* Sibth., LBSH 33251 (P)

* *Trifolium lappaceum* L., LB 29420

* *Trifolium repens* L., GW 3240

! * *Trifolium resupinatum* L., GW 3219c

Vicia ludoviciana Nutt. subsp. *leavenworthii* (Torr. & A. Gray) Lassetter & C.R. Gunn., LBSH 33224, 33235a; LB 18443

Vicia ludoviciana Nutt. subsp. *ludoviciana*, LBSH 33230

Vicia minutiflora Dietr., GW 3203, 3225, 3300; LBSH 33217

* *Vicia sativa* L. subsp. *nigra* (L.) Ehrhart, GW 3226; LBSH 33228a

* *Vicia villosa* Roth, LBSH 33246 (P)

Wisteria frutescens (L.) Poir., LB 18478, 18733, 32907 (P)

Fagaceae

Castanea pumila (L.) Mill., LBSH 33512

Fagus grandifolia Ehrh., LBJL 19170; LB 18163, 32557, 27730 (P)

Quercus alba L., LB 32538a, 18483

Quercus falcata Michx., LB 32814

Quercus hemisphaerica Bartram ex Willd., LB 32538, 32987, 28809, 24128

Quercus lyrata Walter, LB 32710 (P), 33124 (P)

Quercus michauxii Nutt., LB 18541; LBJL 32968

Quercus nigra L., LB 32695

Quercus pagoda Raf., LBDB 33657

Quercus phellos L., LB 32815, 27718 (P); LBSH 33462 (P)

Quercus shumardii Buckley, LB 32520; GW 3265

Quercus stellata Wangenh., LB 32756

! *Quercus texana* Buckley, LBPR 33347

Geraniaceae

Geranium carolinianum L., LBSH 33396

Grossulariaceae

Itea virginica L., LB 18488, 33140, 26123 (P); LBJL 32974

Haloragaceae

Proserpinaca palustris L., LB 32275

Hamamelidaceae

Hamamelis virginiana L., LB 32650, 18242, 18608, LBSH 33256 (P)

Liquidambar styraciflua L., LB 29291, 32650

Hippocastanaceae

Aesculus pavia L. var. *pavia*, LBSH 33248 (P)

Hydrophyllaceae

Hydrolea uniflora Raf., LB 18821

! *Nemophila aphylla* (L.) Brummitt, GW 1346, 3190b; LBSH 33215

!Phacelia hirsuta Nutt., LB 18442; LBPR 33339

Hypericaceae

Hypericum drummondii (Grev. & Hook.) Torr. & A. Gray, LB 32664

Hypericum galioides Lam., LB 18740

Hypericum hypericoides (L.) Crantz, LB 32629

Hypericum mutilum L., LB 18522, 33151

Triadenum walteri (J.G. Gmel.) Gleason, LB 18684, 27725 (P)

Triadenum tubulosum (Walter) Gleason, LB 32621

Hypoxidaceae

Hypoxis curtisii Rose, LB 18578; LBSH 33391, 33458 (P)

Iridaceae

Herbertia lahue (Molina) Goldblatt, LBSH 33408

!*Iris pseudacorus L., LB 27739 (P)

Sisyrinchium angustifolium Mill., LB 18505; LBSH 33465

Sisyrinchium rosulatum E.P. Bicknell, GW 3249, LB 18524; LBSH 33387

Juglandaceae

Carya aquatica (Michx. f.) Nutt., LB 18855, 32708 (P)

Carya cordiformis (Wang.) K. Koch, LB 32892

Carya illinoensis (Wang.) K. Koch, LB 32509; LBDB 33654

!Carya ovata (Mill.) K. Koch, GW 3191, 3196; LB 32858

Carya texana Buckley, LB 32883

Carya tomentosa (Poir.) Nutt., LB 18481, 33127

Juncaceae

Juncus acuminatus Michx., LBSH 33428

Juncus antheratus (Wiegand) R.E. Brooks, LBPR

Juncus coriaceous Mack., LB 27748 (P)

Juncus dichotomus Elliott, LBSM 33521

Juncus diffusissimus Buckley, LB 18609; LBSH 33436 (P)

Juncus effusus L., LB 32822

Juncus marginatus Rostk. LBSH 33413, 33427

Juncus scirpoides Lam., LB 18614

Juncus tenuis Willd., LB 27746 (P), 33172 (P)

Juncus validus Coville, LB 18610, 32937

Lamiaceae

Hedeoma hispida Pursh, LBSH 33430; PR s.n.

Hyptis alata (Raf.) Shinnery, LB 26119 (P)

!*Lamium amplexicaule L., LBSH 33221

Lycopus rubellus Moench, GW 3309

Lycopus virginicus L., LB 18850, 32933

Monarda fistulosa L., GW 3510

Monarda punctata L. var. lasiodonta A. Gray, LB 18685, 28804, 32932

*Perilla frutescens (L.) Britton, LB 32619

Prunella vulgaris L., LBPR 33350

Pycnanthemum albescens Torr. & A. Gray, LB 32671

Salvia lyrata L., LBSH 33213

Scutellaria elliptica Muhl., GW 3258a; LB 18593, 18240

Scutellaria integrifolia L., LB 18592; LBSH 33412

!Scutellaria ovata Hill, GW 3258b

Scutellaria parvula Michx. var. parvula, LBPR 33360; LBSM 33534

Stachys tenuifolia Willd., LB 32620, 26103 (P)

Teucrium canadense L., LB 28251 (P), 33165 (P)

Trichostema dichotomum L., LB 32933

Lauraceae

Persea borbonia (L.) Spreng., LB 29423, 32558

Sassafras albidum (Nutt.) Nees, LB 32549, 18864

Lemnaceae

*Londolita punctata (G. Mey.) Les & D.J. Crawford, LB 32863

Lentibulariaceae

Utricularia gibba L., LB 26117 (P), 25516 (P)

Linaceae

Linum medium (Planch.) Britton var. texanum (Planch.) Fernald, LBSH 33450 (P); PR s.n.

Linum striatum Walter, LB 18612, 24132

Loganiaceae

Gelsemium sempervirens St.-Hil., LB 32638

!Spigelia texana (Torr. & A. Gray) A. DC., GW 3259; LB 32838, 18704

Lygodiaceae

*Lygodium japonicum (Thunb.) Sw., LB 32537; LBSH 33241

Lythraceae

Ammannia coccinea Rottb., LB 32896

*Cuphea carthagenensis (Jack.) J.F. Macbr., LB 18618

Rotala ramosior (L.) Koehne, LB 33112 (P)

Magnoliaceae

Magnolia grandiflora L., LB 32545

Magnolia virginiana L., LB 26112 (P), 18777; LB 32963

Malvaceae

Hibiscus moscheutos L. subsp. lasiocarpus (Cav.) O.J. Blanchard, LB 33107

Malvastrum coromandelanum (L.) Garcke, LB 32947

Malvaviscus arboreus Cav. var. drummondii (Torr. & A. Gray) Schery, LB 33145; LB 32971

Modiola caroliniana (L.) G. Don, LBSH 33324

!Sida lindheimeri Engelm. & A. Gray, LB 32569

Sida rhombifolia L., LB 32641

Sida spinosa L., LB 32910 (P)

Marsileaceae

!Marsilea vestita Hook. & Grev. subsp. vestita, GW 3155

Melastomataceae

Rhexia mariana L. var. mariana, LB 32669

Melanthiaceae

!Stenanthium gramineum (Ker-Gawl.) Morong, GW 3500; LBSH 33510

Menispermaceae

Cocculus carolinus (L.) DC., LB 32835

Menyanthaceae

!Nymphoides aquatica (J.G. Gmel.) Kuntze, LB 25517 (P)

Molluginaceae

*Mollugo verticillata L., LB 32901

Moraceae

Morus rubra L., LB 32525

Myricaceae

Morella carolinensis (Mill.) Small, LB 26124 (P), 19774, 33161 (P); GW 3310

Morella cerifera (L.) Small, LB 28247(P)

Nymphaeaceae

Nuphar advena (Aiton) W.T. Aiton, GW 3289; LBSH 33251 (P)

Oleaceae

Chionanthus virginicus L., LB 18503, 20593, 33176 (P); LBJL 32976
Forestiera acuminata (Michx.) Poir., LB 32843; LBJL 32981 (P);
 MM 8225

Fraxinus americana L., LB 29431, 32502, 18590

Fraxinus pennsylvanica Marshall, LB 32711(P)

**Ligustrum sinense* Lour., LB 32652

Onagraceae

Ludwigia alternifolia L. LB 26120a (P), 18589, 18728, 32658

Ludwigia decurrens Walter, LB 18730, 32900

Ludwigia glandulosa Walter var. *glandulosa*, LB 32716

Ludwigia hirtella Raf., LB 18739b

Ludwigia leptocarpa (Nutt.) Hara, LB 33121 (P)

Ludwigia microcarpa Michx., LB 26120 (P), 25518 (P)

Ludwigia octovalvis (Jacq.) P.H. Raven, LB 18101(P), 32848

Ludwigia palustris (L.) Elliott, LB 25182, 33116 (P)

Oenothera biennis L., LB 32649; LBSH 33250 (P)

Oenothera laciniata Hill, LB 27717 (P), 20169 (P)

Oenothera speciosa Nutt., LBSH 33406

Opbioglossaceae

Botrychium biternatum Underwood, LB 18744, 33123 (P)

!*Opbioglossum vulgatum* L., GW 3193

Orchidaceae

!*Habenaria repens* Nutt., LB 5825 (P); JS 280 (P)

Platanthera clavellata (Michx.) Luer, LB 20591; LBJL s.n.

Platanthera cristata (Michx.) Lindl., LB 15431 (P); JL s.n. (P)

Spiranthes cernua (L.) Rich., LB 18861, 33137

!*Spiranthes ovalis* Lindl., LBJL 32959

Spiranthes praecox (Walter) S. Watson, GW 3257, 3380; LBSH 33367

Tipularia discolor (Pursh) Nutt., LB 18492, 18514, 18731; JL s.n.

Orobanchaceae

Epifagus virginiana (L.) W.P.C. Barton, LB 18163; LBSH 33329

Osmundaceae

Osmunda cinnamomea L., LB 18747

Osmunda regalis L. var. *spectabilis* (Willd.) A. Gray, LB 18579

Oxalidaceae

Oxalis corniculata L. var. *wrightii* (A. Gray) B.L. Turner, LB32654a, 33117 (P), 27715 (P); LBSH 33319

**Oxalis debilis* Kunth var. *corymbosa* (DC.) Lourteig, LBSH 33258 (P)

Oxalis lyonii Pursh, LBSH 33235

Oxalis violacea L., LB 32742

Passifloraceae

Passiflora incarnata L., LB 32657, 32662

Passiflora lutea L., LB 32542, 18738

Phytolaccaceae

Phytolacca americana L., LBSH 33366

Pinaceae

Pinus echinata Mill., LBSM 33546

Pinus taeda L., LB 32630

Plantaginaceae

Plantago aristata Michx., LBSM 33536

**Plantago major* L., LBSH 33367

Plantago rhodosperma Dcne., LBSH 33384

Plantago virginica L., LBSH 33393

Platanaceae

Platanus occidentalis L., LB 32894

Poaceae

Agrostis hyemalis (Walter) Britton, Sterns & Poggenb., LBSH 33390

Agrostis perennans (Walter) Tuck. var. *perennans*, LB 18167, 33143, 33156 (P); LBJL 32956

Andropogon gerardii Vitman, GW 3210

Andropogon glomeratus (Walter) Britton, Sterns & Poggenb., LB 33160 (P)

Andropogon gyrans Ashe var. *gyrans*, GW 3209

Aristida oligantha Michx., GW 3212

Arundinaria gigantea (Walter) Muhl., LB 32539

Axonopus fissifolius (Raddi) Kuhlman, LB 32666

Axonopus furcatus (Flüggé) Hitchc., LB 32943

**Briza minor* L., LBSH 33379

**Bromus catharticus* Vahl, LBSH 33393

**Bromus japonicus* Thunb. ex Murray, LBSH 33380; LBSM 33550

!*Bromus pubescens* Muhl. ex Willd., LBSH 33453 (P)

!**Bromus secalinus* L., LBSM 33545

Cenchrus spinifex Cav., LB 32949

Chasmanthium latifolium (Michx.) H.O. Yates, LB 26107 (P), 18596, 32513

Chasmanthium laxum (L.) H.O. Yates, GW 2314; LBDB 33663

Chasmanthium sessiliflorum (Poir.) H.O. Yates, LB 32514, 32885

**Cynodon dactylon* (L.) Person, LB 32715 (P)

Dichanthelium acuminatum (Sw.) Gould & C.A. Clark var. *acuminatum*, LBSH 33459 (P)

Dichanthelium acuminatum (Sw.) Gould & C.A. Clark var. *lindheimeri* (Nash) Gould & C.A. Clark, LB 33093; LBSM 33528 (P), 33519

Dichanthelium boscii (Poir.) Gould & C.A. Clark, LB 29430, 29424, 29425; LBSH 33401 (H)

Dichanthelium commutatum (Schult.) Gould subsp. *commutatum*, LB 27742a (P), 18498

Dichanthelium dichotomum (L.) Gould subsp. *dichotomum*, LB 18602, 22562

Dichanthelium dichotomum (L.) Gould subsp. *microcarpon* (Muhl. ex Elliott) Freckmann & Lelong, LB 32818; LBJL 19177; LBSH 33371, 33435a (P)

Dichanthelium laxiflorum (Lam.) Gould, LB 27744 (P), 18504, LB 32661, 18581

Dichanthelium oligoanthes (Schult.) Gould var. *oligoanthes*, LB 32824a; LBSM 33549

Dichanthelium oligoanthes (Schult.) Gould var. *scribnerianum* (Nash) Gould, LB 18521; LBJL 32965; LBSH 33314, 33454 (P)

Dichanthelium scoparium (Lam.) Gould, LBJL 32965

Dichanthelium tenue (Muhl.) Freckman & Lelong, LBSH 33435 (P)

Digitaria ciliaris (Retz.) Koeler, LB 32529a, 32645, 33092
 **Digitaria ischaemum* (Schreb.) Muhl., LB 32747a
 !*Echinochloa crus-gavonis* (Humb., Bonpl. & Kunth) Schult. var. *macer* (Wiegand) Gould, LB 32944
Echinochloa walteri (Pursh) Heller, LB 32911 (P), 33095
 **Eleusine indica* (L.) Gaertn., LB 32631, 32530
Elymus virginicus L., LB 32648
 **Eragrostis japonica* (Thunb.) Trin., LB 18836, 33089
 !*Eragrostis reptans* (Michx.) Nees, LB 18834, 32903, 33119 (P)
Eragrostis spectabilis (Pursh) Steud., LB 32942
Eustachys petraea (Sw.) Desv., LBSH 33453 (P)
Hordeum pusillum Nutt., LBSH 33382
Leersia lenticularis Michx., LB 32833
Leersia virginica Willd., LB 32690
 !*Leptochloa panicea* (Retz.) Ohwi subsp. *mucronata* (Michx.) Nowack, LB 33100
 !*Limnodea arkansana* (Nutt.) L.H. Dewey, LBSH 33394
 **Lolium perenne* L., LB 33231a
Melica mutica Walter, LB 18482; LBSH 33218
 !*Muhlenbergia schreberi* J.F. Gmel., LB 33170 (P)
Oplismenus hirtellus (L.) P. Beauv. subsp. *setarius* (Lam.) Mez, LB 32626
Panicum anceps Michx., LB 18706, 32862
Panicum brachyanthum Steud., LB 32925
Panicum dichotomiflorum Michx., LB 32895
Panicum gymnocarpon Elliott, LB 32834
 **Panicum repens* L., LB 32642
Panicum rigidulum Bosc. ex Nees, LB 26106 (P), 33139
Panicum verrucosum Muhl., LB 18849
Panicum virgatum L., LB 33086
Paspalum laeve Michx., LB 32674
Paspalum langei (Fourn.) Nash, LB 32529
 **Paspalum notatum* Flügge, LB 32670
Paspalum plicatulum Michx., LBSH 33445 (P), 33513
Paspalum repens P.J. Bergius, LB 18824, 17512 (P), 32909 (P); LBJL 32984
Paspalum setaceum Michx., LB 32670a
 **Paspalum urvillei* Steud., LB 32702; LBSM 33527 (P)
Phalaris angusta Trin., LBSH 33409
Phalaris caroliniana Walter, LBSH 33418
Piptochaetium avenaceum (L.) Parodi, LB 27720 (P), 18486; LBSH 33318
 **Poa annua* L., LBSH 33207
Poa autumnalis Muhl. ex Elliott, LB 27742 (P), 18533; LBSH 33331
Saccharum baldwinii Spreng., LB 32921
Saccharum giganteum (Walter) Pers., LB 18858
 +**Schedonorus arundinaceus* (Schreb.) Dumort., LBSH 33383
Schizachyrium scoparium (Michx.) Nash var. *divergens* (Hack.) Gould, GW 3208
 !*Schizachyrium scoparium* (Michx.) Nash var. *scoparium*, LB 32917
 !*Setaria corrugata* (Elliott) Schult., LB 28807
 !+*Sphenopholis longiflora* (Vasey ex L.H. Dewey) Hitchc., LB 18542, 32263; LBSM 33522
 +*Sphenopholis obtusata* (Michx.) Scribn., LB 18526; LBSH 33470
Sporobolus indicus (L.) R. Br., LB 32672

Steinchisma hians (Elliott) Nash, LBSM 33520
Tridens flavus (L.) Hitchc. var. *flavus*, LB 32665
Tridens strictus (Nutt.) Nash, LB 32915
Vulpia octoflora (Walter) Rydb., LB 18519; LBSH 33446 (P)

Polemoniaceae

Phlox pilosa L., LBSH 33326

Polygalaceae

Polygala polygama L., LBSH 33439 (P)

Polygonaceae

Brunnichia ovata (Walter) Shinnery, LB 32507
Polygonum densiflorum Meisn., LB 32841
Polygonum hydropiperoides Michx., LB 32828a; LBSH 33421
Polygonum punctatum Elliott, GW 3288a; LB 32692, 32828
Polygonum virginianum L., LB 32522
 **Rumex crispus* L., LBSH 33397
Rumex hastatulus Baldw., LBSH 33315

Polypodiaceae

Pleopeltis polypodioides (L.) E.B. Andrews & Windham var. *michauxianum* (Weath.) E.B. Andrews & Windham, LB 32510, 32961

Portulacaceae

!*Claytonia virginica* L., LBSH 33216

Potamogetonaceae

Potamogeton diversifolius Raf., LBSH 23353 (P)

Primulaceae

**Anagallis arvensis* L., LBSH 33232a
Anagallis minima (L.) Krause, LB 32680
Lysimachia radicans Hook., WRC 11354; LB 28170, 18682, 18170

Ranunculaceae

Clematis crispa L., GW 3303; LB 32512; 18862 (P); MM 8224
Clematis reticulata Walter, LB 32749
Ranunculus hispidus Michx. var. *nitidus* (Chapm.) T. Duncan, LB 27741a (P); LBSH 33225, 33220
 **Ranunculus parviflorus* L., LB 18536
Ranunculus pusillus Poir., LB 18496
 !*Thalictrum dasycarpum* Fisch. & Ave-Lall., GW 3231; LBSH 33232

Rhamnaceae

Berchemia scandens (Hill) K. Koch, LB 32914 (P)
Frangula caroliniana (Walter) A. Gray, LB 18513

Rosaceae

Crataegus brachyacantha Sarg. & Engelm., LB 32816; LBSH 33233
Crataegus marshallii Eggston, LB 32833
Crataegus spathulata Michx., GW 3216; LB 32511
Crataegus viridis L., GW 3298; LB 32712 (P), 32857
 **Duchesnea indica* (Andrews) Focke, LB 33169 (P); LBSH 33255
 !*Geum canadense* Jacq. var. *camporum* (Rydb.) Fernald & Weath., LB 32527, 18543; LBSH 33424
 !*Prunus angustifolia* Marshall, LB 18685
Prunus caroliniana (Mill.) Aiton, LB 32926
 !*Prunus mexicana* S. Watson, LBPR 33349

Prunus serotina Ehrhart, LB 32651
Prunus umbellata Elliott, GW 3328, 3334
Rubus argutus Link, LB 32622; LBSH 33234

Rubiaceae

Cephalanthus occidentalis L., LB 18490
Diodia teres Walter, LB 32746
 **Galium aparine* L. GW 3221, N19
Galium obtusum Bigelow var. *obtusum*, LBSH 33410
Galium pilosum Aiton, LB 3257; LBSH 33469; LBSM 33533
Galium tinctorium (L.) Scop., GW 3202, 3220, 3286; LBSM 33526 (P)
Houstonia pusilla Schoepf., LBSH 33206
Mitchella repens L., LB 32546, 18493, 29421
 !+**Mitracarpus hirtus* DC., LB 18847, 32644
Oldenlandia boschii (DC.) Chapm., LB 18168, 22570
Oldenlandia uniflora L., LB 18171, 22569
 **Sherardia arvensis* L., LBSH 33228
 !*Spermacoce glabra* Michx., LB 17511 (P), 33096

Rutaceae

Ptelea trifoliata L. var. *mollis* Torr. & A. Gray, LB 22571, 18479, 32931; LBSH 33375
Zanthoxylum calva-herculis L., LB 28254 (P)

Salicaceae

!*Populus deltoides* Bart. ex Marshall subsp. *deltoides*, LB 32518; GW 3232
Salix nigra Marshall, LBDB 33656

Sapindaceae

!*Cardiospermum halicacabum* L., LB 32839, 32905 (P)

Sapotaceae

Sideroxylon lanuginosum Michx., GW 3268; LBPR 33346

Saururaceae

Saururus cernuus L., LB 18577; LBSH 33437 (P)

Scrophulariaceae

Agalinis fasciculata (Elliott) Raf., LB 32871
Agalinis purpurea (L.) Penn., LB 33135
Aureolaria grandiflora (Benth.) Penn., LB 26109 (P)
Gratiola brevifolia Raf., LB 18619
Gratiola neglecta Torr., LB 18538
Gratiola pilosa Michx., LB 18617
Gratiola virginiana L., LB 27726 (P), 18500; LBSH 33402 (H)
Leucospora multifida (Michx.) Nutt., LB 18834
Lindernia dubia (L.) Penn., LB 18830, LB 33118 (P)
 !**Mazus pumilus* (Burm.f.) Steenis, LBSH 33227a
Mecardonia acuminata (Walter) Small, WRC 11351; LB 33148
Mecardonia procumbens (Mill.) Small, GW 3233
Micranthemum umbrosum (J.F. Gmel.) S.F. Blake, LB 18852a, 33166 (P)
Mimulus alatus Aiton, LB 18737, 5838 (P); LBJL 32973
Nuttallanthus texana (Scheele) Sutton, LBSH 33320
 !*Pedicularis canadensis* L., LBSH 33322
 !+*Penstemon tenuis* Small, LB 18535; LBPR 33348; LBSH 33422
Scoparia dulcis L., LB 18732, 32941
 **Veronica arvensis* L., LBSH 33203, 33239

Veronica peregrina L. subsp. *xalapensis* (Kunth) Pennell, GW 3314, 3366
 !**Veronica persica* Poir., LBSH 33229

Selaginellaceae

Selaginella apoda (L.) Spreng., LB 27738 (P), 20168 (P)

Smilacaceae

Smilax bona-nox L., LB 32627
Smilax glauca Walter, LB 18584, 32753
Smilax laurifolia L., LB 27736, 18781, 18746
Smilax pumila Walter, LB 18599; LBJL 32967
Smilax rotundifolia L., LB 33175 (P)
Smilax smallii Morong, LB 32639

Solanaceae

!*Physalis angulata* L., LB 18841, 33120 (P)
Physalis heterophylla Nees, LB 25168, 32886; LBSH 33238; LBPR 33345
Solanum carolinense L., LB 33144

Sparganiaceae

Sparganium americanum Nutt., LB 15436 (P), 33171 (P), 25516a

Sphenocleaceae

!**Sphenoclea zeylandica* Gaertn., LB 18822

Styracaceae

Styrax americana Lam., LBJL 32980 (P), 33164 (P), 33141; LB 18165

Symplocaceae

Symplocos tinctoria (L.) L. Her., LB 32535, 18508

Thelypteridaceae

Thelypteris kunthii (Desv.) Morton, LB 32557a, 28244 (P)

Tiliaceae

Tilia americana (L.) var. *caroliniana* (Mill.) Castig, LB 32531

Typhaceae

Typha latifolia L., LBSH 33441 (P)

Ulmaceae

Celtis laevigata Willd., LB 32891
Planera aquatica L., LB 18819 (P), LB 32748, 27745 (P)
Ulmus alata Michx., LB 32655
Ulmus americana L., LB 32912 (P)
 !*Ulmus crassifolia* Nutt., LB 32709 (P)

Urticaceae

Boehmeria cylindrica (L.) Sw., LB 26105, 32889
 !*Urtica chamaedryoides* Pursh, LB 25180; GW 3156; LBSH 33243

Valerianaceae

Valerianella radiata (L.) Dufur., LB 18475; LBSH 33237

Verbenaceae

Callicarpa americana L., LB 32623
 **Glandularia pulchella* (Sweet) Tronc., LBSH 33234a
 **Verbena brasiliensis* Vell., LB 32701
Verbena halei Small, LBSH 33385
 **Verbena rigida* (L.) Spreng., LBSH 33442 (P)

Violaceae

Viola lanceolata L., LB 27721(P)
Viola palmata L., GW 3192, 3306, 3307; LBSH 33214
Viola primulifolia L., LB 27731(P), 27716, 18495, 33167 (P)
Viola sororia Willd. var. *missouriensis* (Greene) McKinney, GW 3218, 3302; LBSH 33226
 !*Viola sororia* Willd. var. *sororia*, LBDB 33659

Vitaceae

Ampelopsis arborea (L.) Koehne, LB 32658
 !*Ampelopsis cordata* Michx., LB 32515, 32658; LBPR 33342;
 GW 3246

Parthenocissus quinquefolia (L.) Planch., LB 32521
Vitis aestivalis Michx., LB 32660
Vitis cinerea (Engelm.) Engelm. ex Millardet var. *cinerea*, GW 3269
 !*Vitis mustangensis* Buckley, LBDB 33654a
Vitis palmata Vahl, LB 18820a (P); GW 3244
Vitis rotundifolia Michx., LB 32635

Xyridaceae

Xyris jupicai L. Rich., LB 26121, 26116 (P), 32668

NOTES

Eupatorium semiserratum. See Brown et al. (2007) regarding the status of this species in Texas.

Prenanthes barbata. Poole et al. (2007) mapped it in 12 Texas counties. This is the first record for Liberty County.

Verbesina helianthoides. See Brown et al. (2007) regarding this species in Liberty County.

Silene subciliata. Poole et al. (2007) mapped it in 8 Texas counties. All known Liberty County records are from the Menard Creek Unit.

Carex typhina. Both Stanley Jones in Diggs et al. (2006) and Turner et al. (2003) mapped it in 7 north-east Texas counties. However, in Diggs et al. (loc. cit.) there is one record farther south in Jasper County. Our collection is a new county record farther south than those previously recorded. There were numerous individuals on sandy alluvial soil along Menard Creek a short distance upstream from the confluence with the Trinity River.

Schedonorus arundinaceus. We are following Darbyshire (2007). Other synonyms are *Festuca arundinacea* Schreb. and *Lolium arundinaceum* (Schreb.) Darbysh.

Sphenopholis longiflora. Both this grass and *S. obtusata* are present in this unit. In many publications, *S. longiflora* is treated as a variety of *S. obtusata*. At least in this unit, species rank is justified for various reasons including no plants were found with intermediate morphology; habitat difference, with *S. longiflora* in bottomland habitats and *S. obtusata* in upland habitats; and anthesis period, with *S. longiflora* in flower in March and shedding mature spikelets when *S. obtusata* is coming into flower in April.

Penstemon tenuis. Some authors merge this species with *P. laxiflorus*. All of our plants had glabrous stems or sparse hairs in thin lines, the flowers were pink, and were collected in bottomland hardwoods; thus are referable to this species. We found no penstemons that we could call *P. laxiflorus*. The differences between the 2 species are readily discernable when both are observed in the field.

Mitracarpus hirtus. See Brown et al. (2007) regarding the presence of this species in east Texas.

DISCUSSION

There are 127 families and 396 genera for the 689 taxa (619 native) on the Menard Creek Corridor Unit list. Eight families: Asteraceae (88 taxa), Poaceae (82 taxa), Cyperaceae (67 taxa), Fabaceae (51 taxa), Scrophulariaceae (21 taxa), Lamiaceae (18 taxa), Euphorbiaceae (16 taxa), and Fagaceae (13 taxa) account for 51% of all taxa collected. The genera with 10 or more taxa are *Carex* (35 taxa), *Cyperus* (12 taxa), *Quercus* (11 taxa), *Dichanthelium* (11 taxa), and *Juncus* (10 taxa).

While it is the case that our list is incomplete, as are all floras, we believe that we have collected 90+ % of the taxa. We estimate that the Menard Creek Corridor Unit has about 625 to 650 native species/taxa.

Of the 7 Units inventoried so far, this unit has 86 taxa that have not been found in the other surveyed units including a preliminary checklist of the Jack Gore Baygall/Neches Bottom Unit. Thus 12% of the Menard Creek Unit taxa have not been found in the other inventoried units.

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BOOK NOTICE

FLORA OF CHINA EDITORIAL COMMITTEE. 2008 (December). **Flora of China, Vol. 7. Menispermaceae through Capparaceae.** (ISBN Vol. 7: 978-1-930723-81-8, hbk.). Science Press (Beijing) and Missouri Botanical Garden Press (St. Louis), P.O. Box 299, St. Louis, Missouri 63166-0299, U.S.A. (**Orders:** www.mbgpress.org, mbgpress@mobot.org, 1-877-271-1930). \$125.00, 499 pp., 8 3/4" × 11 1/4".

From the publishers.—"Eleven plant families are described in this volume. Among these, the Capparaceae include the caper (*Capparis spinosa*); the Lauraceae include the main source of camphor (*Cinnamomum camphora*), the spices cassia (*C. cassia*) and cinnamon (*C. verum*), and the cultivated bay laurel (*Laurus nobilis*); the Magnoliaceae include the Asian tulip tree (*Liriodendron chinense*), found only in China and Vietnam, and some 110 species of magnolias that are treated either in 12 separate genera or all in *Magnolia*; the Myristicaceae include the source of nutmeg and mace (*Myristica fragrans*); and the Papaveraceae include the horticulturally important poppies, *Meconopsis* and *Papaver*, as well as the very diverse genus *Corydalis*, which has 357 species in China."

Editors Wu Zhengyi, Peter H. Raven, and Hong Deyuan state, "[This] is the 16th of the 24 text volumes in the series. It includes 11 families, 95 genera, and 1226 species, among which four genera and 778 species (64%) are endemic to China, and eight genera and 16 species (1.3%) are introduced to China." The families covered are (in alphabetical order): Calycanthaceae, Capparaceae, Cleomaceae, Hernandiaceae, Illiciaceae, Lauraceae, Magnoliaceae, Menispermaceae, Myristicaceae, Papaveraceae, and Schisandraceae. Also included in the text: Preface, Introduction, Acknowledgments, List of Nomenclatural Novelties Published in this Volume of the *Flora of China*, Index to Chinese Names, Index to Pinyin Names, Index to Scientific Names, Index to Families in the *Flora of China* and the *Flora Republicae Popularis Sinicae*, and Published Volumes of the *Flora of China* and the *Flora of China Illustrations*. A large map of China and its 35 Administrative Divisions is printed on both the inside front cover/front endpaper and the inside back cover/back endpaper.