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Vascular Flora of the Fernow Experimental Forest and Adjacent Portions of the Otter Creek Wilderness Area

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Abstract

The vascular flora of the region we considered include 94 families representing at least 461 species. Fifty-four of these or nearly 12 percent are species known to have been introduced. Asteraceae (46 species) is the single largest family; Cyperaceae (31), Liliaceae (29), Poaceae and Rosaceae (20 each) also are important families in the general study area. The 461 species of vascular plants recorded constitute only 17.2 percent of the total species (2,683) known from the State of West Virginia but account for a larger proportion (31.5 percent) of all species known from Tucker County or Randolph County.

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Cover Photos

Pink lady's slipper (*Cypripedium acaule*) and Frasier magnolia (*Magnolia fraseri*) on the Fernow Experimental Forest.

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INTRODUCTION

Field surveys of the vascular flora of the study area described in this report began during the summer of 1994 as part of a project that included establishing 105 permanent plots (each 0.1 ha) in relatively undisturbed forest communities throughout the Fernow Experimental Forest in Tucker County, West Virginia (Muzika et al. 1999). To increase the number of plots in forest types (those located at the highest elevations) poorly represented on the Fernow, the study area was extended to encompass portions of the Otter Creek Wilderness Area adjacent to the southern boundary of the Forest. These additional plots (11) were located on McGowan Mountain in northern Randolph County.

Each plot was surveyed by walking through it several times and recording all species of vascular plants observed. An effort was made to collect a voucher specimen of each species encountered. During the summer of 2000, 60 of the original plots were resampled to obtain data on short-term changes in forest vegetation (Stephenson et al. 2003). Plots were surveyed for vascular plants in the same manner as in the earlier study. During the period between the two major sampling dates (1994 and 2000), additional field surveys were conducted at various times throughout the year in both forest and nonforest habitats to supplement the list of species already recorded from the general study area. Emphasis was placed on disturbed habitats, e.g., those along roadsides. Because there always is the potential for “new” plant species to invade an area and for some of the species already present to be missed during surveys, no flora can be considered as complete. However, based on the low number of additional species recorded during the latter stages of the fieldwork carried out in the context of this project, the total list of species compiled includes most of the vascular plants present in the general study area. Madarish et al. (2002) also compiled a list of vascular plants (90 families and 466 species) from published data and unpublished monitoring data collected within the bounds of the Fernow Experimental Forest.

This publication includes an annotated checklist of the vascular plants (94 families and 461 species) recorded from or known to occur on the Fernow Experimental Forest and adjacent portions of the Otter Creek Wilderness Area of east-central West Virginia.

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GENERAL STUDY AREA

The Fernow Experimental Forest (39°03' N, 79°41' W), located in Tucker County, West Virginia, is within the unglaciated Allegheny Plateau Region of the Appalachian Mountains (Fenneman 1938). Elevations range from 533 to 1,112 m and the topography is rugged, with moderate to steep slopes (10 to 60 percent). Soils are predominantly loams and silt loams of the Calvin and Berks-Muskingham series (Typic Dystrichreps). These soils originate from acid shales and sandstones on the western half of the Forest and from sandstones, shales, and limestones on the eastern half. Soils are relatively shallow, with an average soil depth of about 1.0 m. Most soils are fairly acidic, and the average soil pH is about 4.5 (Helvey and Kochenderfer 1991). A rainy, cool climate is typical on the Fernow; precipitation averages 145 cm per year and is distributed evenly throughout the year. The mean annual temperature is about 9°C and the length of the growing season is approximately 145 days (Northeast. For. Exp. Stn. 1995).

The general study area falls within the Central Appalachian Broadleaf Forest Province as described by Bailey et al. (1994). At the lowest elevations, the original forests consisted primarily of hardwoods, with an admixture of eastern hemlock (*Tsuga canadensis*) along stream bottoms and on north slopes. Forests at higher elevations were dominated by red spruce (*Picea rubens*) and hemlock (Core 1966). There were small patches of pure spruce on the tops of the mountains. Braun (1950) placed this portion of West Virginia in the Allegheny Mountain Section of the Mixed Mesophytic Forest Region.

The pattern of cutting and regeneration in the general study area is similar to that throughout much of the central Appalachians. Logging removed the most valuable species and undesirable trees of poor form and unmarketable species were left. Repeated forest fires burned over the area and chestnut blight eliminated 10,440 m³ of American chestnut (*Castanea dentata*) in the 1930's (Weitzman 1949). This loss represented nearly 25 percent of the volume of the Fernow.

Present-day forest types and conditions reflect site conditions and past history of the area. Oaks (*Quercus* spp.) are the most common species and are found on all sites along with American beech (*Fagus grandifolia*) and sweet birch (*Betula lenta*). The most productive sites in coves and on north slopes support primarily northern red oak (*Q. rubra*), sugar maple (*Acer saccharum*), yellow-poplar (*Liriodendron tulipifera*), black cherry (*Prunus serotina*), white ash (*Fraxinus americana*), basswood (*Tilia americana*), cucumber magnolia (*Magnolia acuminata*), and beech. Less productive sites on south and west slopes usually support oak communities composed of northern red, white, (*Q. alba*), chestnut (*Q. prinus*), and scarlet oak (*Q. coccinea*). Red maple (*A. rubrum*), sweet birch, blackgum (*Nyssa sylvatica*), sassafras (*Sassafras albidum*), and sourwood (*Oxydendrum arboreum*) also are common on such sites. Black locust (*Robinia pseudoacacia*) and Fraser magnolia (*M. fraseri*) are consistent but generally minor components of the Forest.

IDENTIFICATION OF FOREST TYPES

Two-way indicator species analysis of the vegetation data set obtained for the 105 permanent plots sampled in 1994 delineated eight forest types, each of which was characterized by one to three dominant tree species (Muzika et al. 1999). Information on the distribution of each of the eight forest types with respect to slope position, aspect, and elevation is provided in Table 1. The number of plots assigned to each forest type ranged from 1 to 39. Presumably, these numbers reflect their

Table 1.—Distribution of the eight forest types identified on the Fernow Experimental Forest and adjacent portions of the Otter Creek Wilderness Area

Forest type	Distribution in general study area
Red spruce	Upper slopes at highest elevations (generally >1,175 m)
Chestnut oak/red maple/red oak	Mid to upper side slopes, usually on southern exposures (590-820 m)
White oak	Lower side slopes on southern exposures (745-825 m)
Red oak/red maple	Upper slopes (582-825 m)
Red oak/sugar maple/Fraser magnolia	Mid to upper side slopes, on relatively mesic sites (590-1,180 m)
Yellow-poplar/sugar maple	Lower side slopes (550-884 m)
Black cherry	Upper slopes, usually on northern exposures (generally >1,065 m)
Hemlock/yellow birch/red spruce	Upper slopes and ridgetops (generally >1,090 m)

relative abundance in the general study area. Forest types represented by the greatest number of plots were red oak/sugar maple (39 of 105 plots), yellow-poplar/sugar maple (27), red maple/red oak (15), and chestnut oak/red maple/red oak (14). Less common forest types were red spruce (1 plot), white oak (3), black cherry (2), and hemlock/yellow birch/spruce (3).

Based on analyses of the vegetation data and data obtained in each of the 105 plots for soil characteristics and topographic parameters, the overall distribution of the eight forest types across the study area can be related most closely to the environmental complex gradients associated with site moisture conditions and elevation (Table 1), though soil characteristics, particularly those related to major differences (i.e., limestones versus shales and sandstones) in the underlying geological substrate also are an important factor. Such a pattern would have been expected since similar results were reported by Whittaker (1956), Stephenson (1982), Rheinhardt and Ware (1984), and Lawrence et al. (1999) who considered the pattern of forest vegetation in mountainous portions of Eastern North America.

SUMMARY

The vascular flora of the region we considered include 94 families representing at least 461 species. Fifty-four of these or nearly 12 percent are species known to have been introduced. Asteraceae (46 species) is the single largest family; Cyperaceae (31), Liliaceae (29), Poaceae (20) and Rosaceae (20 each) also are important families in the general study area. The 461 species of vascular plants recorded constitute only 17.2 percent of the total species (2,683) known from the State of West Virginia but account for a larger proportion (31.5 percent) of all species known from Tucker County or Randolph County (Harmon et al. 1996; Harmon, P.J., pers. commun.).

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ANNOTATED LIST OF VASCULAR FLORA

Plant specimens were identified using primarily Strausbaugh and Core (1977) and Radford et al. (1968), or by direct comparison with material of particular species in the herbarium of West Virginia University. The nomenclature follows Kartesz (1994). Family names are arranged alphabetically within each of the major groups listed. Within each family, genera and species also are alphabetized. The taxonomic name is followed by the common name of the plant and the type of habitat(s) in which the species was recorded. Non-native species are indicated with an asterisk. Voucher specimens of most of the species included in the checklist are deposited in the herbaria of West Virginia University or the USDA Forest Service at Parsons, WV.

PTERIDOPHYTA

Aspleniaceae

Asplenium montanum Willd.; mountain spleenwort; rocky outcrops at high elevations

Asplenium platyneuron (L.) B.S.P.; ebony spleenwort; open forests, often rocky

Asplenium rhizophyllum L. [*Camptosorus rhizophyllum* (L.) Link.]; walking fern; limestone outcrops in moist forests, usually near streams

Dennstaedtiaceae

Dennstaedtia punctilobula (Michx.) T. Moore; eastern hay-scented fern; moist forests on mid to upper side slopes and in open areas

Pteridium aquilinum (L.) Kuhn; northern bracken fern; open forests and forest edges

Dryopteridaceae

Athyrium felix-femina (L.) Roth; subarctic lady fern; moist forests but not common

Deparia acrostichoides (Sw.) M. Kato [*Athyrium thelypteroides* (Michx.) Desv.]; silvery spleenwort or silvery glade fern; moist forests on lower side slopes

Diplazium pycnocarpon (Spreng.) Broun [*Athyrium pycnocarpon* (Spreng.) Tidestrom]; glade fern; moist forests throughout but not common

Dryopteris campyloptera Clarkson; mountain wood fern; moist forests at the very highest elevations

Dryopteris carthusiana (Vill.) H.P. Fuchs; spinulose wood fern; moist forests on lower side slopes

Dryopteris goldiana (Hook. ex Goldie) Gray; goldie's wood fern; moist forests on lower side slopes

Dryopteris intermedia (Muhl. ex Willd.) Gray; evergreen wood fern or intermediate wood fern; moist forests throughout but more common at high elevations

Dryopteris marginalis (L.) Gray; marginal wood fern; moist forests, often rocky

Gymnocarpium dryopteris (L.) Newman; northern oak fern; rocky areas in moist forests at high elevations

Onoclea sensibilis L.; sensitive fern; wetlands and moist places along roadsides

Polystichum acrostichoides (Michx.) Schott; Christmas fern; moist forests throughout and shaded roadside banks

Equisetaceae

Equisetum arvense L.; field horsetail or scouring rush; moist places along roadsides

Lycopodiaceae

Huperzia lucidula (Michx.) Trevisan [*Lycopodium lucidulum* Michx.]; shining club-moss; moist forests, usually at high elevations

Lycopodium annotinum L.; stiff ground-pine; moist forests at high elevations

Lycopodium clavatum L.; running ground-pine; moist forests at high elevations

Lycopodium complanatum L.; trailing ground-pine; open forests at low elevations

Lycopodium digitatum Dill ex A. Braun [*Lycopodium flabelliforme* (Fern.) Blanch.]; fan ground-pine; forests on upper side slopes with a southern exposure

Lycopodium obscurum L.; princess-pine; moist forests at high elevations

Ophioglossaceae

Botrychium dissectum Spreng.; cut-leaf grape fern; moist forests throughout but most common on lower side slopes

Botrychium virginianum (L.) Sw.; rattlesnake fern; moist forests on lower side slopes

Ophioglossum vulgatum L.; southern adder's tongue; moist forests but not common

Osumndaceae

Osmunda cinnamomea L.; cinnamon fern; moist forests on lower side slopes

Osmunda claytoniana L.; interrupted fern; moist forests on lower side slopes and moist places along roadsides

Polypodiaceae

Pleopeltis polypodioides ssp. *polypodioides* (L.) Walt. [*Polypodium polypodioides* (L.) Watt.]; resurrection fern; rock outcrops

Polypodium virginianum L.; rock polypody; rock outcrops and trunks of trees

Pteridaceae

Adiantum pedatum L.; northern maidenhair fern; moist forests on sites with circumneutral soils

Selaginellaceae

Selaginella apoda (L.) Fern.; meadow spikemoss; moist open areas but not common

Thelypteridaceae

Phegopteris connectilis (Michx.) Watt.; narrow beech fern; moist forests at high elevations

Thelypteris novaboracensis (L.) Nieuwl.; New York fern; moist forests throughout

Thelypteris palustris Schott; eastern marsh fern; wetlands

GYMNOPHYTA

Pinaceae

**Picea abies* (L.) Karst; Norway spruce; plantation in watershed 6

Picea rubens Sarg.; red spruce; moist forests at the very highest elevations

Pinus strobus L.; white pine; open forests at low elevations

Tsuga canadensis (L.) Carr.; eastern hemlock; moist forests at high elevations and along streams

SPERMATOPHYTA

Aceraceae

Acer pensylvanicum L.; striped maple; moist forests throughout

Acer rubrum L.; red maple; moist forests throughout but usually associated with relatively more acidic soils

Acer saccharum Marsh.; sugar maple; moist forests throughout but usually associated with relatively less acidic soils

Acer spicatum Lam.; mountain maple; open moist forests on rocky sites, more common at high elevations

Amaranthaceae

Amaranthus hybridus L.; smooth amaranth; roadsides, skidroads and disturbed areas at low elevations

Anacardiaceae

Rhus glabra L.; smooth sumac; open areas and along roadsides

Rhus typhina L.; stag-horn sumac; open areas and along roadsides

Toxicodendron radicans L. ssp. *radicans* [*Rhus radicans* L.]; poison ivy; dry forests and disturbed areas at low elevations

Annonaceae

Asimina triloba (L.) Dunal; pawpaw; moist forests at low elevations, often near streams

Apiaceae

Cryptotaenia canadensis (L.) DC.; Canadian honewort; moist forests but not common

**Daucus carota* L.; Queen Anne's lace; disturbed open areas and along roadsides

Heracleum maximum Bartr.; American cow-parsnip; moist places along roadsides

Osmorhiza claytonii (Michx.) C.B. Clarke; hairy sweet-cicely; moist forests on lower side slopes and shaded roadside banks

Osmorhiza longistylis (Torr.) DC.; aniseroot; moist forests on lower side slopes and shaded roadside banks

Sanicula canadensis L.; Canadian black-snakeroot; dry forests

Sanicula marilandica L.; Maryland black-snakeroot; moist forests on lower side slopes but not common

Sanicula odorata (Raf.) K.M. Pryer and L.R. Phillippe; clustered black-snakeroot; moist forests

Sanicula trifoliata Bickn.; large-fruit black-snakeroot; moist forests on lower side slopes

Taenidia montana (Mackenzie) Cronq.; mountain pimpernel; dry, shaly slopes along roadsides

Thaspium barbinode (Michx.) Nutt.; hairy-joint meadow parsnip; moist forests and roadsides, often near streams

Thaspium trifoliatum (L.) Gray; purple meadow-parsnip; moist forests throughout

Zizia aptera (Gray) Fern.; heart-leaf alexander; open forests and roadside banks

Zizia aurea (L.) W.D.J. Koch; golden alexander; moist forests throughout

Zizia trifoliata (Michx.) Fern.; meadow alexander; moist forests throughout

Apocynaceae

Apocynum cannabinum L.; indian-hemp; disturbed areas and open roadsides

Aquifoliaceae

Ilex montana Torr. & Gray ex Gray; mountain holly; moist forests at high elevations

Ilex opaca Ait.; American holly; moist forests at low elevations

Ilex verticillata (L.) Gray; winterberry; moist forests at high elevations

Araceae

Arisaema triphyllum (L.) Schott; jack-in-the-pulpit; moist forests throughout

Symplocarpus foetidus (L.) Salisb. ex Nutt.; skunk cabbage; wetlands and moist places near streams

Araliaceae

Aralia nudicaulis L.; wild sarsaparilla; open forests throughout

Aralia racemosa L.; American spikenard; moist forests on upper slopes

Aralia spinosa L.; devil's walkingstick; disturbed forests and forest edges

Panax quinquefolius L.; ginseng; moist forests but not common

Panax trifolius L.; dwarf ginseng; moist forests, more common at high elevations

Aristolochiaceae

Aristolochia macrophylla Lam.; pipevine or dutchman's pipe; moist forests, most common at forest edges such as along roads

Asarum canadense L.; Canadian wild ginger; moist forests and shaded roadside banks

Asclepiadaceae

Asclepias incarnata L.; swamp milkweed; edges of wetlands and moist places along roadsides

Asclepias purpurascens L.; purple milkweed; dry forests

Asclepias quadrifolia Jacq.; four-leaf milkweed; open forests on upper side slopes

Asclepias syriaca L.; common milkweed; open areas and along roadsides

Asclepias tuberosa L. ssp. *tuberosa*; butterfly milkweed or butterfly weed; open areas and roadside banks

Asteraceae

**Achillea millefolium* L.; yarrow; open areas and roadside banks

Ageratina altissima (L.) King & H. E. Robins. var. *altissima* [*Eupatorium rugosum* Houtt.]; white snakeroot; dry open forests, roadsides and skidroads

Ambrosia artemisiifolia L. var. *elatior* (L.) Descourtils [*Ambrosia elatior* L.]; annual ragweed; open areas and roadsides

Anaphalis margaritacea (L.) Benth.; pearly-everlasting; open areas and skidroads at high elevations

Antennaria neglecta Greene; field pussytoes; open areas and roadsides

**Arctium minus* (Hill) Bernh.; burdock; open areas and roadsides

Bidens frondosa L.; devil's pitchfork or beggar's tick; wet open areas, roadsides and skidroads

**Carduus acanthoides* L.; spiny plumeless thistle; open areas and roadsides

**Cirsium vulgare* (Savi) Ten.; bull thistle; open areas

Coreopsis major Walt.; greater tickseed; dry open forests
Crepis capillaris (L.) Wallr.; smooth hawk's beard; roadsides
Doellingeria umbellata var. *umbellata* (P. Mill.) Nees [*Aster umbellatus* P. Mill.]; flat-top white aster; moist open areas
Erechtites hieracifolia (L.) Raf. ex DC.; American burnweed; disturbed areas, open forests and roadsides
Erigeron annuus (L.) Pers.; daisy fleabane; open areas and roadsides
Erigeron philadelphicus L.; Philadelphia fleabane; open areas and roadsides
Erigeron pulchellus Michx.; Robin's plantain; open areas and roadsides
Eupatorium fistulosum Barratt; trumpetweed; open areas, roadsides and skidroads
Eupatorium purpureum L.; sweet scented joe-pye-weed; open areas and roadsides
Eurybia divaricata (L.) Nesom [*Aster divaricatus* L.]; white wood aster; moist forests throughout
Euthamia graminifolia var. *graminifolia* (L.) Greene [*Solidago graminifolia* (L.) Salisb.]; flat-top goldenrod; open areas and roadsides
**Galinsoga quadriradiata* Cav.; shaggy-soldier; disturbed areas and roadsides
Helianthus decapetalus L.; thin-leaf sunflower; moist forests and roadsides
**Hieracium caespitosum* Dumort. [*Hieracium pratense* Tausch.]; meadow hawkweed; open areas and roadsides
Hieracium paniculatum L.; Allegheny hawkweed; open forests on slopes with a southern exposure
Hieracium venosum L.; rattlesnake-weed; dry open forests
Krigia biflora (Walt.) Blake; two-flower dwarf-dandelion; moist forests
**Lactuca serriola* L.; prickly lettuce; disturbed open areas and roadsides
**Leucanthemum vulgare* Lam. [*Chrysanthemum leucanthemum* L.]; ox-eye daisy; open areas and roadsides
Oclemena acuminata (Michx.) Greene [*Aster acuminatus* Michx.]; whorled nodding aster; moist forests at high elevations
Packera aurea (L.) A. & D. Love [*Senecio aureus* L.]; golden groundsel; moist places along roadsides
Prenanthes alba L.; white rattlesnake root; moist forests throughout
Prenanthes altissima L.; tall rattlesnake root; moist forests throughout
Rudbeckia hirta L.; black-eyed susan; open areas and roadsides, possibly introduced in a seed mix
Solidago caesia L. var. *caesia*; wreath goldenrod; moist forests throughout
Solidago flexicaulis L.; zigzag goldenrod; moist forests and moist places along roadsides
Solidago rugosa P. Mill.; wrinkle-leaf goldenrod; moist forests and moist places along roadsides
Solidago ulmifolia Muhl. ex Willd.; elm-leaf goldenrod; dry open forests
Sonchus asper (L.) Hill ssp. *asper*; spiny-leaf sow-thistle; open areas, usually disturbed
Symphotrichum cordifolium (L.) Nesom; common blue American-aster; roadsides
Symphotrichum dumosum (L.) Nesom var. *dumosum* [*Aster dumosus* L.]; rice-button American aster; moist forests throughout
Symphotrichum lateriflorum (L.) A. & D. Love [*Aster lateriflorus* (L.) Britt]; farewell-summer; open forests
Symphotrichum patens (Ait.) Nesom [*Aster patens* Ait.]; late purple American aster; dry open forests
Symphotrichum prenanthoides (Muhl. ex Willd.) Nesom [*Aster prenanthoides* Muhl. ex Willd.]; crooked stem aster; open forests at low elevations and skidroads

**Taraxacum officinale* G.H. Weber ex Wiggers; dandelion; open areas and roadsides

**Tussilago farfara* L.; colt's foot; roadsides

Verbesina alternifolia (L.) Britt. ex Kearney; wingstem; moist forests and roadsides

Balsaminaceae

Impatiens capensis Meerb.; orange-spotted jewelweed; moist forests and shaded roadsides

Impatiens pallida Nutt.; yellow jewelweed; moist forests and shaded roadsides

Berberidaceae

**Berberis thunbergii* DC.; Japanese barberry; moist open forests and skidroads

Caulophyllum thalictroides (L.) Michx.; blue cohosh; moist forests on lower side slopes

Podophyllum peltatum L.; mayapple; roadsides and moist areas at lower elevations

Betulaceae

Alnus serrulata (Ait.) Willd.; brookside alder; wetlands and moist places along streams at low elevations

Betula allegheniensis Britt.; yellow birch; moist forests, more common at high elevations

Betula lenta L.; sweet birch; moist forests throughout but most common on lower side slopes

Carpinus caroliniana var. *virginiana* (Marsh.) Furlow; American hornbeam; moist places along streams at low elevations

Ostrya virginiana var. *virginiana* (P. Mill.) K. Koch; eastern hop-hornbeam; dry open forests on mid to lower side slopes, usually associated with relatively less acidic soils

Boraginiaceae

Mertensia virginica (L.) Pers. Ex Link; Virginia bluebells; moist forests at low elevations

Brassicaceae

**Alliaria petiolata* (Bieb.) Cavara & Grande [*Alliaria officinalis* Andrz. ex Bieb.]; garlic mustard; edges of forests, shaded roadsides and streambanks

**Barbarea vulgaris* Ait. f.; yellow rocket; open areas, roadsides and skidroads

Cardamine angustata O.E. Schultz [*Dentaria heterophylla* Nutt.]; slender toothwort; moist forests throughout

Cardamine bulbosa (Schreb. ex Muhl.) B.S.P.; bulbous bittercress; moist areas along streams

Cardamine concatenata (Michx.) Sw. [*Dentaria laciniata* Muhl. ex Willd.]; cut-leaf toothwort; moist forests throughout

Cardamine diphylla (Michx.) Wood [*Dentaria diphylla* Michx.]; crinkleroot; moist forests throughout

Cardamine hirsuta L.; hairy bittercress; roadsides

Campanulaceae

Campanulastrum americanum (L.) Small; American bellflower; moist forests throughout, roadsides and skidroads

Lobelia inflata L.; Indian tobacco; open areas, roadsides and skidroads

Lobelia siphilitica var. *siphilitica* L.; great blue lobelia; moist places along roadsides and skidroads

Caprifoliaceae

**Lonicera morrowii* Gray; Morrow's honeysuckle; open areas and roadsides

Sambucus nigra ssp. *canadensis* (L.) R. Bolli [*Sambucus canadensis* L.]; black elder; moist forests, wetlands, roadsides and skidroads

Sambucus racemosa L. var. *racemosa* [*Sambucus pubens* Michx.]; red elder; moist forests and wetlands

Viburnum acerifolium L.; arrowwood; dry open forests on side slopes

Viburnum lantanoides Michx.; hobblebush; wetlands

Caryophyllaceae

**Cerastium fontanum* ssp. *vulgare* (Hartman) Greuter and Burdet [*Cerastium vulgatum* L.]; common mouse ear chickweed; open areas and dry roadside banks

Silene virginica L.; fire pink; open forests and shaded roadside banks

**Stellaria media* (L.) Villars.; common chickweed; open areas, usually disturbed

Stellaria pubera Michx.; great chickweed; moist forests throughout

Celastraceae

Celastrus scandens L.; American bittersweet; moist places along edges of woods

Euonymus americana L.; strawberry-bush; moist open forests on lower side slopes

Clusiaceae

Hypericum densiflorum Pursh; bushy St. John's wort; wetlands and moist roadside banks

Hypericum mutilum L.; dwarf St. John's wort; moist open areas

Hypericum punctatum Lam.; spotted St. John's wort; edges of forests and roadsides

Triadenum virginicum (L.) Raf. [*Hypericum virginicum* L.]; Virginia marsh St. John's wort; wetlands

Commelinaceae

Tradescantia virginiana (L.) Raf.; Virginia spiderwort; moist forests and shaded roadside banks

Convolvulaceae

Ipomoea pandurata (L.) G.F.W. Mey.; man-of-the-earth; disturbed open areas

Cornaceae

Cornus alternifolia L. f.; alternate-leaf dogwood; open forests throughout

Cornus amomum P. Mill.; silky dogwood; moist places, usually along streams

Cornus florida L.; flowering dogwood; open forests, usually on southern exposures

Nyssa sylvatica Marsh.; black tupelo or black gum; dry open forests at low elevations

Crassulaceae

Sedum ternatum Michx.; woodland stonecrop; moist forests, often associated with rocky areas

Cuscutaceae

Cuscuta gronovii Willd. ex J.A. Schultes; scaldweed or dodder; moist areas, including roadsides, skidroads and edges of trails (plants were observed growing on white snakeroot)

Cyperaceae

- Carex aestivalis* M.A. Curtis ex Gray; summer sedge; moist forests at high elevations
Carex albursina Sheldon; white bear sedge; moist forests on lower side slopes but not common
Carex appalachica J. Webber & P.W. Ball; Appalachian sedge; moist forests
Carex blanda Dewey; woodland sedge; moist forests
Carex crinita Lam.; fringed sedge; wetlands at high elevations
Carex debilis var. *rudgei* Bailey; white edge sedge; moist forests
Carex digitalis Willd.; slender woodland sedge; moist forests throughout
Carex gracillima Schwein.; graceful sedge; moist forests throughout
Carex grayi Carey; Gray's sedge; wetlands
Carex intumescens Rudge; great bladder sedge; moist forests and wetlands
Carex laxiculmis Schwein.; spreading sedge; moist forests and wetlands
Carex laxiflora Lam.; broad loose-flowered sedge; moist forests throughout
Carex leptoneuria (Fern.) Fern.; nerveless woodland sedge; moist forests at high elevations
Carex lupulina Muhl. ex Willd.; hop sedge; moist forests and wetlands
Carex pennsylvanica Lam.; Pennsylvania sedge; open forests on lower side slopes with a southern exposure
Carex plantaginea Lam.; plantain leaf sedge; moist forests throughout
Carex platyphylla Carey; broad leaf sedge; moist forests on lower side slopes
Carex prasina Wahlenb.; drooping sedge; moist forests at high elevations
Carex rosea Schk.; rosy sedge; dry open forests
Carex scabrata Schwein.; eastern rough sedge; wetlands at high elevations
Carex sparganioides Muhl.; burr-reed sedge; low wet areas in moist forests
Carex stricta Lam.; tussock sedge; wetlands
Carex stipata Muhl.; stalk grain sedge; wetlands
Carex swanii (Fern.) Mackenzie; swan's sedge; moist forests at mid to upper slope positions
Carex trisperma Dewey; three-seed sedge; wetlands at high elevations
Carex tribuloides Wahl.; blunt broom sedge; wetlands
Carex vulpinoidea Michx.; common fox sedge; wetlands and moist places along roadsides
Cyperus strigosus L.; straw color flat sedge; moist open areas and along roadsides
Scirpus atrovirens Willd.; dark-green bulrush; wetlands
Scirpus cyperinus (L.) Kunth; cottongrass bulrush; wetlands
Scirpus georgianus Harper [*Scirpus atrovirens* Muhl. var. *georgianus* (Harper) Fern.]; Georgia bulrush; wetlands

Dioscoreaceae

- Dioscorea quaternata* J.F. Gmel.; four-leaf yam; moist forests and shaded roadsides
Dioscorea villosa L.; wild yam; moist forests throughout and shaded roadside banks

Dipsacaceae

- **Dipsacus fullonum* L. [*Dipsacus sylvestris* Huds.]; teasel; open areas and roadsides
**Dipsacus laciniatus* L.; cut-leaf teasel; open areas and roadsides

Elaeagnaceae

**Elaeagnus umbellata* Thunb.; autumn olive; open areas, edges of woods, roadsides and skidroads

Ericaceae

Chimaphila maculata (L.) Pursh; spotted wintergreen; dry forests at low elevations

Epigaea repens L.; trailing arbutus; dry forests and roadsides

Gaultheria procumbens L.; eastern teaberry or wintergreen; dry open forests, more common a low elevations

Gaylussacia baccata (Wangenh.) K. Koch; black huckleberry; moist open forests

Kalmia latifolia L.; mountain laurel; dry open forests

Menziesia pilosa (Michx.) Juss.; minniebush; moist forests, especially at high elevations

Oxydendrum arboreum (L.) DC.; sourwood; dry open forests at high elevations

Pyrola americana Sweet; American wintergreen; open forests, usually associated with sandy soils

Rhododendron calendulaceum (Michx.) Torr.; flame azalea; moist forests throughout but more common at mid to upper slope positions

Rhododendron maximum L.; great laurel or rosebay rhododendron; moist forests on side slopes and along streams

Rhododendron perichlymenoides (Michx.) Shinnars [*R. nudiflorum* (L.) Torr.]; pink azalea or pinxter flower; open forests throughout

Vaccinium angustifolium Ait.; late lowbush blueberry; moist forests, especially at high elevations

Vaccinium pallidum Ait. [*V. vacillans* Torr.]; early lowbush blueberry; dry open forests throughout, usually associated with relatively acidic soils

Vaccinium stamineum L.; deerberry; moist forests, usually fairly open

Fabaceae

Amphicarpaea bracteata (L.) Fern.; American hog-peanut; moist forests on lower side slopes

Apios americana Medik.; groundnut; disturbed open forests and roadsides

Desmodium nudiflorum (L.) DC.; naked-flower tick-trefoil; dry forests throughout

Lespedeza repens (L.) Bart.; creeping bush clover; dry roadside banks

**Melilotus officinalis* (L.) Lam.; yellow sweet clover; roadsides and skidroads

Robinia pseudoacacia L.; black locust; moist, usually disturbed forests at low elevations

**Trifolium campestre* L.; lesser hop clover; skidroads

**Trifolium hybridum* L.; alsike clover; skidroads

**Trifolium incarnatum* L.; crimson clover; roadsides

**Trifolium pratense* L.; red clover; open areas and roadsides

**Trifolium repens* L.; white clover; open areas and roadsides

Trifolium stoloniferum Muhl. ex Eat.; running buffalo clover; open areas that are disturbed and skidroads

Fagaceae

Castanea dentata (Marsh.) Borkh.; American chestnut; dry forests, mostly on southern exposures

Fagus grandifolia Ehrh.; American beech; moist forests throughout but most common on lower side slopes

Quercus alba L.; white oak; dry forests throughout
Quercus coccinea Muenchh.; scarlet oak; dry forests, mostly on southern exposures
Quercus prinus L.; chestnut oak; dry forests throughout but more common at low elevations
Quercus rubra L.; red oak; moist forests throughout but more common at high elevations
Quercus velutina Lam.; black oak; dry forests, usually on southern exposures

Fumariaceae

Corydalis flavula (Raf.) DC.; yellow fumewort; open forests and forest edges on rocky sites
Dicentra canadensis (Goldie) Walp.; squirrel corn; moist forests throughout
Dicentra cucullaria (L.) Bernh.; Dutchman's breeches; moist forests throughout

Geraniaceae

Geranium maculatum L.; wild geranium; moist open forests at low elevations and roadsides

Grossulariaceae

Ribes cynosbati L.; eastern prickly gooseberry; rocky sites in rich moist forests, usually at high elevations

Hamamelidaceae

Hamamelis virginiana L.; witchazel; moist forests throughout but most common at high elevations

Hydrangeaceae

Hydrangea arborescens L.; wild hydrangea; moist forests and shaded roadsides

Hydrophyllaceae

Hydrophyllum canadense L.; Canadian waterleaf; moist forests throughout
Hydrophyllum virginianum L.; Virginia waterleaf; moist forests throughout but most common at low elevations
Phacelia dubia (L.) Trel.; small-flowered phacelia or scorpion weed; moist forests

Iridaceae

Sisyrinchium angustifolium P. Mill.; narrow-leaf blue eyed grass; open areas, often grassy

Juglandaceae

Carya alba (L.) Nutt. ex Ell. [*C. tomentosa* Nutt.]; mockernut hickory; moist forests throughout
Carya glabra (P. Mill.) Sweet; pignut hickory; moist forests throughout
Carya laciniosa (Michx. f.) G. Don; shellbark hickory; moist forests at low elevations but not common
Carya ovata (P. Mill.) K. Koch; shag-bark hickory; moist forests throughout
Juglans cinerea L.; white walnut; moist forests at low elevations but not common
Juglans nigra L.; black walnut; moist forests at low elevations

Juncaceae

Juncus effusus L.; lamp rush or spike rush; wetlands and moist places along roadsides

Juncus tenuis Willd.; poverty rush or path rush; disturbed areas and roadsides

Luzula multiflora (Ehrh.) Lej.; common wood rush; moist forests

Lamiaceae

Agastache scrophulariifolia (Willd.) Kuntz; purple giant hyssop; moist forests

Blephilia hirsuta (Pursh) Benth.; hairy pagoda-plant; moist forests on upper slopes

Collinsonia canadensis L.; richweed or horsebalm; moist forests throughout

Galeopsis tetrahit L.; brittle-stem hemp nettle; disturbed areas and roadside banks

**Glechoma hederacea* L.; groundivy; open areas and roadside banks throughout

**Lamium purpureum* L.; red henbit; open areas and roadsides at low elevations

Lycopus virginicus L.; Virginia water-horehound; moist open areas

**Mentha x piperita* L.; peppermint; moist places along roadsides at low elevations

Monarda clinopodia L.; white bergamot; moist forests, forest edges and roadsides

Monarda didyma L.; scarlet beebalm; moist places at forest edges and along roadsides

**Nepeta cataria* L.; catnip; disturbed open areas at low elevations

Prunella vulgaris L.; common self heal or heal-all; disturbed open areas, roadsides and skidroads

Salvia lyrata L.; lyre-leaf sage; dry forests and open areas

Scutellaria ovata Hill; heart-leaf skullcap; rocky areas in moist forests

Lauraceae

Lindera benzoin (L.) Blume; spicebush; moist forests, often near streams

Sassafras albidum (Nutt.) Nees; sassafras; dry open forests throughout

Liliaceae

Allium cernuum Roth; nodding onion; open forests throughout

Allium tricoccum Ait.; ramp; moist forests on side slopes throughout

**Allium vineale* L.; crow garlic; open areas, usually disturbed

Chamaelirium luteum (L.) Gray; fairywand; moist open areas and roadsides

Clintonia borealis (Ait.) Raf.; yellow bluebead-lily; moist forests at high elevations

Clintonia umbellulata (Michx.) Morong.; white bluebead lily or Clinton's lily; moist forests at low elevations

Erythronium americanum var. *americanum* Ker-Gawl; American trout-lily; moist forests throughout but more common at mid to low elevations

Lilium canadense L.; Canada lily; shaded roadside banks and edges of forests at high elevations but not common

Lilium superbum L.; turk's cap lily; moist forests throughout

Maianthemum canadense Desf.; false lily-of-the-valley or Canada mayflower; moist forests at high elevations

Maianthemum racemosum (L.) Link [*Smilacina racemosa* (L.) Desf.]; feathery false solomon's seal; moist forests and shaded roadside banks

Medeola virginiana L.; indian cucumber root; moist forests, more common at high elevations

Polygonatum biflorum (Walt.) Ell.; king solomon's seal or smooth solomon's seal; moist forests throughout

Polygonatum pubescens (Willd.) Pursh; hairy solomon's seal; moist forests throughout

Prosartes lanuginosa (Michx.) D. Don [*Disporum lanuginosum* (Michx.) Nichols.]; yellow fairybells; moist forests throughout

Smilax ecirrata L.; upright carrion flower; dry open forests but not common

Smilax glauca Walt.; sawbrier; dry open forests throughout

Smilax herbacea L.; smooth carrion-flower or herbaceous greenbrier; moist forests

Smilax rotundifolia L.; horsebrier; dry open forests throughout

Smilax tamnoides L. [*Smilax hispida* Muhl. ex Torr.]; Chinaroot or hispid greenbrier; open forests

Streptopus roseus Michx.; rosy twisted stalk; moist forests at high elevations

Trillium erectum L.; stinking Benjamin, erect trillium or wake robin; moist forests on lower side slopes

Trillium grandiflorum (Michx.) Salisb.; large-flower wake robin or large flowered trillium; moist forests and roadside banks

Trillium undulatum Willd.; painted wakerobin; moist forests throughout but more common at high elevations

Uvularia grandiflora Sm.; large-flower bellwort; moist forests throughout

Uvularia perfoliata L.; perfoliate bellwort; moist forests throughout

Uvularia puberula Michx. [*Uvularia pudica* (Walt.) Fern.]; mountain bellwort; moist forests throughout

Uvularia sessilifolia L.; sessile bellwort; moist forests throughout

Veratrum viride Ait.; American false hellbore; wetlands and moist places along streams

Magnoliaceae

Liriodendron tulipifera L.; yellow-poplar; moist forests throughout but generally more common at low elevations

Magnolia acuminata (L.) L.; cucumber magnolia; moist forests throughout

Magnolia fraseri Walt.; Fraser magnolia; moist forests at high elevations, usually on northern exposures

Malvaceae

**Hibiscus trionum* L.; flower-of-an-hour; disturbed open areas at low elevations

Monotropaceae

Monotropa hypopithys L.; many-flowered Indian pipe or pinesaps; dry forests, usually containing at least some pine

Monotropa uniflora L.; one flowered Indian pipe; moist forests throughout

Oleaceae

Fraxinus americana L.; white ash; moist forests throughout but most common on lower side slopes

Fraxinus pennsylvanica Marsh.; green ash; moist forests at low elevations but not common

Onagraceae

Circaea alpina L.; small enchanter's nightshade; moist forests at high elevations

Circaea lutetiana L.; broad-leaf enchanter's nightshade; moist forests, usually at mid to lower elevations

Epilobium coloratum Biehler; purple-leaf willowherb; moist forests at low elevations

Oenothera parviflora L.; northern evening primrose; dry open roadsides

Orchidaceae

Aplectrum hyemale (Muhl. ex Willd.) Torr.; Adam-and-Eve or puttyroot; moist forests at low elevations, often near a stream

Cypripedium acaule Ait.; pink lady's slipper; moist forests, often on rocky sites

Galearis spectabilis (L.) Raf. [*Orchis spectabilis* L.]; showy orchid; moist forests at low elevations but not common

Goodyera pubescens (Willd.) R. Br. ex Ait. f.; downy rattlesnake plantain; moist forests throughout but more common on mid to lower side slopes

Platanthera psycodes (L.) Lindl.; lesser purple fringed orchid; moist forests

Tipularia discolor (Pursh) Nutt.; crippled crane-fly; moist forests

Triphora trianthophora (Sw.) Rydb.; threebirds or nodding pogonia; moist forests at low elevations but not common

Orobanchaceae

Conopholis americana (L.) Wallr. f.; squawroot; dry forests containing at least some oak

Epifagus virginiana (L.) Bart.; beechdrops; moist forests containing at least some beech

Oxalidaceae

Oxalis grandis Small; great yellow wood sorrel; dry open forests

Oxalis montana Raf.; sleeping-beauty; moist forests at high elevations

Oxalis stricta L.; upright yellow wood sorrel; dry open forests

Papaveraceae

Sanguinaria canadensis L.; bloodroot; moist forests at low elevations and shaded roadside banks

Phytolaccaceae

Phytolacca americana L.; American pokeweed; disturbed forests at low elevations but more common in open areas, roadsides and skidroads

Plantaginaceae

**Plantago lanceolata* L.; English plantain; open areas and roadsides

**Plantago major* L.; great plantain; roadsides and disturbed open areas

Plantago rugelii Dcne.; black-seed plantain; open areas and roadsides

Platanaceae

Platanus occidentalis L.; American sycamore; along streams at low elevations

Poaceae

- Agrostis perennans* (Walt.) Tuckerman; upland bent grass; open areas and roadsides
- **Agrostis stolonifera* L. [*Agrostis palustris* Huds.]; spreading bent grass; introduced to some open grassy areas
- **Anthoxanthum aristatum* Boiss. [*Anthoxanthum puelii* Lecoq & Lamotte]; small sweet vernal grass; open areas at low elevations, usually disturbed sites
- Brachyelytrum erectum* (Schreb. ex Spreng.) Beauv.; bearded short-husk; mesic forests on side slopes
- Danthonia compressa* Austin ex Peck; flattened wild oat grass; dry forests throughout
- Dichanthelium boscii* (Poir.) Gould & Clark [*Panicum boscii* Poir.]; bosc's rosette grass; dry forests
- Dichanthelium clandestinum* (L.) Gould [*Panicum clandestinum* (L.) Gould]; deer tongue grass; moist open areas, usually near streams
- Dichanthelium commutatum* (J.A. Schultes) Gould [*Panicum commutatum* J.A. Schultes]; variable rosette grass; dry forests
- Dichanthelium dichotomum* (L.) Gould [*Panicum dichotomum* L.]; cypress rosette grass; dry open forests
- Dichanthelium latifolium* (L.) Gould & C.A. Clark; broad-leaf rosette grass; dry rocky forests
- Digitaria ischaemum* (Schreb.) Schreb. ex Muhl.; smooth crab grass; disturbed open areas
- Echinochloa crus-galli* (L.) Beauv.; large barnyard grass; open areas and moist places along roadsides
- Elymus hystrix* L. var. *hystrix* [*Hystrix patula* Moench]; eastern bottle-brush grass; moist forests and shaded roadside banks
- **Lolium perenne* L.; perennial rye grass; open areas and dry roadside banks
- **Microstegium vimineum* (Trin.) A. Camus; Nepalese browntop or Japanese stiltgrass; roadsides and open areas
- Muhlenbergia sylvatica* (Torr.) Torr.; woodland muhly; moist rocky forests and roadside banks
- **Poa compressa* L.; flat-stem blue grass; open areas and dry roadside banks
- **Setaria faberi* Herrm.; Japanese bristle grass; disturbed open areas
- **Setaria glauca* (L.) Beauv.; yellow foxtail, yellow bristle grass; disturbed areas
- **Setaria viridis* (L.) Beauv.; green bristle grass; disturbed open areas

Polemoniaceae

- Phlox divaricata* L.; wild blue phlox; moist forests throughout but most common on lower side slopes
- Phlox stolonifera* Sims; creeping phlox; moist forests throughout

Polygalaceae

- Polygala paucifolia* Willd.; gaywings; dry open forests, usually associated with rather acidic soils

Polygonaceae

- **Fagopyrum esculentum* Moench [*Fagopyrum sagittatum* Gilib.]; garden buckwheat; waste places and forest edges at low elevations
- Polygonum hydropiper* L.; mild water-pepper; moist places, usually near streams
- Polygonum hydropiperoides* Michx.; swamp smartweed; moist places
- **Polygonum persicaria* L.; lady's thumb; disturbed open areas
- Polygonum sagittatum* L.; arrow-leaf tearthumb; moist places including along roadsides and skidroads

**Rumex acetosella* L.; common sheep sorrel; fields, roadsides and disturbed areas

**Rumex crispus* L.; curly dock; open areas, usually disturbed

Portulacaceae

Claytonia caroliniana Michx.; Carolina spring-beauty; moist forests throughout

Claytonia virginica L.; Virginia spring-beauty; moist forests throughout

Primulaceae

Lysimachia ciliata L.; fringed yellow loosestrife; edges of moist forests

**Lysimachia nummularia* L.; creeping jenny; moist roadsides

Lysimachia quadrifolia Sims; whorled yellow loosestrife; open forests on southern exposures

Trientalis borealis Raf.; maystar; moist forests at high elevations

Ranunculaceae

Aconitum reclinatum Gray; trailing white monkshood; moist places at high elevations

Actaea pachypoda Ell.; white baneberry or doll eyes; moist forests throughout but most common on lower side slopes

Actaea podocarpa DC. [*Cimicifuga americana* Michx.]; mountain bugbane; moist forests

Actaea racemosa L. [*Cimicifuga racemosa* (L.) Nutt.]; black cohosh; moist forests throughout

Anemone lancifolia Pursh; mountain thimbleweed; moist forests

Anemone quinquefolia L.; nightcaps; moist forests throughout

Anemone virginiana L.; tall thimbleweed; open forests and roadside banks

Aquilegia canadensis L.; red columbine; rocky roadside banks

Clematis virginiana L.; virgin's bower; edges of forests and roadsides

Hepatica nobilis var. *acuta* (Pursh) Steyermark [*Hepatica acutiloba* DC.]; hepatica or liverwort; moist forests on lower side slopes

Hydrastis canadensis L.; goldenseal; moist forests but not common

Ranunculus abortivus L.; kidney-leaf buttercup; moist forests throughout

**Ranunculus bulbosus* L.; St. Anthony's turnip or bulbous buttercup; along roadsides

Ranunculus hispidus var. *nitidus* (Chapman) T. Duncan [*Ranunculus septentrionalis* Poir.]; bristly buttercup; dry forests

Ranunculus recurvatus Poir.; blisterwort; lower side slopes and low wet areas

Ranunculus sceleratus L.; cursed buttercup; moist places along roadsides

Thalictrum dioicum L.; early-meadow rue; moist roadside banks

Rosaceae

Agrimonia gryposepala Wallr.; tall hairy groove burr; moist forests

Agrimonia parviflora Ait.; harvestlice; dry forests throughout

Amelanchier arborea (Michx. f.) Fern.; serviceberry; moist forests throughout

Amelanchier laevis Wieg.; Allegheny serviceberry; moist open forests

Aruncus dioicus (Walt.) Fern.; bride's feathers; moist roadside banks

Crataegus crus-galli L.; cock-spur hawthorn; open forests, usually disturbed

Crataegus phaenopyrum (L. f.) Medik.; Washington hawthorn; disturbed areas at low elevations

Fragaria virginiana Duchesne; Virginia strawberry; open areas and roadside banks
Geum laciniatum Murr.; rough avens; forest edges and moist roadsides
Geum virginianum L.; white avens; dry open forests
*Porteranthus trifoliatu*s (L.) Britt. [*Gillenia trifoliata* (L.) Moench]; bowman's root; moist roadside banks and forest edges
Potentilla canadensis L.; dwarf cinquefoil; dry open forests and roadside banks
Potentilla simplex Michx.; oldfield cinquefoil; open roadside banks
Prunus pensylvanica L. f.; fire cherry; forest edges at high elevations and roadsides
Prunus serotina Ehrh.; wild black cherry; moist forests throughout but relatively more important at high elevations
Rosa multiflora Thunb. ex Murr.; multiflora rose; open areas, roadsides and skidroads
Rubus allegheniensis Porter; Allegheny blackberry; open areas, dry roadsides and skidroads
Rubus odoratus L.; purple-flowering raspberry; open forests, forest edges, and roadsides
 **Rubus phoenicolasius* Maxim.; wine raspberry; roadsides
Sorbus americana Marsh.; American mountain ash; moist forests but more common at high elevations

Rubiaceae

Galium aparine L.; sticky-willy; moist forests throughout
Galium asperellum Michx.; rough bedstraw; moist forests throughout
Galium boreale L.; northern bedstraw; rocky areas in moist forests at high elevations
Galium circaezans Michx.; licorice bedstraw; dry forests
Galium latifolium Michx.; purple bedstraw; dry forests
Galium pilosum Ait.; hairy bedstraw; dry forests
Galium triflorum Michx.; fragrant bedstraw; moist forests on mid to upper side slopes
Houstonia caerulea L.; quaker-ladies; open areas, usually grassy
Mitchella repens L.; partridge-berry; moist forests, more common at high elevations

Salicaceae

Populus grandidentata Michx.; big-tooth aspen; moist forests
Populus tremuloides Michx.; quaking aspen; forest edges at the very highest elevations
Salix nigra Marsh.; black willow; moist forests along streams

Santalaceae

Pyrularia pubera Michx.; buffalo-nut; moist forests

Saxifragaceae

Chrysosplenium americanum Schwein. ex Hook.; American golden-saxifrage; roadside ditches and seeps
Heuchera americana L.; alumroot; dry open forests
Heuchera villosa Michx.; hairy alumroot; rocky outcrops
Mitella diphylla L.; two-leaf bishop's cap or miterwort; moist forests and shaded roadsides
Saxifraga micranthidifolia (Haw.) Steud.; lettuce-leaf saxifrage; moist places along streams
Tiarella cordifolia L.; heart-leaf foamflower; moist forests and shaded roadside banks

Scrophulariaceae

Aureolaria virginica (L.) Pennell; downy yellow false foxglove; open forests

Chelone glabra L.; white turtlehead; moist places along streams

Pedicularis canadensis L. var. *canadensis*; Canadian lousewort; dry open areas and roadside banks

**Verbascum thapsus* L.; great mullein; open areas and dry roadside banks

**Veronica arvensis* L.; corn speedwell; disturbed open areas at low elevations

Simaroubaceae

**Ailanthus altissima* (P. Mill.) Swingle; tree-of-heaven; disturbed open areas at low elevations

Solanaceae

Physalis heterophylla Nees; clammy ground cherry; open areas at low elevations

Solanum carolinense L. var. *caroliniense*; Carolina horse nettle; open areas and dry roadsides

**Solanum dulcamara* L.; climbing nightshade; moist open areas

Staphyleaceae

Staphylea trifoliata L.; American bladdernut; moist forests on upper slopes but not common

Thymelaeaceae

Dirca palustris L.; eastern leatherwood; moist forests but not common

Tiliaceae

Tilia americana L.; American basswood; moist forests throughout but generally more common at low elevations

Typhaceae

Typha latifolia L.; broad leaf cattail; wetlands and moist places along roadsides

Ulmaceae

Ulmus americana L.; American elm; moist forests at low elevations but not common

Ulmus rubra Muhl.; slippery elm; moist forests at low elevations

Urticaceae

Boehmeria cylindrica (L.) Sw.; false nettle; moist forests

Laportea canadensis (L.) Wedd.; wood nettle; moist forests on lower side slopes

Pilea pumila var. *pumila* (L.) Gray; Canadian clearweed; moist forests on lower side slopes

Verbenaceae

Phryma leptostachya L.; American lopseed; moist forests on upper side slopes but not common

Verbena urticifolia L.; white vervain; wetlands

Violaceae

Viola blanda Willd.; sweet white violet; moist forests throughout

Viola canadensis L.; Canadian violet; moist forests throughout
Viola cucullata Ait.; wetland violet; wet places along streams
Viola hastata Michx.; halbeard-leaf violet; moist forests throughout
Viola macloskeyi ssp. *pallens* (Banks ex Ging) M.S. Baker; smooth white violet; wet places at high elevations
Viola x palmata L.; early blue violet; dry forests and roadside banks
Viola pubescens var. *pubescens* Ait.; downy yellow violet; dry forests at high elevations
Viola rotundifolia Michx.; round-leaf yellow violet; moist forests and shaded roadside banks
Viola sagittata Ait.; arrow-leaf violet; roadsides
Viola sororia Willd.; common blue violet; moist forests
Viola striata Ait.; striped cream violet; moist forests
Viola triloba Schwein.; three-lobed violet; moist forests on mid to upper side slopes

Vitaceae

Parthenocissus quinquefolia (L.) Planch.; Virginia creeper; throughout but most common in rocky or disturbed forests at low elevations
Vitis aestivalis Michx.; summer grape; throughout but more common in disturbed forests at low elevations

Coxe, Robert B.; Stephenson, Steven L.; Madarish, Darlene M.; Miller, Gary W.
2006. **Vascular flora of the Fernow Experimental Forest and adjacent portions of the Otter Creek Wilderness Area.** Gen. Tech. Rep. NE-344.
Newtown Square, PA: U.S. Department of Agriculture, Forest Service,
Northeastern Research Station. 23 p.

The vascular flora of the region we considered include 94 families representing at least 461 species. Fifty-four of these or nearly 12 percent are species known to have been introduced. Asteraceae (46 species) is the single largest family; Cyperaceae (31), Liliaceae (29), Poaceae and Rosaceae (20 each) also are important families in the general study area. The 461 species of vascular plants recorded constitute only 17.2 percent of the total species (2,683) known from the State of West Virginia but account for a larger proportion (31.5 percent) of all species known from Tucker County or Randolph County.

KEY WORDS: Appalachians, plant community, mixed mesophytic forest.





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