Wildflowers and Ferns Along the Acton Arboretum Wildflower Trail and In Other Gardens

Updated to June 9, 2018 by Bruce Carley

FERNS (including those occurring naturally along the trail and both boardwalks)

- Royal fern (Osmunda regalis): occasional along south boardwalk, at edge of hosta garden, and elsewhere at Arboretum Cinnamon fern (Osmunda cinnamomea): naturally occurring in quantity along south boardwalk
 Interrupted fern (Osmunda claytoniana): naturally occurring in quantity along south boardwalk
 Maidenhair fern (Adiantum pedatum): several healthy clumps along boardwalk and trail, a few in other Arboretum gardens
 Common polypody (Polypodium virginianum): 1 small clump near north boardwalk
 Hayscented fern (Dennstaedtia punctilobula): aggressive species; naturally occurring along north boardwalk
 Bracken fern (Pteridium aquilinum): occasional along wildflower trail; common elsewhere at Arboretum
 Broad beech fern (Phegopteris hexagonoptera): up to a few near north boardwalk; also in rhododendron and hosta gardens
 New York fern (Thelypteris noveboracensis): naturally occurring and abundant along wildflower trail
- * Ostrich fern (Matteuccia pensylvanica): well-established along many parts of wildflower trail; fiddleheads edible Sensitive fern (Onoclea sensibilis): naturally occurring and abundant along south boardwalk Lady fern (Athyrium filix-foemina): moderately present along wildflower trail and south boardwalk Common woodfern (Dryopteris spinulosa): 1 patch of 4 plants along south boardwalk; occasional elsewhere at Arboretum Marginal woodfern (Dryopteris marginalis): up to 2 mature plants along wildflower trail; occasional elsewhere at Arboretum Male woodfern (Dryopteris filix-mas): uncommon species; up to 15 plants along trail with 3 different forms represented Goldie's giant woodfern (Dryopteris goldiana): uncommon in MA and in most of native range; about 11 plants along trail Braun's holly fern (Polystichum braunii): rare species, endangered in MA; 14 plants counted along trail in 2011 Christmas fern (Polystichum acrostichoides): a few clumps and small plants along trail; occasional elsewhere at Arboretum

MAGNOLIIDS

<u>Birthwort family</u> (Order Piperales, Family Aristolochiaceae) * Wild ginger (Asarum canadense): many patches of various sizes along and near north boardwalk and along trail

MONOCOTS

Arum family (Order Alismatales, Family Araceae)

Jack-in-the-pulpit (Arisaema triphyllum): abundant along trail; naturally occurring and frequent throughout Arboretum Green dragon (Arisaema draconitum): threatened in MA; 2 known in 2017 (understory study garden and near north boardwalk)

Onion family (Order Asparagales, Family Alliaceae) Wild leek (Allium tricoccum): about 10 planted along trail and north boardwalk in 2018: future uncertain

<u>Stargrass family</u> (Order Asparagales, Family Hypoxidaceae) Yellow stargrass (Hypoxis hirsuta) 2 plants in understory study garden observed flowering in 2018

Iris family (Order Asparagales, Family Iridaceae)

Crested dwarf iris (Iris cristata): 1 thriving patch near sun meadow; also present in understory study and other gardens * Blue-eyed grass (Sisyrhinchium montanum): well-established in sun meadow; rarely present along trail edges, and at NARA

Orchid family (Order Asparagales, Family Orchidaceae)

Large yellow lady slipper (Cypripedium pubescens): 2 along north boardwalk, both thriving in 2018 Small yellow lady slipper (Cypripedium parviflorum): endangered in MA; up to 3 along north boardwalk, 2 observed in 2017 Pink lady slipper (Cypripedium acaule): a few naturally occurring near trails and in woods within Arboretum Helleborine (Epipactis helleborine): non-native but worth encouraging; occasional along trail and throughout Arboretum

Lily family (Order Liliales, Family Liliaceae)

Canada lily (Lilium canadense): naturally occurring and moderately present in open meadow along wildflower loop * Trout-lily (Erythronium americanum): numerous thriving patches along north boardwalk and trail, rarely flowering Bluebead-lily (Clintonia borealis): 1 healthy patch along wildflower trail

Bunchflower family (Order Liliales, Family Melanthiaceae)

- * Great white trillium (Trillium grandiflorum): at least 50 along north boardwalk and trail (43 observed flowering in 2017) Double-flowered white trillium (sterile form of T. grandiflorum): 1 plant along north boardwalk (flowered in 2017)
- * Red trillium (Trillium erectum): about 60 along north boardwalk and trail (33 observed flowering in 2017) Albino red trillium (white form of T. erectum): 7 plants located individually along wildflower trail
- * Toadshade trillium (Trillium sessile): 2 healthy patches along north boardwalk and trail, plus a few singles along trail Yellow trillium (Trillium luteum): at least 5 plants in 2 patches along wildflower trail

Drooping trillium (Trillium flexipes): 2 plants in 1 patch along wildflower trail Nodding trillium (Trillium cernuum): a few plants along north boardwalk and trail; more near understory study garden Dwarf trillium (Trillium nivale): 1 plant in rock garden in 2018

Lily-of-the-valley family (Order Liliales, Family Convallariaceae)

Solomon's-seal (Polygonatum biflorum): many healthy patches, some planted and some naturally occurring Great Solomon's-seal (Polygonatum canaliculatum): several healthy patches along north boardwalk and trail False Solomon's-seal (Maianthemum racemosum): occasional in thickets not far from trail and elsewhere at Arboretum Starry false Solomon's-seal (Maianthemum stellata): 1 planted along trail in late 2016; future uncertain Wild lily-of-the-valley (Maianthemum canadense): abundant at south end of wildflower trail and throughout Arboretum

Bellwort family (Order Liliales, Family Colchicaceae)

Nodding mandarin (Disporum maculatum): 1 thriving clump along north boardwalk Large-flowered bellwort (Uvularia grandiflora): 1 thriving clump along north boardwalk Wild oats (Uvularia sessilifolia): occasional along wildflower trail and in nearby woods; frequent elsewhere at Arboretum

Dayflower family (Order Commelinales, Family Commelinaceae) Ohio spiderwort (Tradescantia ohiensis): 1 thriving clump near south boardwalk, plus a few at south end of swale garden

BASAL EUDICOTS

Buttercup family (Order Ranunculales, Family Ranunculaceae)

Wood anemone (Anemone quinquefolia): occasional along wildflower trail, frequent elsewhere at Arboretum Thimbleweed (Anemone virginiana): 27 planted near north boardwalk in 2017, likely to thrive and to spread Canada anemone (Anemone canadensis): aggressive species mostly warranting exclusion; may be present near sun meadow Round-lobed hepatica (Hepatica americana): present in rock garden in 2018; future uncertain Sharp-lobed hepatica (Hepatica acutiloba): present in rock garden in 2018; future uncertain Marsh marigold (Caltha palustris): at least 6 plants along south boardwalk in 2018, plus a few plants in north swale garden

- * Black cohosh (Actaea racemosa): endangered in MA; well-established in several patches along trail and both boardwalks
- * White baneberry (Actaea pachypoda): at least 20-30 plants plus many seedlings along wildflower trail; occasional elsewhere Red baneberry (Actaea rubra): at least 5 mature plants and probably some seedlings along north boardwalk and wildflower trail White-fruited red baneberry (variety of A. rubra): 1 near north boardwalk in 2017; seedlings may turn out to be this variety Spring larkspur (Delphinium tricorne): 1 plant observed flowering along trail in 2017; future uncertain
- * Wild columbine (Aquilegia canadensis): abundant in many parts of upper grounds; occasional along trail False rue-anemone (Isopyrum biternatum): several healthy plants in 2 patches along trail Early meadow-rue (Thalictrum dioicum): at least 6 thriving plants along north boardwalk Rue-anemone (Thalictrum thalictroides): at least 1 plant along wildflower trail in 2018; future uncertain Shrub yellowroot (Xanthorhiza simplicissima): a few healthy plants near north boardwalk; also present along parking area Goldenseal (Hydrastis canadensis): rare species, endangered in MA; at least 6 well-established patches along wildflower trail

Barberry family (Order Ranunculales, Family Berberidaceae)

* May-apple (Podophyllum peltatum): aggressive species; well-established in several patches along north boardwalk and trail Blue cohosh (Caulophyllum thalictroides): about 9 located individually along trail; may be present in north woods Twinleaf (Jeffersonia diphylla): at least 15 located individually along north boardwalk and trail, spreading somewhat

Poppy family (Order Ranunculales, Family Papaveraceae)

* Bloodroot (Sanguinaria canadensis): abundant along boardwalk and trail; established along trails elsewhere at Arboretum Double-flowered bloodroot (sterile form of S. canadensis): at least 11 patches along trail with many plants established

* Wood poppy (Stylophorum diphyllum): abundant along trail; aggressive to other species, requiring yearly management

Bleeding-heart family (Order Ranunculales, Family Fumeriaceae)

- * Dutchman's-breeches (Dicentra cucullaria): well-established along north boardwalk and wildflower trail
- * Squirrel-corn (Dicentra canadensis): present along north boardwalk; moderately well-established along wildflower trail Wild bleeding-heart (Dicentra eximia): present along north boardwalk and wildflower trail, and at grape arbor Albino wild bleeding-heart (white form of D. eximia): present along stone wall in understory study garden

Box family (Order Buxales, Family Buxaceae)

Allegheny-spurge (Pachysandra procumbens): a few clumps along boardwalk and trail and in understory study garden

CARYOPHYLLIDS

Miner's-lettuce family (Order Caryophyllales, Family Montiaceae)

* Virginia spring-beauty (Claytonia virginica): endangered in MA; abundant along north boardwalk and wildflower trail

SAXIFRAGIDS

Saxifrage family (Order Saxifragales, Family Saxifragaceae)

- False goat's-beard (Astilbe biternata): 1 plant near north boardwalk, healthy in 2017
- * Foamflower (Tiarella cordifolia): well-established along north boardwalk and wildflower trail Clumping foamflower (Tiarella wherryi): present at base of a central tree along wildflower trail Miterwort (Mitella diphylla): 1 plant in rock garden in 2018 Swamp saxifrage (Saxifraga pensylvanica): naturally occurring and frequent (though inconspicuous) near south boardwalk

ROSIDS

<u>Geranium family</u> (Order Geraniales, Family Geraniaceae) Wild geranium (Geranium maculatum): frequent along many parts of trail; non-aggressive and harmless in wooded areas

Violet family (Order Malpighiales, Family Violaceae)

- * Yellow violet (Viola pensylvanica): abundant along north boardwalk and wildflower trail, and in north woods
- * Cream violet (Viola striata): abundant along north boardwalk and wildflower trail
- * Largeleaf white violet (Viola blanda var. palustriformis): abundant along north boardwalk; may be present in swale garden Canada violet (Viola canadensis): several plants near north boardwalk and along wildflower trail; also present at grape arbor Labrador violet (Viola labradorica): several small patches and individual plants near north boardwalk and along trail Wood violet (Viola palmata): 2 plants near north boardwalk observed in 2018

Common blue violet (Viola papilionacea): Aggressive species naturally occurring in many places; tolerable with caution Birdfoot violet (Viola pedata): 1 plant in rock garden in 2018

Bean family (Order Fabales, Family Fabaceae)

Groundnut (Apios americana): several planted along south boardwalk in 2018; future uncertain Western lupine (Lupinus polyphyllus): moderately present in sun meadow, butterfly garden, and parking lot exit

Eastern lupine (Lupinus perspira): 1 clump in rock garden in 2018; future uncertain

Milkwort family (Order Fabales, Family Polygalaceae)

Fringed polygala (Polygala paucifolia): 1 clump along south end of wildflower trail; future uncertain

Rose family (Order Rosales, Family Rosaceae)

* Purple-flowering raspberry (Rubus odoratus): well-established in several patches along trail; abundant in north woods Barren strawberry (Waldsteinia fragarioides): special concern in MA; occasional at north boardwalk and understory study Common strawberry (Fragaria virginiana): well-established in 1 patch along north boardwalk Goat's-beard (Aruncus dioicus): 4 plants along south boardwalk; at least 1 plant along north boardwalk

Mustard family (Order Brassicales, Family Brassicaceae)

Spring cress (Cardamine pratensis): 1 naturally occurring plant flowering profusely along wildflower trail in 2017 Toothwort (Dentaria diphylla): a few healthy clumps along wildflower trail

ASTERIDS

Heath family (Order Ericales, Family Ericaceae)

Aromatic wintergreen (Gaultheria procumbens): naturally occurring in woods near trail, occasional elsewhere at Arboretum Round-leaved pyrola (Pyrola rotundifolia): naturally occurring in woods near trail, frequent elsewhere at Arboretum Spotted wintergreen (Chimaphila maculata): naturally occurring in woods near trail, frequent elsewhere at Arboretum

Phlox family (Order Ericales, Family Polemoniaceae)

* Blue wood phlox (Phlox divaricata): abundant along north boardwalk and wildflower trail Albino wood phlox (white form of P. divaricata): present in up to 4 clumps representing 2 different cultivars Creeping phlox (Phlox stolonifera): occasional along wildflower trail and in understory study garden Albino creeping phlox (white form of P. stolonifera): occasional along wildflower trail and in understory study garden Jacob's-ladder (Polemonium van-bruntiae): present and generally mostly thriving along north boardwalk and wildflower trail

Primrose family (Order Ericales, Family Primulaceae)

Shooting-star (Dodecatheon meadia): at least 4 plants along stone wall in understory study garden Starflower (Trientalis borealis): occasional along trail, often with wild lily-of-the-valley; common elsewhere at Arboretum Forget-me-not family (Order Boraginales, Family Boraginaceae)

* Virginia bluebells (Mertensia virginica): well-established along north boardwalk and wildflower trail

Gentian family (Order Gentianales, Family Gentianaceae)

* Closed gentian (Gentiana clausa): 29 in north swale garden, 2 in butterfly garden, a few in rain garden; about 70 at NARA Andrews' bottle gentian (Gentiana andrewsii): present in north swale garden, sun meadow, grape arbor; at least 1 at NARA

Milkweed family (Order Gentianales, Family Asclepiadaceae)

* Butterfly milkweed (Asclepias tuberosa): well-established in sun meadow, butterfly garden, and at NARA Swamp milkweed (Asclepias incarnata): present in sun meadow; at least 1 plant known at NARA Common milkweed (Asclepias syriaca): present in sun meadow and parking area exit, and at NARA

<u>Bedstraw family</u> (Order Gentianales, Family Rubiaceae) Partridgeberry (Mitchella repens): naturally occurring and occasional at south end of trail; frequent elsewhere at Arboretum

Mint family (Order Lamiales, Family Lamiaceae)

Variegated wild mint (variegated form of Mentha arvensis): thriving in sun meadow Mountain mint (Pycnanthemum muticum): at least 1 vigorous clump in sun meadow; also present at NARA

<u>Plantain family</u> (Order Lamiales, Family Plantaginaceae) White turtlehead (Chelone glabra): 1 thriving along trail near farm ponds; present and growing well in north swale garden

Parsley family (Order Apiales, Family Apiaceae)

* Golden alexanders (Zizia aurea): many thriving plants along wildflower trail; abundant uphill from north boardwalk Sweet cicely (Osmorhiza longistylis): 4 planted along trail in late 2016; future uncertain

Aster family (Order Asterales, Family Asteraceae)

Whorled wood aster (Oclemena acuminatus): occasional at south end of wildflower trail and elsewhere at Arboretum White wood aster (Eurybia divaricatus): occasional at south end of wildflower trail and elsewhere at Arboretum Heart-leaved aster (Symphyotrichum cordifolius): 1 small patch uphill from north boardwalk Sweet goldenrod (Solidago odora): at least 1 in rain garden; future uncertain Catfoot (Antennaria neglecta): present near north boardwalk, in understory study garden, and in sun meadow Green-and-gold (Chrysogonum virginianum): thriving in rock garden and grape arbor; present along wildflower trail

Lobelia family (Order Asterales, Family Lobeliaceae)

* Cardinal flower (Lobelia cardinalis): moderately established in several gardens in sunny parts of Arboretum, and at NARA Albino cardinal flower (white form of L. cardinalis): a few likely interspersed with red-flowered plants in some gardens Great lobelia (Lobelia siphilitica): endangered in MA; present in swale garden and sun meadow, and at NARA Albino great lobelia (white form of L. siphilitica): present in sun meadow; occasional at NARA

* among the relatively large-scale propagation success stories at the Acton Arboretum

The following native species have been attempted at various times with no lasting success as yet:

Goldthread (Coptis groenlandica): A few plantings from previous years failed to reappear in 2012

Umbrella-leaf (Diphylleia cymosa): 1 plant along trail failed to reappear in 2017

Galax (Galax aphylla): 1 plant along trail failed to reappear in 2017 Tall bellflower (Campanula americana): Annual species; seedling crops consistenly failed to perpetuate

Tassle-rue (Trautvetteria carolinensis): Plants in north swale garden failed to reappear in 2016

Spreading globeflower (Trollius laxus): Patch in north swale garden failed to reappear in 2013

Twinflower (Linnaea borealis): Small patch along trail perished in 2011

Trailing arbutus (Epigaea repens): Repeated attempts to establish this plant have failed consistently

Bunchberry (Cornus canadensis): Repeated attempts to establish this plant have failed consistently

Rose twisted-stalk (Streptopus roseus): 1 plant along north boardwalk failed to reappear in 2017

Downy rattlesnake-plantain (Goodyera pubescens): 3 planted in 2015 failed to reappear in 2016

Showy lady slipper (Cypripedium reginae): 1 planted in 2015 failed to reappear in 2016

Pink lady slipper (Cypripedium acaule): Naturally occurring in places, but plants rescued in 1993 did not survive longer than 2 years

The following native species have not been attempted but could be viable possibilities:

Wood lily (Lilium philadelphicum): If available, may be workable in shady areas

Harebell (Campanula rotundifolia): May be workable in sunny areas Wild monkshood (Aconitum noveboracense or A. uncinatum): May be workable in moist shaded areas Virginia meadow-beauty (Rhexia virginica): Promising selection for moist parts of various gardens Wild calla (Calla palustris): If available, may be workable in moist garden areas, or at NARA Swamp-pink (Helonias bullata): May be workable in moist garden areas, or at NARA Pearly everlasting (Anaphalis margaritacea): May be workable in dry open areas Painted trillium (Trillium undulatum): If seeds become available, may be workable with careful effort in damp, acidic woods Fringed gentian (Gentianopsis crinita): Biennial species; may be workable with consistent, careful effort in moist open areas

Wildflower Lists Relating to NARA Park

 The following native species are becoming established in dry meadow areas at NARA:

 Butterfly milkweed (Asclepias tuberosa): Well-established in NARA meadows and formal garden areas

 Dense blazing-star (Liatris spicata): Several prolific patches in NARA meadows and formal garden areas

 New England aster (Symphyotrichum novae-angliae): Abundant in interior meadow in several color forms including albino

 Purple coneflower (Echinacea purpurea): Prolific in interior meadow; also present in formal garden areas

 Yellow coneflower (Rudbeckia fulgida): Present in interior meadow and in formal garden areas

 Black-eyed Susan (Rudbeckia hirta): Frequent in dry open areas throughout NARA

 Lance-leaved coreopsis (Coreopsis lanceolata): 1 patch established in interior meadow

 New York ironweed (Vernonia noveboracensis): Many singles planted in interior meadow; also present in formal garden areas

 Western lupine (Lupinus polyphyllus): Moderately present in interior meadow and in formal garden areas

 Sundrops (Oenothera fruticosa): 1 clump in formal garden; may be present in interior meadow

 Bee-balm (Monarda didyma): 1 patch in interior meadow; also present in interior meadow

 Bee-balm (Monarda tabernaemontana): At least a few plants established at east end of interior meadow

 Smooth aster (Symphyotrichum laeve): A few small, scattered patches in interior meadow

The following native species are becoming established in wet meadow, shore, and pond habitats at NARA:

Cardinal flower (Lobelia cardinalis): Established in formal gardens; seedlings may survive in wet meadow areas near bridge; more pending Great lobelia (Lobelia siphilitica): Several small patches in shore areas throughout NARA, including some albino; 2 patches in formal garden Closed gentian (Gentiana clausa): At least 70 plants counted in shore areas around pond; seeded extensively Andrews' bottle gentian (Gentiana andrewsii): At least 1 healthy plant known at NARA, along shore just northeast of bridge Swamp milkweed (Asclepias incarnata): 1 large plant observed in meadow behind smaller pond; also seeded extensively Blue flag (Iris sp.): 1 patch at west end of bridge; may or may not be a native variety White water-lily (Nymphaea odorata): Well-established in smaller pond behind bridge Bullhead-lily (Nuphar variegatum): Well-established in smaller pond behind bridge, and amid boulders at east end of larger pond

The following native species also have been observed occurring naturally at NARA in recent years:

Small purple gerardia (Gerardia paupercula): Frequent near shoreline at many sites around NARA pond Golden hedge-hyssop (Gratiola aurea): Abundant on wet sands within beach enclosure and many other shore areas around pond Bluecurls (Trichostema dichotomum): Occasional on exposed sandy soils in open areas Venus's looking-glass (Specularia perfoliata): Occasional on sandy soils in open areas Yellow screwstem (Bartonia virginica): Related to gentians; occasional among rocks bordering bath house Blue vervain (Verbena hastata): Occasional in wet meadows and sandy soils Round-headed bush-clover (Lespedeza capitata): Occasional in dry meadow areas near lower parking lot Yellow loosestrife (Lysimachia terrestris): Occasional in wet meadow areas near bridge and along pond edges Fringed loosestrife (Lysimachia ciliata): Occasional in wet meadow areas near bridge Water-horehound (Lycopus virginicus): Suggestive of wild mint; occasional along shores near bridge Humped bladderwort (Utricularia gibba): Frequent in smaller pond just north of bridge Nodding ladies'-tresses (Spiranthes cernua): Rarely but definitely observed in two separate places along trail edges in 2013 Lance-leaved goldenrod (Euthamia graminifolia): Our only flat-topped goldenrod; frequent in meadow areas Stout goldenrod (Solidago squarrosa): Clublike inflorescences; occasional in thicket areas along park edges Downy goldenrod (Solidago puberula): Wandlike with flowers arranged in a terminal spike; occasional in woods and along wooded edges Blue-stemmed goldenrod (Solidago caesia): Wandlike with flowers in leaf axils; occasional in woods and along wooded edges Gray goldenrod (Solidago nemoralis): Short with one-sided plumes; occasional in meadow areas and thicket edges Early goldenrod (Solidago juncea): Probably our finest and showiest goldenrod; plumelike; frequent in meadow areas throughout the park Rough-stemmed goldenrod (Solidago rugosa): Our weediest and least showy goldenrod; plumelike, branching; abundant throughout the park Late goldenrod (Solidago gigantea): Weedy species, whitish bloom on stems; plumelike, leaves parallel-veined; abundant in meadow areas Canada goldenrod (Solidago canadensis): Plumelike, leaves parallel-veined, smooth, sharply toothed; abundant in meadow areas Tall goldenrod (Solidago altissima): Plumelike, leaves parallel-veined, rough, bluntly or barely toothed; abundant in meadow areas Panicled aster (Symphyotrichum lanceolatum): Tall, smooth-stemmed, willowlike leaves, flowerheads white; occasional in thickets near pond Purple-stemmed aster (Symphyotrichum puniceum): Stems bristly, usually purplish, flowerheads light purple; abundant in meadow areas Bushy aster (Symphyotrichum dumosum): Stems branching with numerous leafy bracts, flowerheads white; abundant in meadow areas Small white aster (Symphyotrichum racemosum): Leaves small and linear, flowerheads white; abundant in meadow areas