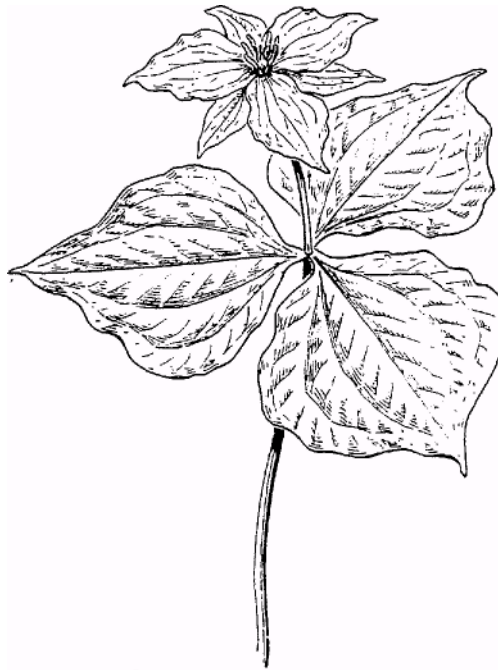




THE VASCULAR FLORA OF NEW RIVER GORGE, WEST VIRGINIA

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Abstract

The New River Gorge serves as a migratory route through which plants move into West Virginia from coastal areas. The C & O Railroad which parallels the river also serves as a vehicle for the importation of weedy species. In addition, the gorge has a unique topography with steep walls cut by deep ravines which are unusually cool as compared with the adjacent slopes. These characters have led to the growth of one of the most unique floras in the eastern United States including northern, high altitude plants and southern, Atlantic Coastal Plain species. A three year survey of the vascular plants of this area resulted in the collection of 1067 species in 478 genera and 123 families. Eight of the species, *Paspalum dilatatum* Poir., *Eragrostis wiegeltiana* (Reichenb.) Bush., *Commelina diffusa* Burm. f., *Parietaria floridana* Nutt., *Rhexia mariana* L., *Chaerophyllum teinturieri* Hook., *Lysimachia vulgaris* L., and *Eupatorium hyssopifolium* L., are new state records. A complete suite of specimens has been deposited in the West Virginia University herbarium in Morgantown.

PHYSICAL CHARACTERISTICS OF THE GORGE

The New River arises in the Blue Ridge Mountains in North Carolina, flows generally northward and enters West Virginia at the southeastern corner of Summers County West Virginia. From this point it then flows sinuously in a northwestward direction for 89 miles to where it joins with the Gauley River at Gauley Bridge to form the Great Kanawha River.

For the first 38 1/2 miles of this passage, the exposed strata are primarily soft, easily eroded red, green, and medium-gray shales of Mississippian age. In this area, the floor of the Gorge is wider and its walls are less steep than those found a few miles down stream in Fayette County where more resistant Pennsylvanian age sandstones are present.

In Fayette County, the Gorge is often less than 750 feet wide and the river is from 1,400 to 1,500 feet below the tops of the V-shaped walls. These walls, from the river upward, consist of a talus slope, two massive sandstone ledges, (Lower and Upper Nuttall Sandstones, each ranging in thickness from 40 to 110 feet), and a second talus slope which leads to the remnants of the Allegheny Peneplain. In the lower talus slope there are three minable coal seams, the Pocahontas Number 3, Fire Creek and Sewell. The river through this section has a gradient of 17.3 feet to mile.

Five state parks, Bluestone, Sandstone Falls, Grandview, Babco and Hawk's Nest are located within the study area.

The climate in the gorge is relatively mild with a mean annual temperature of 52 degrees Fahrenheit. Winters are not so rigorous as on the adjacent plateaus, and the summers are somewhat warmer.

The annual mean precipitation ranges from 36 inches in the Bluestone Reservoir area to 48 inches in Fayette County. The precipitation is well distributed throughout the year.

The West Virginia section of the New River gorge, traversing Carboniferous Age rocks is geologically one of the oldest through which any river flows.

THIS STUDY

The first collection on which this study is based were made in 1967.

Additional collections were made in 1972 and 1973.

During the course of the investigation, as the Gorge became locally famous because of the new bridge and as the controversy raged about whether the river should be dammed, many people asked about the plants growing in the Gorge and some remarked that a checklist would be handy. Such a paper is not suited for a regular scientific journal article and the regional botanical magazine, *Castanea*, has quite a backlog of manuscripts. Consequently, it was decided to publish it in pamphlet form so it would be more immediately available to those who need the information.

A complete suite of the collected specimens has been deposited in the West Virginia University Herbarium in Morgantown and staff of the Botany Department and the Herbarium have verified the identifications.

A total of 1067 species in 478 genera and 123 families were recorded.

The following plants were new West Virginia state records:

Paspalum dilatatum Poir
Eragrostis wiegeltiana (Reichenb.) Bush
Commelina diffusa Burm. f.
Parietaria floridana Nutt.
Rhexia mariana L.
Chaerophyllum teinturieri Hook.
Lysimachia vulgaris L. *Eupatorium*
hyssopifolium L.

EARLY BOTANICAL EXPLORATION

Three individuals have made extended systematic surveys of the botany of the New River Gorge.

The first was Lawrence W. Nuttall, a coal mine operator who collected approximately 1000 species of flowering plants in the vicinity of Nuttallburg from 1890 to 1897.

Weldon W. Boone, retired principal of Hinton High School, made extensive collections of the flora of Summers County in 1933. Boone collected nearly 1000 species, many of which were new for Summers County, and nearly two dozen were new records for West Virginia.

Violet S. Phillips, assistant professor in the Biology Department at the West Virginia Institute of Technology systematically explored the New River Gorge from 1965 to 1968. Her results were compiled in a dissertation as partial fulfillment for a Doctor of Philosophy degree at West Virginia University.

Other noted botanists who have collected in New River Gorge have been Charles Frederick Aaillspaugh, Dr. Meade AAcNeill, Charles L. Pollard, William R. Maxon, Floyd Bartley, Geroge B. Rossbach, Earl L. Core and P. D. Strasbaugh.

ORIGINAL FORESTS

The original forests which grew along New River in Fayette County would be typical for the entire gorge. They were described as follows by A. B. Brooks (Hennen, 1919):

"The topography of Fayette is such as to promote the growth of valuable forests. Originally the low and fertile lands of the Gauley and of that portion of the Great Kanawha within the county, were characterized by the abundance of yellow poplar, black and white walnut, white and red oaks, sweet buckeye, bass-wood, cucumber and white ash, as well as the less valuable sweet gum, sycamore, river birch, honey locust, and others. On the clays of the higher areas such species as maples, white oak and beech predominated, with fringes of hemlock along the water courses and with scattered clumps of pitch pine and scrub pine growing on dry ridges and along the sandstone outcrops."

PRESENT VEGETATION

Numerous vegetation types have been noted in the study area (Core, 1966). Aquatic plants were collected from the New River and its tributaries. Forest types include hydric, mesic and zeric. Hydric forests range from flood plain types such as river birch-sycamore to willow-alder swamps. Many streams are lined with a hemlock overstory with rhododendron thickets in the understory. Mesic forests occur on well-drained slopes of deep soils and include numerous mixtures of various hardwoods. Mesic forests also include the cove hardwood type. Serious forests are primarily composed of oak-hickory associations. Special habitats in the forests are heath associations on steep rocky slopes and escarpments.

The flora of several specific areas deserves special attention. Numerous plants have migrated into the Gorge via the main line of the C & O Railroad. Other plants were introduced as ornamentals in the coal towns located in the gorge in the late 1800's and early 1900's and many of these have persisted with some being well established. Equally unique are the plants which have migrated down the New River itself. Many such plants are found only on the pioneer succession areas of sand and rocks on the open flood plains. Among plants contributed by one or another of these three sources are:

gama grass (*Tripsacum dactyloides*)
 Shumard oak (*Quercus shumardii*)
 bittercress (*Cardamine clematidis*)
 red gum (*Liquidambar styraciflua*)
 hoptree (*Ptelea trifoliata*)
 rose mallow (*Hibiscus moscheutos*)
 trumpet creeper (*Campsis radicans*)
 crossvine (*Bignonia capreolata*)
 silverbell (*Halesia Carolina*)
 fringetree (*Chionanthus virginicus*)
 mistletoe (*Phoradendron flavescens*) false
 indigo (*Amorpha fruticosa*) leaf-flower
 (Phyllanthus caroliniensis)

Another group of species serves to illustrate another aspect of the complex flora of the Gorge. Several tributaries of the New River are deeply cut gorges containing rocky ravines of a very cold, damp nature. These occur as low as 1000 feet in elevation and contain a flora which normally is found only at much higher elevations. Unique plants found in this habitat include:

Fraser's sedge (*Carex fraseri*)
 Allegheny vine (*Adlumia fungosa*) white
 wood sorrel (*Oxalis montana*) mountain
 maple (*Acer spicatum*) mountain holly
 (*Ilex montana*) dwarf ginseng (*Panax*
trifolius) white baneberry (*Actaea*
pachypoda) red elderberry (*Sambucus*
pubens) hobblebush (*Viburnum*
alnifolium) mountain aster (*Aster*
acuminatus)

ACKNOWLEDGMENT

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CATALOG

The taxa are arranged by nomenclature and sequence to follow that had by P. D. Strausbaugh and Earl L. Core in their four volume **Flora of West Virginia**.

Equisetaceae

Equisetum arvense L.
Equisetum hyemale L. Var.
elatum Morton
Equisetum hyemale L. Var.
affine (Engelm.) A.A. Eat.

Lycopodiaceae

Lycopodium flabelliforme
Blanchard.

Selaginellaceae

Selaginella rupestris (L.) Spring

Ophioglossaceae

Botrychium dissectum Spreng.
Botrychium virginianum (L.) Sw.

Osmundaceae

Osmunda regalis L.
Osmunda claytoniana L.

Schizaeaceae

Lygodium palmatum (Bernh.)
Sw.

Polypodiaceae

Woodsia obtusa (Spreng.) Torr.
Woodsia scopulina D.C. Eaton
Cystopteris protusa Blasdell.
Cystopteris bulbifera (L.) Bernh.
Onoclea sensibilis L. Phegopteris
connectilis Watt. Phegopteris
hexagonoptera Fee Thelypteris
noveboracensis
Nieuwl.
Dryopteris goldiana (Hook.) Gray
Dryopteris marginalis (L.) Gray
Dryopteris intermedia Gray
Polystichum acrostichoides
(Michx.) Schott. Polystichum
acrostichoides
(Michx.) Schott.
forma incisum (Gray) Gilbert
Dennstaedtia punctilobula
(Michx.) Moore Athyrium
angustum Presl. Athyrium
angustum Presl. Var. rubellum
Butters Campptosorus
rhizophyllum (L.)
Link. Asplenium resiliens
Kunze.

Asplenium platyneuron (L.)

Oakes

Asplenium trichomanes L.
Asplenium montanum Willd.
Cheilanthes lanosa (Michx.) D.C.
Eat.
Adiantum pedatum L. Pteridium
aquilinum (L.) Kuhn. Var.
latiusculum (Desv.) Un-
derw. Polypodium
virginianum L.

Pinaceae

Tsuga canadensis (L.) Carr.
Pinus strobus L. Pinus
virginiana Mill. Pinus rigida
Mill. Pinus echinata Mill.

Cupressaceae

Juniperus virginiana L.

Typhaceae

Typha latifolia L. Typha
angustifolia L.

Sparganiaceae

Sparganium americanum Nutt.
Sparganium chlorocarpum Rydb.

Zosteraceae

Potamogeton diversifolius Rat.
Potamogeton nodosus Poir.

Alismataceae

Alisma subcordatum Raf.
Sagittaria latifolia Willd.

Hydrocharitaceae

Elodea canadensis Michx.

Gramineae

Tribe I. Maydeae
Tripsacum dactyloides L.
Miscanthus sinensis Anderss.

Tribe II. Andropogoneae

Sorghum halepense (L.) Pers. *
Sorghastrum nutans (L.) Nas
Andropogon scoparius Michx.
Andropogon virginicus L.
Andropogon gerardii Vitman

Tribe III. Paniceae

Digitaria sanguinalis (L.) Scop.
Paspalum ciliatifolium Michx.
Paspalum laeve Michx.
Paspalum longipilum Nash
Paspalum dilatatum Poir.
Panicum gattingeri Nash
Panicum dichotomiflorum Michx.
Panicum virgatum L. Panicum
agrostoides Spreng. Panicum
clandestinum L. Panicum boscii
Poir. Panicum latifolium L.
Panicum dichotomum L.
Panicum dichotomum L. Var.
barbulatum (Michx.) Wood
Panicum xalapense H.B.K.
Panicum microcarpon Muhl.
Panicum polyanthes Schultes
Panicum villosissimum Nash
Panicum lanuginosum Ell.
Panicum implicatum Scribn.
Echinochloa crusgalli (L.) Beauv.
Cenchrus pauciflorus Benth.
Setaria geniculata (Lam.) Beauv.
Setaria glauca (L.) Beauv.
Setaria faberii Herrm.

Tribe IV. Oryzeae

Leersia virginica Willd.
Leersia oryzoides (L.) Sw.

Tribe V. Phalarideae

Anthoxanthum odoratum L.

Tribe VI. Agrostideae

Aristida dichotoma Michx.
Aristida lanosa Muhl.
Muhlenbergia sylvatica Torr.
Muhlenbergia frondosa (Poir.)
Fernald Muhlenbergia
schreberi J. F.
Gmel. Brachyelytrum
erectum
(Schreb.) Beauv. Sporobolus
vaginiflorus (Torr.)
Wood
Sporobolus asper (Michx.) Kunth
Agrostis alba L.
Agrostis tenuis Sibth. Agrostis
hyemalis (Walt.) BSP.
Agrostis perennans (Walt.)
Tuckerm.

Cinna arundinacea L.

Tribe VII. Aveneae

Holcus lanatus L.
Sphenopholis nitida (Biehler)
Scribn.
Sphenopholis intermedia Rydb.
Danthonia spicata (L.) Beauv.
Danthonia cpmpressa Aust.

Tribe VIII. Chlorideae

Spartina pectinata Link.
Cynodon dactylon (L.) Pers.
Eleusine indica (L.) Gaertn.

Tribe IX. Festuceae

Triodia flava (L.) Smyth Uniola
latifolia Michx. Melica mutica
Walt. Eragrostis capillaris (L.)
Nees Eragrostis pilosa (L.)
Beauv. Eragrostis pectinacea
(Michx.)
Nees
Eragrostis poaeoides Beauv.
Eragrostis spectabilis (Pursh)
Steud. Eragrostis
wiegeltiana
(Reichenb.) Bush. Dactylis
glomerata L. Poa annua L. Poa
chapmaniana Scribn. Poa
palustris L. Poa compressa L.
Poa trivialis L. Poa alsodes Gray
Poa sylvestris Gray Phragmites
communis Trin. Glyceria
melicaria (Michx.) F.T.
Hubb.
Glyceria striata (Lam.) Hitchc
Glyceria grandis S. Wats.
Festuca rubra L. Festuca elatior
L. Festuca obtusa Biehler
Bromus commutatus Schrad.
Bromus japonicus Thunb.
Bromus tectorum L. Bromus
sterilis L. Bromus ciliatus L.
Bromus purgans L. Bromus
latiglumis (Shear)
Hitchc. Bromus
inermis Leyss.

Tribe X. Hordeae

Agropyron repens (L.) Beauv.
Agropyron subsecundum
 (Link.)

Hitchc.

Triticum aestivum L. *Elymus*
virginicus L. *Elymus canadensis*
 L. *Elymus riparius* Wieg.
Elymus villosus Muhl. *Elymus*
villosus Muhl. forma
arkansanus
 (Scribn. & Ball) Fernald
Hystrix patula Moench.

Cyperaceae

Cyperus flavescens L. *Cyperus*
erythrorhizos AAuhl. *Cyperus*
strigosus L. *Cyperus*
lancastriensis Porter.
Eleocharis obtusa (Willd.)
 Schultes *Eleocharis tenuis*
 (Willd.)
 Schultes *Sulbostylis capillaris*
 (L.) C. B.
 Clarke
Scirpus americanus Pers.
scirpus validus Vahl *Scirpus*
atrovirens AAuhl. *Scirpus*
polyphyllus Vahl *Scirpus*
lineatus Michx. *Scirpus*
rubricosus Fernald
Rhynchospora globularis
 (Chapm.) Small *Carex*
rosea Schkuhr. *Carex*
cephalora Muhl. *Carex*
mesochorea Mack. *Carex*
sparganioides Muhl. *Carex*
vulpinoidea Michx. *Carex*
stipata Muhl. *Carex*
scoparia Schkuhr. *Carex*
tribuloides Wahl. *Carex*
projecta Mack. *Carex*
fraseri Andrews. *Carex*
artitecta Mack. *Carex*
communis Bailey *Carex*
umbellata Schkuhr. *Carex*
polymorpha Muhl. *Carex*
plantaginea Lam. *Carex*
platyphylla Carey *Carex*
digitalis Willd. *Carex*
granularis Muhl. *Carex*
gracillima Schwein. *Carex*
prasina Wahl.

Carex aestivalis M.A. Curtis
Carex debilis Michx.
Carex flexuosa Muhl.
Carex swanii (Fernald) Mack.
Carex hirsutella Mack.
Carex torta Boott
Carex gynandra Schwein.
Carex comosa Boott
Carex frankii Kunth
Carex squarrosa L.
Carex lurida Wahl.

Araceae

Arisaema triphyllum (L.) Sch<
Arisaema dracontium (L.) Sch<

Lemnaceae

Lemna minor L.

Commelinaceae

Tradescantia subaspera Ker
Tradescantia subaspera Ker
 Var. *montana* (Shuttlew.)
 Anders.
Tradescantia virginiana L.
Commelina communis L.
Commelina virginica L.
Commelina erecta L. Var.
angustifolia (Michx.)
 Fernald. *Commelina*
diffusa Burm. F.

Juncaceae

Juncus tenuis Willd.
Juncus dudleyi Wieg.
Juncus effusus L.
Juncus acuminatus Michx.
Juncus marginatus Rostk.
Luzula multiflora (Retz.) Lejune.
Luzula acuminata Raf.

Liliaceae

Chamaelirium luteum (L.) Gray
Melanthium parviflorum
 (Michx.) S. Wats. *Uvularia*
perfoliata L. *Uvularia*
grandiflora J.E. Smith *Uvularia*
sessilifolia L. *Uvularia pudica*
 (Walt.) Fernald. *Allium*
triccoccum Ait. *Allium cernuum*
Roth Allium vineale L. *Allium*
canadense L.

Orchidaceae

Cypripedium acaule Ait.
Cypripedium parviflorum Salisb.
Cypripedium pubescens Willd.
Habenaria ciliaris (L.) R. Br.
Spiranthes tuberosa Raf.
Spiranthes gracilis (Bigel.) Beck.
Spiranthes cernua (L.) Richard
Goodyera pubescens (Willd.) R.
 Br.
Aplectrum hyemale (Muhl.) Torr.
Liparis lilifolia (L.) Richard
Tipularia discolor (Pursh) Nutt.

Saururaceae

Saururus cernuus L.

Saliceaceae

Salix nigra Marsh. *Salix*
caroliniana Michx. *Salix fragilis*
 L. *Salix alba* L. *Salix discolor*
 Muhl. Var. *latifolia* Anders.
Salix humilis Marsh. *Salix*
sericea Marsh. *Populus*
tremuloides Michx. *Populus*
grandidentata Michx. *Populus*
alba L. *Populus deltoides* Marsh.
Populus nigra L. *XPopulus*
gileadensis Rouleau

Juglandaceae

Juglans cinerea L.
Jugland nigra L.
Carya cordiformis (Wang.) K.
 Koch
Carya ovata (Mill.) K. Koch
Carya tomentosa Nutt. *Carya*
glabra (Mill.) Sweet *Carya*
ovalis (Wang.) Sarg.

Corylaceae

Corylus americana Walt.
Ostrya virginiana (Mill.) K. Koch
Carpinus caroliniana Walt.
Betula lenta L.
Betula alleghaniensis Britt.
Betula nigra L.
Alnus serrulata (Ait.) Willd.

Allium allegheniense Small
Hemerocallis flava L. *Lilium*
superbum L. *Lilium tigrinum* L.
Erythronium americanum Ker
Erythronium umbilicatum Parks
 & Hardin
Yucca filamentosa L. *Yucca*
smalliana Fernald *Asparagus*
officinalis L. *Clintonia*
umbellulata (Michx.)

Morong

Smilacina racemosa (L.) Desf.
Smilacina racemosa (L.) Desf.
 Var. *cylindrata* Fernald
Maianthemum canadense Desf.
Disporum lanuginosum (Michx.)
 Nichols. *Medeola*

virginiana L.

Polygonatum pubescens (Willd.)
 Pursh

Polygonatum biflorum
 (Walt.) Ell.

Polygonatum canaliculatum
 (Muhl.) Pursh

Trillium sessile L.

Trillium erectum L.

Trillium erectum L.

forma *albiflorum* R. Hoffm.

Trillium grandiflorum (Michx.)
 Salisb.

Trillium undulatum Willd.

Smilax pulverulenta Michx.

Smilax herbacea L.

Smilax glauca Walt.

Smilax rotundifolia L.

Smilax hispida Muh.

Dioscoreaceae

Dioscorea batatas Decne.
Dioscorea villosa L. *Dioscorea*
quaternata (Walt.) J.F. Gmel.

Amaryllidaceae

Hypoxis hirsuta (L.) Coville

Iridaceae

Sisyrinchium angustifolium Mill.
Iris pseudoacorus L. *Iris*
cristata Ait. *Iris versicolor* L.

Fagaceae

Fagus grandifolia Ehrh.
Castanea dentata (Marsh.) Borkh.
Quercus alba L. *Quercus stellata* Wang.
Quercus muhlenbergii Engelm. *Quercus prinus* L.
Quercus rubra L. *Quercus coccinea* Muench. *Quercus velutina* Lam.

Jimaceae

Jimus rubra AAuhl.
Jimus americana L.
Jimus pumila L. *Celtis occidentalis* L. *Celtis tenuifolia* Nutt.

Moraceae

Morus rubra L.
Morus alba L.
Maclura pomifera (Raf.) Schneider

Cannabaceae

Cannabis sativa L.

Urticaceae

Urtica dioica L.
Urtica gracilis Ait.
Laportea canadensis (L.) Wedd.
Pilea pumila (L.) Gray
Boehmeria cylindrica (L.) Sw.
Parietaria pensylvanica AAuhl.
Parietaria floridana Nutt.

Santalaceae

Pyrularia pubera Michx.

Loranthaceae

Phoradendron flavescens (Pursh) Nutt.

Aristolochiaceae

Asarum canadense L.
Asarum canadense L.
 Var. *relexum* (Bickn.) Robins.
Asarum virginicum L.
Aristolochia macrophylla Lam.

Polygonaceae

Rumex crispus L.

Rumex obtusifolius L. *Rumex acetosella* L. *Tovara virginiana* (L.) Rat. *Polygonum aviculare* L. *Polygonum erectum* L. *Polygonum tenue* Michx. *Polygonum coccineum* Muhl. *Polygonum pennsylvanicum* L. *Polygonum orientale* L. *Polygonum hydropiper* L. *Polygonum cespitosum* Blume *Polygonum persicaria* L. *Polygonum punctatum* Ell. *Polygonum hydropiperoides* Michx. *Polygonum sagittatum* L. *Polygonum convolvulus* L. *Polygonum scandens* L. *Polygonum cuspidatum* Sieb. & Zucc.

Chenopodiaceae

Chenopodium ambrosioides L.
Chenopodium ambrosioides L.
 Var. *anthelminticum* (L.) Gray
Chenopodium album L.
Chenopodium missouriense Aellen
Salsola kali L.

Amaranthaceae

Amaranthus hybridus L.

Phytolaccaceae

Phytolacca americana L.

Aizoaceae

Mollugo verticillata L.

Portulacaceae

Claytonia caroliniana Michx.
Claytonia virginica L.

Caryophyllaceae

Paronychia canadensis (L.) Wood
Paronychia fastigiata (Raf.) Fernald
Arenaria serpyllifolia L.
Stellaria media (L.) Cyrillo
Stellaria pubera Michx.
Stellaria graminea L.
Cerastium vulgatum L.
Cerastium nutans Raf.
Cerastium viscosum L.

Lychnis alba Mill. *Silene nivea* (Nutt.) Otth. *Silene stellata* (L.) Ait. F. *Silene antirrhina* L. *Silene pensylvanica* Michx. *Silene virginica* L. *Saponaria officinalis* L. *Dianthus armeria* L.

Nymphaeaceae

Nuphar advena (Ait.) Ait. F.

Ranunculaceae

Ranunculus allegheniensis Britton
Ranunculus abortivus L.
Ranunculus recurvatus Poir.
Ranunculus carolinianus D.C.
Ranunculus hispidus Michx.
Ranunculus septentrionalis Poir.
Ranunculus repens L.
Ranunculus acris L. *Ranunculus bulbosus* L. *Trautvetteria carolinensis* (Walt.) Vail. *Thalictrum coriaceum* (Britton) Small
Thalictrum dioicum L.
Thalictrum revolutum DC.
Anemonella thalictroides (L.) Spach
Hepatica americana (DC.) Ker
Hepatica acutiloba DC.
Anemone virginiana L.
Anemone lancifolia Pursh
Anemone minima DC. *Anemone quinquefolia* L. *Clematis virginiana* L. *Clematis dioscoreifolia* Levl. & Vaniot.
Clematis viorna L. *Aquilegia canadensis* L. *Delphinium tricornis* Michx. *Cimicifuga americana* Michx. *Cimicifuga racemosa* (L.) Nutt. *Actaea pachypoda* Ell. *Hydrastis canadensis* L. *Xanthorhiza simplicissima* Marsh.

Herberidaceae

Podophyllum peltatum L.
Jeffersonia diphylla (L.) Pers.

Caulophyllum thalictroides (L.) Michx.

Menispermaceae

Menispermum canadense L.

Magnoliaceae

Magnolia acuminata L.
Magnolia tripetala L.
Magnolia fraseri Walt.
Liriodendron tulipifera L.

Annonaceae

Asimina triloba (L.) Dunal

Lauraceae

Sassafras albidum (Nutt.) Nees
Sassafras albidum (Nutt.) Nees
 Var. *molle* (Raf.) Fernald
Lindera benzoin (L.) Blume

Papaveraceae

Sanguinaria canadensis L.
Papaver dubium L.

Fumariaceae

Adlumia fungosa (Ait.) Greene
Dicentra cucullaria (L.) Bernh.
Dicentra canadensis (Goldie) Walp. *Corydalis flavula* (Raf.) DC.

Cruciferae

Draba ramosissima Desv.
Lepidium campestre (L.) R. Br.
Lepidium virginicum L. *Lepidium densiflorum* Schrad. *Capsella bursa-pastoris* (L.) Medic
Brassica hirta Moench. *Brassica kaber* (DC.) L. C.
Wheeler Erucastrum gallicum (Willd.) O. E. Schulz
Allaria officinalis Andrz.
Sisymbrium altissimum L.
Arabidopsis thaliana (L.) Heynh.
Erysimum repandum L.
Nasturtium officinale R. Br.
Barbarea vulgaris R. Br.
Barbarea verna (Mill.) Asch.
Iodanthus pinnatifidus (Michx.) Steud.

Dentaria diphylla Michx.
 Dentaria laciniata Muhl.
 Dentaria heterophylla Nutt.
 Cardamine bulbosa (Schreb.)
 BSP. Cardamine douglassii
 (Torr.)
 Britton
 Cardamine rotundifolia Michx.
 Cardamine clematidis Shuttlw.
 Cardamine impatiens L.
 Cardamine hirsuta L. Cardamine
 pensylvanica Muhl. Cardamine
 arenicola Britton Arabis lyrata
 L. Arabis glabra (L.) Bernh.
 Arabis pycnocarpa Hopkins
 Arabis laevigata (Muhl.) Poir.
 Arabis serotina Steele Arbis
 canadensis L.

Podostemaceae

Podostemum ceratophyllum
 Michx.

Crassulaceae

Sedum ternatum Michx.
 Sedum purpureum (L.) Link
 Sedum telephioides Michx.

Saxifragaceae

Penthorum sedoides L. Boykinia
 acontifolia Nutt. Saxifraga
 virginiana Michx.
 Tiarella cordifolia L. Heuchera
 villosa Michx. Heuchera villosa
 Michx. Var. intermedia Rosend.
 Butt. &
 Lak.
 Heuchera parviflora Bartl.
 Heuchera americana L. Mitella
 diphylla L. Chrysosplenium
 americanum Sch-
 wein.
 Hydrangea arborescens L.
 Ribes cynosbati L.

Hamamelidaceae

Hamamelis virginiana L.
 Liquidambar styraciflua L.

Platanaceae

Platanus occidentalis L.

Rosaceae

Physocarpus opulifolius (L.)
 Maxim.
 Spirea alba DuRoi Spirea
 japonica L. f. Aruncus dioicus
 (Walt.) Fernald Gillenia trifoliata
 (L.) Moench. Pyrus communis
 L. Pyrus malus L. Pyrus
 coronaria L. Pyrus floribunda
 Lindl. Pyrus melanocarpa
 (Michx.)
 Willd.
 Chaenomeles japonica Lindl.
 Amelanchier spicata (Lam.) K.
 Koch Amelanchier arborea
 (Michx. f.)
 Fernald
 Crataegus crus-galli L.
 Crataegus rugosa Ashe
 Crataegus succulenta Link
 Crataegus calpodendron (Ehrh
 Medic.
 Fragaria virginiana Duchesne
 Duchesnea indica (Andr.) Focke
 Waldesteinia fragarioides
 (Michx.)
 Trattinick
 Potentilla argentea L. Potentilla
 recta L. Potentilla norvegica L.
 Potentilla simplex Michx.
 Potentilla canadensis L. Geum
 canadensis Jacq. Geum vernum
 (Raf.) T. & G. Rubus odoratus L.
 Rubus phoenicolasius Maxim.
 Rubus occidentalis L. Rubus
 hispidus L. Rubus allegheniensis
 Porter Rubus allegheniensis
 Porter Var. gravesii Fernald
 Rubus canadensis L. Rubus
 pensilvanicus Poir. Agrimonia
 parviflora Ait. Agrimonia
 pubescens Wallr. Rosa
 multiflora Thunb. Rosa
 eglanteria L. Rosa canina L.
 Rosa Carolina L. Prunus
 americana Marsh. Prunus
 persica (L.) Batsch. Prunus
 pensylvanica L. f.

Prunus avium L. Prunus
 serotina Ehrh.

Leguminosae

Gymnocladus dioica (L.) Koch.
 Gleditsia triacanthos L. Cassia
 hebecarpa Fernald Cassia
 marilandica L. Cassia fasciculata
 Michx. Cassia nictitans L. Cassia
 nictitans L. Var. commixta
 (Poll. & Max.)
 Millsp.
 Cercis canadensis L. Albizia
 julibrissin Durazzini Baptisia
 tinctoria (L.) R. Br. Baptisia
 australis (L.) R. Br. Trifolium
 arvense L. Trifolium pratense
 L. Trifolium repens L. Trifolium
 agrarium L.
 Trifolium campestre Schreber
 Melilotus officinalis (L.) Lam.
 Melilotus alba Desr. Medicago
 lupulina L. Tephrosia virginiana
 (L.) Pers. Robinia pseudo-
 acacia L. Wisteria frutescens
 (L.) Poir. Astragalus canadensis
 L. Coronilla varia L. Desmodium
 nudiflorum (L.) DC. Desmodium
 glutinosum (Muhl.)
 Wood
 Desmodium rigidum (Ell.) DC.
 Desmodium canescens (L.) DC.
 Desmodium ciliare (Muhl.) DC.
 Desmodium marilandicum (L.)
 DC.
 Desmodium lineatum DC.
 Desmodium cuspidatum (Muhl.)
 Loud. Desmodium nuttallii
 (Schindl.)
 Schubert Desmodium
 glabellum (Michx.)
 DC. Desmodium
 paniculatum (L.)
 DC.
 Desmodium perplexum Schubert
 Desmodium laevigatum (Nutt.)
 DC.
 Lespedeza procumbens
 Michx. Lespedeza repens (L.)
 Bart.

Lespedeza violacea (L.) Pers.
 Lespedeza virginica (L.) Britton.
 Lespedeza intermedia (S. Wats)
 Britton
 Lespedeza nuttallii Darl.
 Lespedeza cuneata (Dumont) G.
 Don
 Lespedeza capitata Michx.
 Lespedeza hirta (L.) Hornem.
 Lespedeza stipulacea Mixim.
 Stylosanthes biflora (L.) BSP.
 Vicia caroliniana Walt. Vicia
 americana Muhl. Lathyrus
 palustris L. Lathyrus venosus
 Muhl. Lathyrus latifolius L.
 Lathyrus odoratus L. Apios
 americana Medic. Phaseolus
 polystachios (L.) BSP.
 Strophostyles helvola (L.) Ell.
 Galactia volubilis (L.) Britton
 Glycine Max (L.) Fernald
 Amphicarpa bracteata (L.)
 Fernald Amphicarpa
 bracteata (L.)
 Fernald
 Var. comosa (L.) Fernald
 Pueraria lobata (Willd.) Ohwi

Linaceae

Linum usitatissimum L. Linum
 medium (Planch.) Trel. Linum
 virginianum L. Linum striatum
 Walt.

Oxalidaceae

Oxalis montana Raf.
 Oxalis violacea L.
 Oxalis stricta L. Oxalis
 filipes Small Oxalis
 grandis Small

Geraniaceae

Geranium maculatum L.
 Geranium columbinum L.
 Geranium bicknellii Britton
 Geranium carolinianum L.
 Geranium molle L.

Rutaceae

Zanthoxylum americanum Mill.
 Ptelea trifoliata L.

Simaroubaceae

Ailanthus altissima (Mill.) Swingle

Polygalaceae

Polygala senega L.
Polygala verticillata L.

Euphorbiaceae

Croton glandulosus L. *Acalypha rhomboidea* Raf. *Acalypha virginica* L. *Acalypha gracilens* Gray *Euphorbia dentata* Michx. *Euphorbia obtusata* Pursh *Euphorbia Commutata* Englem. *Euphorbia marginata* Pursh *Euphorbia zinniflora* Small *Euphorbia corollata* L. *Euphorbia supina* Raf. *Euphorbia maculata* L. *Euphorbia vermiculata* Raf.

Anacardiaceae

Rhus typhina L. *Rhus glabra* L. *Rhus copallina* L. *Rhus aromatica* Ait. *Rhus radicans* L.

Aquifoliaceae

Ilex opaca Aif.
Ilex montana T. & G.
Ilex verticillata (L.) Gray

Celastraceae

Euonymus atropurpureus Jacq.
Euonymus americanus L.
Celastrus scandens L.

Staphyleaceae

Staphylea trifolia L.

Aceraceae

Acer spicatum Lam.
Acer pensylvanicum L.
Acer saccharum Marsh.-
Acer nigrum Michx. f.
Acer rubrum L. *Acer saccharinum* L. *Acer negundo* L.

Hippocastanaceae

Aesculus octandra Marsh.

Balsaminaceae

Impatiens pallida Nutt.
Impatiens pallida Nutt.
forma *speciosa* Jennings
Impatiens capensis Meerb.

Rhamnaceae

Ceanothus americanus L.

Vitaceae

Parthenocissus quinquefolia (L.) Planch.
Vitis aestivalis Michx.
Vitis riparia Michx.
Vitis vulpina L. *Vitis rupestris* Scheele

Tiliaceae

Tilia americana L. *Tilia heterophylla* Vent.

Malvaceae

Sida hermaphrodita (L.) Rusby
Sida spinosa L. *Hibiscus syriacus* L. *Hibiscus moscheutos* L.

Guttiferae

Ascyrum hypericoides L.
Hypericum perforatum L.
Hypericum punctatum Lam.
Hypericum prolificum L.
Hypericum denticulatum Walt.
Hypericum mutilum L.
Hypericum gentianoides (L.) BSP.

Violaceae

Hybanthus concolor (Forster) Spreng.
Viola cucullata Ait. *Viola papilionacea* Pursh *Viola papilionacea* Pursh forma *albiflora* Grover *Viola affinis* Le Conte *Viola sororia* Willd. *Viola hirsutula* Brainerd *Viola emarginata* (Nutt.) Le Conte

Viola palmata L.
Viola macloskeyi F. E. Lloyd
Viola blanda Willd.
Viola primulifolia L.
Viola rotundifolia Michx.
Viola hastata Michx.
Viola pubescens Ait.
Viola pensylvanica Michx.
Viola canadensis L.
Viola striata Ait.
Viola conspersa Reichenb.
Viola rostrata Pursh
Viola rafinesquii Greene

Passifloraceae

Passiflora lutea L.

Thymelaeaceae

Dicellaeanthus palustris L.

thraceae

Thalictrum petiolata (L.) Koehne

Nyssaceae

Nyssa sylvatica Marsh.

Melastomaceae

Rhexia mariana L.

Onagraceae

Ludwigia alternifolia L.
Ludwigia palustris (L.) Ell.
Epilobium coloratum Biehler
Oenothera biennis L. *Oenothera parviflora* L. *Oenothera pilosella* Raf. *Oenothera fruticosa* L. *Oenothera perennis* L. *Gaura biennis* L. *Circaea quadrisulcata* (Maximowicz) Franchet & Savatier
Circaea canadensis Hill
Circaea alpina L.

Haloragaceae

Myriophyllum heterophyllum Michx.

Araliaceae

Aralia spinosa L.
Aralia racemosa L.

Aralia nudicaulis L.
Panax trifolius L. *Panax quinquefolius* L. *Hedera helix* L.

Umbelliferae

Sanicula marilandica L. *Sanicula gregaria* Bicknell *Sanicula trifoliata* Bicknell *Sanicula canadensis* L. *Chaerophyllum procumbens* (L.) Crantz

Chaerophyllum teinturierii Hook.
Osmorhiza claytoni (Michx.) Clarke

Osmorhiza longistylis (Torr.) DC.
Torilis japonica (Houtt.) DC.
Erigenia bulbosa (Michx.) Nutt.
Zizia aptera (Gray) Fernald
Zizia trifoliata (Michx.) Fernald
Zizia aurea (L.) Koch *Cicuta maculata* L. *Cryptotaenia canadensis* (L.) DC. *Taenidia integerrima* (L.) Drude
Thaspium trifoliatum (L.) Gray
Thaspium barbinode (Michx.) Nutt.

Angelica venenosa (Greenway) Fernald

Oxypolis rigidior (L.) Coult. & Rose

Pastinaca sativa L.
Daucus carota L.

Cornaceae

Cornus florida L.
Cornus amomum Mill.
Cornus obliqua Raf.
Cornus alternifolia L. f.

Clethraceae

Clethra acuminata Michx.

Pyrolaceae

Chimaphila umbellata (L.) Nutt.
Chimaphila maculata (L.) Pursh
Pyrola rotundifolia L. *Monotropa uniflora* L.

Ericaceae

Rhododendron maximum L.
Rhododendron catawbiense Michx.

Rhododendron calendulaceum
(Michx.) Torr. Rhododendron
nudiflorum (L.)
Torr. Rhododendron
arborescens
(Pursh) Torr. Kalmia
latifolia L. Lyonia ligustrina (L.)
DC. Oxydendrum arboreum (L.)
DC. Epigaea repens L. Gaultherui
procumbens L. Gaylussacia
baccata (Wang.) K.
Koch
Vaccinium stamineum L.
Vaccinium stamineum L. Var.
neglectum (Small) Deam
Vaccinium myrtilloides Michx.
Vaccinium vacillans Torr.

Diapensiaceae

Galax aphylla L.

Primulaceae

Dodecatheon meadia L.
Lysimachia vulgaris L.
Lysimachia quadrifolia L.
Lysimachia nummularia L.
Lysimachia ciliata L.
Samolus parviflorus Raf.

Ebenaceae

Diospyros virginiana L.

Styracaceae

Halesia Carolina L.

Oleaceae

Fraxinus americana L.
Fraxinus americana L.
Var. biltmoreana (Beadle) J.
Wright
Fraxinus pennsylvanica Marsh.
Fraxinus pennsylvanica Marsh.
Var. subintegerrima (Vahl)
Fernald
Chionanthus virginica L.
Ligustrum vulgare L.

Gentianaceae

Sabatia angularis (L.) Pursh
Gentiana andrewsii Griseb.

Gentiana clausa Raf.
Obolaria virginica L.

Apocynaceae

Vinca minor L.
Apocynum androsaemifolium L.
Apocynum medium Greene
Apocynum cannabinum L.
Apocynum sibiricum Jacq.

Asclepiadaceae

Asclepias tuberosa L. Asclepias incarnata
L. Asclepias exaltata L.
Asclepias syriaca L. Asclepias
amplexicaulis J.E. Smith

Convolvulaceae

Ipomoea coccinea L. Ipomoea
hederacea (L.) Jacq. Ipomoea
purpurea (L.) Roth Ipomoea
pandurata (L.) G.F.W.
Mey
Ipomoea lacunosa L.
Convolvulus sepium L.
Convolvulus sp. L. Var.
fraterniflorus Mackenzie &
Bush
Convolvulus arvensis
L. Cuscuta gronovii
Willd.

Polemoniaceae

Polemonium reptans L.
Phlox subulata L. Phlox
divaricata L. Phlox
divaricata L. forma
albiflora Farwell Phlox
stolonifera Sims Phlox
paniculata L. Phlox
maculata L.

Hydrophyllaceae

Hydrophyllum virginianum L.
Hydrophyllum virginianum L.
Var. atranthum (Alexander)
Constance
Hydrophyllum canadense L.
Hydrophyllum
appendiculatura
Michx.
Phacelia dubia (L.) Trel.
Phacelia bipinnatifida Michx.

Boraginaceae

Echium vulgare L.
Onosmodium hispidissimum
Mackenzie
Lithospermum arvense L.
Lithospermum latifolium Michx.
Myosotis laxa Lehm. Myosotis
macrosperma Engelm.
Mertensia virginica (L.) Pers.
Hackelia virginiana (L.) I.M.
Johnston

Verbenaceae

Verbena urticaefolia L.
Verbena simplex Lehm.
Lippia lanceolata Michx.

Labiatae

Isanthus brachiatus (L.) BSP.
Trichostema dichotomum L.
icrium canadense L. Scutellaria
elliptica Muhl. ocutellaria
serrata Andr. Scutellaria incana
Biehler Scutellaria saxatilis
Riddell Scutellaria lateriflora L.
Agastache nepetoides (L.) Ktze.
Agastache scrophulariaefolia
(Willd.)
Ktze.
Meehania cordata (Nutt.) Britton
Nepeta cataria L. Glechoma
hederacea L. Glechoma
hederacea L.
Var. micrantha Moricand
Prunella vulgaris L.
Var. lanceolata (Bart.) Fernald
Dracocephalum virginianum L.
Leonurus cardiaca L. Lamium
amplexicaule L. Lamium
purpureum L. Stachys ridellii
House Stachys latidens Small
Stachys tenuifolia Willd. Stachys
hispida Pursh Salvia lyrata L.
Monarda clinopodia L. Monarda
fistulosa L.
philia ciliata (L.) Benth. philia
hirsuta (Pursh) Benth. Redeoma
pulegioides (L.) Pers. Satureja
vulgaris (L.) Fritsch

Pycnanthemum flexuosum
(Walt.) BSP.
Pycnanthemum torrei Benth.
Pycnanthemum leptodon Gray
Pycnanthemum verticillatum
(Michx.) Pers.
Pycnanthemum
pycnanthemoides (Leavenw.)
Fernald Pycnanthemum
viridifolium
(Fernald) Grant & Epling
Pycnanthemum incanum (L.)
Michx.
Pycnanthemum loomisii Nutt.
Cunila origanoides (L.) Britton
Lycopus virginicus L.

Lycopus uniflorus Michx.
Lycopus americanus Muhl.
Mentha piperita L. Mentha
cardiaca Baker Mentha arvensis
L. Collinsonia canadensis L.
Perilla frutescens (L.) Britton

Solanaceae

Solanum dulcamara L. Solanum
carolinense L. Solanum nigrum
L. Physalis subglabrata
Mackenzie
& Bush
Physalis heterophylla Nees
Nicandra physalodes (L.) Pers.
Lycium halmifolium Mill.

Scrophulariaceae

Verbascum thapsus L.
Verbascum blattaria L.
Verbascum blattaria L. forma
albiflora (Don) House Linaria
vulgaris Hill Chaenorhinum
minus (L.) Lange Scrophularia
marilandica L. Chelone glabra
L. Var. elatior
Raf.
Penstemon laevigatus Ait.
Penstemon canescens Britton
Penstemon brevisepalus Pennell
Paulownia tomentosa (Thunb.)
Steud.
Mimulus ringens L.
Mimulus alatus Ait.

Gratiola neglecta Torr.
 Lindernia dubia (L.) Pennell
 Veronicastrum virginicum (L.)
 Farwell
 Veronica serpyllifolia L.
 Veronica officinalis L. Veronica
 anagallis-aquatica L. Veronica
 peregrina L. Veronica arvensis
 L. Gerardia tenuifolia Vahl
 Gerardia virginica (L.) BSP.
 Gerardia laevigata Raf.
 Gerardia flava L. Pedicularis
 canadensis L.

Bignoniaceae

Campsis radicans (L.) Seeman
 Bignonia capreolata L. Catalpa
 speciosa Warder

Orobanchaceae

Epifagus virginiana (L.) Bart.
 Conopholis americana (L.F.)
 Wallr. Orobanche
 uniflora L.

Lentibulariaceae

Utricularia gibba L.

Acanthaceae

Justicia americana (L.) Vahl
 Ruellia caroliniensis (Walt.)
 Steud.

Phrymaceae

Phryma leptostachya L.

Plantaginaceae

Plantago rugelii Dene.
 Plantago lanceolata L.
 Plantago aristata Michx.
 Plantago virginica L.

Rubiaceae

Sherardia arvensis L.
 Galium aparine L. Galium
 triflorum Michx. Galium
 pilosum Ait. Galium
 ciraezans Michx. Galium
 lanceolatum Torr. Galium
 latifolium Michx. Galium
 tinctorium L.

Diodia virginiana L. Diodia
 teres Walt. Mitchellia repens
 L. Cephalanthus occidentalis
 L. Houstonia caerulea L.
 Houstonia purpurea L.
 Houstonia tenuifolia Nutt.
 Houstonia longifolia Gaertn.

Caprifoliaceae

Lonicera morrowi Gray Lonicera
 japonica Thunb. Symphoricarpos
 orbiculatus
 Moench.
 Triosteum auranticum Bicknell
 Viburnum alnifolium Marsh.
 Viburnum cassinoides L.
 Viburnum prunifolium L.
 Viburnum rafinesquianum
 Schultes
 Viburnum dentatum L. Viburnum
 recognitum Ferr Viburnum
 acerifolium L. Sambucus
 canadensis L. Sambucus pubens
 Michx.

Valerianaceae

Valerianella olitoria (L.) Poll.
 Valerianella umbilicata (Sulliv.)
 Wood Valerianella
 chenopodifolia
 (Pursh) DC.

Dipsacaceae

Dipsacus sylvestris Huds.

Cucurbitaceae

Sicyos angulatus L.

Campanulaceae

Specularia perfoliata (L.) A. DC.
 Campanula rapunculoides L.
 Campanula americana L.
 Campanula divaricata Michx.
 Lobelia cardinalis L. Lobelia
 siphilitica L. Lobelia puberula
 Michx.
 Lobelia inflata L.

Compositae

Vernonia noveboracensis (L.)
 Michx.

Vernonia altissima Nutt.
 Elephantopus carolinianus Willd.
 Eupatorium fistulosum Barratt
 Eupatorium purpureum L.
 Eupatorium altissimum L.
 Eupatorium hyssopifolium L.
 Eupatorium pubescens Muhl.
 Eupatorium sessilifolium L.
 Eupatorium perfoliatum L.
 Eupatorium serotinum Michx.
 Eupatorium rugosum Houtt.
 Eupatorium incarnatum Walt.
 Eupatorium coelestinum L.
 Kunnia eupatorioides L. Liatris
 spicata (L.) Willd. Liatris
 scariosa (L.) Willd. Liatris asper
 Michx. Solidago caesia L.
 Solidago curtisii T. & G.
 Solidago flexicaulis L. Solidago
 bicolor L.
 Solidago roanensis Porter
 Solidago erecta Pursh
 Solidago racemosa Greene
 Solidago speciosa Nutt.
 Solidago juncea Ait.
 Solidago bootii Hook.
 Solidago patula Muhl.
 Solidago sphacelata Rat.
 Solidago nemoralis Ait.
 Solidago odora Ait. Solidago
 ulmifolia Muhl. Solidago
 rugosa Ait. Solidago
 canadensis L. Solidago
 altissima L. Solidago
 gigantea Ait. Solidago
 graminifolia Ait. Aster
 divaricatus L. Aster
 schreberi Nees Aster
 macrophyllus L. Aster
 shortii Lindl. Aster
 cordifolius L. Aster
 lowrieianus Porter Aster
 lowrieianus Porter
 Var. lanceolatus Porter Aster
 undulatus L. Aster patens Ait.
 Aster patens Ait. Var. phlogifolius
 Nees
 Aster oblongifolius Nutt.
 Aster novae-angliae L. Aster
 prenanthoides Muhl.

Aster puniceus L.
 Aster laevis L.
 Aster steeleorum Shinnars
 Aster pilosus Willd.
 Aster dumosus L.
 Aster vimineus Lam.
 Aster lateriflorus (L.) Britton
 Aster simplex Willd.
 Aster acuminatus Michx.
 Aster infirmus Michx.
 Aster linariifolius L.
 Erigeron pulchellus Michx.
 Erigeron philadelphicus L.
 Erigeron annuus (L.) Pers.
 Erigeron strigosus Muhl.
 Erigeron canadensis L.
 Sericocarpus asteroides (L.)
 BSP.
 Antennaria plantaginifolia (L.)
 Richards
 Gnaphalium obtusifolium L.
 Gnaphalium purpureum L.
 Ambrosia trifida L.
 Ambrosia artemisiifolia L.
 Xanthium pensylvanicum Wallr.
 Xanthium italicum Moretti
 Polymnia canadensis L.
 Polymnia uvedalia L.
 Silphium perfoliatum L.
 Silphium perfoliatum L. Ssp.
 connatum (L.) Cruden
 Silphium trifoliatum L.
 Heliopsis helianthoides (L.)
 Sweet
 Heliopsis scabra Dunal
 Eclipta alba (L.) Hassk.
 Rudbeckia laciniata L.
 Rudbeckia hirta L.
 Helianthus laetiflorus Pers.
 Helianthus downii (Curtis) T.
 & G.
 Helianthus divaricatus L.
 Helianthus hirsutus Raf.
 Helianthus microcephalus T. & G.
 Helianthus strumosus L.
 Helianthus trachelifolius Mill.
 Helianthus decapetalus L.
 Helianthus tuberosus L.
 Actinomeris alternifolia (L.) DC.
 Verbesina occidentalis (L.) Walt.
 Coreopsis tinctoria Nutt.
 Coreopsis lanceolata L. Var.
 villosa Michx.

Coreopsis grandiflora Hogg
Coreopsis pubescens Ell.
Coreopsis auriculata L.
Coreopsis major Walt.
Coreopsis tripteris L.
Bidens comosa (Gray) Wieg.
Bidens vulgata Greene
Bidens polylepis Blake
Bidens bipinnata L.
Galinsoga ciliata (Raf.) Blake
Helenium autumnale L.
Achillea millefolium L.
Anthemis arvensis L.
Chrysanthemum leucanthemum L.
 Var. *pinnatifidum* Lecoq. & Lamotte
Artemisia vulgaris L.
Tussilago farfara L.
Erechtites hieracifolia (L.) Raf.
Cacalia atriplicifolia L.
Cacalia muhlenbergii (Sch. Bip.) Fernald
Senecio smalii Britton
Senecio aureus L. *Senecio obovatus* Muhl.
Arctium minus (Hill) Bernh.
Cirsium vulgare (Savi) Tenore
Cirsium discolor (Muhl.) Spreng.
Cirsium altissimum (L.) Spreng.
Cirsium pumilum (Nutt.) Spreng.
Centaurea maculosa Lam.
Lapsana communis L. *Cichorium intybus* L.
Krigia virginica (L.) Willd. *Krigia biflora* (Walt.) Blake
Tragopogon pratensis L.
Tragopogon major Jacq.
Taraxacum officinale Weber
Sonchus arvensis L. *Sonchus oleraceus* L. *Sonchus asper* (L.) Hill
Lactuca scariola L. *Lactuca saligna* L. *Lactuca canadensis* L. *Lactuca floridana* (L.) Gaertn.
Crepis pulchra L. *Prenanthes alba* L. *Prenanthes serpentaria* Pursh
Prenanthes altissima L.
Hieracium pratense Tausch.
Hieracium venosum L. *Hieracium paniculatum* L.

Hieracium scabrum Michx.
Hieracium marianum Willd.
Hieracium trailii Greene
Hieracium gronovii L.

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