

A CHECKLIST OF THE VASCULAR FLORA OF THE MARY K. OXLEY NATURE CENTER, TULSA COUNTY, OKLAHOMA

Amy K. Buthod
Oklahoma Biological Survey
Oklahoma Natural Heritage Inventory
Robert Bebb Herbarium
University of Oklahoma
Norman, OK 73019-0575
(405) 325-4034
Email: amybuthod@ou.edu

Keywords: flora, exotics, inventory

ABSTRACT

This paper reports the results of an inventory of the vascular flora of the Mary K. Oxley Nature Center in Tulsa, Oklahoma. A total of 342 taxa from 75 families and 237 genera were collected from four main vegetation types. The families Asteraceae and Poaceae were the largest, with 49 and 42 taxa, respectively. Fifty-eight exotic taxa were found, representing 17% of the total flora. Twelve taxa tracked by the Oklahoma Natural Heritage Inventory were present.

INTRODUCTION

The objective of this study was to inventory the vascular plants of the Mary K. Oxley Nature Center (ONC) and to prepare a list and voucher specimens for Oxley personnel to use in education and outreach. Located within the 1,165.0 ha (2878 ac) Mohawk Park in northwestern Tulsa County (ONC headquarters located at 36°13'25.02"N 95°54'11.95"W; grounds include T20N R13E, parts of sections 10, 11, 14-16), ONC is operated by the City of Tulsa. The 325.4 ha (804 ac) Center includes over 14.5 km (9.0099 mi) of trails traversing forest, grassland, and wetland habitats.

ONC is located in the Claremore Cuesta Plains geomorphic province (Curtis et al. 2008). Quaternary sediments overlie Pennsylvanian bedrock (Johnson 2008). Soils belong to the Osage-Wynona association and are described as "deep and nearly level, poorly to somewhat poorly drained and loamy or clayey over loamy or

clayey sediment (USDA Soil Conservation Service 1977). Climate is Subtropical Humid, and summers are humid and warm with a mean July temperature of 27.5° C (81.5° F). Winters are mild and short with a mean January temperature of 1.5° C (34.7° F) (Trewartha 1968). Mean annual precipitation is 106.5 cm (41.929 in), with most occurring in the spring and fall (Oklahoma Climatological Survey 2013). Elevation ranges from 170.7 to 312.1 m (560.04 ft to 1024 ft). Potential natural vegetation for the area is tallgrass prairie and post oak-blackjack oak forest (Duck and Fletcher 1943).

METHODS

The ONC trail system was walked to determine the major, generalized vegetation types that were present, and 11 collection areas (corresponding to the named trails) were established to represent these types. Sites were visited monthly from March

through September of 2010, with additional visits made in June and September of 2011. Two specimens of each taxa encountered were collected. Exotic taxa were only collected from naturalized populations. Specimens were processed following standard procedures and deposited at the Robert Bebb Herbarium at the University of Oklahoma (OKL) and at ONC.

Manuals used for specimen identification included Steyermark (1963), Waterfall (1973), Flora of North America Editorial Committee (1993+), and Yatskievych (1999, 2006). The collections of the Robert Bebb Herbarium were consulted to confirm identifications. Origin (either native or exotic to North America), duration (annual, perennial, biennial), and growth habit (tree, shrub, subshrub, woody vine, forb, graminoid) were determined using the PLANTS Database (USDA-NRCS 2007) and Taylor and Taylor (1991). Nomenclature primarily follows the PLANTS Database. The Angiosperm Phylogeny Website, version 12 (Stevens 2001+), and the Flora of North America

North of Mexico (Flora of North America Editorial Committee 1993+) were also consulted to determine where the nomenclature/taxonomy differed from USDA-NRCS; these differences are noted in parentheses in the appendix.

RESULTS AND DISCUSSION

A total of 342 vascular plant taxa (including 23 infraspecific taxa) in 75 families and 237 genera were collected at ONC (Appendix). All were angiosperms, with 85 Liliopsida taxa and 257 Magnoliopsida (Table 1). Sixty-one taxa were trees, shrubs, subshrubs, or woody vines. The Asteraceae, with 49 taxa, and the Poaceae, with 42 taxa, were the largest families. The genus with the most taxa was *Carex*, with 12 taxa. There were 236 perennials, 103 annuals, and three biennials. ONC Director Eddie Reese (pers. comm.) has reported two additional taxa (*Botrychium virginianum* in the Ophioglossaceae and *Juniperus virginiana* in the Cupressaceae), but these were not collected by the author.

Table 1 Summary of floristic collections from the Mary K. Oxley Nature Center, Tulsa County, Oklahoma

Taxonomic Group	Taxa	Native	Non-native
Pteridophyta	0	0	0
Coniferophyta	0	0	0
Magnoliophyta	342	284	58
Magnoliopsida	257	215	42
Liliopsida	85	69	16
Total	342	284	58

Fifty-eight exotic taxa were found, representing 17.0% of the total flora. This number is high when compared to surveys from other Oklahoma sites (Table 2), but is not surprising, given that ONC is in the Tulsa metropolitan area and receives many

visitors. The Poaceae and Fabaceae families had the greatest number of exotic taxa, with 14 and 8 taxa, respectively. Twelve taxa tracked by the Oklahoma Natural Heritage Inventory (2013) were present (Table 3).

Table 2 Comparison of the ONC site with other northeastern Oklahoma sites
 NA = information not available

Study site	Reference	Size of site (ha)	Number of taxa found	Percentage of exotic taxa
Mary K. Oxley Nature Center, Tulsa County	This paper	1,165.0	342	17.0%
J.T. Nickel Family Nature and Wildlife Preserve, Cherokee County	Hoagland and Buthod 2008	6,070.0	597	12.1%
Camp Cherokee Boy Scout Camp, Ottawa County	Hoagland and Buthod 2008	NA	318	10.4%
Oklahoma Centennial Botanic Garden, Osage County	Hoagland and Buthod 2007	NA	293	15.0%
Will Rogers Boy Scout Camp, Pawnee County	Hoagland and Buthod 2005	64.7	338	8.0%
Keystone Wildlife Management Area, Creek, Pawnee and Osage Counties	Hoagland and Buthod 2003	6,475.0 +	380	15.0%
Chouteau Wildlife Management Area, Wagoner County	Hoagland and Johnson 2004	402.0	181	11.6%
Oologah Wildlife Management Area, Nowata County	Hoagland and Wallick 2003	5,226.0	470	9.0%
Tallgrass Prairie Preserve, Osage County	Palmer 2007	15,410.0	1,612	12.1%

Table 3 Vascular plant taxa tracked by the Oklahoma Natural Heritage Inventory (2013). Conservation ranks are based on a scale from one to five, with a one being critically imperiled. A G rank is the rank for the taxa at a global level, while an S rank is one for the taxa at a subnational (or state) level. T ranks are rankings for infraspecific taxa (NatureServe 2013).

Taxa	Family	S Rank	G Rank
<i>Lactuca tatarica</i> var. <i>pulchella</i>	Asteraceae	S1	G5T5
<i>Iodanthus pinnatifidus</i>	Brassicaceae	S2	G5
<i>Desmodium illinoense</i>	Fabaceae	S3	G5
<i>Desmodium pauciflorum</i>	Fabaceae	S1	G5
<i>Calyocarpum lyonii</i>	Menispermaceae	S2	G5
<i>Muhlenbergia bushii</i>	Poaceae	S1	G5
<i>Rumex verticillatus</i>	Polygonaceae	S3	G5
<i>Thalictrum revolutum</i>	Ranunculaceae	S2	G5
<i>Potentilla rivalis</i>	Rosaceae	S1	G5
<i>Dasistoma macrophylla</i>	Scrophulariaceae	S3	G4
<i>Smilax lasioneura</i>	Smilacaceae	S2	G5
<i>Urtica chamaedryoides</i>	Urticaceae	S3	G4G5

Collection sites were located within four vegetation types:

1. Mesic Forest [MF] (Figure 1)

This type included the Sierra Club Trail and the North Woods areas. Common taxa included *Campanulastrum americanum*, *Cardamine concatenata*, *Cercis canadensis*, *Cornus drummondii*, *Diarrhena obovata*, *Diospyros virginiana*, *Erythronium albidum*, *Eutrochium purpureum*, *Lindera benzoin*, *Osmorhiza longistylis*, *Polygonatum biflorum*, and *Thalictrum revolutum*. Dominant taxa included *Carya cordiformis*, *Quercus muehlenbergii*, and *Q. shumardii*. The most tracked taxa were found in this type.

2. Bottomland Forest [BF] (Figure 2)

This type included the Bird Creek, Green Dragon, and Red Fox trails. Common taxa included *Acer negundo*, *A. saccharinum*, *Celtis laevigata*, *Cinna arundinacea*, *Elephantopus carolinianus*, *Quercus palustris*, *Parthenocissus quinquefolia*, and *Ulmus americana*. Dominant taxa included *Chasmanthium latifolium*, *Fraxinus pennsylvanica*, and *Ilex decidua*.

3. Disturbed Herbaceous Vegetation

[DHV] (Figure 3)

This type included the Meadowlark Prairie trail and various disturbed areas throughout ONC. Grassland elements, including *Andropogon gerardii*, *Panicum virgatum*, and *Sorghastrum nutans*, were present, as were more “weedy” taxa such as *Amphichyris dracunculoides*, *Carduus nutans*, and *Ambrosia artemisiifolia*. *Desmanthus illinoensis*, *Iva annua*, and *Rhus glabra* were dominant taxa. The greatest number of exotic taxa were found in this type.

4. Wetland and Aquatic Vegetation

[WAV] (Figure 4)

This type included the Bird Creek, Blackbird Marsh, Coal Creek, Flowline, and Nelson’s Oxbow trails, as well as the margins of Lake Sherry and Lake Yahola. Common taxa included *Carex lupulina*, *Eleocharis obtusa*, *Juncus effusus*, *Justicia americana*, *Limnoscadium pinnatum*, *Ludwigia peploides*, and *Sagittaria graminea*. *Nelumbo lutea* and *Typha angustifolia* were dominant taxa in this type.



Figure 1 Mesic forest in North Woods Loop at the Mary K. Oxley Nature Center, Tulsa County, Oklahoma



Figure 2 Bottomland forest habitat at the Mary K. Oxley Nature Center



Figure 3 Disturbed herbaceous vegetation in Meadowlark Prairie at the Mary K. Oxley Nature Center



Figure 4 Wetland and aquatic vegetation in Nelson's Oxbow at the Mary K. Oxley Nature Center

ACKNOWLEDGMENTS

The author would like to thank the Mary K. Oxley staff for allowing her access to the Center. Bruce Hoagland and Todd Fagin (Oklahoma Biological Survey/Oklahoma Natural Heritage Inventory/University of Oklahoma Department of Geography and Environmental Sustainability) provided technical assistance. This work was funded by the Oklahoma Biological Survey.

LITERATURE CITED

- Curtis, N.M., W.E. Ham, and K.S. Johnson. 2008. Geomorphic provinces of Oklahoma. In: Johnson, K.S. and K.V. Luza (editors). *Earth Sciences and Mineral Resources of Oklahoma*. Norman (OK): Oklahoma Geological Survey.
- Duck, L.G. and J.B. Fletcher. 1943. A game type map of Oklahoma. In: Duck, L.G. and J.B. Fletcher (editors). *A Survey of the Game and Furbearing Animals of Oklahoma*. Oklahoma City (OK): Oklahoma Department of Wildlife Conservation.
- Flora of North America Editorial Committee (editors). 1993+. *Flora of North America North of Mexico*. 16+ vols. New York and Oxford.
- Hoagland, B.W. and A.K. Buthod. 2008. The vascular flora of the J.T. Nickel Family Nature and Wildlife Preserve, Cherokee County, Oklahoma. *Castanea* 73(1):16–28.
- Hoagland, B.W. and A.K. Buthod. 2008. The vascular flora of an Ozark plateau site, Ottawa County, Oklahoma. *Southeastern Naturalist* 7(4):581–594.
- Hoagland, B.W. and A.K. Buthod. 2007. The vascular flora of the Oklahoma Centennial Botanic Garden site, Osage County, Oklahoma. *Oklahoma Native Plant Record* 7(1):54–66.
- Hoagland, B.W. and A.K. Buthod. 2005. Vascular flora of a site along the Arkansas River, Pawnee County, Oklahoma. *Oklahoma Native Plant Record* 5(1):61–72.
- Hoagland, B.W. and A.K. Buthod. 2003. Vascular flora of the Keystone Wildlife Management Area, Creek, Pawnee, and Osage Counties, Oklahoma. *Oklahoma Native Plant Record* 3(1):23–37.
- Hoagland, B.W. and F. Johnson. 2004. Vascular flora of the Chouteau Wildlife Management Area, Wagoner County, Oklahoma. *Oklahoma Native Plant Record* 4(1):30–39.
- Hoagland, B.W. and K. Wallick. 2003. Vascular flora of Oologah Wildlife Management Area in Nowata County, OK. *Proceedings of the Oklahoma Academy of Science* 83:47–62.
- Johnson, K.S. 2008. Geologic map of Oklahoma. In: Johnson, K.S. and K.V. Luza (editors). *Earth Sciences and Mineral Resources of Oklahoma*. Norman (OK): Oklahoma Geological Survey.
- Natureserve. 2013. NatureServe Explorer: An Online Encyclopedia of Life, version 7.0. Arlington (VA): NatureServe. (<http://www.natureserve.org/explorer> accessed 1 July 2013).
- Oklahoma Climatological Survey. 2013. Oklahoma Climatological Data. Norman (OK): University of Oklahoma. (www.ocs.ou.edu accessed 28 June 2013).
- Oklahoma Natural Heritage Inventory. 2013. Oklahoma Natural Heritage Inventory Working List of Rare Oklahoma Plants. Norman (OK): University of Oklahoma. (www.biosurvey.ou.edu/publicat.html accessed 28 June 2013).
- Palmer, M. W. 2007. The vascular flora of the Tallgrass Prairie Preserve, Osage County, Oklahoma. *Castanea* 72(4):235–246.
- Steyermark, J.A. 1963. *Flora of Missouri*. Ames (IA): Iowa State University Press.
- Stevens, P.F. 2001+. Angiosperm Phylogeny Website, version 12. St. Louis

- (MO): Missouri Botanical Garden.
(<http://www.mobot.org/MOBOT/research/APweb/> accessed 1 July 2013).
- Taylor, R.J. and C.E.S. Taylor. 1991. *An Annotated List of the Ferns, Fern Allies, Gymnosperms and Flowering Plants of Oklahoma*. Durant (OK): Southeastern State University.
- Trewartha, G.T. 1968. *An Introduction to Climate*. New York: McGraw-Hill.
- USDA-NRCS. 2007. The PLANTS Database. Baton Rouge (LA): National Plant Data Center.
(<http://plants.usda.gov> accessed 1 July 2013).
- USDA Soil Conservation Service. 1977. Soil Survey of Tulsa County, Oklahoma. Washington (DC): United States Department of Agriculture, Soil Conservation Service.
- Waterfall, U.T. 1973. *Keys to the Flora of Oklahoma*. Stillwater (OK): self-published.
- Yatskievych, G. 1999. *Steiermark's Flora of Missouri*, Volume 1. St. Louis (MO): Missouri Botanical Garden Press.
- Yatskievych, G. 2006. *Steiermark's Flora of Missouri*, Volume 2. St. Louis (MO): Missouri Botanical Garden Press

APPENDIX

List of Vascular Plant Taxa from the Mary K. Oxley Nature Center, Tulsa County, OK

The first entry is duration (A=annual, B=biennial, P=perennial), followed by growth habit (T=tree, S=shrub, SS=subshrub, V=woody vine, F=forb, G=graminoid), vegetation type (MF=mesic forest, BF=bottomland forest, DHV=disturbed herbaceous vegetation, WAV=wetland and aquatic vegetation) and collection number. If taxonomy differs from USDA-NRCS in the Flora of North America (FNA) or the Angiosperm Phylogeny Website (APW), it is noted in parentheses (). Exotic taxa are denoted with an asterisk (*). Taxa tracked by the Oklahoma Natural Heritage Inventory are denoted with a dagger (†). Voucher specimens are deposited at the Robert Bebb Herbarium of the University of Oklahoma (OKL) and at Oxley Nature Center (ONC).

Magnoliophyta

Magnoliopsida

Acanthaceae

Dicliptera brachiata (Pursh) Spreng. (branched foldwing); A; F; MF, BF; O-369

Justicia americana (L.) Vahl (American water-willow); P; F; WAV; O-120

Ruellia strepens L. (limestone wild petunia); P; F; DHV; O-106

Aceraceae

Acer negundo L. (boxelder); P; T; BF; O-015; (APW:Sapindaceae)

Acer saccharinum L. (silver maple); P; T; BF; O-230; (APW:Sapindaceae)

Amaranthaceae

Amaranthus tuberculatus (Moq.) Sauer (roughfruit amaranth); A; F; DHV; O-336

Iresine rhizomatosa Standl. (Juda's bush); P; F; MF, BF; O-368

Anacardiaceae

Rhus glabra L. (smooth sumac); P; S; DHV; O-133

Toxicodendron radicans (L.) Kuntze (eastern poison ivy); P; V; MF, BF; O-033

Apiaceae

Ammoselinum butleri (Engelm. ex S. Watson) J.M. Coult. & Rose (Butler's sandparsley); A; F; DHV; O-165

Chaerophyllum tainturieri Hook. (hairyfruit chervil); A; F; MF, BF; O-019

Cryptotaenia canadensis (L.) DC. (Canadian honewort); P; F; MF; O-090

Limnoscium pinnatum (DC.) Mathias & Constance (tansy dogshade); A; F; WAV; O-114

Osmorhiza longistylis (Torr.) DC. (longstyle sweetroot); P; F; MF; O-044

Sanicula canadensis L. (Canadian blacksnakeroot); B; F; MF; O-078

Sanicula odorata (Raf.) K.M. Pryer & L.R. Phillippe (clustered blacksnakeroot); P; F; MF; O-077

**Torilis arvensis* (Huds.) Link (spreading hedgeparsley); A; F; DHV; O-381

Zizia aurea (L.) W.D.J. Koch (golden zizia); P; F; MF; O-040

Apocynaceae

Apocynum cannabinum L. (Indianhemp); P; F; DHV; O-129

**Vinca minor* L. (common periwinkle); P; F; DHV; O-160

Aquifoliaceae*Ilex decidua* Walter (possumhaw); P; S; MF, BF; O-030**Aristolochiaceae***Aristolochia tomentosa* Sims (woolly dutchman's pipe); P; V; MF; O-319**Asclepiadaceae***Asclepias incarnata* L. (swamp milkweed); P; F; WAV; O-343; (APW:Apocynaceae)*Asclepias syriaca* L. (common milkweed); P; F; DHV; O-094; (APW:Apocynaceae)*Cynanchum laeve* (Michx.) Pers. (honeysuckle); P; F; DHV; O-344; (APW:Apocynaceae)*Matelea gonocarpos* (Walter) Shinn. (angularfruit milkvine); P; F; MF, BF; O-110;
(APW:Apocynaceae)**Asteraceae***Ageratina altissima* (L.) King & H. Rob. var. *altissima* (white snakeroot); P; F; MF; O-410*Ambrosia artemisiifolia* L. (annual ragweed); A; F; DHV; O-351*Ambrosia trifida* L. (great ragweed); A; F; DHV; O-341*Amphiachyris dracunculoides* (DC.) Nutt. (prairie broomweed); A; F; DHV; O-405*Bidens polylepis* S.F. Blake (bearded beggarticks); A; F; WAV; O-421*Boltonia diffusa* Elliott (smallhead doll's daisy); P; F; WAV; O-413**Carduus nutans* L. (nodding plumeless thistle); B; F; DHV; O-138*Cirsium altissimum* (L.) Hill (tall thistle); B; F; DHV; O-225*Conyza canadensis* (L.) Cronquist (Canadian horseweed); A; F; DHV; O-245*Conyza ramosissima* Cronquist (dwarf horseweed); A; F; DHV; O-292*Coreopsis tinctoria* Nutt. (golden tickseed); A; F; DHV; O-097*Dracopis amplexicaulis* (Vahl) Cass. (clasping coneflower); A; F; DHV; O-108;
(FNA:*Rudbeckia amplexicaulis* Vahl)*Echinacea purpurea* (L.) Moench (eastern purple coneflower); P; F; DHV; O-251*Eclipta prostrata* (L.) L. (false daisy); A; F; WAV; O-125*Elephantopus carolinianus* Raeusch. (Carolina elephantsfoot); P; F; MF, BF; O-310*Erigeron annuus* (L.) Pers. (eastern daisy fleabane); A; F; DHV; O-150*Erigeron philadelphicus* L. var. *philadelphicus* (Philadelphia fleabane); P; F; DHV; O-067*Eupatorium serotinum* Michx. (lateflowering thoroughwort); P; F; DHV; O-332*Eutrochium purpureum* (L.) E.E. Lamont var. *purpureum* (sweetscented joe pye weed); P; F; MF;
O-268a*Gamochaeta purpurea* (L.) Cabrera (spoonleaf purple everlasting); P; F; DHV; O-099*Helianthus tuberosus* L. (Jerusalem artichoke); P; F; MF; O-408*Iva annua* L. (annual marshelder); A; F; DHV; O-315*Krigia caespitosa* (Raf.) K.L. Chambers (weedy dwarf dandelion); A; F; DHV; O-053;
(FNA:*Krigia caespitosa*)*Lactuca canadensis* L. (Canada lettuce); A; F; DHV; O-269*Lactuca floridana* (L.) Gaertn. (woodland lettuce); A; F; MF; O-313**Lactuca serriola* L. (prickly lettuce); A; F; DHV; O-353†*Lactuca tatarica* (L.) C.A. Mey. var. *pulchella* (Pursh) Breitung (blue lettuce); P; F; DHV; O-375;
(FNA:*Mulgedium pulchellum* (Pursh) G. Don)*Packera glabella* (Poir.) C. Jeffrey (butterweed); A; F; BF; O-066*Packera obovata* (Muhl. ex Willd.) W.A. Weber & Á. Löve (roundleaf ragwort); P; F; MF, BF; O-008

- Pluchea camphorata* (L.) DC. (camphor pluchea); P; F; WAV; O-309
Pyrrhopappus carolinianus (Walter) DC. (Carolina desert-chicory); A; F; DHV; O-113
Ratibida pinnata (Vent.) Barnhart (pinnate prairie coneflower); P; F; DHV; O-385
Rudbeckia hirta L. var. *pulcherrima* Farw. (blackeyed Susan); P; F; DHV; O-121
Rudbeckia triloba L. var. *triloba* (browneyed Susan); P; F; MF; O-415
Silphium asteriscus L. var. *asteriscus* (starry rosinweed); P; F; DHV; O-271
Silphium perfoliatum L. var. *perfoliatum* (cup plant); P; F; MF; O-235
Smallanthus uvedalius (L.) Mackenzie ex Small (hairy leafcup); P; F; MF; O-350;
(FNA: *Smallanthus uvedalia* (L.) Mack. ex Small)
Solidago gigantea Aiton (giant goldenrod); P; F; DHV; O-373
Solidago speciosa Nutt. var. *rigidiuscula* Torr. & A. Gray (showy goldenrod); P; F; DHV; O-293
Solidago ulmifolia Muhl. ex Willd. var. *ulmifolia* (elmleaf goldenrod); P; F; MF; O-306
**Sonchus asper* (L.) Hill (spiny sowthistle); A; F; DHV; O-147
Symphotrichum cordifolium (L.) G.L. Nesom (common blue wood aster); P; F; MF; O-419
Symphotrichum lanceolatum (Willd.) G.L. Nesom (white panicle aster); P; F; MF; O-423
Symphotrichum subulatum (Michx.) G.L. Nesom (eastern annual saltmarsh aster); A; F; DHV, WAV;
O-305
**Taraxacum officinale* F.H. Wigg. (common dandelion); P; F; DHV; O-025
Verbesina alternifolia (L.) Britton ex Kearney (wingstem); P; F; MF; O-374
Verbesina virginica L. (white crownbeard); P; F; MF; O-327
Vernonia baldwinii Torr. (Baldwin's ironweed); P; F; DHV; O-220
Xanthium strumarium L. (rough cocklebur); A; F; WAV; O-406

Bignoniaceae

- Campsis radicans* (L.) Seem. ex Bureau (trumpet creeper); P; V; MF, BF; O-236

Boraginaceae

- **Buglossoides arvensis* (L.) I.M. Johnston (corn gromwell); A; F; DHV; O-047
**Heliotropium indicum* L. (Indian heliotrope); A; F; WAV; O-328
Myosotis verna Nutt. (spring forget-me-not); A; F; BF; O-070

Brassicaceae

- **Capsella bursa-pastoris* (L.) Medik. (shepherd's purse); A; F; DHV; O-012
Cardamine concatenata (Michx.) Sw. (cutleaf toothwort); P; F; MF; O-009
**Cardamine hirsuta* L. (hairy bittercress); A; F; BF, DHV; O-018
Cardamine pennsylvanica Muhl. ex Willd. (Pennsylvania bittercress); P; F; DHV; O-188
†*Iodanthus pinnatifidus* (Michx.) Steud. (purplerocket); P; F; MF; O-058
Lepidium virginicum L. (Virginia pepperweed); A; F; DHV; O-172
Rorippa palustris (L.) Besser ssp. *palustris* (bog yellowcress); A; F; WAV; O-418
Rorippa sessiliflora (Nutt.) Hitchc. (stalkless yellowcress); A; F; BF; O-071

Campanulaceae

- Campanulastrum americanum* (L.) Small (American bellflower); A; F; MF; O-233
Triodanis biflora (Ruiz & Pav.) Greene (small Venus' looking-glass); A; F; DHV; O-100

Cannabaceae

- **Humulus japonicus* Siebold & Zucc. (Japanese hop); P; F; MF; O-349

Caprifoliaceae

**Lonicera japonica* Thunb. (Japanese honeysuckle); P; V; MF, BF; O-380

Sambucus nigra L. ssp. *canadensis* (L.) R. Bolli (common elderberry); P; S; MF; O-111;
(APW:Adoxaceae)

Symphoricarpos orbiculatus Moench (coralberry); P; S; MF; O-201

Viburnum rufidulum Raf. (rusty blackhaw); P; S; MF; O-054; (APW:Adoxaceae)

Caryophyllaceae

**Arenaria serpyllifolia* L. (thymeleaf sandwort); A; F; DHV; O-098

**Cerastium glomeratum* Thuill. (sticky chickweed); A; F; DHV; O-170

Sagina decumbens (Elliott) Torr. & Gray ssp. *decumbens* (trailing pearlwort); A; F; DHV; O-168

Silene stellata (L.) W.T. Aiton (widowsfrill); P; F; MF; O-112

**Stellaria media* (L.) Vill. (common chickweed); A; F; DHV; O-022

Celastraceae

Celastrus scandens L. (American bittersweet); P; V; MF; O-266

**Euonymus kiautschovicus* Loes. (creeping strawberry bush); P; S; MF; O-378

Chenopodiaceae

Chenopodium album L. (lambsquarters); A; F; DHV; O-416; (APW:Amaranthaceae)

Clusiaceae

Hypericum punctatum Lam. (spotted St. Johnswort); P; F; DHV; O-217; (APW:Hypericaceae)

Convolvulaceae

Ipomoea lacunosa L. (whitestar); A; F; DHV; O-321

Ipomoea pandurata (L.) G. Mey. (man of the earth); P; F; MF; O-264

Cornaceae

Cornus drummondii C.A. Mey. (roughleaf dogwood); P; T; MF; O-032

Crassulaceae

Penthorum sedoides L. (ditch stonecrop); P; F; WAV; O-243; (APW:Penthoraceae)

Cucurbitaceae

Melothria pendula L. (Guadeloupe cucumber); P; F; DHV; O-242

Cuscutaceae

Cuscuta gronovii Willd. ex Schult. (scaldweed); P; F; DHV; O-393; (APW:Convolvulaceae)

Ebenaceae

Diospyros virginiana L. (common persimmon); P; T; MF; O-057

Euphorbiaceae

Acalypha rhomboidea Raf. (Virginia threeseed mercury); A; F; BF; O-399

Chamaesyce nutans (Lag.) Small (eyebane); A; F; DHV; O-314

Chamaesyce prostrata (Aiton) Small (prostrate sandmat); A; F; DHV; O-250

Croton glandulosus L. (vente conmigo); A; F; DHV; O-407

**Euphorbia davidii* Subils (David's spurge); A; F; DHV; O-346
Euphorbia dentata Michx. (toothed spurge); A; F; MF; O-316

Fabaceae

**Albizia julibrissin* Durazz. (silktree); P; T; MF; O-311
Amorpha fruticosa L. (desert false indigo); P; S; WAV; O-357
Amphicarpaea bracteata (L.) Fernald (American hogpeanut); A; F; MF; O-382
Apios americana Medik. (groundnut); P; F; WAV; O-234
Cercis canadensis L. (eastern redbud); P; T; MF; O-042
Chamaecrista fasciculata (Michx.) Greene (sleepingplant); A; F; DHV; O-240
Desmanthus illinoensis (Michx.) MacMill. ex B.L. Rob. & Fernald (prairie bundleflower); P; F; DHV; O-237
†*Desmodium illinoense* A. Gray (Illinois ticktrefoil); P; F; DHV; O-329
Desmodium paniculatum (L.) DC. (panicledleaf ticktrefoil); P; F; MF; O-105
†*Desmodium pauciflorum* (Nutt.) DC. (fewflower ticktrefoil); P; F; MF; O-261
Gymnocladus dioica (L.) K. Koch (Kentucky coffeetree); P; F; MF; O-203
**Kummerowia stipulacea* (Maxim.) Makino (Korean clover); A; F; DHV; O-355
**Lespedeza cuneata* (Dum. Cours.) G. Don (Chinese lespedeza); P; F; DHV; O-294
Lespedeza repens (L.) W.P.C. Barton (creeping lespedeza); P; F; MF; O-318
**Medicago lupulina* L. (black medick); A; F; DHV; O-426
**Mellilotus officinalis* (L.) Lam. (yellow sweetclover); A; F; DHV; O-134
Robinia pseudoacacia L. (black locust); P; T; BF; O-387
Senna marilandica (L.) Link (Maryland senna); P; F; WAV; O-320
Sesbania herbacea (Mill.) McVaugh (bigpod sesbania); A; F; WAV; O-325
Strophostyles helvola (L.) Elliott (amberique-bean); A; F; DHV; O-345
**Trifolium campestre* Schreb. (field clover); A; F; DHV; O-088
**Trifolium repens* L. (white clover); P; F; DHV; O-080
**Vicia sativa* L. (garden vetch); A; F; DHV; O-173
**Vicia villosa* Roth ssp. *varia* (Host) Corb. (winter vetch); A; F; DHV; O-128

Fagaceae

Quercus macrocarpa Michx. (bur oak); P; T; MF, BF; O-300
Quercus muehlenbergii Engelm. (chinkapin oak); P; T; MF; O-267a
Quercus palustris Münchh. (pin oak); P; T; BF; O-273
Quercus rubra L. (northern red oak); P; T; MF; O-298
Quercus shumardii Buckley (Shumard's oak); P; T; MF; O-301

Fumariaceae

Corydalis flavula (Raf.) DC. (yellow fumewort); A; F; BF; O-020; (FNA: Papaveraceae)

Geraniaceae

Geranium carolinianum L. (Carolina geranium); A; F; DHV; O-162
**Geranium pusillum* L. (small geranium); A; F; DHV; O-061

Juglandaceae

Carya cordiformis (Wangenh.) K. Koch (bitternut hickory); P; T; MF; O-063
Carya illinoensis (Wangenh.) K. Koch (pecan); P; T; MF, BF; O-048
Juglans nigra L. (black walnut); P; T; MF; O-358

Lamiaceae

- **Lamium amplexicaule* L. (henbit deadnettle); A; F; DHV; O-024
 **Lamium purpureum* L. (purple deadnettle); A; F; DHV; O-016
Lycopus americanus Muhl. ex W.P.C. Barton (American water horehound); P; F; WAV; O-222
Monarda fistulosa L. (wild bergamot); P; F; DHV; O-383
 **Perilla frutescens* (L.) Britton (beefsteakplant); A; F; MF; O-359
Prunella vulgaris L. (common selfheal); P; F; MF; O-118
Scutellaria lateriflora L. (blue skullcap); P; F; BF; O-409
Stachys tenuifolia Willd. (smooth hedgenettle); P; F; BF; O-249
Teucrium canadense L. (Canada germander); P; F; WAV; O-210

Lauraceae

- Lindera benzoin* (L.) Blume (northern spicebush); P; S; MF, BF; O-014

Lentibulariaceae

- Utricularia gibba* L. (humped bladderwort); P; F; WAV; O-255

Lythraceae

- Ammannia auriculata* Willd. (eared redstem); A; F; WAV; O-254
Lythrum alatum Pursh (winged lythrum); P; F; WAV; O-259

Malvaceae

- Callirhoe papaver* (Cav.) A. Gray (woodland poppymallow); P; F; MF; O-117
Hibiscus laevis All. (halberdleaf rosemallow); P; F; WAV; O-256
Hibiscus lasiocarpus Cav. (rosemallow); P; F; WAV; O-246
Sida spinosa L. (prickly fanpetals); A; F; DHV; O-425

Menispermaceae

- †*Calyccarpum lyonii* (Pursh) A. Gray (cupseed); P; V; MF; O-115
Cocculus carolinus (L.) DC. (Carolina coralbead); P; V; MF, BF; O-390
Menispermum canadense L. (common moonseed); P; V; MF, BF; O-223

Molluginaceae

- Mollugo verticillata* L. (green carpetweed); A; F; DHV; O-244

Moraceae

- Maclura pomifera* (Raf.) C.K. Schneid. (osage orange); P; T; BF; O-339
 **Morus alba* L. (white mulberry); P; T; MF; O-389
Morus rubra L. (red mulberry); P; T; MF, BF; O-303

Nelumbonaceae

- Nelumbo lutea* Willd. (American lotus); P; F; WAV; O-229

Oleaceae

- Fraxinus americana* L. (white ash); P; T; MF, BF; O-265
Fraxinus pennsylvanica Marshall (green ash); P; T; BF; O-051
 **Ligustrum vulgare* L. (European privet); P; S; MF, BF; O-267

Onagraceae

- Gaura longiflora* Spach (longflower beeblossom); A; F; DHV; O-352
Ludwigia peploides (Kunth) P.H. Raven (floating primrose-willow); P; F; WAV; O-278
Oenothera villosa Thunb. (hairy evening-primrose); P; F; DHV; O-348

Oxalidaceae

- Oxalis corniculata* L. (creeping woodsorrel); P; F; DHV; O-164
Oxalis dillenii Jacq. (slender yellow woodsorrel); P; F; MF; O-089

Passifloraceae

- Passiflora incarnata* L. (purple passionflower); P; F; DHV; O-241
Passiflora lutea L. (yellow passionflower); P; F; MF, BF; O-107

Phytolaccaceae

- Phytolacca americana* L. var. *americana* (American pokeweed); P; F; MF; O-131

Plantaginaceae

- **Plantago lanceolata* L. (narrowleaf plantain); P; F; DHV; O-296
Plantago rugelii Decne. (blackseed plantain); P; F; MF, DHV; O-127
Plantago virginica L. (Virginia plantain); A; F; DHV; O-119

Polemoniaceae

- Phlox divaricata* L. (wild blue phlox); P; F; MF, BF; O-065

Polygonaceae

- **Polygonum aviculare* L. (prostrate knotweed); A; F; DHV; O-417
Polygonum hydropiperoides Michx. (swamp smartweed); P; F; WAV; O-274; (FNA:*Persicaria hydropiperoides* (Michx.) Small)
Polygonum lapathifolium L. (curlytop knotweed); A; F; WAV; O-295; (FNA:*Persicaria lapathifolia* (L.) Gray)
Polygonum pennsylvanicum L. (Pennsylvania smartweed); A; F; WAV; O-297; (FNA:*Persicaria pennsylvanica* (L.) M. Gómez)
Polygonum punctatum Elliott (dotted smartweed); A; F; WAV; O-219; (FNA:*Persicaria punctata* (Elliott) Small)
Polygonum tenue Michx. (pleatleaf knotweed); A; F; DHV; O-126
Polygonum virginianum L. (jumpseed); P; F; MF; O-212; (FNA:*Persicaria virginiana* (L.) Gaertn.)
Rumex altissimus Alph. Wood (pale dock); P; F; WAV; O-046
**Rumex crispus* L. (curly dock); P; F; DHV; O-079
†*Rumex verticillatus* L. (swamp dock); P; F; WAV; O-181

Portulacaceae

- Claytonia virginica* L. (Virginia springbeauty); P; F; DHV; O-005; (APW:Montiaceae)

Ranunculaceae

- Clematis pitcheri* Torr. & A. Gray (bluebill); P; V; BF; O-248
**Clematis terniflora* DC. var. *terniflora* (sweet autumn virginsbower); P; F; BF; O-403;
(FNA:*Clematis terniflora* DC.)
Ranunculus micranthus Nutt. (rock buttercup); P; F; DHV; O-163

Ranunculus sceleratus L. var. *sceleratus* (cursed buttercup); A; F; BF; O-069
† *Thalictrum revolutum* DC. (waxyleaf meadow-rue); P; F; MF; O-109

Rosaceae

Agrimonia pubescens Wallr. (soft agrimony); P; F; MF; O-257
Crataegus viridis L. (green hawthorn); P; T; BF; O-179
Geum canadense Jacq. (white avens); P; F; MF; O-139
Geum vernum (Raf.) Torr. & A. Gray (spring avens); P; F; BF; O-068
† *Potentilla rivalis* Nutt. (brook cinquefoil); P; F; WAV; O-384
Prunus hortulana L.H. Bailey (hortulan plum); P; T; BF; O-184
Prunus mexicana S. Watson (Mexican plum); P; T; BF; O-095
Prunus serotina Ehrh. (black cherry); P; T; BF; O-140
* *Pyrus calleryana* Decne. (Callery pear); P; T; BF; O-331
* *Pyrus communis* L. (common pear); P; T; MF; O-010
Rosa setigera Michx. (climbing rose); P; V; MF; O-101
Rubus argutus Link (sawtooth blackberry); P; SS; DHV; O-182

Rubiaceae

Cephalanthus occidentalis L. (common buttonbush); P; S; WAV; O-205
* *Cruciata pedemontana* (Bellardi) Ehrend. (piedmont bedstraw); A; F; DHV; O-060
Galium aparine L. (stickywilly); A; F; DHV; O-037
Galium circaezans Michx. (licorice bedstraw); P; F; MF, BF; O-149
Houstonia pusilla Schoepf (tiny bluet); A; F; DHV; O-004
* *Sherardia arvensis* L. (blue fieldmadder); A; F; DHV; O-059

Rutaceae

Zanthoxylum americanum Mill. (common pricklyash); P; S; MF; O-299

Salicaceae

Salix nigra Marshall (black willow); P; T; WAV; O-178

Sapotaceae

Sideroxylon lanuginosum Michx. ssp. *lanuginosum* (gum bully); P; T; BF; O-324

Scrophulariaceae

† *Dasistoma macrophylla* (Nutt.) Raf. (mullein foxglove); A; F; MF; O-258; (APW:Orobanchaceae)
Griatiola neglecta Torr. (clammy hedgehyssop); A; F; WAV; O-072; (APW:Plantaginaceae)
Lindernia dubia (L.) Pennell (yellowseed false pimpernel); A; F; DHV; O-253; (APW:Linderniaceae)
Mimulus alatus Aiton (sharpwing monkeyflower); P; F; WAV; O-238; (APW:Phymaceae)
* *Veronica arvensis* L. (corn speedwell); A; F; DHV; O-171; (APW:Plantaginaceae)
Veronica peregrina L. (neckweed); A; F; DHV; O-174; (APW:Plantaginaceae)
* *Veronica polita* Fri. (gray field speedwell); A; F; BF; O-003; (APW:Plantaginaceae)

Solanaceae

Physalis angulata L. (cutleaf groundcherry); A; F; DHV; O-333
Physalis longifolia Nutt. (longleaf groundcherry); P; F; DHV; O-342
Solanum americanum P. Mill. (American black nightshade); P; F; BF; O-400
Solanum carolinense L. (Carolina horsenettle); P; F; DHV; O-103

Ulmaceae

Celtis laevigata Willd. (sugarberry); P; T; MF, BF; O-183

Ulmus americana L. (American elm); P; T; BF; O-002

Ulmus rubra Muhl. (slippery elm); P; T; BF; O-036

Urticaceae

Boehmeria cylindrica (L.) Sw. (smallspike false nettle); P; F; MF; O-202

Laportea canadensis (L.) Weddell (Canadian woodnettle); P; F; MF; O-260

† *Urtica chamaedryoides* Pursh (heartleaf nettle); A; F; MF; O-006

Valerianaceae

Valerianella radiata (L.) Dufr. (beaked cornsalad); A; F; DHV; O-038; (APW:Caprifoliaceae)

Verbenaceae

Phryma leptostachya L. (American lopseed); P; F; MF; O-231; (APW:Phrymaceae)

Phyla lanceolata (Michx.) Greene (lanceleaf fogfruit); P; F; WAV; O-086

Verbena urticifolia L. (white vervain); P; F; MF; O-228

Violaceae

Viola bicolor Pursh (field pansy); A; F; DHV; O-001

Viola missouriensis Greene (Missouri violet); P; F; BF; O-169

Viola pubescens Aiton var. *pubescens* (downy yellow violet); P; F; MF; O-062

Viola sororia Willd. (common blue violet); P; F; MF, BF; O-017

Vitaceae

Ampelopsis cordata Michx. (heartleaf peppervine); P; V; MF, BF; O-136

Parthenocissus quinquefolia (L.) Planch. (Virginia creeper); P; V; MF, BF; O-360

Vitis cinerea (Engelm.) Engelm. ex Millard (graybark grape); P; V; MF, BF; O-082

Vitis vulpina L. (frost grape); P; V; MF; O-155

Liliopsida

Alismataceae

Alisma subcordatum Raf. (American water plantain); P; F; WAV; O-211

Sagittaria graminea Michx. (grassy arrowhead); P; F; WAV; O-277

Sagittaria platyphylla (Engelm.) J.G. Sm. (delta arrowhead); P; F; WAV; O-388

Araceae

Arisaema dracontium (L.) Schott (green dragon); P; F; MF; O-116

Commelinaceae

Commelina erecta L. (whitemouth dayflower); P; F; DHV; O-322

Cyperaceae

Carex brevior (Dewey) Mack. (shortbeak sedge); P; G; DHV; O-192

Carex caroliniana Schwein. (Carolina sedge); P; G; WAV; O-186

Carex cherokeensis Schwein. (Cherokee sedge); P; G; BF; O-189

Carex davisii Schwein. & Torr. (Davis' sedge); P; G; BF; O-200

Carex granularis Muhl. ex Willd. (limestone meadow sedge); P; G; DHV; O-177

Carex hyalinolepis Steud. (shoreline sedge); P; G; BF; O-195

Carex leavenworthii Dewey (Leavenworth's sedge); P; G; DHV; O-197
Carex lupulina Muhl. ex Willd. (hop sedge); P; G; WAV; O-159
Carex muehlenbergii Schkuhr ex Willd. var. *muehlenbergii* (Muhlenberg's sedge); P; G; DHV; O-166
Carex retroflexa Muhl. ex Willd. (reflexed sedge); P; G; DHV; O-193
Carex scoparia Schkuhr ex Willd. var. *scoparia* (broom sedge); P; G; WAV; O-154
Carex tribuloides Wahlenb. var. *sangamonensis* Clokey (blunt broom sedge); P; G; WAV; O-085
Cyperus acuminatus Torr. & Hook. ex Torr. (tapertip flatsedge); P; G; WAV; O-073
Cyperus echinatus (L.) Alph. Wood (globe flatsedge); P; G; DHV; O-209
Cyperus strigosus L. (strawcolored flatsedge); P; G; DHV, WAV; O-275
Eleocharis obtusa (Willd.) Schult. (blunt spikerush); A; G; WAV; O-213
Eleocharis palustris (L.) Roem. & Schult. (common spikerush); P; G; WAV; O-398

Iridaceae

Sisyrinchium angustifolium Mill. (narrowleaf blue-eyed grass); P; F; DHV; O-052

Juncaceae

Juncus acuminatus Michx. (tapertip rush); P; G; WAV; O-158
Juncus brachycarpus Engelm. (whiteroot rush); P; G; WAV; O-075
Juncus diffusissimus Buckl. (slimpod rush); P; G; WAV; O-074
Juncus effusus L. (common rush); P; G; WAV; O-135
Juncus interior Wiegand (inland rush); P; G; DHV, WAV; O-087
Juncus tenuis Willd. (poverty rush); P; G; DHV; O-152

Lemnaceae

Lemna minor L. (common duckweed); P; F; WAV; O-280; (APW:Araceae)
Spirodela polyrrhiza (L.) Schleid. (common duckmeat); P; F; WAV; O-279; (APW:Araceae)
Wolffia columbiana Karst. (Columbian watermeal); P; F; WAV; O-281; (APW:Araceae)

Liliaceae

Allium canadense L. (meadow garlic); P; F; DHV; O-124; (APW:Amaryllidaceae)
Camassia scilloides (Raf.) Cory (Atlantic camas); P; F; DHV; O-064; (APW:Asparagaceae)
Erythronium albidum Nutt. (white fawnlily); P; F; MF; O-007; (APW:Liliaceae)
 **Liriope spicata* (Thunb.) Lour. (creeping liriope); P; F; MF; O-204; (APW:Asparagaceae)
Nothoscordum bivalve (L.) Britton (crowpoison); P; F; DHV; O-026; (APW:Amaryllidaceae)
Polygonatum biflorum (Walter) Elliott (smooth Solomon's seal); P; F; MF; O-045; (APW:Asparagaceae)

Poaceae

Andropogon gerardii Vitman (big bluestem); P; G; DHV; O-227
Arundinaria gigantea (Walter) Muhl. (giant cane); P; G; BF; O-302
Bothriochloa saccharoides (Sw.) Rydb. (silver bluestem); P; G; DHV; O-371
 **Bromus catharticus* Vahl (rescuegrass); A; G; DHV; O-029
Bromus pubescens Muhl. ex Willd. (hairy woodland brome); P; G; MF, BF; O-076
 **Bromus racemosus* L. (bald brome); A; G; DHV; O-122
 **Bromus sterilis* L. (poverty brome); A; G; DHV; O-081
Chasmanthium latifolium (Michx.) Yates (Indian woodoats); P; G; MF, BF; O-207
Cinna arundinacea L. (sweet woodreed); P; G; BF; O-326
 **Cynodon dactylon* (L.) Pers. (Bermudagrass); P; G; DHV; O-304
Diarrhena obovata (Gleason) Brandenburg (obovate beakgrain); P; G; MF; O-215

Dichanthelium malacophyllum (Nash) Gould (softleaf rosette grass); P; G; MF; O-148
Digitaria ciliaris (Retz.) Koeler (southern crabgrass); A; G; DHV; O-268
**Echinochloa colona* (L.) Link (jungle rice); A; G; DHV; O-347
Echinochloa muricata (P. Beauv.) Fernald (rough barnyardgrass); A; G; DHV, WAV; O-218
**Eleusine indica* (L.) Gaertn. (Indian goosegrass); A; G; DHV; O-239
Elymus villosus Muhl. ex Willd. (hairy wildrye); P; G; MF; O-144
Elymus virginicus L. (Virginia wildrye); P; G; MF, BF; O-224
**Eragrostis cilianensis* (All.) Vign. ex Janchen (stinkgrass); A; G; DHV; O-376
Eragrostis hypnoides (Lam.) Britton, Sterns & Poggenb. (teal lovegrass); A; G; WAV; O-307
Eragrostis lugens Ness (morning lovegrass); P; G; DHV; O-370
**Eragrostis pilosa* (L.) P. Beauv. (Indian lovegrass); A; G; DHV; O-252
Festuca subverticillata (Pers.) Alexeev (nodding fescue); P; G; MF; O-083
Hordeum pusillum Nutt. (little barley); A; G; DHV; O-028
†*Muhlenbergia bushii* Pohl (nodding muhly); P; G; BF; O-414
Panicum anceps Michx. (beaked panicgrass); P; G; MF, WAV; O-206
Panicum dichotomiflorum Michx. (fall panicgrass); A; G; DHV; O-356
Panicum rigidulum Bosc ex Nees (redtop panicgrass); P; G; WAV; O-334
Panicum virgatum L. (switchgrass); P; G; DHV; O-226
**Paspalum dilatatum* Poir. (dallisgrass); P; G; DHV; O-157
Paspalum floridanum Michx. (Florida paspalum); P; G; DHV; O-354
**Poa annua* L. (annual bluegrass); A; G; DHV; O-021
**Poa pratensis* L. (Kentucky bluegrass); P; G; DHV; O-198
Poa sylvestris A. Gray (woodland bluegrass); P; G; MF; O-050
**Schedonorus pratensis* (Huds.) P. Beauv. (meadow fescue); P; G; DHV; O-102
Setaria parviflora (Poir.) Kerguelen (marsh bristlegrass); P; G; DHV; O-221
**Setaria pumila* (Poir.) Roem. & Schult. (yellow foxtail); A; G; DHV; O-372
Sorghastrum nutans (L.) Nash (Indiangrass); P; G; DHV; O-323
**Sorghum halepense* (L.) Pers. (Johnsongrass); P; G; DHV; O-208
Tridens flavus (L.) Hitchc. (purpletop tridens); P; G; DHV; O-270
Tridens strictus (Nutt.) Nash (longspike tridens); P; G; DHV; O-420
Tripsacum dactyloides (L.) L. (eastern gamagrass); P; G; DHV; O-137

Smilacaceae

Smilax bona-nox L. (saw greenbrier); P; V; MF, BF; O-091
†*Smilax lasioneura* Hook. (Blue Ridge carrionflower); P; V; MF; O-093
Smilax rotundifolia L. (roundleaf greenbrier); P; V; BF; O-185
Smilax tamnoides L. (bristly greenbrier); P; V; MF, BF; O-056

Typhaceae

**Typha angustifolia* L. (narrowleaf cattail); P; F; WAV; O-156