

List of Extirpated, Endangered, Threatened and Rare Vascular Plants in Indiana: An Update

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Introduction

The status of Indiana's rarest vascular plants was last revised in 1981 by Bacone *et al.* (3). Since that publication much additional field work has been undertaken and accordingly, our knowledge of Indiana's rarest plant species has greatly increased. The results of some of this extensive field work have been discussed by Homoya (9) and Homoya and Abrell (10) for southern Indiana and by Aldrich *et al.* (1) for northern Indiana. Wilhelm's (17) discussion on the special vegetation of the Indiana Dunes National Lakeshore has also provided us with a much clearer understanding of the status of rare, threatened and endangered plants in northwest Indiana.

Unfortunately, the number of species thought to be extinct in Indiana has more than tripled. Previous reports (2, 3) indicated that 26 species were extirpated in Indiana. The work that has been conducted to date leads us to believe that as many as 90 species may be extirpated. Without a doubt, the single factor most responsible for this extirpation has been and continues to be, the destruction of natural habitat.

Compilation and Selection Criteria

Lists of Bacone and Hedge (2), Bacone *et al.* (3), Barnes (4), Crankshaw (5) and Crevello (6) were consulted and provide the foundation for this report. New additions to this list include state records discovered since Deam (7) and a number of recommendations from field botanists.

An effort has been made to better define each of the state categories. *Extirpated* refers to species that have not been seen in Indiana for over 50 years and for which the site(s) where it occurred historically has been field surveyed. In only a couple of instances were species for which no extant sites are known listed as endangered. In these cases the historic sites for the species had not been adequately surveyed. *Endangered* refers to a species that is known from 1 to 5 extant sites. *Threatened* species are known from 6 to 10 sites and *Rare* species are known from 11 to 20 sites. A species was "dropped" from the previous list (2) if it is known from over 20 extant sites.

Nomenclature

Nomenclature, with a few exceptions, follows Gleason and Cronquist (8). These exceptions include the genera *Platanthera* and *Coeloglossum* and the species *Spiranthes magnicamporum* and *S. ochroleuca*, which follow Luer (12). *Carex atlantica* subsp. *atlantica*, *C.a.* subsp. *capillacea* and *C. echinata* follow Reznicek and Ball (13) and *Oxalis illinoensis* follows Schwegman (14). The following species follow Kartesz and Kartesz (11): *Acalypha deamii*, *Amelanchier humilis*, *Botrychium biternatum*, *Carex socialis*, *Cimicifuga rubifolia*, *Comptonia peregrina*, *Dryopteris celsa*, *Erysimum capitatum*, *Gentiana alba*, *Hemicarpha drummondii*, *Lycopodium porophyllum*, *Penstemon deamii*, *Potamogeton pusillus*, *Proboscidea louisianica*, *Ranunculus laxicaulis*, *Rudbeckia fulgida* var. *deamii*, *R.f.* var. *palustris*, *Sagittaria australis*, *Solidago deamii* and *Viburnum trilobum*.

Where we have nomenclatural differences for the taxa in Table 1 with Deam (7), and/or Swink and Wilhelm (15), we have included synonymy and an initial denoting

the source ("D" for Deam, and "S" for Swink and Wilhelm). Also in Table 1, species new to the Indiana flora that have been discovered since the revision by Bacone *et al.* (3) are noted by "*", and a "#" notes species under review for federal status (17).

TABLE 1. List of extirpated, endangered, threatened and rare vascular plants in Indiana.

Extirpated	
<i>Aconitum uncinatum</i> L.	<i>Linnaea borealis</i> L. (<i>L. borealis americana</i> , D)
<i>Adlumia fungosa</i> (Ait.) Greene	<i>Lonicera canadensis</i> Marsh.
<i>Anemone caroliniana</i> Walt.	<i>Ludwigia decurrens</i> Walt.
<i>Arabis drummondii</i> Gray.	<i>Ludwigia glandulosa</i> Walt.
# <i>Asclepias meadii</i> Torr.	<i>Melothria pendula</i> L.
<i>Asplenium</i> x <i>Kentuckiense</i> McCoy.	<i>Muhlenbergia capillaris</i> (Lam.) Trin.
# <i>Astragalus tennesseensis</i> Gray.	<i>Myriophyllum pinnatum</i> (Walt.) BSP. (<i>M. scabratum</i> , D.)
<i>Aureolaria grandiflora</i> (Benth.) Pennell var. <i>pulchra</i>	<i>Oenothera triloba</i> Nutt.
Pennell (<i>Gerardia grandiflora pulchra</i> , S.)	<i>Onosmodium molle</i> Michx. var. <i>hispidissimum</i> (Mack.) Cronq. (<i>O. hispidissimum</i> , D.)
<i>Berberis canadensis</i> Mill.	<i>Oryzopsis pungens</i> (Torr.) Hitchc.
<i>Betula populifolia</i> Marsh.	<i>Panicum longifolium</i> Torr.
<i>Botrychium multifidum</i> (Gmel.) Rupr. var. <i>intermedium</i> (D.C. Eat.) Farw. (<i>B. multifidum silaifolium</i> , D.)	<i>Panicum lucidum</i> Ashe.
<i>Botrychium simplex</i> E. Hitch.	<i>Penstemon tubaeformis</i> Nutt.
<i>Bumelia lycioides</i> (L.) Pers.	<i>Phlox ovata</i> L.
<i>Cabomba caroliniana</i> Gray.	# <i>Platanthera leucophaea</i> (Nutt.) Lindley (<i>Habenaria leucophaea</i> , D.)
<i>Callirhoe triangulata</i> (Leavenw.) Gray.	<i>Platanthera orbiculata</i> (Pursh) Lindley (<i>Habenaria orbiculata</i> , D.)
<i>Carex cumulata</i> (Bailey) Mackenzie.	<i>Poa cuspidata</i> Nutt.
<i>Carex scabrata</i> Schw.	<i>Psilocarya nitens</i> (Vahl.) Wood.
<i>Carex styloflexa</i> Buck.	# <i>Psoralea stipulata</i> T. & G.
<i>Ceanothus herbaceus</i> Raf. (<i>C. ovatus</i> , D., S.)	<i>Pyrola secunda</i> L.
<i>Circaea alpina</i> L.	<i>Pyrola virens</i> Schweig. (<i>P. chlorantha</i> , D.)
<i>Cirsium virginianum</i> (L.) Michx.	<i>Rudbeckia fulgida</i> Ait. var. <i>palustris</i> (Eggert) Perdue (<i>R. palustris</i> , D.)
<i>Conyza canadensis</i> (L.) Cronq. var. <i>pusilla</i> (Nutt.) Cronq. (<i>Erigeron pusillus</i> , D.)	<i>Rudbeckia fulgida</i> Ait. var. <i>umbrosa</i> (Boynnton and Beadle) Cronq. (<i>R. umbrosa</i> , D.)
<i>Corallorhiza trifida</i> Chat. var. <i>verna</i> (Nutt.) Fern. (<i>C. trifida</i> , D.)	<i>Sabatia campanulata</i> (L.) Torr. (<i>S. c. gracilis</i> , D.)
<i>Cuscuta cuspidata</i> Engelm.	<i>Sagittaria australis</i> (J.G. Sm.) Small.
<i>Cyperus acuminatus</i> Torr. & Hook.	<i>Scleria reticularis</i> Michx. var. <i>pubescens</i> Britt. (<i>S. setacea</i> , D.) (<i>S. muhlenbergii</i> , S.)
<i>Eriophorum spissum</i> Fern.	<i>Scutellaria saxatilis</i> Riddell.
<i>Euphorbia serpens</i> HBK	<i>Shepherdia canadensis</i> (L.) Nutt.
<i>Festuca paradoxa</i> Desv.	<i>Solidago buckleyi</i> T. & G.
<i>Gentiana villosa</i> L.	<i>Sorbus decora</i> (Sarg.) C. K. Schneid.
<i>Glyceria grandis</i> S. Wats.	<i>Stachys clingmanii</i> Small.
<i>Gymnopogon ambiguus</i> (Michx.) BSP.	<i>Stipa comata</i> Trin. and Rupr.
<i>Halesia carolina</i> L.	# <i>Tomanthera auriculata</i> (Michx.) Raf.
<i>Hemicarpha drummondii</i> Nees. (F., D.)	<i>Trautvetteria carolinensis</i> (Walt.) Vail.
<i>Hibiscus lasiocarpus</i> Cav.	<i>Trifolium reflexum</i> L. var. <i>glabrum</i> Lojac.
<i>Hippuris vulgaris</i> L.	# <i>Trifolium stoloniferum</i> Eat.
<i>Hypericum frondosum</i> Michx.	<i>Trillium cernuum</i> L. var. <i>macranthum</i> A.J. Eames and Wieg.
<i>Juncus militaris</i> Bigel.	<i>Utricularia resupinata</i> B.D. Greene.
<i>Juncus secundus</i> Beauv.	<i>Veronica americana</i> (Raf.) Schw.
<i>Lactuca ludoviciana</i> (Nutt.) Riddell.	<i>Viola hirsutula</i> Brainerd.
<i>Lechea stricta</i> Legett.	
<i>Lemna perpusilla</i> Torr.	
<i>Lemna valdiviana</i> Philippi (<i>L. cyclostasa</i> , D.)	
<i>Lespedeza stuevei</i> Nutt.	
<i>Ligusticum canadense</i> (L.) Britt.	
Endangered	
<i>Androsace occidentalis</i> Pursh.	(<i>A. viridis deamii</i> , D.)
<i>Arabis patens</i> Sulliv.	<i>Aralia hispida</i> Vent.
# <i>Arabis missouriensis</i> Greene. var. <i>deamii</i> M. Hopkins	<i>Arenaria patula</i> Michx.

TABLE 1.—Continued

- Arethusa bulbosa* L.
 **Asplenium bradleyi* D.C. Eat.
Asplenium montanum Willd.
 **Asplenium resiliens* Kunze.
Asplenium ruta-muraria L. (*A. cryptolepis*, D.)
 #*Aster furcatus* Burgess.
Aster oblongifolius Nutt.
 (includes *A. oblongifolius rigidulus*, D.)
Baptisia australis (L.) R. Br.
 **Bartonia paniculata* (Michx.) Muhl.
 #*Besseyia bullii* (Eat.) Rydb. (*Fulfenia bullii*, S., F.)
Bidens beckii Torr. (*Megalodonta beckii*, D.)
Botrychium biternatum (Sav.) Underw. (*B. dissectum tenuifolium*, D.)
Botrychium matricariifolium A. Br.
Buchnera americana L.
Calla palustris L.
Calyccarpum lyoni (Pursh) Gray.
Carex alopecoidea Tuckerm.
Carex arcata Boott.
Carex atherodes Spreng.
Carex atlantica L.H. Bailey subsp. *atlantica* (C. incomperata, D.)
Carex atlantica L.H. Bailey subsp. *capillacea* (L.H. Bailey) Reznicek (C. *howei*, D.)
Carex bushii Mackenzie.
Carex chordorrhiza L.
Carex conoidea Schk.
Carex crawei Dewey.
Carex disperma Dewey.
Carex echinata Murray, Prod. Stirp. Gott. (C. *laricina*, D.)
Carex flava L.
Carex folliculata L.
Carex gigantea Rudge.
Carex gravida Bailey.
Carex leptonervia Fern.
Carex limosa L.
Carex nigromarginata Schw.
Carex pseudo-cyperus L.
Carex retrorsa Schw.
Carex richardsonii R. Br.
Carya pallida (Ashe) Engl. & Graebn.
Carya texana Buckl. (C. *buckleyi arkansana*, D.)
Chaerophyllum procumbens (L.) Crantz var. *shortii* T. & G.
Chamaelirium luteum (L.) Gray.
Cheilanthes lanosa (Michx.) D.C. Eat.
Chrysosplenium americanum Schw.
 #*Cimicifuga rubifolia* Kearney.
Clintonia borealis (Ait.) Raf.
Clitoria mariana L.
Conioselinum chinense (L.) BSP.
Cornus amomum Mill.
Cornus canadensis L.
Corydalis sempervirens (L.) Pers.
Crataegus arborea Beadle (C. *pyracanthoides* var. *arborea*, D.)
Crataegus biltmoreana Beadle
Crataegus chrysocarpa Ashe (C. *putnamiana*, D.)
Crataegus grandis Ashe.
Crataegus kelloggii Sarg.
Crataegus prona Ashe.
Crotonopsis elliptica Willd.
Cyperus dentatus Torr.
Cyperus pseudovegetus Steud.
Dentaria multifida Muhl.
Dicliptera brachiata (Pursh) Spreng.
 (*Diapedium brachiatum*, D.)
 **Dryopteris celsa* (Wm. Palmer) Small.
Dryopteris clintoniana (D.C. Eat.) Dowell.
 (*D. cristata clintoniana*, D.)
Echinodorus cordifolius (L.) Griseb.
Eleocharis equisetoides (Ell.) Torr.
Eleocharis geniculata (L.) R. & S.
Eleocharis melanocarpa Torr.
Eleocharis microcarpa Torr. (*E. microcarpa filiculmis* D.)
Eleocharis wolfii Gray.
Equisetum variegatum Schleich.
Eriocaulon septangulare With.
Eupatorium incarnatum Walt.
Fimbristylis caroliniana (Lam.) Fern.
 (*F. puberula*, D., *F. drummondii*, S.)
Fuirena pumila Torr.
Gaura filipes Spach.
Gentiana alba Muhl. (*G. flavida*, D.)
Geranium bicknellii Britt.
Gerardia gatlingeri Small.
Gerardia skinneriana Wood.
Geum rivale L.
Gleditsia aquatica Marsh.
Glyceria acutiflora Torr.
Glyceria borealis (Nash) Batchelder.
 **Heliotropium tenellum* (Nutt.) Torr.
Hexalectris spicata (Walt.) Barnh.
Hottonia inflata Ell.
Hydrocotyle americana L.
Hypericum adpressum Bart.
Hypericum denticulatum Walt.
Iliamna remota Greene.
Isoetes engelmanni A. Br.
 **Isoetes melanopoda* Gay and Durieu.
 **Itea virginica* L.
Juncus scirpoides Lam.
Lathyrus maritimus (L.) Bigel var. *glaber* (Ser.) Eames. (*L. japonicus glaber*, D.)
Leavenworthia uniflora (Michx.) Britt.
Lechea racemulosa Michx.
Lemna minima Philippi
Leptochloa panicoides (Presl) Hitchc.
 #*Lesquerella globosa* (Desv.) Wats.
Liatris pycnostachya Michx. (*L. bebbiana*, D.)
Linum intercursum Bickn.
Lithospermum incisum Lehm.
Ludwigia sphaerocarpa Ell. (*L. sphaerocarpa deamii*, D.)
Luzula acuminata Raf. (*L. caroliniae saltuensis*, D.)
Lycopodium appressum (Chapman) Lloyd & Underwood
 **Lycopodium dendroideum* Michx.

TABLE 1.—Continued

- Lycopodium inundatum* L.
Lycopodium tristachyum Pursh.
Lycopus amplexans Raf. (*L. sessilifolius* D.)
Magnolia acuminata L.
Magnolia tripetala L.
Malaxis unifolia Michx.
Melanthium virginicum L.
Mikania scandens (L.) Willd.
Monarda bradburiana Beck.
Muhlenbergia cuspidata (Torr.) Rydb.
Myosotis laxa Lehm.
Myosotis macrosperma Engelm. (*M. virginica* macrosperma, D.)
Najas gracillima (A. Br.) Magnus.
Ophioglossum engelmannii Prantl.
Orobancha fasciculata Nutt. (*O. f. typica*, D.)
Oryzopsis asperifolia Michx.
Oryzopsis racemosa (Smith) Ricker.
Oxydendrum arboreum (L.) DC.
Panicum bicknellii Nash.
Panicum dichotomiflorum Michx. var. *puritanorum* Svenson.
Panicum leibergii (Vasey) Scribn.
Panicum mattamuskeetense Ashe.
 * *Panicum scoparium* Lam.
Panicum subvillosum Ashe.
Panicum verrucosum Muhl.
Penstemon deamii Pennell.
Perideridia americana (Nutt.) Reichenb.
Phacelia ranunculacea (Nutt.) Const. (*P. covillei*, D.)
 # *Phlox bifida* Beck ssp. *stellaria* (Gray) Wherry.
 # *Plantago cordata* Lam.
Platanthera ciliaris (L.) Lindley (*Habenaria ciliaris*, D.)
Platanthera dilatata (Pursh) Lindley ex Beck. (*Habenaria dilatata*, D.)
Platanthera flava (L.) Lindley var. *flava* (*Habenaria scutellata*, D.)
Platanthera hookeri (Torrey) Lindley (*Habenaria hookeri*, D.)
Poa wolfii Scribn.
Polygala paucifolia Willd.
Polygonum careyi Olney.
Polygonum cilinode Michx.
Polygonum hydropiperoides Michx. var. *setaceum* (Baldw.) Gl. (*P. setaceum interjectum*, D.)
Polytaenia nuttallii DC.
Populus balsamifera L. (*P. tacamahacca*, D.)
Potamogeton epihydrus Raf.
Potamogeton friesii Rupr.
 * *Potamogeton oakesianus* Robbins
Potamogeton pulcher Tuckerm.
Potamogeton richardsonii (Benn.) Rydb.
Potamogeton richardsonii Oakes.
Potamogeton strictifolius Benn. (*P. strictifolius* vars. *typicus* and *rutiloides*, D.)
Potentilla anserina L.
Psoralea tenuiflora Pursh.
Pyrola asarifolia Michx. (*P. a. incarnata*, D.)
Quercus prinoides Willd.
Ranunculus laxicaulis (Torr. and Gray) Darby. (*R. oblongifolius*, D.)
Ranunculus pusillus Poir.
Rhexia mariana L. (*R. m. leiosperma*, D.)
Rhynchospora corniculata (Lam.) Gray. var. *interior* Fern.
Rhynchospora globularis (Chapm.) Small. var. *recognita* Gale. (*R. cymosa*, D.)
Rubus alumnus Bailey (*R. impos*, D.)
Rubus enslenii Tratt.
Rubus impar Bailey
Rubus laudatus Berger.
Rudbeckia fulgida Ait. var. *Deamii* (Blake) Perdue (*R. deamii*, D.)
Sanguisorba canadensis L.
Satureja glabella (Michx.) Briquet var. *angustifolia* (Torr.) Svenson. (*S. glabra*, D., *S. arkansana*, S.)
Saxifraga forbesii Vasey
Scheuchzeria palustris L. var. *americana* Fern.
Schizachne purpurascens (Torr.) Swallen.
Scirpus torreyi Olney.
Scleria oligantha Michx.
Scleria pauciflora Muhl. (*S. p. caroliniana*, D.)
Scleria reticularis Michx.
 #* *Sida hermaphrodita* (L.) Rusby
 # *Silene regia* Sims.
Sisyrinchium angustifolium Mill. (*S. montanum*, S.)
Solidago deamii Fern.
Solidago hispida Muhl.
Solidago squarrosa Muhl.
Sparganium androcladum (Engelm.) Morong.
Spigelia marilandica L.
Spiranthes magnicamporum Sheviak.
Spiranthes ochroleuca (Rydberg) Rydberg.
Stenanthium gramineum (Ker) Morong. (includes *S. robustum*, D.)
Stipa avenacea L.
Sullivantia sullivantii (T. and G.) Britt.
 # *Talinum rugospermum* Holz.
Thuja occidentalis L.
Tragia cordata Michx.
Trichomanes boschianum Sturm.
Utricularia minor L.
Utricularia radiata Small. (*U. inflata minor*, S., F.)
 * *Utricularia subulata* L.
Vaccinium myrtilloides Michx. (*V. canadense*, D.)
Valeriana edulis Nutt.
Valeriana uliginosa (T. and G.) Rydb.
Valerianella chenopodiifolia (Pursh.) DC.
Viburnum cassinoides L.
Viburnum trilobum Marsh.
 * *Viola egglestonii* Brainerd.
Viola primulifolia Vahl.
Wisteria macrostachya Nutt.
Wolffiella floridana (Smith) Thompson.
 * *Woodwardia areolata* (L.) Moore.
Zannichellia palustris L. (*Z. p. major*, D.)

TABLE 1.—Continued

Threatened

- Acalypha deamii* (Weatherby) Ahles (*A. rhomboidea* var. *deamii*, D.)
Actaea rubra (Ait.) Willd.
Amelanchier humilis Wieg.
Andromeda glaucophylla Link.
Arabis glabra (L.) Bernh.
Arenaria stricta Michx.
Aristida intermedia Scribn. and Ball.
Aristida tuberculosa Nutt.
Aster piarmicoides (Nees) T. and G.
Aster solidagineus Michx. (*Sericocarpus linifolius*, D.)
Azolla caroliniana Willd.
Bacopa rotundifolia (Michx.) Wettst. (*Hydranthelium rotundifolium*, D.)
Botrychium oneidense (Gilbert) House.
Cakile edentula (Bigel.) Hook. var. *lacustris* Fern.
Carex abscondita Mackenzie.
Carex aurea Nutt.
Carex bebbii Olney.
Carex debilis Michx. var. *rudgei* Bailey.
Carex decomposita Muhl.
Carex eburnea Boott.
Carex garberi Fern.
Carex pedunculata Muhl.
Carex seorsa Howe.
**Carex socialis* Mohlenbrock and Schwegm.
Carex sparganioides Muhl. var. *cephaloidea* (Dewey) (C. *cephaloidea*, D.)
Carex trichocarpa Muhl.
Carex woodii Dewey.
Chimaphila umbellata (L.) Bart. var. *cisatlantica* Blake.
Chrysopsis villosa (Pursh) Nutt.
#Cirsium hillii (Canby) Fern.
#Cirsium pitcheri (Torr.) T. and G.
Cladrastis lutea (Michx. f.) K. Koch.
Coeloglossum viride (L.) Hartman var. *virescens* (Muhlenberg) Luer. (*Habenaria viridis*, D.)
Cornus rugosa Lam.
Crataegus pedicellata Sarg.
Crataegus viridis L.
Dentaria diphylla Michx.
Deschampsia cespitosa (L.) Beauv.
Didiplis diandra (Nutt.) Wood.
#Dodecatheon frenchii (Vasey) Rydb.
Eleocharis robbinsii Oakes.
Eriophorum angustifolium Honckeney.
Eriophorum gracile Koch.
Erysimum capitatum (Dougl.) Greene (*E. asperum*, D.)
Euphorbia polygonifolia L.
Galactia volubilis (L.) Britt. var. *mississippiensis* Vail.
Gentiana puberula Michx.
Geranium robertianum L.
Gnaphalium viscosum HBK. (G. *macounii*, D.)
Gonolobus obliquus (Jacq.) Schult.
Heuchera parviflora Bartl. var. *rugelii* (Shuttlew.) R. B. & L.
Hudsonia tomentosa Nutt. (*H. tomentosa intermedia*, D.)
Hypericum dolabriforme Vent.
Hypericum pyramidatum Ait. (*H. ascyron*, D.)
Iresine rhizomatosa Standl.
Isotria verticillata (Willd.) Raf.
Juncus pelocarpus E. Meyer.
Lathyrus ochroleucus Hook.
Lilium canadense L.
Lilium superbum L.
Linum sulcatum Riddell.
Lycopodium clavatum L.
Lycopodium obscurum L.
Matteuccia struthiopteris (L.) Todaro (*Pteritis nodulosa*, D.)
Melampyrum lineare Desr. (*M. lineare latifolium* and *M. lineare pectinatum*, D.)
Milium effusum L.
Myriophyllum verticillatum L. (*M. v. pectinatum*, D.)
Napaea dioica L.
Nothoscordum bivalve (L.) Britt.
Panicum yadkinense Ashe.
Passiflora incarnata L.
Penstemon canescens (Britt.) Britt. (*P. canescens typicus*, D.)
Phlox amplifolia Britt.
Phoradendron flavescens (Pursh) Nutt.
Platanthera hyperborea (L.) Lindley (*Habenaria hyperborea*, D.)
Poa alsodes Gray.
#Poa paludigena Fern. and Wieg.
Polygonella articulata (L.) Meisn.
**Polygonum opelousanum* Riddell ex Smal var. *adenocalyx* Stanford.
Potamogeton praelongus Wulfen.
Psilocarya scirpoides Torr.
#Rhus trilobata Nutt. var. *arenaria* (Greene) Barkley.
Rubus centralis Bailey
Rubus odoratus L.
Rudbeckia fulgida Ait. var. *fulgida* (R. *fulgida*, D.)
Salix cordata Michx. (S. *adenophylla*, D., S. *syrticola*, S.)
Salix serissima (Bailey) Fern.
Saxifraga virginensis Michx.
Scirpus subterminalis Torr.
Sedum telephioides Michx.
Selaginella rupestris (L.) Spring.
Solidago spathulata DC. var. *gillmanii* (Gray) Cronq. (S. *racemosa gillmanii* S., D., F.)
Spiranthes lucida (H.H. Eaton) Ames.
Spiranthes ovalis Lindl.
Spiranthes tuberosa Raf. (S. *beckii*, D.)
Strophostyles leiosperma (T. & G.) Piper.
Syrax americana Lam.
Taxodium distichum (L.) Rich.
Thalictrum polygamum Muhl.

TABLE 1.—Continued

Trachelospermum difforme (Walt.) Gray.
Triglochin palustre L.
Utricularia cornuta Michx.
Vaccinium oxycoccos L.
Viburnum molle Michx.
Viola blanda Wild.

Viola pedatifida G. Don.
Vitis palmata Vahl.
Waldsteinia fragarioides (Michx.) Tratt.
Xyris caroliniana Walt.
Zizia aptera (Gray) Fern.

Rare

Aesculus octandra Marsh.
Antennaria solitaria Rydb.
Arctostaphylos uva-ursi (L.) Spreng.
Aristolochia tomentosa Sims.
Asclepias variegata L.
Aster junciformis Rydb. (*A. junceus*, D.)
Aster sericeus Vent.
Aster undulatus L.
Baptisia leucophaea Nutt.
Baptisia tinctoria (L.) R. Br. (*B. tinctoria crebra*, D.)
Betula papyrifera Marsh.
Carex alata Torr. and Gray.
Carex louisianica Bailey.
Catalpa speciosa Warder.
Chelone obliqua L. var. *speciosa* Pennell and Wherry.
Clematis pitcheri T. and G.
Cocculus carolinus (L.) DC.
Comptonia peregrina (L.) Coult.
Crataegus intricata Lange (includes *C. rubella* of Deam)
Crataegus succulenta Schrad. ex Link.
Cypripedium calceolus L. var. *parviflorum* (Salisb.) Fern. (*C. parviflorum*, D.)
Cypripedium candidum Muhl.
Dennstaedtia punctilobula (Michx.) Moore
Desmodium laevigatum (Nutt.) DC.
Desmodium viridiflorum (L.) DC.
Diervilla lonicera Mill.
Drosera intermedia Hayne.
Eleocharis pauciflora (Lightf.) Link. (*E. pauciflora fernaldii*, D.)
Epigaea repens L.
Eriophorum viridi-carinatum (Engelm.) Fern.
Gonolobus gonocarpus (Walt.) Perry.
Heuchera villosa Michx. (*H. villosa macrorrhiza*, D.)
Hieracium venosum L.
Houstonia nigricans (Lam.) Fern. (*H. angustifolia*, D.)
Hymenocallis occidentalis (Leconte) Kunth.
Hypericum kalmianum L.
Juniperus communis L.
Kalmia latifolia L.
Krigia oppositifolia Raf. (*Serinia oppositifolia*, D.)
Lathyrus venosus Muhl.
Lespedeza x nuttallii Darl.
Liatris squarrosa (L.) Michx.

Linum striatum Walt.
Lycopodium porophyllum Lloyd and Underw. (*L. selago patens*, D.)
Melica mutica Walt.
Nemopanthus mucronatus (L.) Trel.
Oenothera perennis L.
Orobancha ludoviciana Nutt.
**Oxalis illinoensis* Schwegman.
Panax trifolium L.
Panicum boreale Nash.
Pinus banksiana Lamb.
Platanthera clavellata (Michx.) Leur. (*Habenaria clavellata*, D.)
Platanthera flava (L.) Lindley var. *herbiola* (R. Brown) Luer. (*H. flava*, D.)
Platanthera psychodes (L.) Lindley. (*Habenaria psychodes*, D.)
Pogonia ophioglossoides (L.) Ker.
Potamogeton pusillus L. (*P. pusillus mucronatus*, *P. panormitanus* vars. *major* and *minor*, D.)
Prenanthes aspera Michx.
Proboscidea louisianica (P. Mill.) Thellung
(*Martynia louisianica*, D.)
Prunus pensylvanica L.f.
Pyrola elliptica Nutt.
Pyrola rotundifolia L. var. *americana* (Sweet) Fern.
Rhamnus lanceolata Pursh.
Rhynchospora macrostachya Torr.
Ribes hirtellum Michx. (*Grossularia hirtella*, D.)
Rubus deamii Bailey.
Salix caroliniana Michx. (*S. longipes wardi*, D.)
Scirpus smithii Gray.
Scutellaria parvula Michx. var. *australis* Fassett. (*S. australis*, D.)
**Synandra hispidula* (Michx.) Britt.
Taxus canadensis Marsh.
Tofieldia glutinosa (Michx.) Pers.
Triadenum tubulosum (Walt.) Gleason (*Hypericum tubulosum*, D.)
Triadenum walteri (J.G. Gmel.) Gleason (*Hypericum tubulosum walteri*, D.)
Trichostema dichotomum L.
Utricularia purpurea Walt.
Veronica glandifera Pennell.
Zigadenus glaucus Nutt.

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