

**Deveaux Woods** (Niagara Falls) An old-growth forest of approximately 10 acres is present on the former Deveaux College campus of Niagara University, located along the Robert Moses Parkway, a short distance from the Niagara gorge. Here one can "step back in time" to see what much of Western New York was like prior to European settlement. The site is dominated by white, red and black oak trees and supports a fair diversity of shrub, herb, moss, lichen, and mushroom species (Western New York Old Growth Forest Survey 1994). The site is currently owned by the New York State Office of Parks, Recreation, and Historic Preservation. This old growth forest deserves permanent protection.

**Flora of DeVeaux College Woods,  
Niagara Falls New York**

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Every shrub, tree or herb in the Niagara River Gorge and Falls area is of historic importance. The vegetation is the matrix within which human beings have discovered the soul-stirring spectacle of the Falls, and is an inextricable part of the Canadian and American national treasure that is the Niagara River. It is within the forest canopy that the Seneca interacted with the French, the British, the (Revolutionary) Americans and (Loyalist) Canadians; within its greenery that economic features developed according to the genius of the national temperaments of two nations, and the international struggle to keep the Niagara woodlands took shape in the mid to later 1800's. That struggle continues.

The Niagara River is a cradle where species of plants found and still find protection throughout changes in climate over the past 8,000 years since glaciation, where boreal and southern species, native and garden varieties take root and persist. The flora had and has an impressive diversity for such a small area. The Gorge provides a variety of habitats that attract different species associations: around seeps; dry, exposed areas (crest of the gorge at Whirlpool Park); protected areas of late snow-melt (Niagara Glen). There are large areas of primary woodland (Gorge wall, Ontario side), and areas of woodland composed of alien trees (old Gorge train route, American side). Within a region where the primary forest cover is a Beech-Maple- Hemlock- Birch association of trees, there are significant areas of Oak-Hickory woodlands, typical of more and lands to the south of New York State. The woods associated with old DeVeaux College, now owned by Niagara University, is an example of the latter.

Very little of the original forest cover remains on the American side of the River. Goat Island, although once considered a primeval woodland, is no longer so. Most of the woodland at the River's edge at the base of the Gorge is replacement woods regenerating after denudation to provide a bed for the famous Gorge Route Railway. Devil's Hole, since it lost its natural spring due to encapturement of ground water associated with the Robert Moses Power Project, has become more arid, with a probable loss of species diversity and abundance there. Although not every area of the American gorge has been examined by the author (e.g. the area between the Sewage Treatment plant and the American Falls at the base of the Gorge; the base of Goat Island), I believe it is safe to say that DeVeaux College woods is the oldest, most unaltered woodland along the entire American Gorge, including the Falls area, at the present time.

DeVeaux College woods lies in the City of Niagara Falls, Niagara County, New York State, U.S.A., in the suburb of DeVeaux (formerly called Suspension Bridge). It is bordered to the south by Findlay Drive, to the west by the Robert Moses Parkway and Whirlpool State Park, to the north by a row of high quality private residences, and to the east by the DeVeaux College building complex, a National Register property (now owned by Niagara University), this fronted by Main Street: a major thoroughfare. There are 50 acres of University land, of which the woods occupies ca. 2-3 acres. The woods is bisected north-south by a fence, the eastern section belonging to the University, and the western section to agencies that own the land over which the Parkway lays: presumably the Power Authority of the State of New York, maintained by the New York State Department of Transportation. Highway maintenance may be administratively secondary to the administration of the Niagara Reservation (New York State Dept. of Parks), which manages Power Authority lands in and adjacent to the Gorge. The woods is again bisected east and west by an open area of deforested lawn in which alien weeds and horticultural trees, such as Honey Locust (*Gleditsia triacanthos*), Black Locust (*Robinia pseudacacia*), and endemic weedy vegetation (Staghorn Sumac (*Rhus typhina*), *Solidago* and *Aster spa.*) have sprung up. Both woods sections display an interesting variation in species composition, mainly due to moisture availability, and how deep the soils

are overlaying the dolomite substratum: Red Oaks dominate some areas solely, but to the north, Maples and Beech begin to increase in numbers. Both sections contain indigenous species of mature forest in their midst. The woods grow on what seems to be an old terrace of the Niagara River; the slope of the south section is rather pronounced. There is a rather crude gravestone at the top of the slope in the south section commemorating the death of a child.

The historic geographic extent of DeVeaux Woods could not be determined by this printing, but by the late 1800's it was a unique floristic area of interest to local botanists from Erie (David F. Day) and Niagara Counties (Marion Jessup Wright and Edward C. Townsend of Lockport). Charles A. Zenkert, who, along with Day, was a researcher for the Buffalo Society of Natural Sciences (Buffalo Museum of Science), also collected in DeVeaux woods in the 1930's. When Day was asked by the Commissioners of the Niagara Reservation in 1886 to provide them with a catalogue of the Fall's flora, species from DeVeaux Woods were mentioned along with those from Goat Island, Whirlpool Woods (presumably at the base of the gorge, since there is no native flora of the present Whirlpool State Park, except for what exists on the very Gorge crest), Devil's Hole and Lewiston. The wood's boundaries must have extended west of the current property limits (the fence), and perhaps was curtailed by construction of the Robert Moses Parkway and adjacent lawns by the State of New York in the early 1960's. The occurrence of some species that cling to the exposed limestone on the Gorge rim, now in Whirlpool State Park, and which occur in the catalogue below (*Rhus aromatica*, *Pellaea atropurpurea*) may indicate the woodland once extended to the rim boundary, an area that is now mown lawn with isolated trees. Research into the past floristic character of this scientifically important woodland will be difficult since the Woods had no scenic association, as did other woodlands in the Gorge area, hence popular writings, photographs and other depictions of the area will be scarce in comparison.

The following is a list of the species given in the literature as having occurred at DeVeaux woods, and list of the specimens, collectors and dates or collecting numbers of plants collected in the woods. These specimens are curated in the Clinton Herbarium of the Buffalo Museum of Science, where they may be examined by the interested public.

My own contributions represent the status of the flora in 1985. It is fairly complete, but represents only one year of collecting, and doesn't represent all seasons. This list is offered here with discussion only to bring to public attention the character and value of the woods vegetation, since the woods is in danger of deforestation. Addenda to the species list will be published in future issues of *Clintonia*.

Many taxa reported by myself here are represented in 1985 by severely restricted populations (e.g. *Aster azureus* (rare), *Thalictrum dioicum*, *Hamamelis virginiana* or WITCH HAZEL), *Taenidia integerrima*). Further habitat disturbance will eliminate these species entirely from this woodland remnant, and perhaps from the Gorge flora altogether. In the case of *Hamamelis virginiana*, only one tree exists throughout the area of the Niagara Falls and Gorge south of Artpark (in Lewiston, New York); *Aster azureus* has only been found here, as has *Ranunculus hispidus*.

A horticultural program by Niagara University, by the Niagara County Community College, or New York State Department of Parks, Recreation and Historic Preservation could oversee the gathering of viable seeds from this stock, grow them and otherwise assist in revegetating the old, and still significant, woodland.

The nomenclature of publications cited below (Day 1888; Zenkert 1934) has been made to conform with that of Zander and Pierce (1979).

*Acalypha rhomboidea* Raf. THREE-SEEDED MERCURY. Alien. Day (1888); Eckel 280685, 1985.

*Acer oaccharum* Marsh. SUGAR MAPLE. Abundant in DeVeaux woods, with saplings, Eckel 270685, 1985.

*Actaea rubra* (Ait.) Willd. RED BANE BERRY. forma *neglecta* (Gilman) Robinson, Day (1888).

*Agastache nepetoides* (L.) Ktze. GIANT YELLOW HYSSOP. Day (1888). Rare in Canada; threatened in Wisconsin, rare in Minnesota, Argus & White, 1977. Listed as rare in Zander & Pierce (1979).

*Agrostis hyemalis* (Walt.) BSP. WINTER BENTGRASS. Near DeVeaux College, Day (1888).

*Alliaria officinalis* Andrzej. GARLIC MUSTARD. Eckel 2253185, 1985. Listed as rare in 1934 by Zenkert (1934).

*Anaphalis margaritacea* Benth. & Hook. COMMON PEARLY EVERLASTING. Day (1888).

*Andropogon gerardii* Vitm. BIG BLUEGRASS. Day (1888).

*Andropogon scoparius* Michx. BROOM BEARD GRASS. Day (1888).  
*Anemone virginiana* L. TALL ANEMONE, THIMBLE-WEED. Day (18M).  
*Apocynum androsaemifolium* L. DOGBANE. Day (1888).  
*Arabis drummondii* Gray DRUMMOND'S ROCK CRESS. "DeVeaux College woods, Suspension Bridge." E. C. Townsend, May 8, 1896. Listed as rare in Zander & Pierce (1979).  
*Arabis hirsuta* (L.) Scop. HAIRY ROCK CRESS. Day (1888). "DeVeaux College Woods, Suspension Bridge," E. C. Townsend, May 22, 1896.  
*Arctium minor* Schk. SMALLER BURDOCK. Eckel 72285, 1985. Alien. Woods margin.  
*Arisaema triphyllum* (L.) Schott. var. triphyllum. INDIAN TURNIP. Abundant, Eckel 305318, 1985.  
*Asclepias quadrifolia* Jacq. FOUR-LEAVED MILKWEED. Day (1888). E. C. Townsend, 1896, Zenkert (1934). Listed as rare by Zander & Pierce (1979).  
*Asclepias syriaca* L. COMMON MILKWEED. Eckel 110485, 1985.  
*Asclepias verticillata* L. WHORLED MILKWEED. Day (1888). "DeVeaux College Woods behind Whirlpool Park," Marion Jessup Wright, June 27, 1896. Listed as rare by Zander & Pierce (1979).  
*Asplenium platyneuron* (L.) Oakes. EBONY SPLEENWORT. Day (1888). Listed as rare by Zander & Pierce (1979). Protected by New York State law, Zander & Pierce (1979).  
*Asplenium trichomanes* L. MAIDENHAIR SPLEENWORT. Day (1888). Listed as rare by Zander & Pierce (1979). Protected by New York State law, Zander & Pierce (1979).  
*Aster azureus* Lindl. SKY-BLUE ASTER. Day (1888). Listed as rare by Zander & Pierce (1979). A small population was found in the down-river woods section, Eckel 132285, 1985.  
*Aster cordifolius* L. HEART LEAVED ASTER. Day (1888).  
*Aster ericoides* L. HEATH ASTER. Day (1888). Eckel 1101985, 1985.  
*Aster laevis* L. SMOOTH ASTER. Day (1888). Downriver section of DeVeaux woods, Eckel 182285, 1985.  
*Aster lateriflorus* (L.) Britt. CALICO ASTER. Downriver section of DeVeaux woods, Eckel 52285, 1985.  
*Aster macrophyllus* L. BIGLEAF ASTER. Day (1888).  
*Aster novae-angliae* L. NEW ENGLAND ASTER. Downriver section of DeVeaux woods, Eckel 162285, 1985.  
*Aster patens* Ait. var. phlogifolius Nees Day (1888). "...but no corresponding specimen found in Gen. Herb," Zenkert (1934)  
*Aster ptarmicoides* (Nees) Torr. and Cray. UPLAND WHITE ASTER. Near DeVeaux College. A species not common in our region, but here rather abundant," Day (1888).  
*Aster sagittifolius* Willd. ARROW-LEAVED ASTER. Eckel 122285, 1985,  
*Aster simplex* Willd. TALL WHITE ASTER. Day (1888).  
*Astragalus canadensis* L. CANADIAN MILK-VETCH. "Near DeVeaux College, above Whirlpool, 1896 (Miss Wright), Zenkert (1934).  
*Aureolaria flava* (L.) Farwell. SMOOTH FALSE FOXGLOVE. Day (1888)  
*Aureolaria virginica* (L.) Pennell. DOWNY FALSE FOXGLOVE. "DeVeaux woods, above Whirlpool," (Miss Wright, 1897; Johnson, 1924), Zenkert 1934.  
*Barbarea vulgaris* R. Br. WINTER CRESS. Single plant, Eckel 3453185, 1985. Alien.  
*Berberis thunbergii* D.C. Eckel 145,3185, 1985. Alien.  
*Bromus ciliatus* L. FRINGED BROME. Day (1888).  
*Bromus latiglumis* (Shear) Hitchc. TALL WOOD CHESS. Zenkert (1934).  
*Bromus purgans* L. HAIRY WOOD CHESS. Zenkert (1934).  
*Camptosorus rhizophyllus* (L.) Link. WALKING FERN. Day (1888).  
*Carex eburnea* Boott. BRISTLE-LEAVED SEDGE. Day (1888).  
*Carex laziflora* var. plantaginea Boott. Day (1888)  
*Carex platyphylla* Carey. Day (1888).  
*Carex straminea* Willd. STRAW SEDGE. Day 1888). Listed as rare by Zander & Pierce (1979).  
*Carex virescens* Muhl. DOWNY GREEN SEDGE. Day (1888). Listed as rare by Zander & Pierce (1979).  
*Carya tomentosa* (Poir.) Nutt. MOCKERNUT. Day (1888). Listed as rare by Zander & Pierce (1979).  
*Castanea dentata* (Marsh.) Borkh. Day (1888). Not observed in 1985, Eckel.  
*Ceanothus americanus* L. NEW JERSEY TEA. Zenkert (1934). Day (1888).  
*Chelidonium majus* L. CELANDINE. Eckel 2953185, 1985. Alien.

*Chimaphila umbellata* (L.) Bart. PIPSISSEWA. Day (1888).  
*Circaea quadrisulcata* var. *canadenis* (L.) Hara, ENCHANTER'S NIGHTSHADE. Abundant in both sections of DeVeaux woods, Eckel 242285, 1985.  
*Cirsium hillii* (Canby) Fern. PASTURE THISTLE. Day (1888).  
*Cirsium pumilum* (Nutt.) Spreng. PASTURE THISTLE. Day (1888). "The accuracy Of the report of this species from the Buffalo region has been questioned (See Rhodora 24: 88. 1922.)," Zenkert (1934). Listed as rare by Zander & Pierce (1979).  
*Conopholis americana* (L.) Wallr. CANCER ROOT. Four separate healthy colonies beneath mature Red Oak, Eckel 2543185, 1985. "Infrequent.... Abundant near DeVeaux College above Whirlpool," enkert (1934). Zenkert, July 16, 1932.  
*Convolvulus sepium* L, HEDGE BINDWEED. Day (1888).  
*Cornua alternifolia* L.f. ALTERNATE-LEAVED DOGWOOD. Eckel 290685, 1985.  
*Cornus florida* L. FLOWERING DOGWOOD. Day (1888). Rare in Canada; protected by New York State law, Argus & White 1977.  
*Cornus racemosa* Lam. PANICLED DOGWOOD. Day (1888).  
*Cornus stolonifera* Michx. RED OSIER DOGWOOD. Eckel 1953185, 1985.  
*Corylus cornuta* Marsh. BEAKED HAZELNUT. Day (1888).  
*Cynoglossum boreale* Fernald. NORTHERN WILD COMFREY. Day (1888).  
*Cypripedium calceolus* var. *pubescens* (Willd.) Correll. SMALL YELLOW LADIES SLIPPER. Day (1888). Protected by New York State law, Zander & Pierce (1979).  
*Cystopteris fragilis* (L.) Bernh. BRITTLE BLADDER FERN. Day (1888).  
*Dactylis glomerata* L. ORCHARD GRASS. Eckel 1985. Alien.  
*Danthonia spicata* (L.) Beauv. POVERTY DANTHONIA. Day (1W).  
*Dentaria laciniata* Muhl. Eckel, April 23, 1982.  
*Deschampsia flexuosa* (L.) Trin. COMMON HAIR GRASS. Day (1888). Listed as rare by Zander & Pierce (1979).  
*Desmodium dillenii* Darl. DILLEN'S TICK TREFOIL. Day OW).  
*Desmodium glutinosum* (Muhl.) Wood. STICKY TICK TREFOIL. Day (1M).  
*Desmodium nudiflorum* (L.) DC. NAKED-FLOWERED TICK TREFOIL. Day, 1888.  
*Desmodium paniculatum* (L.) DC. PANICLED TICK TREFOIL. Day (1888).  
*Desmodium rotundifolium* (Michx.) DC. ROUND-LEAVED TICK TREFOIL. Day (1888). Marrion Jessup Wright, July 14, 1897.  
*Disporum lanuginosum* (Michx.) Nichols. YELLOW MANDARIN. DeVeaux College Woods, Suspension Bridge. E.C.Townsend, May 8, 1896.  
*Elymus villosus* Muhl. SLENDER WILD RYE. Day (1888). Marion Jessup Wright, July 14, 1897.  
*Epilobium angustifolium* L. WILLOW HERB. Day (1888).  
*Erythronium americanum* Ker. ADDERS' TONGUE. Eckel 1353185, 1985.  
*Euonymus obovatus* Nutt. RUNNING STRAWBERRY BUSH. Several fine patches in the upriver woods, Eckel 250685, 1985. Protected by New York State law, Zander & Pierce, 1979.  
*Fagus grandifolia*, Ehrh. AMERICAN BEECH. Mature specimens, with saplings, Eckel 260685, 1985.  
*Festuca obtusa* Biehler. NODDING FESCUE. Day (1888).  
*Fragaria vesca* L. AMERICAN WOOD STRAWBERRY. Eckel, 1053185, 1985.  
*Galium boreale* L. NORTHERN BEDSTRAW. Day (1888). Zenkert (1934). Marion Jessup Wright, June 1, 1896.  
*Galium lanceolatum* Torr. LANCELEAF WILD LICORICE. Day (1888).  
*Galium pilosum* Ait. HAIRY BEDSTRAW. Day (1888). Listed as rare by Zander & Pierce (1979).  
*Galium triflorum* Michx. SWEETSCENTED BEDSTRAW. Day (1888). Zenkert, 1934.  
*Geranium maculatum* L. SPOTTED GERANIUM. Eckel 1453185, 1985.  
*Geranium robertianum* L. HERB ROBERT. Eckel 172285, 1985.  
*Gerardia tenuifolia* Vahl. SLENDER GERARDIA. Day (1888).  
*Glechoma hederacea* L. GILL OVER THE GROUND. Eckel 1653185, 1985. Alien.  
*Gleditsia triacanthos* L. HONEY LOCUST. Weedy section of the woods, Eckel 112285, 1985. Alien.  
*Gnaphalium obtusifolium* L. CUDWEED. Day (1888).

*Hamamelis virginiana* L. WITCHHAZEL. Eckel 1985. Day (1888). The single specimen seen in the up-river section of the woods is the only one I've seen throughout the American Niagara Gorge south of Artpark, Lewiston, Eckel 3353185, 1985.

*Helianthus strumosus* L. PALE-LEAVED SUNFLOWER. Day (1888).

*Hesperis matronalis* L. DAME'S ROCKET. Eckel 2853185, 1985. Alien.

*Hieracium canadense* Michx. CANADA HAWKWEED. Day (1M).

*Hieracium paniculatum* L. PANICLED HAWKWEED. Day (1888). Listed as rare by Zander & Pierce (1979).

*Hieracium scabrum* Michx. ROUGH HAWKWEED. Day (1888).

*Houstonia canadensis* Willd. FRINGED HOUSTONIA. Marion Jessup Wright, June 1, 1896.

*Hybanthus concolor* (R. Forster) Spreng. GREEN VIOLET. (Miss Wright, 1896), Zenkert (1934). Listed as rare by Zander & Pierce (1979).

*Hydrophyllum virginicum* L. VIRGINIA WATER LEAF. Eckel 5853185, 1985.

*Juglans nigra* L. BLACK WALNUT. Day (1888).

*Juncus tenuis* Willd. POVERTY RUSH. Along the path in the downriver section of the woods, Eckel 282285, 1985.

*Lathyrus ochroleucua* Hook. CREAM-COLORED VETCHLING. Elizabeth C. Rochester, May 25, 1889.

*Lepidium campestre* (L.) R. Br. FIELD PEPPER GRASS. Eckel 2653185, 1985. Alien.

*Lespedeza capitata* Michx. ROUND-HEADED BUSHCLOVER. Day (1888). Zenkert (1934).

*Lespedeza virginica* (L.) Britton Day (1888).

*Liatris cylindracea* Michx. BLAZING STAR. Day (1888). Listed as rare by Zander & Pierce 1979).

*Lilium philadelphicum* L. FIRE LILY. Day (1888). Protected by New York State law, Zander & Pierce (1979).

*Lithospermum latifolium* Michx. BROAD-FRAGRANT LEAVED GROMWELL. Day (1888). Listed as rare by Zander & Pierce (1979).

*Lonicera oblongifolia* (Goldie) Hooker. SWAMP FLY HONEYSUCKLE. Eckel 2453185, 1985. Listed as rare by Zander & Pierce (1979).

*Lonicera tatarica* L. TARTARIAN HONEYSUCKLE. "Well established," Day (1888). Eckel, 3753185, 1985. Alien.

*Lunaria annua* L. HONESTY. Eckel 2853185, 1985. Listed as rare in Zander & Pierce, 1979, but perhaps is best viewed as an ephemeral.

*Luzula acuminata* Raf. HAIRY WOOD-RUSH . Day (1M).

*Luzula campestris* DC. FIELD WOOD-RUSH. Day (1W).

*Lysimachia ciliata* L. FRINGED LOOSESTRIFE. Marion Jessup Wright, July 14, 1897.

*Melampyrum lineare* var. *americanum* (Michx.) Beauverd COW-WHEAT. Day (1888).

*Morus alba* L. WHITE MULBERRY. Downriver section, Eckel 222285, 1985. Alien.

*Morus rubra* L. RED MULBERRY. Day (1888).

*Orzopsis asperifolia* Mchx. MOUNTAIN RICE. Day (1M). "DeVeaux College Woods, Suspension Bridge," E. C. Townsend, May 22, 1896.

*Osmorhiza longistylis* (Torr.) DC. LONGSTYLED SWEET CICELY. Eckel 1753185, 1985.

*Ostrya virginiana* (Nfill.) K. Koch. AMERICAN HOP-HORNBEAM. Eckel 1985.

*Panicum dichotomum* L. FORKED PANICUM. Day (1888). "Rocky open woods overlooking Niagara Gorge near DeVeaux College on limestone," F. W. Johnson, Sept. 8, 1924.

*Panicum latifolium* L. BROADLEAVED PANICUM. Day (1888).

*Panicum virgatum* L. SWITCH GRASS. "Dry places near DeVeaux College. he latter an unusual situation," Day (1888).

*Barthenocissus quinquefolia* (L.) Planch. VIRGINIA CREEPER. Eckel 1553185, 1985.

*Pellaea atropurpurea* (L.) Link. PURPLE CLIFF BRAKE. Day (1888). Listed as rare by Zander & Pierce (1979). Protected by New York State law, Zander & Pierce (1979). Probably extirpated through overpicking, etc.

*Pinus strobus* L. WHITE PINE. "Goat Island a few specimens. More plentiful and of larger growth near DeVeaux College and below," Day (1M). No specimens observed in 1985, Eckel.

*Poa alsodes* Gray. GROVE MEADOW GRASS. Day (1888).

*Poa languida* Hitchc. TORREY BLUEGRASS. Day (1888).

*Podophyllum peltatum* L. MAYAPPLE. Some patches in downriver section DeVeaux woods, Eckel 262285, 1985.

*Polygala senega* L. SENECA SNAKEROOT. 1897 Mm Wright, Zenkert, 1934. Listed as rare by Zander & Pierce (1979).

*Polygala verticillata* L. Day (18M).

*Polypodium vulgare* L. var. *virginianum* (L.) Eat. COMMON POLYPODY. Day (18M). Protected by New York State law, Zander & Pierce, 1979.

*Polystichum acrostichoides* (Mchx.) Schott. CHRISTMAS FERN. Day, 1888.

*Populus alba* L. WHITE POPLAR. Day (1888). Alien. No example seen, Eckel, 1985.

*Potentilla argentea* L. SILVERY CINQUEFOIL. Day (1888).

*Potentilla canadensis* L. OLDFIELD CINQUEFOIL. var. *simplex* Torr. & Gray. Day (1888).

*Prunus serotina* L. BLACK CHERRY. Several fine trunks, Eckel 5053185, 1985.

*Prunus virginiana* L. COMMON CHOKECHERRY. Day (1888).

*Pteridium aquilinum* var. *latiusculum* (Desv.) Underw. ex Heller EASTERN BRACKEN FERN. Day (1888). Marion Jessup Wright, July 14, 1897.

*Pycnanthemum virginianum* (L.) Dur. & Jack. VIRGINIA MOUNTAIN MINT. Zenkert (1934).

*Pyrola rotundifolia* var. *americana* (Sweet) Fernald. ROUND-LEAVED PYROLA. Day (1888).

*Pyrola secunda* L. ONE-SEEDED PYROLA. Day (1888).

*Quercus alba* L. WHITE OAK. "Goat Island; but more abundant near DeVeaux College," Day (1888). One old specimen seen on the College grounds; not a part of the woods, Eckel, 1985.

*Quercus borealis* var. *maxima* (Marsh.) Ashe. NORTHERN RED OAK. Magnificent stands in DeVeaux woods with other specimens of comparable age and girth along the escarpment at the Canadian Falls. Eckel 1985.

*Quercus velutina* Lam. BLACK OAK. Day (1888).

*Ranunculus fascicularis* Muhl. EARLY BUTTERCUP. Day (1888). 1896 C. E. Townsend, Zenkert (1934). Listed as rare by Zander & Pierce (1979).

*Ranunculus hispidus* Mchx. HISPID BUTTERCUP. E. C. Townsend, May 8, 1896. Listed as rare by Zander & Pierce (1979).

*Rhamnus cathartica* L. COMMON BUCKTHORN. Downriver section DeVeaux woods, Eckel 202285, 1985. Listed as rare by Zander & Pierce (1979). Alien.

*Rhus aromatica* Ait. AROMATIC SUMAC. Day (1888). "DeVeaux College Woods," Marion Jessup Wright, July 14, 1897.

*Rhus radicans* L. POISON IVY. Eckel 3253185, 1985.

*Rhus typhina* L. STAGHORN SUMAC. Along weedy, open fence between the two woods sections, Eckel, 1985.

*Ribes americanum* Mille. Eckel 1253185, 1985.

*Robinia pseudoacacia* L. BLACK LOCUST. Along weedy, open fence between the two woods sections, Eckel 102285, 1985. Alien.

*Rosa carolina* L. CAROLINA ROSE. Zenkert (1934).

*Rubus odoratus* L. FLOWERING RASPBERRY. Eckel 110785, 1985.

*Salvia officinalis* L. "Established in the edge of a wood near DeVeaux College ... opposite the Whirlpool, far from cultivation, and spreading," Day (1882). Alien.

*Sambucus pubens* Michx. RED-BERRIED ELDER. Eckel 3153185, 1985.

*Sanguinaria canadensis* L. BLOOD ROOT. Downriver section, Eckel, 1985. Protected by New York State law, Zander & Pierce, 1979.

*Saxifraga virginiana* Michx. VIRGINIA SAXIFRAGE. Day (1888).

*Scirpus vervecundus* Fern. WOOD-CLUB RUSH. Day (1888). Listed as rare by Zander & Pierce (1979), and probably absent from the flora due to eradication of original habitat.

*Sedum telephium* L. LIVEFOREVER SEDUM. Day (1888). Alien.

*Senecio pauperulus* Michx. GROUNDSEL. 1896, E.C. Townsend, Zenkert, 1934. Day (1888). Listed as rare by Zander & Pierce (1979).

*Shepherdia canadensis* Nutt. CANADIAN BUFFALOBERRY. Marion Jessup Wright, May 1, 1898.

*Silene antirrhina* L. SLEEPY CATCHFLY. Day (1888).

*Sisyrinchium angustifolium* Mill. COMMON BLUE-EYED GRASS. Day (1888).

*Smilacina racemosa* (L.) Desf. FALSE SOLOMON'S SEAL. Downriver section of DeVeaux woods, Eckel 232285, 1985.

*Smilax herbacea* L. CARRION FLOWER. Day (1888).

*Solanum dulcamara* L. BITTER NIGHTSHADE. Eckel 1553185, 1985. Alien.

*Solidago bicolor* L. SILVER GOLDENROD. Day (1888).

*Solidago caesia* L. WREATH GOLDENROD. Day (1888).  
*Solidago flexicaulis* L. ZIGZAG GOLDENROD. The most abundant goldenrod in the wooded areas of the Niagara Gorge, Eckel 62285, 1985.  
*Solidago hispida* Muhl. Day (18M). Excluded from the Niagara Frontier flora by Zander & Pierce (1979).  
*Solidago rigida* L. STIFF GOLDENROD. Day (1888). Listed as rare by Zander & Pierce (1979).  
*Sonchus oleraceus* L. SOW THISTLE. Downriver section DeVeaux woods, Eckel 192285, 1985. Alien.  
*Sorbus aucuparia* L. EUROPEAN MOUNTAIN ASH. Downriver section, Eckel 142285, 1985. Alien.  
*Sorghastrum nutans* (L.) Nash INDIAN GRASS. Day (1888).  
*Spiraea latifolia* (Ait.) Borkh. BROAD-LEAVED MEADOW-SWEET. Zenkert, 1934. Listed as rare by Zander & Pierce (1979).  
*Symphoricarpos albus* (L.) Blake. COMMON SNOWBERRY. Day (1888).  
*Taenidia integerrima* (L.) Drude. YELLOW PIMPERNEL. Day (1888). Population less than three, downriver section, Eckel 272285, 1985.  
*Taraxacum officinale* Weber DANDELION. Eckel 1153185, 1985. Alien.  
*Thalictrum dioicum* L. EARLY MEADOW RUE. Downriver section, Eckel 212285, 1985.  
*Thaspium barbinode* (Michx.) Nutt. HAIRY-JOINTED MEADOW PARSNIP. Day (1888). E. C. Townsend, May 22, 1896.  
*Thuja occidentalis* L. EASTERN ARBORVITAE. Day (1888). Not seen, Eckel 1985.  
*Tilia americana* L. BASSWOOD. Eckel 252285, 1985.  
*Triosteum perfoliatum* L. Day (1888).  
*Uvularia grandiflora* Sm. LARGE-FLOWERED BELLWORT. Eckel 2153185, 1985.  
*Vaccinium stamineum* L. DEERBERRY. Day (1888).  
*Viburnum acerifolium* L. MAPLE-LEAVED ARROW WOOD. Day (1888).  
*Viburnum opulue* L. HIGH CRANBERRY. Eckel 3653185, 1985.  
*Viburnum rafinesquianum* Schult. RAFINESQUE VIBURNUM. Day (1888).  
*Vinca minor* L. MYRTLE. Eckel 2053185, 1985. Introduced; alien.  
*Viola cucullata* Ait. MARSH BLUE VIOLET. Eckel 2653185, 1985.  
*Viola odorata* L. ENGLISH VIOLET. Eckel April 23, 1982. Alien.  
*Vitis riparia* Michx. RIVER GRAPE. Eckel 152285, 1985.

A few generalizations: no ferns were found in DeVeaux woods in 1985. The only cryptogams found were the mosses *Fiisidens taxifolius* and *Amblystegium serpens* on open, shaded soil. Some of the ferns listed above require limestone boulders of some sort on which to grow, and few such boulders were present.

Alien species derived from gardens are: herbs –*Acalypha rhomboidea*, *Chelidonium majus*, *Glechoma hederacea*, *Hesperis matronalis*, *Lunaria annua*, *Vinca minor*, *Viola odorata*; and, confined to the woods margins: shrubs and trees - *Berberis thunbergii*, *Lonicera tartarica*, *Morus alba*, *Rhamnus cathartica* and *Sorbus aucuparia*. Of alien origin and constituting noxious weeds, also at the woods margin, are *Alliaria officinalis*, *Arctium minor*, *Barbarea vulgaris*, *Dactylis glomerata*, *Lepidium campestre*, *Solanum dulcamara*, *Sonchus oleraceus*, and *Taraxacum officinale*.

Plants uncollected and unidentified due to absence of fruit or flowers: an interesting spring, mat-forming species (*Hydrocotyle?*), blackberry (*Rubus*), gooseberry (*Ribes*), an orchid in the downriver section, a vine (*Apios?*), a hickory (*Carya*), an elm (*Ulmus*) species, ash (*Fraxinus americana?*) species, several woodland (*Carices*, etc). The most spectacular element of the forest (in a region of spectacular natural features) are the old Red Oaks (*Quercus borealis* var. *maximus*), some of them over nine feet in circumference, breast height. These Oaks tower above all the other trees, forcing the maples, beeches and black cherries, etc. into their shade. Red Oaks are present throughout the Niagara Gorge flora, and trunks of similar circumference may be met with at the base of the escarpment in the Queen Victoria Park, Niagara Falls, Ontario. All Red Oaks I have encountered in the Gorge flora, Canadian and American sides, are infested in their canopies by defoliating insects: either Pin Oak Sawfly (*Caliroa lineata*), or Fall Cankerworm (*Alsophila pomataria*) - neither of which are deadly to the life of the tree. In DeVeaux Woods, a more critical problem may be occurring in the root systems of its Red Oaks, and only trained landscape or forestry personnel can adequately analyze the situation, and recommend appropriate treatment. This treatment should not include cutting any trees in DeVeaux woods. Such removal of trees will expose deep-woods tolerant species to environmental stress, and competition with noxious weeds, which I have already

mentioned, now growing on the borders of the woods. The destruction of the present, unique and historically significant character of the woodlands would be assured.

The drier, warmer edaphic situation presented by dolomite bedrock with its fracture-solution characteristics that affect rapid water depletion from soils where the bedrock comes close to the surface has produced a situation in which Oak-Hickory woodlands can compete with the typical Beech-Maple woodlands of our region. The absence of Oak seedlings or saplings in DeVeaux Woods, and the presence of young trees of presently subdominant species, such as Maples, indicates that the Oaks are yielding to the more typical (climax) forest association. If the Oak woodland is not a climax woodland, then an interesting question comes to mind: did a Maple-Beech woods precede this Oak one? Does the fact of Oak dominants on limestone substrates in Maple-Beech climax regions always indicate a preceding forest demise (e.g. through fire?). Can one give an approximate date for such a demise by dating the age of Oak trees (ring-counting)? For example, if the great Oaks of DeVeaux woods are more or less 150 years old, may one speculate that the primeval woods disappeared (were burned, logged, clear-cut) in the first half of the eighteenth century? At any rate, if DeVeaux woods is not generally a primal woodland, it is a replacement forest brought to a perfection of forest succession.

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