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A NEW SITE FOR *CAREX SPRENGELII* (CYPERACEAE) IN MISSOURI

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Long-beaked sedge (*Carex sprengelii* Dewey) is widespread in temperate North America. Its range extends from Quebec west to British Columbia, south to Colorado, and east to Missouri, Indiana and Virginia (Great Plains Flora Association, 1986;Yatskievych, 1999; Flora of North America Editorial Committee, 2002). Habitat listed for the species includes "prairies and sandy areas, but primarily wooded areas" and "dry to mesic deciduous forests and forest openings, floodplain forests and riverbanks, lakeshores, limestone river bluffs, mixed conifer-hardwood forests, thickets, meadows, roadsides, often associated with calcareous rocks and soils" (Great Plains Flora Association, 1986; Flora of North America Editorial Committee, 2002).

Historically, *C. sprengelii* was known in Missouri from a single collection by Bill Summers and George Yatskievych on 1 June 1993 from the Missouri Department of Conservation's Brickyard Hill Conservation Area in Atchinson County. The species was discovered in an opening of a mesic upland forest on deep loess soil (Yatskievych, 1999). Brad Jacobs (Missouri Department of Conservation) and I unsuccessfully attempted to relocate *C. sprengelii* at the original site on 11 June 1997.

I searched for *C. sprengelii* in mesic upland forests of the Squaw Creek National Wildlife Refuge on 1 May 2003 and discovered two colonies in deep loess soil along the upper ⅔ of a rich, east-facing slope above a small tributary of Canon Creek. The site has a shaded mature hardwood forest dominated by oak (*Quercus* spp.), hickory (*Carya* spp.), and white ash (*Fraxinus americana*), with a sparse understory that includes a few clumps of *Carex radiata, C. rosea*, and *C. blanda*. Two clumps of *C. sprengelii* with 80 and 40 culms, respectively, were discovered within 1 m of one another. An extensive search of several adjacent slopes failed to yield any additional plants.

Carex sprengelii belongs to the section *Hymenochlaenae*, which contains six attractive species in Missouri (*C. cherokeensis, C. davisii, C.*

debilis, C.gracillima, C. oxylepis, C. prasina, and *C. sprengelii*). With the exception of the widely distributed *C. davisii*, all members of this section are listed in the Missouri Species and Communities of Conservation Concern Checklist (Missouri Natural Heritage Program, 2003). Most species in this section can be readily recognized in the field by the presence of numerous perigynia scattered along long, pendulous pistillate spikes and staminate spikes that often have a few to several pistillate flowers toward the base. *Carex sprengelii* can be distinguished from other members of the section by the combination of well developed rhizomes, brown leaf bases that become dissected into a dense mass of fibers, and perigynia that are (4.1–)4.5–7.7mm long with a long tubular beak about as long or longer than the main body of the perigynium (Great Plains Flora Association, 1986; Yatskievych, 1999; Fig. 1).

Voucher Data.—**Holt County**: Squaw Creek National Wildlife Refuge, ca. 2.0 mi. NE of the intersection of Routes 159 and 111; T38N R28W S29 SW¼ of SW¼, Kimsey Creek 7.5' Quadrangle, 2 clumps with 80 and 40 culms on upper ⅔ of rich E-facing slope with deep loess soil above tributary to Canon Creek; mature hardwood forest dominated by *Quercus* spp., *Carya* spp., and *Fraxinus americana*; with *Carex radiata, C. rosea*, and *C. blanda*; 1 May 2003, *P.M. McKenzie 2072* (MO).

Squaw Creek National Wildlife Refuge apparently is the southernmost locality documented for this species. It is likely that additional searches of mature hardwood forests on deep loess soil in Atchinson and Holt counties will yield other populations of *C. sprengelii*. The following public lands with appropriate habitat should be targeted for surveys: Star School Hill Prairie Conservation Area (Atchison County), Jamerson C. McCormack Conservation Area, and Riverbreaks Conservation Area (Holt County). Additional searches should also be conducted at Brickyard Hill Conservation Area and Squaw Creek National Wildlife Refuge.

Botanical nomenclature listed herein follows Yatskievych (1999) or Yatskievych and Turner (1990).

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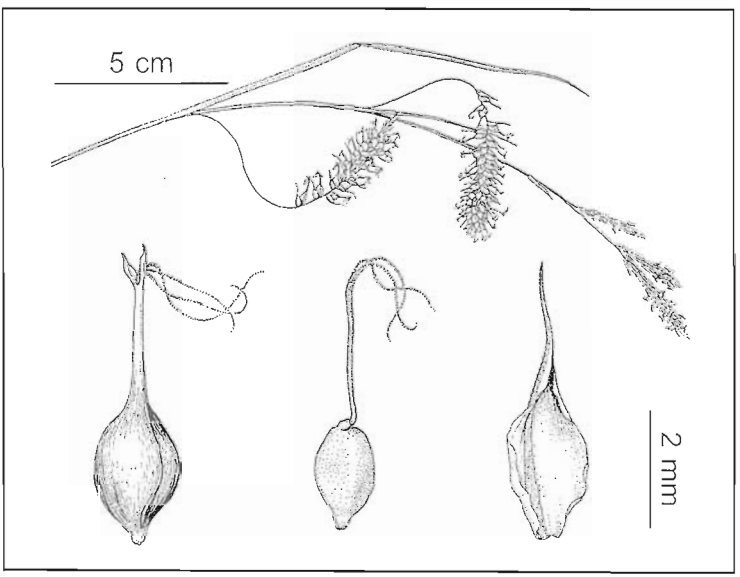

Fig. 1. *Carex sprengelii*. Adapted from Yatskievych (1999).

Notes on the Missouri Cyperaceae as Discussed in *Flora of North America Volume 23*

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The much anticipated Cyperaceae (Vol. 23) portion of the *Flora of North America North of Mexico* series (FNA) was published recently (Flora of North America Editorial Committee, 2002). Overall, it is a remarkable achievement for a family that is taxonomically difficult and includes many challenging genera. All 843 species of Cyperaceae known to occur in the flora area up to the publication date are covered in a concise but informative format. Information is provided on whether: 1) a species is native, endemic, or introduced to the area covered by the Flora; 2) it is a weedy species; 3) it is illustrated; and 4) it is of conservation concern (i.e., G1 or G2 under NatureServe's global rankings). dichotomous keys are provided for the genera, species, and infraspecific taxa. Also provided for each species are a description and notes on fruiting period, associated habitats, North American distribution, and nomenclature when appropriate.

Despite the rather thorough treatment of each group, there are significant deviations from treatments in Yatskievych (1999) that should be brought to the attention of botanists across the state of Missouri. Such deviations include differences of opinion on the correct taxonomy for a particular taxon, inclusion of taxa not listed in Yatskievych's (1999) treatment, and/or omissions of well-documented Missouri taxa from FNA. Although some omissions are understandable for very recent records for Missouri (e.g., *Scheonoplectus californicus*), others involving well established records (e.g., *Carex comosa* and *Fuirena simplex* var. *simplex*) or ones in which the author of a specific group had earlier verified the existence of a particular taxon in the state (e.g., *Kyllinga gracillima*), are difficult to understand, especially given that all contributors had access to Missouri material, received duplicate specimens, or received review comments from the Flora of Missouri Project (George, Yatskievych, pers. comm.). In some cases, independent published accounts for particular species (e.g., Carter and Bryson [1991] for *Cyperus ×mesochorus* or Johnson [1998] for *Cyperus difformis*) also were available.

Below is a list of differences in FNA from information provided in Yatskievych (1999). In most cases, nomenclatural changes were the result of research published after 1999 (e.g., information published by Nazci and Ford [2001] for *Carex timida* and for *Carex* section *Phyllostachyae*). In other cases, differences are due to differing interpretations of taxonomy or nomenclature by Yatskievych (1999). In these instances, the reader is encouraged to read justifications provided by that author. Given that: 1) interpretations of suggested nomenclatural changes are probably beyond the scope of most students of Missouri's flora, and 2) Yatskievych's 1999 treatment will likely be the treatment of choice in keying the state's monocots for some time to come, volume 1 of the revision to Steyermark's *Flora of Missouri* should remain the preferred reference. However, continued additions or changes in tyaxonomy, nomenclature, and/or distribution of Missouri taxa will inevitably continue to accrue, and hopefully will continue to be reported regularly in future papers in Missouriensis.

SUMMARY OF DIFFERENCES BETWEEN FNA VOL. 23 AND STEYERMARK'S FLORA OF MISSOURI VOL. 1

1. Changes to sections of *Carex*.—These reflect recent research on sectional nomenclature and delimitations that postdates Yatskievych (1999).

Carex sartwellii Dewey is placed in section *Holarrhenae* in FNA rather than section *Intermediae*.

Carex joori L.H. Bailey is included in section *Glaucescentes* in FNA, not section *Pendulinae*.

Carex hirtifolia Mack. is placed in section *Hirtifoliae* in FNA, instead of section *Triquetrae*.

Carex leptalea Wahlenb. is classified into section *Leptocephalae* in FNA, not section *Polytrichoideae*.

The spelling of section *Phyllostachys* has been corrected to *Phyllostachyae*.

2. Taxa not reported as occurring in Missouri in FNA, but which do occur in the state.—These reflect errors of omission in FNA, as verified specimens and/or published accounts (Steyermark, 1963; Yatskievych and Turner, 1990; Carter and Bryson, 1991; Johnson, 1998; Yatskievych, 1999) exist that were available to FNA contributors during their research.

Carex comosa Boott (documented from eleven counties in the state).

Carex albicans (Willd.) Spreng. var. *australis* (L.H. Bailey) Rettig (see below under var. *emmonsii*).

Carex tonsa (Fernald) E.P. Bickn. (known only from historical material that apparently has been lost).

Cyperus difformis L. (this species was collected in Carroll County too late to allow inclusion by Yatskievych [1999], but was published as new to the state by Johnson [1998] and was overlooked by the authors of the *Cyperus* treatment in FNA).

Cyperus lupulinus (Spreng.) Marcks ssp. *macilentus* (Fernald) Marcks (numerous records from the state).

Cyperus ×*mesochorus* Geise (reported by Carter and Bryson [1991]).

Cyperus polystachyos Rottb. (numerous records from the Missouri Bootheel; note that Yatskievych [1999] treated the Missouri plants as var. *texensis* (Torr.) Fernald).

Fuirena simplex Vahl var. *simplex* (the most common variety in the state).

3. Taxa not previously reported for Missouri.—

Carex aureolensis Steud. (similar to *C. frankii* but with longer rhizomes and narrower pistillate scales; only recently recognized as a valid taxon).

Carex lonchocarpa Willd. ex Spreng. (mapped for Missouri in FNA, undoubtedly in error; a mostly Coastal Plain species that is not included in the text portion of the FNA account).

Cyperus retrorsus Chapm. (a native species included based on a single historical specimen from Dunklin County originally reported by Carter [1984] but excluded by Yatskievych [1999]; more recently, a voucher at MO has been re-examined and found to have been correctly determined as this taxon).

Eleocharis brittonii Svenson ex Small (although Missouri is listed within the range of this this native species and is depicted on an accompanying range map, the basis for this record is unknown and the author failed to mention Missouri for the two variants discussed within the complex).

Eleocharis coloradoensis (Britton) Gilly (not recognized by Yatskievych [1999] and the Missouri status is suspect; this segregate of *E. parvula* (Roem. & Schult.) Link with minute tuberous thickenings among the roots was reported in

FNA based upon a single questionable individual on a sheet at MO that contains several other plants from the same population that are typical *E. parvula*).

Eleocharis compressa Sull. var. *acutisquamata* (Buckley) S.G. Sm. (recently published; the status of this native taxon in Missouri is unknown and needs further investigation).

Rhynchospora globularis (Chapm.) Small var. *globularis* (the basis for the presence of this southeastern taxon is unknown and the Missouri report needs verification).

4. Taxa not accepted by Yatskievych (1999).—These represent differences in taxonomic interpretation between the two works.

Carex crinita Lam. var. *crinita* and var. *brevicrinis* Fernald (varieties not accepted by Yatskievych [1999] for this species).

Carex floridana Schwein. (treated as a variety of *Carex nigromarginata* by Yatskievych [1999] based upon the existence of intermediate specimens from Missouri).

Carex *tribuloides* (Wahlenb.) var. *sangamonensis* Clokey (varieties for this species discussed but not formally treated by Yatskievych [1999]).

Cyperus esculentus L. var. *leptostachyus* Boeck. (treated only in discussion under the species by Yatskievych [1999]).

Eleocharis engelmannii Steud. and *E. obtusa* (Willd.) Schult. (placed in synonymy under *E. ovata* (Roth) Roem. & Schult. by Yatskievych [1999]).

Eleocharis macrostachya Britton (placed in synonymy with *E. palustris* L. by Yatskievych [1999]).

Eleocharis tenuis (Willd.) Schult. var. *verrucosa* (Svenson) Svenson (recognized as a separate species, *E. verrucosa* (Svenson) L.J. Harms by Yatskievych [1999])

Rhynchospora recognita (Gale) Kral (treated as a variety under *R. globularis* (Chapm.) Small by Yatskievych [1999]].

5. Taxa treated in Yatskievych (1999) but excluded or listed under a different name in FNA.—These represent nomenclatural corrections or differences in taxonomic interpretation between the two works.

Scleria reticularis Michx. var. *pubescens* (treated under the segregate species name *S. muhlenbergii* Steud. in FNA).

Carex vesicaria L. var. *monile* (Tuck.) Fernald (variety not mentioned in FNA).

Isolepis molesta (M.C. Johnst.) S.G. Sm. (lumped into the Old World taxon *I. pseudosetacea* (Daveau) Gandoger in FNA).

Fimbristylis littoralis Gaud. (treated as the segregate taxon *F. miliacea* (L.) Vahl as FNA).

6. Apparent errors in the FNA text.—

Carex albicans Willd. var. *emmonsii* (Dewey ex Torr.) Rettig (Plants included in this variety in FNA were treated as var. *australis* in Yatskievych [1999], who considered var. *emmonsii* to occur only in other states; the FNA report appears to be in error, based on annotations of the few Missouri specimens by several botanists as var. *australis*).

S.G. Smith correctly listed Missouri within the range of *Eleocharis wolfii* (A. Gray) A. Gray ex Britton and the accompanying range map depicts the same. Duplicates of specimens of *E. wolfii* collected by McKenzie were made available to the author of the FNA account, who also personally annotated other Missouri specimensat MO. Additionally, McKenzie and Jacobs (2000) provided an update on recent discoveries of the species in Missouri, which was made available to the author of the FNA account. Consequently, his statement in the FNA text, "I have not seen specimens to verify literature reports from Alberta, Saskatchewan, Colorado, Missouri, and Nebraska," is difficult to understand.

One downside to the FNA format is that some illustrations of sedge habits and inflorescences are printed at too small a scale to allow easy use by inexperienced users. Also, the achenes of many species of *Carex* and *Cyperus* are not illustrated. This is to be expected, however, for a treatment that covers 843 sedge taxa. The illustrations of achenes, perigynia, and spikes that are reproduced, however, are excellent.

Despite these comments, volume 23 of the *Flora of North America North of Mexico* is exhaustive and a must-have reference for all enthusiasts of the sedges of Missouri and the rest of North America. This encyclopedia of the continent's sedge flora will remain an extremely valuable reference for years to come.

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FLORA OF NORTH AMERICA—FAMILY INDEX

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The following index to families in the published and soon-to-be-published volumes of the Flora of North America series is provided as a service for Missouri Native Plant Society members who may be interested in knowing whether a given group has been published yet, or who wish to know which volume in which to search for a given species of interest. The Flora of North America is intended to provide an encyclopedic account of all of the seed plants, pteridophytes, and bryophytes occurring outside of cultivation in the United States, Canada, and Greenland. In recent years, the project has been publishing two volumes per year, and there are indications that the production rate may increase over the next few years, with a projected end-date for the completion of 30 total volumes by the end of 2011.

Volumes that are scheduled to appear in 2004 and 2005 are indicated with an asterisk (*) in the list. For more information on the Project, readers should consult the FNA web site (http://hua.huh.harvard.edu/FNA/).

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Published and Forthcoming Volumes of FNA, all edited by the Flora of North America Editorial Committee and purblished by Oxford University Press, New York:

Vol. 1. 1993. Introduction.
Vol. 2. 1993. Pteridophytes and Gymnosperms.
Vol. 3. 1997. Magnoliophyta: Magnoliidae and Hamamelidae.
Vol. 4. 2003. Magnoliophyta: Caryophyllidae, Part 1.
Vol. 5. In press. Magnoliophyta: Caryophyllidae, Part 2.
Vol. 19. In prep. Magnoliophyta: Asteridae, Part 6: Asteraceae (Part 1).
Vol. 20. In prep. Magnoliophyta: Asteridae, Part 7: Asteraceae (Part 2)..

Vol. 21. In prep. Magnoliophyta: Asteridae, Part 8: Asteraceae (Part 3).
Vol. 22. 2000. Magnoliophyta: Alismatidae Arecidae, Commelinidae (in Part), and Zingiberidae.
Vol. 23. 2002. Magnoliophyta: Commelininidae (in Part): Cyperaceae.
Vol. 24. In prep. Magnoliophyta: Commelininidae (in Part): Poaceae (Part 1).
Vol. 25. 2003. Magnoliophyta: Commelininidae (in Part): Poaceae (Part 2).
Vol. 26. 2002. Magnoliophyta: Liliidae: Liliales and Orchidales.

A VEGETATIVE KEY TO THE *MUHLENBERGIA* SPECIES OF MISSOURI

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This key serves to facilitate the identification of vegetative specimens of *Muhlenbergia* in Missouri as well as to supplement other keys that are based largely on spikelet characters. Species summaries and notes that may aid identification that do not readily fit into the key are also included.

Vegetatively, members of *Muhlenbergia* can resemble several other genera of grasses such as *Leersia*, *Panicum*, *Brachyelytrum*, *Agrostis*, and *Sporobolus*. But, in general, *Muhlenbergia* species have a gestalt all their own (see Yatskievych [1999] for a description of the genus). Perhaps the most useful character is the presence of scaly rhizomes that occur in all species except *M. cuspidata*, *M. capillaris*, and *M. schreberi*. When present, these rhizomes are easily identified as being thicker than the roots and covered with conspicuously overlapping scales. Although *Brachyelytrum* can have similar rhizomes, the septate venation pattern of the leaves quickly distinquishes it from any *Muhlenbergia*. Beyond this, the gross similarity among species can be overwhelming and requires close attention to seemingly obscure details. Among the most important details are the presence and degree of pubescence on the stem internode, the ligule length, and the general habit of the plant.

Adding to the difficulty of identification is the fact that most species of *Muhlenbergia* appear to demonstrate little affinity toward specific habitats. Several species are as likely to be found in prairies or old fields as they are in mesic bottoms or upland forests. Although *M. sobolifera, M. cuspidata*, and *M. capillaris* are more habitat-specific than others in the group, the remaining taxa seem to thrive in open and edge habitats where light availability, more than moisture, dictates their occurrence and persistence. As one gains familiarity with species of *Muhlenbergia* and their habitats, the distinctions between species and the character syndromes within the group become much more apparent.

The specific nature of this key requires detailed descriptions that general terminology often falls short of capturing. In order to instill

additional clarity, the following terms and concepts are defined as they fit the specifics of *Muhlenbergia* and as they are utilized in this key:

Collar:—The margins of a grass leaf where the blade and sheath meet is termed the collar. Within *Muhlenbergia* there are essentially two collar types. One type is inconspicuous and consists of a simple continuation of blade margin to a tapering base (*Setaria*-like). The other type is derived from a wider base where the blade curves abruptly to the sheath and thus creates a shelf-like collar (*Agrostis*-like). Caution must be excercised because some *Muhlenbergia* have one collar type on primary stem leaves and the other on secondary leaves.

Internode Pubescence.—The internodes of *Muhlenbergia* can be very diagnostic, especially in terms of pubescence or lack thereof. All muhly grasses found in Missouri conform to one of four internode types:

1. Glabrous (without pubescence);
2. Scaberulose (with short inconspicuous hairs) just below the node and continuing ca. 5 mm down the internode;
3. Scaberulose below the node and continuing well beyond 5 mm down the internode;
4. Retrorse (downward pointing) hairs on the node and often continuing along the upper internode.

Primary stem leaf.—By mid- to late summer, most muhly grasses have produced axillary leaf fascicles from which inflorescences eventually arise. The leaves within these fascicles are smaller and often of different proportion than the main stem leaves that subtend them. Because of the ambiguous nature of these two leaf types, the leaf characters utilized in this key apply to those leaves that are found on the original stem axis prior to the expansion of the axillary fascicles. Said leaves are the primary stem leaves.

Tufted.—In terms of this key, a tufted grass is one that forms and maintains basal leaves or basally disposed leaves. Although most of the non-tufted grasses in the key may occur in colonies, their leaves cannot be interpreted as basal or basally disposed. Caution must be expressed in the

interpretation of *Muhlenbergia asperifolia*, which forms loose tufts connected by long rhizomes.

1. Plants growing in tufts* (rarely solitary) or single stemmed with basally disposed leaves; mature leaves narrow, long-linear and 30-100 times longer than wide
   2. Ligule 2 mm long or longer . . . . . *M. capillaris*
   2. Ligule less than 2 mm long
      3. Plants bulbous-thickened at the base and lacking rhizomes; plants of calcareous habitats in glades, bluff escarpments, dry prairies and loess hills . . . . . *M. cuspidata*
      3. Plants clearly rhizomatous and lacking bulblike roots; plants of sandy soils, railroads, lawns and waste areas, generally acidic or neutral soils . . . . . *M. asperifolia*
1. Plants not growing in tufts* and when single stemmed not possessing basally disposed leaves; leaves wider, more lanceolate to linear-lanceolate and 10–40 times longer than wide
   4. Nodes and upper portions of internodes* with conspicuously retrorse hairs; sheaths often lightly hirsute; primary stem leaves* often more than 10 mm wide . . . . . *M. tenuiflora*
   4. Nodes and upper portions of internodes* glabrous or with scaberulose (minute/rough) pubescence; sheaths always glabrous; primary stem leaves* less than 10 mm wide
      5. Small slender-stemmed plants, often with a sprawling habit; collar* margin with a minute ciliate pubescence (use 10× magnification); plants without scaly rhizomes . . . . . *M. schreberi*
      5. Larger stout-stemmed plants with an erect habit; collar* glabrous; plants with scaly rhizomes
         6. Internodes* smooth and glabrous throughout (this requires close examination and is easy to test by rubbing a metal probe or fingernail along an internode just below the node)

* An asterisk (*) indicates aterm or concept defined in the introduction.

7. Primary stem leaves* scarcely tapering at the base and with a well- differentiated collar* (*Agrostis*-like); primary leaf blades ascending to erect; lower internodes occasionally oval in cross-section; glumes greatly exceeding lemmas; mostly absent from Ozarks and Bootheel region of Missouri ..... *M. racemosa*

7. Primary stem leaves* noticeably widest toward the middle, tapering to the base and lacking a well-differentiated collar* (*Setaria*-like); primary leaf blades spreading; glumes slightly longer than, equal to, or shorter than lemmas; occurring within but not limited to Ozarks and Bootheel of Missouri

8. Ligule conspicuous, 0.8 to 1.5mm long ..... *M. frondosa*

8. Ligule nearly absent and difficult to detect, less than 0.8mm long

9. Plants unbranched to relatively few-branched (when present, branches erect and appressed to stem); most stem leaves large, well spaced and rarely overlapping in dense fascicles as the growing season progresses; stem leaves perpendicular to the stem or slightly ascending; plants of dry and/or rocky woodlands ..... *M. sobolifera*

9. Plants often profusely branched (branches typically not appressed to stem); stem leaves of various sizes but with many smaller leaves overlapping in fascicles at the ends of the branches and/or at nodes as the season progresses; stem leaves ascending or nearly appressed to the stem; plants usually of low moist slopes along streams, river banks, bases of bluffs, and other mesic to wet habitats ..... *M. bushii*

6. Internodes* with a short scaberulose (minute/rough) pubescence just below the nodes (this requires close examination and is easy to test by rubbing a metal probe or fingernail along an internode just below the node)

10. Primary stem leaves* 3–5(–8) cm long and 1.5–4.0 mm wide; no tuft of hairs at the base of thelemmas . . . . . *M. glabrifloris*

10. Primary stem leaves* 5–20 cm long and 3–8 mm wide; lemmas with a small tuft of hairs at the base

11. Scaberulose pubescence limited to the uppermost 3–4 mm of the internode* (do not mistake the waxy dull cuticle of the upper internode for pubescence)

12. Ligule inconspicuous, 0.3–0.8 mm long; plants with relatively little branching from nodes (branches, when present, appressed to the stem); plants of dry and/or rocky woodlands . . . . . *M. sobolifera*

12. Ligule quite conspicuous (0.8–1.5mm long); plants often profusely branching from the nodes (branches, when present, typically not appressed to the stem); plants typically of moister sites but some habitat overlap exists with *M. sobolifera* . . . . . *M. frondosa*

11. Scaberulose pubescence present well beyond the uppermost 3–4 mm of the internode*

13. Ligule 1.0-2.5 mm long . . . . . *M. sylvatica*

13. Ligule 0.4-1.0 mm long . . . . *M. mexicana*

Muhlenbergia asperfolia (Nees & Meyen) Parodi.—This is a very uncommon grass that grows in well-spaced tufts connected by long rhizomes and has leaves 3–7cm long and 1.0–2.5 mm wide. Steyermark (1963) reported *M. asperfolia* from three counties (St. Louis, Holt, and Jackson) where it inhabits railroad yards and open sandy places.

Since then it has been documented from three additional counties (Atchison, Hickory, and Ripley) adding lawns, roadsides, loess hill prairies, lake margins, and disturbed areas to its list of habitats (Yatskievych 1999). Although probably native in the loess hill prairies of northwestern Missouri, other populations in the state probably represent introductions.

Muhlenbergia bushii R.W. Pohl.—The combination of smooth, shiny internodes, relatively small ligules, and a diffusely branched habit (late season) readily distinguishes *M. bushii* from similar species. Although it is most common along stream banks and bottoms, *M. bushii* has been noted from a wide variety of habitats, usually in shaded, somewhat moist sites.

Muhlenbergia capillaris (Lam.) Trin.—This species is a widely distributed but often overlooked grass of glades and dry open woods, where it prefers acidic soils. This is the largest of the three tufted *Muhlenbergia* in Missouri and one of three that lacks scaly rhizomes. Like the other tufted species, the leaves of *M. capillaris* are long-tapering and held close to the culm. Additionally, the large round-tipped ligule of this attractive grass can be 7 mm or more long, making it unique from any grass with which it might be confused. *Muhlenbergia capillaris* blooms in the fall with large wispy purplish-pink inflorescences that can be seen from quite some distance. The spikelets are typically awned with flexuose hair-like projections.

Muhlenbergia cuspidata (Torr.) Rydb.—An infrequent grass of scattered distribution found mostly on or near the edges of exposed limestone bluffs as well as in dry calcareous prairies, limestone glades, and loess hill prairies. This grass characteristically forms erect tufts with twisted wiry leaves that do not exceed 3 mm in width. The plants are also bulbous-thickened at the base. The inflorescence is a small spike-like panicle and the spikelets are awnless.

Muhlenbergia frondosa (Poir.) Fernald.—The combination of glabrous internodes and a long ligule easily distinguish this *Muhlenbergia* from the other large non-tufted species. *Muhlenbergia frondosa* occurs twice in the key because rarely a light pubescence may be detected on the upper 3–4 mm of the internodes. However, the vast majority of specimens have completely smooth internodes and will readily key out

in couplet 8. *Muhlenbergia frondosa* is common in a wide variety of habitats. It becomes highly branched and often sprawls late in the season.

Muhlenbergia glabrifloris Scribn..—This grass is uncommon and scattered throughout the state. In terms of habit, it resembles *M. racemosa*, but is considerably smaller, and tends to occur more consistently in moist clayey sites. Fertile specimens are readily discerned from all other *Muhlenbergia* in the state by the absence of hairs at the base of the lemmas.

Muhlenbergia mexicana (L.) Trin.—This species is readily recognizable by the rough internodes and the relatively small ligule. It is found in a variety of habitats throughout the state but is generally uncommon.

Muhlenbergia racemosa (Michx.) Britton, Sterns & Poggenb.—Although this is one of the most vegetatively distinct *Muhlenbergia* species in our range, it is also the most difficult to discriminate in a key. This fact may cause some confusion in couplet 7. Users must evaluate the overall shape and orientation of the primary stem leaves. Those of *M. racemosa* have a tendency to overlap more than most other species. The lower internodes of *M. racemosa* are occasionally oval in cross-section. The species typically grows in moist open habitats and is mostly absent from the Ozarks and Bootheel regions of the state.

Muhlenbergia schreberi J.F. Gmel.—This species has short shiny thin stems and is the smallest of the non-tufted *Muhlenbergia* in Missouri. As autumn approaches, the stems of *M. schreberi* become diffusely branched, giving the plant a sprawling habit. The primary stem leaves do not exceed 4 mm wide and have ciliate margins along the collar region. Observation of the pubescence usually requires magnification. *Muhlenbergia schreberi* is the weediest and most commonly encountered *Muhlenbergia* in the state and is found in a variety of habitats, but seems to prefer trailsides, pastures, waste ground, and lawns. This species is almost never found in high quality native plant communities.

Muhlenbergia sobolifera (Muhl.) Trin.—This is a common element of dry woodland slope communities where it grows in rather small,

open colonies. The internodes of *M. sobolifera* are almost always lightly pubescent on the upper 3–4 mm, but also can be completely glabrous. Users should be wary of any specimen that has completely smooth internodes and keys to *M. sobolifera.* Such a condition is rare for *M. sobolifera* and could be a misinterpreted *M. bushii* or *M. frondosa* instead. However, the "flagging" habit of the leaves on a perpendicular stem and the lack of autumnal branching make this an easily recognized grass. Although characteristicly found in drier sites than other *Muhlenbergia*, *M. sobolifera* is also known to inhabit more mesic communites, but it never grows in completely open habitats.

Muhlenbergia sylvatica (Torr.) Torr..—The combined characters of roughly pubescent internodes and a relatively large ligule make this one of the easiest species of *Muhlenbergia* to identify. *Muhlenbergia sylvatica* is quite common throughout the state and occurs in a wide variety of habitats.

Muhlenbergia tenuiflora (Willd.) Britton, Sterns & Poggenb.—This grass is easily identified by the presence of hirsute pubescence along the sheaths and retrorse pubescence on the nodes. With leaves often becoming 10–15 mm wide, *M. tenuiflora* has the widest leaves of all muhly species in Missouri. Due to the width of its leaves and degree of pubescence, *M. tenuiflora* can be confused with *Brachyletrum erectum.* However, the two are readily distiguished by the "shattered" (septate) venation pattern found in *Brachyletrum.* Like *M. sobolifera*, *M. tenuiflora* is usually unbranched and grows in sparse colonies. This handsome grass is found scattered throughout the state in relatively moist habitats such as bottomland forests, creek banks, mesic woodlands and shaded bluffs.

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PRAIRIE RESTORATION FLORA OF THE ST. LOUIS REGION OF ILLINOIS AND MISSOURI

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Situated at the confluence of the two largest rivers in midcontinental North America, the St. Louis metropolitan area of Illinois and Missouri was in presettlement times characterized by a diverse tapestry of prairies, wetlands, and predominantly open and grassy woodlands. As the region developed into a major urban and suburban complex during the past 240 years, the vast majority of this natural habitat has been obliterated or severely degraded. In recent years, interest has developed in sustaining and restoring examples of the region's natural heritage. This has resulted in a growing number of attempts to restore, at various scales, examples of tallgrass prairie vegetation.

Tallgrass prairies in Illinois and Missouri support high levels of vascular diversity, which in turn provide potential habitat and associations for correspondingly high diversity in other organismal groups. However, most of the prairie restorations in the region are characterized by low plant diversity and/or the presence of non-native species which were deliberately included in the planting mix, often because these species were mistakenly thought to be appropriate for local restorations.

This is a list of vascular plants appropriate for inclusion in prairie restorations in the greater St. Louis metropolitan region of Illinois and Missouri. This region roughly encompasses an eleven county area spanning five Illinois counties and six Missouri counties (Fig. 1).

The 455 species of plants on this list (431 in Illinois, 439 in Missouri) have been documented as components of high quality prairie remnants that characterized large portions of the area prior to European settlement (e.g., Schroeder 1981). All of these plants are appropriate components of prairie restoration and ecological rehabilitation projects, although many species (those with low conservatism values) would never be deliberately planted in res-

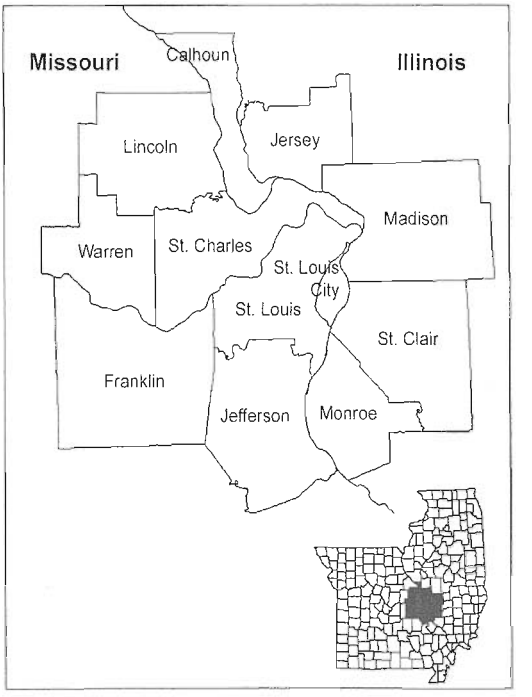

Fig. 1. Counties in the St. Louis region of Illinois and Missouri.

torations; several species have the potential to become disproportionately abundant in poorly executed or unmanaged restorations.

Species are listed here in alphabetical order by scientific name, generally following the species concepts and nomenclature of Gleason and Cronquist (1991). This reference is the sole floristic manual that covers the entire region. Names and species concepts that differ from those of Gleason and Cronquist are followed by an asterisk. Although this work is not intended as a synonymy catalog or attempt to reconcile taxonomic debate, in the interest of a clear understanding of suitable plant materials, synonymous plant names e,ployed by other manuals likely to used in the region are included in the table and cross-referenced in Appendix 1. Despite some flux in scientific names of plants, this list's tracking of taxonomic concepts will facilitate rapid, accurate communication regarding plant materials, while minimizing ambiguity and miscommunication.

The synonymy listing accommodates names used in Mohlenbrock's Illinois flora (2002), Steyermark's Missouri flora (1963),

Yatskievych (1999) for Missouri monocots, Yatskievych and Turner (1990) for Missouri dicots, and Ladd's (1997) list of midwestern tallgrass flora, which largely followed the naming conventions of Kartesz (1994). Also included are names used in Gleason and Cronquist (1991) that are not accepted in this list. Varietal and subspecific names are provided only for infraspecific taxa deemed ecologically distinct and for which other varieties or subspecies are not suitable for the region.

Following the accepted scientific name of each plant is the common name derived from Ladd (1993). Although not the final authority for the multiplicity of often confusing common names applied to plants, this list has proven to be reasonably consistent and useful in more than a decade of application. Because there is no standardization of common names, restorationists are cautioned that selecting plant materials by common name is inherently problematical, and there are no assurances that the material provided is actually what was desired.

Following the common name are columns for Illinois and Missouri. A number in a column indicates that the plant is known from the St. Louis area counties in that state. A blank spot in a column means that the plant is not known to occur in the St. Louis area counties in that state, although it may occur elsewhere in the state. The state segregation is important because for some species the Mississippi River has proven to be a significant barrier, and both Illinois and Missouri have prairie species in their respective St. Louis area counties that are not known from, or are very rare in, the entire adjoining state. An example of this is the Blue Wild Indigo, *Baptisia australis*, which is a regular component of prairie and glade vegetation in much of southern Missouri, including the St. Louis region, but which is unknown as a native plant in Illinois. When planning prairie restoration projects, the decision to include specific plants should be conceptualized from both a regional and state perspective.

The numbers under each state column are the coefficients of conservatism, or C values, for the plants in each state. These values, ranging from 0 to 10, essentially indicate the obligate fidelity each species displays to stable native systems evocative of the melieu of presettlement natural communities that characterized the region. Essentially, the higher the number, the higher the "natural quality" of the plant, and the degree to which it both requires and is indicative of high quality native systems. These concepts are explained in detail in Taft et. al. (1997), which also provides the C values for the Illinois

flora. Missouri flora C values are from Ladd (1993). Note that the C values for the two states can differ, as the conceptual universe for establishing the C values for each state is the behavior of the species across the entire state. Different C values do not indicate that there are profound differences in the autecological pattern of a given species on each side of the Mississippi River in the St. Louis region. These values are provided merely as guidelines to the sensitivity and fidelity of the plants. In practice, St. Louis area restorationists would perhaps be best served by averaging the two values to gain an understanding of the relative performance of the species versus other components of regional prairie vegetation.

Following the C value column for each state is a column listing the wetness rating for each plant. This number, ranging from -5 through 0 to +5, is a relative indication of the degree to which a given plant species is restricted to wetlands. Higher numbers indicate a greater predilection for, or at least tolerance of, drier site conditions. This concept is explained in more detail in Ladd (1997). Although the numbers are extremely useful in developing restoration plans and plant materials lists, users should be aware that these rankings were developed across a broad region of the Midwest, and do not always reflect local vagaries in species behavior. As a practical matter, restorationists should always seek to include some plant materials typically associated with both wetter and drier conditions than those of the project area. This both ensures that site restorations are not held hostage to preconceptions of "appropriate" plant materials, and allows sufficient buffering capacity to facilitate optimum plant diversity as the restoration becomes established and self-induces changes in local hydrology and other site conditions.

The next column in the list provides the physiognomy of the plant in the bi-state region according to the following categories: annual forb, biennial forb, perennial forb, annual grass, perennial grass, perennial sedge, shrub, tree, or cryptogam (ferns and fern allies).

For some plants in the list, comments are appended following the physiognomy entry for the plant. These comments provide additional information about habitats and soils for the plant, nomenclatural or taxonomic issues of interest to restorationists, and other information. This is merely a first iteration to guide local ecological restoration work. I hope that future versions of this list will include more detailed information on pollinators, planting and germination requirements, and local phenology (both flowering and seed harvest timing).

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SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Acalypha gracilens	Slender Mercury	4	3	5	A-Forb	sterile acidic soil
Acalypha virginica	Virginia Mercury	2	2	3	A-Forb	
Achillea millefolium lanulosa	Woolly Yarrow	?	4	3	P-Forb	
Agalinis aspera *Gerardia aspera* (S)	Rough False Foxglove	10		5	A-Forb	
Agalinis auriculata *Gerardia auriculata* (S), *Tomanthera auriculata* (M,T)	Eared False Foxglove	8	10	5	A-Forb	
Agalinis purpurea *Gerardia purpurea* (S)	Purple False Foxglove	6		-3	A-Forb	
Agalinis skinneriana *Gerardia skinneriana* (S)	Pale False Foxglove	9		5	A-Forb	
Agalinis tenuifolia *Gerardia tenuifolia* (S)	Slender False Foxglove	5	4	-3	A-Forb	also in dry sites
Agrimonia parviflora	Swamp Agrimony	5	6	-1	P-Forb	
Agrostis elliottiana	Awned Bent Grass	5	3	5	A-Grass	
Agrostis hyemalis	Tickle Grass	2	3	1	P-Grass	
Agrostis perennans	Upland Bent	4	3	1	P-Grass	
Allium canadense	Wild Garlic	2	1	3	P-Forb	mesic & wet-mesic prairie
Allium stellatum	Prairie Onion	10	6	5	P-Forb	dry limestone soil
Ambrosia bidentata	Southern Ragweed	0	0	4	A-Forb	native weed
Ambrosia psilostachya *A. coronopifolia* (L,S)	Western Ragweed	2	2	5	P-Forb	
Amorpha canescens	Lead Plant	8	8	5	Shrub	
Amorpha fruticosa	Indigo Bush	6	5	-4	Shrub	
Andropogon gerardii	Big Bluestem	5	5	1	P-Grass	
Andropogon virginicus	Broom Sedge	1	2	1	P-Grass	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Androsace occidentalis	Rock Jasmine	4	3	4	A-Forb	limestone
Anemone canadensis	Meadow Anemone	4	7	-3	P-Forb	wet & wet-mesic prairie
Anemone cylindrica	Thimbleweed	8		5	P-Forb	dry prairie slopes
Anemone virginiana	Tall Anemone	4	4	5	P-Forb	
Antennaria neglecta neglecta	Field Cat's Foot	4	4	5	P-Forb	
Antennaria plantaginifolia plantaginifolia	Pussy's Toes	4	5	5	P-Forb	
Apios americana	Ground Nut	3	6	-3	P-Forb	
Apocynum cannabinum	Prairie Dogbane	2	3	0	P-Forb	
Apocynum sibiricum	Indian Hemp	2	2	-1	P-Forb	
Arenaria patula *Minuartia patula* (L,M)	Slender Sandwort	8	7	5	A-Forb	dry calcareous soil
Aristida dichotoma	Poverty Grass	2	3	3	A-Grass	
Aristida longespica	Slimspike Three-Awn	2	2	4	A-Grass	
Aristida oligantha	Plain's Three-Awn Grass	0	1	5	A-Grass	
Aristida purpurascens	Arrow Feather	5	5	5	P-Grass	
Artemisia ludoviciana	White Sage	0	3	5	P-Forb	
Asclepias amplexicaulis	Sand Milkweed	7	10	5	P-Forb	especially in sand
Asclepias hirtella	Tall Green Milkweed	6	4	5	P-Forb	
Asclepias incarnata	Swamp Milkweed	4	5	-5	P-Forb	
Asclepias meadii	Mead's Milkweed		10	5	P-Forb	
Asclepias purpurascens	Purple Milkweed	7	6	3	P-Forb	
Asclepias stenophylla	Glade Milkweed		9	5	P-Forb	
Asclepias sullivantii	Prairie Milkweed	7	9	5	P-Forb	also in wet prairie
Asclepias tuberosa	Butterfly Weed	5	5	5	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Asclepias verticillata	Whorled Milkweed	1	2	5	P-Forb	
Asclepias viridiflora	Short Green Milkweed	9	9	5	P-Forb	
Asclepias viridis	Green-Flowered Milkweed	6	6	5	P-Forb	
Aster ericoides	Heath Aster	4	4	4	P-Forb	
Aster laevis	Smooth Blue Aster	8	7	5	P-Forb	
Aster lanceolatus *A. simplex* (S)	Panicled Aster	3	4	-5	P-Forb	
Aster lateriflorus	Side-Flowering Aster	2	3	-2	P-Forb	
Aster linariifolius *Ionactis linariifolius* (L,M)	Flax-Leaved Aster	9	10	5	P-Forb	
Aster novae-angliae	New England Aster	4	4	-3	P-Forb	
Aster oblongifolius	Aromatic Aster	7	6	5	P-Forb	sandstone or limestone sites
Aster oolentangiensis *A. azurens* (S)	Azure Aster	7	7	5	P-Forb	
Aster patens	Spreading Aster	6	5	5	P-Forb	acid soil
Aster pilosus	Hairy Aster	0	0	4	P-Forb	native weed
Aster praealtus	Willow Aster	4	7	-5	P-Forb	
Aster racemosus *A. vimineus* (S), *A. fragilis* (L,T)	Small White Aster	5	9	-2	P-Forb	
Aster sericeus	Silky Aster	9	8	5	P-Forb	
Astragalus canadensis	Canadian Milk Vetch	7	6	-1	P-Forb	
Astragalus crassicarpus trichocalyx *A. mexicanus trichocalyx* (S)	Ground Plum	8	7	5	P-Forb	
Astragalus distortus	Bent Milk Vetch	8	6	5	P-Forb	open rocky sites
Baptisia australis minor	Blue Wild Indigo		8	5	P-Forb	
Baptisia bracteata glabrescens *B. bracteata leucophaea* (L), *B. leucophaea* (S)	Cream Wild Indigo	9	6	5	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Baptisia lactea *B. leucantha* (S), *B. alba* (L,M,T)	White Wild Indigo	6	6	3	P-Forb	
Bidens aristosa	Swamp Marigold	1	1	-3	A-Forb	
Blephilia ciliata	Ohio Horse Mint	6	5	5	P-Forb	
Boltonia asteroides recognita	False Aster	5	5	-3	P-Forb	
Boltonia diffusa	Doll's Daisy	4		-3	P-Forb	
Bouteloua curtipendula	Side-Oats Grama	7	7	5	P-Grass	
Buchnera americana	Blue Hearts	10	10	1	P-Forb	
Cacalia atriplicifolia *Arnoglossum atriplicifolium* (L,M)	Pale Indian Plantain	5	4	5	P-Forb	
Cacalia plantaginea *Arnoglossum plantagineum* (L,M), *C. tuberosa* (S)	Prairie Indian Plantain	10	8	0	P-Forb	
Calopogon oklahomensis included in *C. pulchellus* (S), included in *C. tuberosus* (L,T)	Prairie Grass Pink		10	3	P-Forb	acid soil
Calystegia sepium *Ca. sepium americanum* (M), *Convolvulus sepium* (S), possibly including *Ca. silvatica* (T)	Hedge Bindweed	1	1	0	P-Forb	
Calystegia spithamaea *Convolvulus spithamaeus* (S)	Low Bindweed	10	9	5	P-Forb	
Camassia scilloides	Wild Hyacinth	7	6	-1	P-Forb	
Carex aggregata	Glomerate Sedge	4	7	5	P-Sedge	
Carex annectens *C. brachyglossa* (M)	Yellow-Fruited Sedge	3	4	-3	P-Sedge	
Carex austrina *C. muhlenbergii austrina* (M), *C. muhlenbergii australis* (S,T)	Southern Sand Sedge	5	5	5	P-Sedge	
Carex bicknellii	Prairie Sedge	8	8	1	P-Sedge	
Carex bicknellii opaca not included (S)	Southern Prairie Sedge		9	1	P-Sedge	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Carex brevior	Short-Beaked Sedge	4	4	0	P-Sedge	
Carex bushii	Bush's Sedge	4	3	-3	P-Sedge	
Carex buxbaumii	Brown Bog Sedge	9		-5	P-Sedge	groundwater seepage
Carex caroliniana	Carolina Sedge	7	7	0	P-Sedge	
Carex cephalophora mesochorea *C. mesochorea* (L,M,Y)	Oval-Headed Sedge	?	5	3	P-Sedge	
Carex conjuncta	Soft Fox Sedge	5	5	-3	P-Sedge	
Carex crawei	Crawe's Sedge		10	-5	P-Sedge	calcareous soil
Carex cristatella	Crested Sedge	3	4	-4	P-Sedge	
Carex crus-corvi	Raven's Foot Sedge	6	5	-5	P-Sedge	
Carex festucacea	Fescue Sedge	6	6	0	P-Sedge	
Carex frankii	Frank's Sedge	4	5	-5	P-Sedge	
Carex granularis	Meadow Sedge	2	4	-4	P-Sedge	
Carex gravida	Heavy Sedge	4	7	5	P-Sedge	
Carex hyalinolepis	Shoreline Sedge	4	5	-5	P-Sedge	
Carex laeviconica	Smooth Cone Sedge	10		-5	P-Sedge	
Carex leavenworthii	Leavenworth's Sedge	2	3	5	P-Sedge	
Carex lupulina	Hop Sedge	5	6	-5	P-Sedge	
Carex lurida	Sallow Sedge	7	6	-5	P-Sedge	
Carex meadii	Mead's Sedge	6	5	0	P-Sedge	
Carex molesta	Troublesome Sedge	2	4	0	P-Sedge	
Carex muhlenbergii	Sand Sedge	5	5	5	P-Sedge	
Carex normalis	Larger Straw Sedge	4	4	-3	P-Sedge	
Carex pellita *C. lanuginosa* (S,T)	Woolly Sedge	4	5	-5	P-Sedge	
Carex pensylvanica	Pennsylvania Sedge	5	6	5	P-Sedge	
Carex scoparia	Pointed Broom Sedge	5	4	-3	P-Sedge	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Carex shortiana	Short's Sedge	4	4	-4	P-Sedge	
Carex sparganioides	Bur-Reed Sedge	4	6	0	P-Sedge	
Carex squarrosa	Squarrose Sedge	5	6	-5	P-Sedge	
Carex stipata	Sawbeak Sedge	2	4	-5	P-Sedge	
Carex tribuloides	Blunt Broom Sedge	3	3	-4	P-Sedge	
Carex typhina	Cat-Tail Sedge	6	7	-5	P-Sedge	
Carex umbellata	Umbel-Like Sedge	6	6	5	P-Sedge	
Carex vesicaria	Inflated Sedge	9	9	-5	P-Sedge	
Carex vulpinoidea	Fox Sedge	3	4	-5	P-Sedge	
Castilleja coccinea	Indian Paintbrush	8	5	0	A-Forb	hemiparasitic
Ceanothus americanus	New Jersey Tea	8	7	5	Shrub	
Centunculus minimus *Anagallis minima* (L,M)	Chaffweed	5	5	4	A-Forb	
Cephalanthus occidentalis	Buttonbush	4	3	-5	Shrub	
Chamaecrista fasciculata *Cassia fasciculata* (S)	Partridge Pea	1	1	4	A-Forb	
Chamaecrista nictitans *Cassia nicitans* (S)	Wild Sensitive Plant	2	2	4	A-Forb	
Cicuta maculata	Water Hemlock	4	5	-5	B-Forb	
Cirsium altissimum	Tall Thistle	3	4	5	P-Forb	
Cirsium discolor	Field Thistle	3	3	5	P-Forb	
Cirsium hillii	Prairie Thistle	7		5	P-Forb	
Comandra umbellata *C. richardsiana* (S)	False Toadflax	6	6	3	P-Forb	hemiparasitic
Coreopsis lanceolata	Sand Coreopsis	5	7	3	P-Forb	
Coreopsis palmata	Prairie Coreopsis	6	6	5	P-Forb	
Coreopsis tripteris	Tall Coreopsis	4	6	0	P-Forb	
Cornus amomum schuetzeana *C. obliqua* (M,S), *C. amomum obliqua* (L,T)	Pale Dogwood	4	5	-5	Shrub	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Cornus drummondii	Rough-Leaved Dogwood	2	1	0	Shrub	
Cornus racemosa *C. foemina racemosa* (T)	Gray Dogwood	2	3	-2	Shrub	
Crotalaria sagittalis	Rattlebox	3	4	5	A-Forb	
Croton capitatus	Hogwort	0	0	5	A-Forb	
Croton glandulosus	Sand Croton	1	1	5	A-Forb	
Croton monanthogynus	Prairie Tea	2	2	5	A-Forb	
Cuphea viscosissima *C. petiolata* (S)	Waxweed	4	4	3	A-Forb	
Cuscuta cuspidata	Cusp Dodder	5	6	-4	A-Forb	parasitic
Cuscuta glomerata	Rope Dodder	6	5	0	A-Forb	parasitic
Cuscuta pentagona	Field Dodder	5	5	5	A-Forb	parasitic
Cyperus echinatus *C. ovularis* (S)	Hedgehog Club Rush	2	3	0	P-Sedge	
Cyperus lupulinus *C. filiculmis* (S)	Slender Flatsedge	5	4	4	P-Sedge	
Cyperus pseudovegetus *C. virens* (S)	Green Flatsedge	5		-3	P-Sedge	
Cyperus schweinitzii	Schweinetz's Cyperus	5	6	2	P-Sedge	open sand
Cyperus strigosus	Straw-Colored Flatsedge	0	1	-3	P-Sedge	
Dalea candida *Petalostemum candidum* (S)	White Prairie Clover	9	8	5	P-Forb	
Dalea purpurea *Petalostemum purpureum* (S)	Purple Prairie Clover	8	8	5	P-Forb	
Danthonia spicata	Poverty Oat Grass	3	3	5	P-Grass	
Delphinium carolinianum *D. carolinianum carolinianum* (T)	Carolina Larkspur		7	5	P-Forb	
Desmanthus illinoensis	Illinois Bundle Flower	4	3	1	P-Forb	
Desmodium canadense	Showy Tick Trefoil	5	4	1	P-Forb	
Desmodium ciliare	Hairy Tick Trefoil	7	5	5	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Desmodium glabellum included in *D. paniculatum* (I.), *D. paniculatum dillenii* (S)	Tall Tick Clover	3	3	5	P-Forb	
Desmodium illinoense	Illinois Tick Trefoil	5	4	5	P-Forb	
Desmodium marilandicum	Small-Leaved Tick Trefoil	6	5	5	P-Forb	
Desmodium obtusum *D. rigidum* (S)	Stiff Tick Trefoil	5	3	5	P-Forb	
Desmodium sessilifolium	Sessile-Leaved Tick Trefoil	6	5	5	P-Forb	
Digitaria filiformis	Slender Crab Grass	4	3	5	A-Grass	
Diodia teres	Buttonweed	2	2	3	A-Forb	
Diospyros virginiana	Persimmon	2	3	0	Tree	
Dodecatheon meadia	Shooting Star	6	5	4	P-Forb	
Draba brachycarpa	Short-Fruited Whitlow Grass	2	0	5	A-Forb	
Echinacea pallida	Pale Purple Coneflower	7	7	5	P-Forb	
Echinacea purpurea	Purple Coneflower	6	5	5	P-Forb	
Eleocharis compressa	Flat-Stemmed Spike Rush	7	6	-5	P-Sedge	
Eleocharis erythropoda *E. calva* (S)	Red-Rooted Spike Rush	3	5	-5	P-Sedge	
Eleocharis palustris including *E. macrostachya* (M), *E. smallii* and/or *E. macrostachya* (S,T)	Pale Spike-Rush	5	5	-5	P-Sedge	
Eleocharis tenuis verrucosa *E. verrucosa* (M,T,Y)	Slender Spike Rush	7	5	-3	P-Sedge	
Elymus canadensis	Canada Wild Rye	4	5	1	P-Grass	
Elymus virginicus	Virginia Wild Rye	4	4	-2	P-Grass	
Epilobium coloratum	Cinnamon Willow Herb	3	6	-5	P-Forb	
Equisetum laevigatum	Smooth Scouring Rush	4	4	-3	Crptgm	
Eragrostis spectabilis	Purple Love Grass	3	3	5	P-Grass	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Erechtites hieraciifolia	Fireweed	-	-	3	A-Forb	
Erigeron annuus	Annual Fleabane	1	1	1	A-Forb	native weed
Erigeron philadelphicus	Marsh Fleabane	3	3	-3	B-Forb	
Erigeron strigosus	Daisy Fleabane	2	3	1	A-Forb	
Eryngium yuccifolium	Rattlesnake Master	7	8	-1	P-Forb	
Erythronium mesochoreum *E. albidum mesochoreum* (S)	Prairie Dog-Toothed Violet		6	5	P-Forb	
Eupatorium altissimum	Tall Boneset	2	3	3	P-Forb	
Eupatorium perfoliatum	Common Boneset	4	5	-4	P-Forb	
Euphorbia corollata	Flowering Spurge	3	3	5	P-Forb	
Euthamia graminifolia *Solidago graminifolia* (S)	Grass-Leaved Goldenrod	3	3	-2	P-Forb	
Euthamia gymnospermoides *Solidago gymnospermoides* (S)	Grass-Leaved Goldenrod	5		-1	P-Forb	
Festuca paradoxa	Cluster Fescue	6	6	0	P-Grass	
Fimbristylis puberula *F. caroliniana* (S)	Glade Fimbry	9	7	3	P-Sedge	
Fragaria virginiana	Wild Strawberry	2	2	1	P-Forb	
Galium obtusum	Wild Madder	5	5	-4	P-Forb	
Galium tinctorium	Stiff Bedstraw	6	6	-5	P-Forb	
Gaura biennis *G. longiflora* (T), including *G. longifolia* (L,M)	Large-Flowered Gaura	5	1	5	B-Forb	
Gentiana andrewsii	Closed Gentian	7	10	-3	P-Forb	
Gentiana flavida *G. alba* (L,M)	Yellowish Gentian	9	8	3	P-Forb	
Gentiana puberulenta *G. puberula* (S)	Downy Gentian	9	9	3	P-Forb	
Glyceria striata	Fowl Manna Grass	4	4	-5	P-Grass	
Gnaphalium obtusifolium *Pseudognaphalium obtusifolium* (M)	Old-Field Balsam	2	2	5	B-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Gnaphalium purpureum *Gamochaeta purpurea* (L,M,T)	Early Cudweed	2	3	3	A-Forb	
Hedeoma hispidum	Rough Pennyroyal	2	3	5	A-Forb	
Hedyotis caerulea *Houstonia caerulea* (L,M,S)	Bluets	7		0	A-Forb	
Hedyotis crassifolia *Houstonia pusilla* (L), *Houstonia crassifolia* and/or *H. pusilla* (M), *Houstonia minima* and/or *H. pusilla* (S)	Least Bluets	3	4	4	A-Forb	
Hedyotis longifolia *Houstonia longifolia* (L,M,S)	Long-Leaved Bluets	7	5	5	P-Forb	
Hedyotis nigricans *Houstonia nigricans* (S)	Narrow-Leaved Bluets	7	5	5	P-Forb	
Helenium autumnale	Sneezeweed	3	5	-4	P-Forb	
Helenium flexuosum	Purple-Head Sneezeweed	4	3	-1	P-Forb	
Helianthemum bicknellii	Rockrose	7	6	5	P-Forb	
Helianthus grosseserratus	Sawtooth Sunflower	2	4	-2	P-Forb	
Helianthus hirsutus s.l.	Oblong Sunflower	5	4	5	P-Forb	
Helianthus mollis	Downy Sunflower	7	6	5	P-Forb	
Helianthus occidentalis	Western Sunflower	7	5	4	P-Forb	
Helianthus pauciflorus *H. laetiflorus rigidus* (S), *H. rigidus* (T)	Prairie Sunflower	6	8	5	P-Forb	
Helianthus tuberosus	Jerusalem Artichoke	3	3	0	P-Forb	
Heliopsis helianthoides	False Sunflower	4	5	5	P-Forb	
Heliotropium tenellum	Glade Heliotrope	10	6	5	A-Forb	limestone and dolomite
Heuchera richardsonii	Prairie Alum Root	7	5	1	P-Forb	
Hieracium longipilum	Long-Bearded Hawkweed	6	5	5	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Hypericum drummondii	Nits And Lice	6	4	5	A-Forb	sterile acid sites
Hypericum gentianoides	Orange Grass	6	5	3	A-Forb	sterile acid sites
Hypericum mutilum	Weak St. John's Wort	5	4	-3	P-Forb	
Hypericum punctatum	Spotted St. John's Wort	3	3	-1	P-Forb	
Hypericum sphaerocarpum	Round-Fruited St. John's Wort	5	5	3	P-Forb	
Hypoxis hirsuta	Yellow Star Grass	6	4	0	P-Forb	
Iris virginica shrevei *I. shrevei* (M)	Blue Flag	5	6	-5	P-Forb	
Isanthus brachiatus *Trichostema brachiatum* (L,T)	False Pennyroyal	7	4	5	A-Forb	
Iva annua *I. ciliata* (S)	Marsh Elder	0	0	0	A-Forb	native weed
Juncus acuminatus	Sharp-Fruited Rush	4	4	-5	P-Forb	
Juncus biflorus	Two-Flowered Rush	5	5	-3	P-Forb	
Juncus brachycarpus	Short-Fruited Rush	5	7	-3	P-Forb	
Juncus dudleyi	Dudley's Rush	4	6	0	P-Forb	
Juncus effusus solutus	Common Rush	4	5	-5	P-Forb	
Juncus interior	Inland Rush	3	4	-1	P-Forb	
Juncus marginatus	Grass-Leaved Rush	5	5	-3	P-Forb	
Juncus nodatus	Stout Rush	6	6	-5	P-Forb	
Juncus secundus	Secund Rush		4	1	P-Forb	
Juncus tenuis	Path Rush	0	0	2	P-Forb	trampled areas
Juncus torreyi	Torrey's Rush	3	6	-3	P-Forb	
Koeleria pyramidata macrantha *K. cristata* (S), *K. pyramidata* (T), *K. macrantha* (L,M,Y)	June Grass	7	6	5	P-Grass	
Krigia dandelion	Potato Dandelion	6	5	3	P-Forb	
Krigia virginica	Dwarf Dandelion	4	3	5	A-Forb	
Kuhnia eupatorioides *Brickellia eupatorioides* (L,M,T)	False Bonset	6	5	5	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Lactuca canadensis	Wild Lettuce	1	2	2	B-Forb	
Lechea mucronata *L. villosa* (S)	Hairy Pinweed	7	5	5	P-Forb	sterile acid sites
Lechea tenuifolia	Slender-Leaved Pinweed	6	4	5	P-Forb	sterile acid sites
Leptoloma cognatum *Digitaria cognata* (L,T,Y)	Fall Witch Grass	4	3	5	P-Grass	
Lespedeza capitata	Round-Headed Bush Clover	4	6	3	P-Forb	
Lespedeza stuevei	Stueve's Bush Clover	6	4	5	P-Forb	
Lespedeza violacea	Violet Bush Clover	5	4	5	P-Forb	mesic prairie
Lespedeza virginica	Slender Bush Clover	5	5	5	P-Forb	
Liatris aspera	Rough Blazing Star	7	6	5	P-Forb	
Liatris cylindracea	Cylindrical Blazing Star	8	7	5	P-Forb	
Liatris pycnostachya	Prairie Blazing Star	6	6	1	P-Forb	
Liatris squarrosa	Scaly Blazing Star	7	5	5	P-Forb	
Lilium michiganense	Michigan Lily	6	7	-1	P-Forb	
Linum medium texanum	Small Yellow Flax	7	5	3	P-Forb	
Linum sulcatum	Grooved Yellow Flax	8	5	5	A-Forb	
Lithospermum canescens	Hoary Puccoon	6	6	5	P-Forb	
Lithospermum caroliniense *L. croceum* (M)	Puccoon	7	6	5	P-Forb	
Lithospermum incisum	Fringed Puccoon	8	7	5	P-Forb	
Lobelia cardinalis	Cardinal Flower	6	6	-5	P-Forb	
Lobelia siphilitica	Great Blue Lobelia	4	4	-4	P-Forb	
Lobelia spicata	Pale Spiked Lobelia	4	5	0	P-Forb	
Ludwigia alternifolia	Seedbox	5	4	-5	P-Forb	
Ludwigia palustris	Water Purslane	4	5	-5	P-Forb	
Ludwigia polycarpa	False Loosestrife	5	6	-5	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Luzula bulbosa included in *L. multiflora* (L), *L. campestris bulbosa* (Y)	Wood Rush	5	4	3	P-Forb	
Lycopus americanus	Common Water Horehound	3	4	-5	P-Forb	
Lysimachia ciliata	Fringed Loosestrife	4	5	-3	P-Forb	
Lysimachia hybrida	Hybrid Loosestrife		6	-5	P-Forb	
Lysimachia lanceolata	Lance-Leaved Loosestrife	6	4	0	P-Forb	
Lythrum alatum	Winged Loosestrife	5	6	-5	P-Forb	
Malvastrum hispidum *Sphaeralcea angusta* (S)	False Mallow		5	5	A-Forb	open rocky sites
Melanthium virginicum	Bunch Flower	10	7	-4	P-Forb	
Melica nitens	Tall Melic Grass	7	6	5	P-Grass	
Mentzelia oligosperma	Stickleaf	10	6	5	P-Forb	dry limestone sites
Mimosa quadrivalvis nuttallii *Schrankia unicata* (S), *S. nuttallii* (T)	Sensitive Briar		6	5	P-Forb	dry-mesic to dry acid sites
Mimulus alatus	Winged Monkey Flower	6	5	-5	P-Forb	
Mirabilis albida	Pale umbrellawort		5	5	P-Forb	
Monarda fistulosa	Wild Bergamot	4	4	3	P-Forb	
Muhlenbergia cuspidata	Prairie Satin Grass	10	10	5	P-Grass	thin soil over limestone
Muhlenbergia glabriflora *M. glabrifloris* (Y)	Smooth Satin Grass	7	7	5	P-Grass	
Muhlenbergia mexicana	Leafy Satin Grass	4	5	-3	P-Grass	
Nothoscordum bivalve	False Garlic	5	4	5	P-Forb	
Oenothera laciniata	Ragged Evening Primrose	2	1	3	A-Forb	
Oenothera linifolia	Thread-Leaved Sundrops		4	5	A-Forb	sterile acid sites
Oenothera macrocarpa *O. missouriensis* (S)	Missouri Primrose		7	5	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Oenothera pilosella	Prairie Sundrops	6	6	1	P-Forb	
Onosmodium molle *O. hispidissimum* and/or *O. molle* and/or *O. subsetosum* (S)	Marbleseed	10	4	5	P-Forb	
Opuntia humifusa *O. compressa* (S)	Prickly Pear	5	4	5	Shrub	xeric exposures
Orbexilum onobrychis *Psoralea onobrychis* (S)	French Grass	6	7	5	P-Forb	
Orbexilum pedunculatum *Psoralea psoralioides* (S)	Sampson's Snakeroot	6	7	5	P-Forb	
Oxalis dillenii *O. stricta* (M,T)	Yellow Wood Sorrel	0	0	5	P-Forb	
Oxalis violacea	Violet Wood Sorrel	5	5	5	P-Forb	
Oxypolis rigidior	Cowbane		7	-5	P-Forb	
Panicum anceps	Beaked Panic Grass	3	2	-3	P-Grass	
Panicum clandestinum *Dichanthelium clandestinum* (M,T)	Deer Tongue Grass	4	4	-3	P-Grass	
Panicum depauperatum *Dichanthelium depauperatum* (M,T)	Starved Panic Grass	7	4	5	P-Grass	
Panicum flexile	Wiry Panic Grass	7	3	-4	A-Grass	
Panicum lanuginosum implicatum *Dichanthelium acuminatum implicatum* (M), including *P. lanuginosum fasciculatum* (S), included in *D. acuminatum acuminatum* (T), included in *P. acuminatum acuminatum* (Y)	Slender-Stemmed Panic Grass	2	2	3	P-Grass	
Panicum lanuginosum lindheimeri *Dichanthelium lindheimeri* (M), included in *D. acuminatum acuminatum* (T), *P. acuminatum lindheimeri* (Y)	Smooth Woolly Panic Grass	4	3	-1	P-Grass	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Panicum leibergii *Dichanthelium leibergii* (M,T)	Prairie Panic Grass	7	9	2	P-Grass	
Panicum linearifolium *Dichanthelium linearifolium* (M,T)	Slender-Leaved Panic Grass	7	5	5	P-Grass	
Panicum oligosanthes *Dichanthelium oligosanthes* (M,T)	Scribner's Panic Grass	3	3	3	P-Grass	
Panicum perlongum *Dichanthelium perlongum* (M), included in *D. linearifolium* (T), included in *P. linearifolium* (Y)	Long-Stalked Panic Grass		7	5	P-Grass	
Panicum rigidulum *P. agrostoides* (S)	Munro Grass	6	3	-3	P-Grass	
Panicum sphaerocarpon *Dichanthelium sphaerocarpon* (M,T)	Round-Fruited Panic Grass	7	5	3	P-Grass	
Panicum villosissimum *P. praecocius* (L), *Dichanthelium villosissimum* (M), included in *D. acuminatum villosum* (T), included in *P. acuminatum acuminatum* (Y)	Early-Branching Panic Grass		5	5	P-Grass	
Panicum virgatum	Switch Grass	4	4	-1	P-Grass	
Parthenium integrifolium	Wild Quinine	8	6	5	P-Forb	
Paspalum laeve	Smooth Lens Grass	2	2	5	P-Grass	
Paspalum setaceum ciliatifolium *P. ciliatifolium* (S)	Hairy Lens Grass	3	10	5	P-Grass	
Pedicularis canadensis	Lousewort	7	5	2	P-Forb	hemiparasitic
Penstemon digitalis	Foxglove Beard Tongue	4	4	1	P-Forb	
Penstemon pallidus	Pale Beard Tongue	6	4	5	P-Forb	
Penstemon tubaeflorus	Funnel-Form Beard-Tongue	5	5	5	P-Forb	
Phlox glaberrima	Marsh Phlox	6	8	-3	P-Forb	

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Phlox pilosa	Sand Prairie Phlox	7	6	1	P-Forb	
Phyla lanceolata *Lippia lanceolata* (S)	Fog Fruit	1	3	-5	P-Forb	
Physalis heterophylla	Clammy Ground Cherry	2	3	5	P-Forb	
Physalis virginiana virginiana	Lance-Leaved Ground Cherry	3	3	5	P-Forb	
Physostegia angustifolia	False Dragonhead	6	6	0	P-Forb	
Physostegia virginiana	Obedient Plant	6	5	-3	P-Forb	
Plantago pusilla	Slender Plantain	3	1	3	A-Forb	
Plantago virginica	Dwarf Plantain	3	1	4	A-Forb	
Platanthera flava herbiola *Habenaria flava herbiola* (S)	Tubercled Orchid	10	10	-3	P-Forb	
Platanthera lacera *Habenaria lacera* (S)	Ragged Fringed Orchid	9	10	-3	P-Forb	
Platanthera leucophaea *Habenaria leucophaea* (S)	Prairie White Fringed Orchid	10		-4	P-Forb	
Polygala sanguinea	Field Milkwort	5	5	3	A-Forb	
Polygala senega	Seneca Snakeroot	7	6	3	P-Forb	
Polygala verticillata	Whorled Milkwort	9	4	5	A-Forb	
Polygonatum biflorum commutatum *P. commutatum* (M), *P. canaliculatum* (S)	Smooth Solomon's Seal	4	4	3	P Forb	
Polygonum hydropiperoides *Persicaria hydropiperoides* (M)	Mild Water Pepper	4	4	-5	P-Forb	
Polygonum punctatum *Persicaria punctatum* (M)	Smartweed	3	3	-5	P-Forb	
Polygonum ramosissimum	Bushy Knotweed	3	5	1	A-Forb	
Polygonum tenue	Slender Knotweed	5	6	5	A-Forb	sterile acid soil
Polytaenia nuttallii	Prairie Parsley	8	8	5	P-Forb	
Potentilla arguta	Prairie Cinquefoil	10	10	4	P-Forb	
Potentilla simplex	Common Cinquefoil	3	3	4	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Prenanthes aspera	Rough White Lettuce	8	8	5	P-Forb	
Prunella vulgaris lanceolata *P. vulgaris elongata* (M)	Self-Heal	1	1	0	P-Forb	
Prunus angustifolia	Chickasaw Plum	3		5	Shrub	
Prunus mexicana	Wild Goose Plum	6	3	5	Tree	
Psoralidium tenuiflorum *Psoralea tenuiflora* (S)	Scurfy Pea	8	8	5	P-Forb	
Ptelea trifoliata	Hop Tree	4	5	2	Shrub	
Ptilimnium nuttallii	Nuttall's Mock Bishop's Weed	7	4	-4	A-Forb	
Pycnanthemum tenuifolium	Slender Mountain Mint	4	4	0	P-Forb	
Pycnanthemum verticillatum pilosum *P. pilosum* (M,S,T)	Hairy Mountain Mint	6	5	5	P-Forb	
Pycnanthemum virginianum	Common Mountain Mint	5	6	-4	P-Forb	
Quercus macrocarpa	Bur Oak	5	4	1	Tree	
Quercus marilandica	Blackjack Oak	6	4	5	Tree	
Quercus stellata	Post Oak	5	4	4	Tree	
Ranunculus fascicularis	Early Buttercup	5	5	3	P-Forb	
Ranunculus laxicaulis	Water Plantain Spearwort	6	7	-5	A-Forb	
Ratibida pinnata	Grey-Headed Coneflower	4	5	5	P-Forb	
Rhamnus lanceolata	Lance-Leaved Buckthorn	7	5	3	Shrub	
Rhus copallinum	Shining Sumac	3	2	5	Shrub	
Rhus glabra	Smooth Sumac	1	1	5	Shrub	
Rosa carolina	Pasture Rose	4	4	4	Shrub	
Rosa setigera	Prairie Rose	5	4	2	Shrub	
Rubus allegheniensis	Common Blackberry	2	4	2	Shrub	
Rubus flagellaris	Common Dewberry	2	2	4	Shrub	
Rubus pensilvanicus	Yankee Blackberry	2	2	1	Shrub	
Rudbeckia hirta	Black-Eyed Susan	2	1	3	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Rudbeckia missouriensis	Missouri-Black-Eyed Susan	10	6	4	P-Forb	calcareous soil
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	5	5	-3	P-Forb	
Rudbeckia triloba	Brown-Eyed Susan	3	4	1	B-Forb	
Ruellia humilis	Hairy Ruellia	3	3	4	P-Forb	
Sabatia angularis	Rose Gentian	3	4	-1	B-Forb	
Sabatia campestris	Prairie Rose Gentian	O	4	3	B-Forb	
Salix humilis	Prairie Willow	5	6	3	Shrub	
Sanicula canadensis	Canadian Black Snakeroot	4	3	2	B-Forb	
Sassafras albidum	Sassafras	2	2	3	Tree	
Schizachyrium scoparium *Andropogon scoparius* (S)	Little Bluestem	5	5	4	P-Grass	
Scirpus atrovirens	Dark Green Rush	4	4	-5	P-Sedge	
Scirpus pendulus *S. lineatus* (S)	Red Bulrush	3	5	-5	P-Sedge	
Scirpus validus *Schoenoplectus tabernaemontani* (M,Y), *Scirpus tabernaemontani* (L)	Great Bulrush	4	5	-5	P-Sedge	
Scleria triglomerata	Tall Nut Rush	9	7	0	P-Sedge	
Scutellaria leonardii *S. parvula leonardii* (L,S)	Leonard's Small Skullcap	6	4	3	P-Forb	
Scutellaria parvula parvula	Small Skullcap	5	4	3	P-Forb	
Selaginella rupestris	Sand Club Moss		9	5	Crptgm	sterile acid sites
Senecio aureus	Golden Ragwort	4	5	-3	P-Forb	groundwater seepage
Senecio pauperculus	Balsam Ragwort	3		-1	P-Forb	
Senecio plattensis	Prairie Ragwort	6	6	4	P-Forb	
Senna marilandica *Cassia marilandica* (S)	Maryland Senna	4	4	-3	P-Forb	
Setaria geniculata *S. parviflora* (L,T,Y)	Perennial Foxtail		6	0	P-Grass	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Silene regia	Royal Catchfly	9	10	5	P-Forb	
Silene stellata	Starry Campion	6	5	5	P-Forb	
Silphium integrifolium	Rosinweed	5	4	5	P-Forb	
Silphium laciniatum	Compass Plant	5	6	4	P-Forb	
Silphium perfoliatum	Cup Plant	4	3	-2	P-Forb	
Silphium terebinthinaceum	Prairie Dock	4	5	1	P-Forb	
Sisyrinchium albidum	Common Blue-Eyed Grass	4	6	3	P-Forb	
Sisyrinchium angustifolium *S. mucronatum* (S)	Pointed Blue-Eyed Grass	5	5	-2	P-Forb	
Sisyrinchium campestre	Prairie Blue-Eyed Grass	6	4	5	P-Forb	
Sium suave	Water Parsnip	5	6	-5	P-Forb	
Solidago canadensis gilvocanescens *S. altissima gilvocanescens* (T)	Canada Goldenrod	1	5	3	P-Forb	
Solidago canadensis scabra *S. altissima* (M,S), *S. altissima altissima* (T)	Tall Goldenrod	1	1	3	P-Forb	native weed
Solidago gigantea	Late Goldenrod	3	4	-3	P-Forb	
Solidago juncea	Early Goldenrod	4	5	5	P-Forb	
Solidago missouriensis	Missouri Goldenrod	4	4	5	P-Forb	
Solidago nemoralis	Old-Field Goldenrod	4	2	5	P-Forb	
Solidago petiolaris	Downy Goldenrod	8	6	5	P-Forb	
Solidago radula	Rough Goldenrod	7	6	5	P-Forb	
Solidago rigida *Oligoneuron rigidum* (M)	Stiff Goldenrod	4	6	4	P-Forb	
Solidago rugosa	Rough-Leaved Goldenrod	8	5	-1	P-Forb	
Solidago speciosa	Showy Goldenrod	7	7	5	P-Forb	
Sorghastrum nutans	Indian Grass	4	5	2	P-Grass	
Spartina pectinata	Prairie Cord Grass	4	5	-4	P-Grass	
Sphenopholis obtusata	Prairie Wedge Grass	5	5	0	P-Grass	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Sphenopholis obtusata major *S. intermedia* (L,M,S)	Slender Wedge Grass	5	6	0	P-Grass	
Spiranthes cernua	Nodding Ladies' Tresses	4	4	-2	P-Forb	
Spiranthes lacera gracilis *S. gracilis* (M,S), included in *S. lacera* (Y)	Slender Ladies' Tresses		6	-1	P-Forb	
Spiranthes magnicamporum included in *S. cernua* (S)	Dune Ladies's Tresses	6	7	-3	P-Forb	
Spiranthes tuberosa	Little Ladies' Tresses		7	5	P-Forb	
Spiranthes vernalis	Spring Ladies' Tresses	7		0	P-Forb	
Sporobolus asper *S. compositus* (L,M,Y)	Rough Dropseed	3	4	5	P-Grass	
Sporobolus clandestinus	Rough Rush Grass	6	5	5	P-Grass	
Sporobolus cryptandrus	Sand Dropseed	4	5	4	P-Grass	
Sporobolus heterolepis	Prairie Dropseed	9	6	4	P-Grass	
Sporobolus vaginiflorus	Sheathed Rush Grass	0	2	5	A-Grass	
Stachys palustris pilosa *S. pilosa* (M,T)	Woundwort	5	6	-5	P-Forb	
Stachys tenuifolia	Rough Hedge Nettle	5	4	-5	P-Forb	
Stipa spartea *Heterostipa spartea* (M)	Porcupine Grass	6		5	P-Grass	
Strophostyles leiosperma	Small Wild Bean	3	2	5	A-Forb	
Stylosanthes biflora	Pencil Flower	5	5	5	P-Forb	
Taenidia integerrima	Yellow Pimpernel	7	6	5	P-Forb	
Talinum calycinum	Rockpink Fame Flower		8	5	P-Forb	open rocky sites
Tephrosia virginiana	Goat's Rue	7	5	5	P-Forb	acidic sites
Teucrium canadense virginicum *T. canadense* (L), *T. canadense canadense* (M,T)	Germander	3	2	-2	P-Forb	
Thalictrum dasycarpum	Purple Meadow Rue	5	4	-2	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Thalictrum revolutum	Waxy Meadow Rue	5	5	0	P-Forb	
Thaspium trifoliatum flavum *T. trifoliatum aureum* (L	Meadow Parsnip	6	6	5	P-Forb	
Tradescantia bracteata	Long-Bracted Spiderwort	7	6	4	P-Forb	
Tradescantia ohiensis	Common Spiderwort	3	4	2	P-Forb	
Tradescantia virginiana	Virginia Spiderwort	7	6	5	P-Forb	
Triodanis biflora	False Redtop	1	1	5	P-Grass	native weed
Trifolium reflexum	Buffalo Clover	9	10	5	A-Forb	
Triodanis perfoliata *T. perfoliata perfoliata* (L), *Specularia perfoliata* (S)	Small Venus' Looking Glass	4	3	5	A-Forb	
Triodanis perfoliata *Specularia perfoliata* (S)	Perfoliate Venus' Looking Glass	2	2	0	A-Forb	
Tripsacum dactyloides	Gama Grass	4	5	-1	P-Grass	
Verbena canadensis *Glandularia canadensis* (L,M,T)	Rose Vervain	7	5	5	P-Forb	
Verbena hastata	Blue Vervain	3	4	-4	P-Forb	
Verbena simplex	Narrow-Leaved Vervain	4	4	5	P-Forb	calcareous soil
Verbena stricta	Hoary Vervain	2	3	5	P-Forb	native weed
Verbesina helianthoides	Wing-Stem	6	4	5	P-Forb	
Vernonia arkansana *V. crinita* (S)	Great Ironweed		6	0	P-Forb	
Vernonia baldwinii	Western Ironweed	5	2	5	P-Forb	
Vernonia fasciculata	Common Ironweed	5	6	-3	P-Forb	
Vernonia missurica	Missouri Ironweed	5	4	-1	P-Forb	
Veronicastrum virginicum	Culver's Root	6	7	0	P-Forb	
Viola pedata	Bird's Foot Violet	7	5	5	P-Forb	
Viola pedatifida	Prairie Violet	9	10	4	P-Forb	
Viola sagittata	Arrow-Leaved Violet	6	7	-2	P-Forb	

SCIENTIFIC NAME	COMMON NAME	IL	MO	WET	PHYSIOG	COMMENTS
Viola sororia	Common Blue Violet	3	2	1	P-Forb	
Vulpia octoflora *Festuca octoflora* (S)	Six-Weeks Fescue	2	2	5	A-Grass	
Zizia aptera	Heart-Leaved Meadow Parsnip		7	3	P-Forb	
Zizia aurea	Golden Alexanders	6	5	-1	P-Forb	

Appendix 1: A list of all plant names used by local authors that differ from the nomenclature used in this report. Names are arranged alphabetically by the scientific name used in local references. For each name, a cross reference is provided to the name used in this report, although this is sometimes imperfect due to changes in taxonomic concepts. Abbreviations in parentheses refer to these local references: L = Ladd (1997), M = Mohlenbrock (2002), S = Steyermark (1963), T = Yatskievych and Turner (1990), and Y = Yatskievych (1999).

Ambrosia coronopifolia (L,S): *Ambrosia psilostachya*
Anagallis minima (L,M): *Centunculus minimus*
Andropogon scoparius (S): *Schizachyrium scoparium*
Arnoglossum atriplicifolium (L,M): *Cacalia atriplicifolia*
Arnoglossum plantagineum (L,M): *Cacalia plantaginea*
Aster azureus (S): *Aster oolentangiensis*
Aster fragilis (L,T): *Aster racemosus*
Aster simplex (S): *Aster lanceolatus*
Aster vimineus (S): *Aster racemosus*
Astragalus mexicanus trichocalyx (S): *Astragalus crassicarpus trichocalyx*
Baptisia alba (L,M,T): *Baptisia lactea*
Baptisia bracteata leucophaea (L): *Baptisia bracteata glabrescens*
Baptisia leucantha (S): *Baptisia lactea*
Baptisia leucophaea (S): *Baptisia bracteata glabrescens*
Brickellia eupatorioides (L,M,T): *Kuhnia eupatorioides*
Cacalia tuberosa (S): *Cacalia plantaginea*
Calopogon pulchellus in part (S): *Calopogon oklahomensis*
Calopogon tuberosus in part (L,T): *Calopogon oklahomensis*
Calystegia sepium americanum (M): *Calystegia sepium*
Calystegia silvatica in part (T): *Calystegia sepium*
Carex brachyglossa (M): *Carex annectens*
Carex lanuginosa (S,T): *Carex pellita*
Carex mesochorea (L,M,Y): *Carex cephalophora mesochorea*
Carex muhlenbergii australis (S,T): *Carex austrina*
Carex muhlenbergii austrina (M): *Carex austrina*
Cassia fasciculata (S): *Chamaecrista fasciculata*
Cassia marilandica (S): *Senna marilandica*
Cassia nictitans (S): *Chamaecrista nictitans*
Comandra richardsiana (S): *Comandra umbellata*
Convolvulus sepium (S): *Calystegia sepium*
Convolvulus spithamaeus (S): *Calystegia spithamaea*
Cornus amomum obliqua (L,T): *Cornus amomum schuetzeana*

Cornus foemina racemosa (T): *Cornus racemosa*
Cornus obliqua (M,S): *Cornus amomum schuetzeana*
Cuphea petiolata (S): *Cuphea viscosissima*
Cyperus filiculmis (S): *Cyperus lupulinus*
Cyperus ovularis (S): *Cyperus echinatus*
Cyperus virens (S): *Cyperus pseudiovegetus*
Delphinium carolinianum carolinianum (T): *Delphinium carolinianum*
Desmodium paniculatum in part (L): *Desmodium glabellum*
Desmodium paniculatum dillenii (S): *Desmodium glabellum*
Desmodium rigidum (S): *Desmodium obtusum*
Dichanthelium acuminatum acuminatum in part (T): *Panicum lanuginosum implicatum* and/or *P. lanuginosum lindheimeri*
Dichanthelium acuminatum implicatum (M): *Panicum lanuginosum implicatum*
Dichanthelium acuminatum villosum in part (T): *Panicum vilosissimum*
Dichanthelium clandestinum (M,T): *Panicum clandestinum*
Dichanthelium depauperatum (M,T): *Panicum depauperatum*
Dichanthelium leibergii (M,T): *Panicum leibergii*
Dichanthelium lindheimeri (M): *Panicum lanuginosum lindheimeri*
Dichanthelium linearifolium (M,T): *Panicum linearifolium*
Dichanthelium linearifolium in part (T): *Panicum perlongum*
Dichanthelium oligosanthes (M,T): *Panicum oligosanthes*
Dichanthelium perlongum (M): *Panicum perlongum*
Dichanthelium sphaerocarpon (M,T): *Panicum sphaerocarpon*
Dichanthelium vilosissimum (M): *Panicum vilosissimum*
Digitaria cognata (L,T,Y): *Leptoloma cognatum*
Eleocharis calva (S): *Eleocharis erythropoda*
Eleocharis macrostachya (M,S,T): included in *Eleocharis palustris*
Eleocharis smallii (S,T): *Eleocharis palustris*
Eleocharis verrucosa (M,T,Y): *Eleocharis tenuis verrucosa*
Erythronium albidum mesochoreum (S): *Erythronium mesochoreum*
Festuca octoflora (S): *Vulpia octoflora*
Fimbristylis caroliniana (S): *Fimbristylis puberula*
Gamochaeta purpurea (L,M,T): *Gnaphalium purpureum*
Gaura longifolia (L,M,T): included in *Gaura biennis*
Gentiana alba (L,M): *Gentiana flavida*
Gentiana puberula (S): *Gentiana puberulenta*
Gerardia aspera (S): *Agalinis aspera*
Gerardia auriculata (S): *Agalinis auriculata*
Gerardia purpurea (S): *Agalinis purpurea*
Gerardia skinneriana (S): *Agalinis skinneriana*
Gerardia tenuifolia (S): *Agalinis tenuifolia*

Glandularia canadensis (L,M,T): *Verbena canadensis*
Habenaria flava herbiola (S): *Platanthera flava herbiola*
Habenaria lacera (S): *Platanthera lacera*
Habenaria leucophaea (S): *Platanthera leucophaea*
Helianthus laetiflorus rigidus (S): *Helianthus pauciflorus*
Helianthus rigidus (T): *Helianthus pauciflorus*
Heterostipa spartea (M): *Stipa spartea*
Houstonia caerulea (L,M,S): *Hedyotis caerulea*
Houstonia crassifolia(M): *Hedyotis crassifolia*
Houstonia longifolia (L,M,S): *Hedyotis longifolia*
Houstonia minima (S): *Hedyotis crassifolia*
Houstonia nigricans (S): *Hedyotis nigricans*
Houstonia pusilla (L,M,S): *Hedyotis crassifolia*
Ionactis linariifolius (L,M): *Aster linariifolius*
Iris shrevei (M): *Iris virginica shrevei*
Iva ciliata (S): *Iva annua*
Koeleria cristata (S): *Koeleria pyramidata macrantha*
Koeleria macrantha (L,M,Y): *Koeleria pyramidata macrantha*
Koeleria pyramidata (T): *Koeleria pyramidata macrantha*
Lechea villosa (S): *Lechea mucronata*
Lippia lanceolata (S): *Phyla lanceolata*
Lithospermum croceum (M): *Lithospermum carolinense*
Luzula campestris bulbosa (Y): *Luzula bulbosa*
Luzula multiflora in part (L): *Luzula bulbosa*
Minuartia patula (L,M): *Arenaria patula*
Muhlenbergia glabrifloris (Y): *Muhlenbergia glabriflora*
Oenothera missouriensis (S): *Oenothera macrocarpa*
Oligoneuron rigidum (M): *Solidago rigida*
Onosmodium hispidissimum (S): *Onosmodium molle*
Onosmodium subsetosum (S): *Onosmodium molle*
Opuntia compressa (S): *Opuntia humifusa*
Oxalis stricta (M,T): *Oxalis dillenii*
Panicum acuminatum acuminatum in part (Y): *Panicum lanuginosum implicatum*
Panicum acuminatum acuminatum in part (Y): *Panicum vilosissimum*
Panicum acuminatum lindheimeri (Y): *Panicum lanuginosum lindheimeri*
Panicum agrostoides (S): *Panicum rigidulum*
Panicum lanuginosum fasciculatum (S): *Panicum lanuginosum implicatum*
Panicum linearifolium in part (Y): *Panicum perlongum*
Panicum praecocius (L): *Panicum vilosissimum*
Paspalum ciliatifolium (S): *Paspalum setaceum ciliatifolium*

Persicaria hydropiperoides (M): *Polygonum hydropiperoides*
Persicaria punctatum (M): *Polygonum punctatum*
Petalostemum candidum (S): *Dalea candida*
Petalostemum purpureum (S): *Dalea purpurea*
Polygonatum canaliculatum (S): *Polygonatum biflorum commutatum*
Polygonatum commutatum (M): *Polygonatum biflorum commutatum*
Prunella vulgaris elongata (M): *Prunella vulgaris lanceolata*
Pseudognaphalium obtusifolium (M): *Gnaphalium obtusifolium*
Psoralea onobrychis (S): *Orbexilum onobrychis*
Psoralea psoralioides (S): *Orbexilum pedumculatum*
Psoralea tenuiflora (S): *Psoralidium tenuiflorum*
Pycanthemum pilosum (M,S,T): *Pycnanthemum verticillatum pilosum*
Schoenoplectus tabernaemontani (M,Y): *Scirpus validus*
Schrankia nuttallii (T): *Mimosa quadrivalvis nuttallii*
Schrankia uncinata (S): *Mimosa quadrivalvis nuttallii*
Scirpus lineatus (S): *Scirpus pendulus*
Scirpus tabernaemontani (L): *Scirpus validus*
Scutellaria parvula leonardii (L,S): *Scutellaria leonardii*
Setaria parviflora (L,T,Y): *Setaria geniculata*
Sisyrinchium bermudiana (S): *Sisyrinchium angultifolium*
Solidago altissima (M,S): *Solidago canadensis scabra*
Solidago altissima altissima (T): *Solidago canadensis scabra*
Solidago altissima gilvocanescens (T): *Solidago canadensis gilvocanescens*
Solidago graminifolia (S): *Euthamia graminifolia*
Solidago gymnospermoides (S): *Euthamia gymnospermoides*
Specularia biflora (S): *Triodanis biflora*
Specularia perfoliata (S): *Triodanis perfoliata*
Sphaeralcea angusta (S): *Malvastrum hispidum*
Sphenopholis intermedia (L,M,S): *Sphenopholis obtusata major*
Spiranthes cernua in part (S): *Spiranthes magnicamporum*
Spiranthes gracilis (M,S): *Spiranthes lacera gracilis*
Spiranthes lacera in part (Y): *Spiranthes lacera gracilis*
Sporobolus compositus (L,M,Y): *Sporobolus asper*
Stachys pilosa (M,T): *Stachys palustris pilosa*
Teucrium canadense (L): *Teucrium canadense virginicum*
Teucrium canadense canadense (M,T): *Teucrium canadense virginicum*
Thaspium trifoliatum aureum (L): *Thaspium trifoliatum flavum*
Tomanthera auriculata (M,T): *Agalinis auriculata*
Trichostema brachiatum (L,T): *Isanthus brachiatus*
Triodanis perfoliata biflora (L): *Triodanis biflora*
Vernonia crinita (S): *Vernonia arkansana*