

A Floristic Survey of Appomattox Court House National Historical Park, Appomattox County, Virginia

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INTRODUCTION

Appomattox Court House National Historical Park encompasses approximately 688 ha of rolling Central Piedmont terrain in Appomattox County, Virginia. According to Godfrey's (1980) field guide, the Central Piedmont is comprised of "... cropland and ... herding enterprises, but is principally a forested landscape." Most forests here are post-agricultural and seral. Godfrey (1980) characterizes these as "pine, mixed pine-deciduous, or maturing deciduous woodlots." This is an accurate description of the landscape within the Park, as some fields are cropland and some are pasture, but more area is forested today than was forested in approximately 1917 (Gemborys & Lund, 1992) and likely more than at the time of the surrender of the Confederate Army over 130 years ago. According to Montgomery (1992), wooded areas have been encouraged on the boundaries in an effort to block out modern life. Other conspicuous features of the Park are three roadways, Virginia Route 24 and county routes 627 and 656, and Plain Run Branch and Scotts Branch that join to form the Appomattox River within the Park boundaries.

The present study addresses a need of the National Park Service, and of Appomattox Court House National Historical Park, in particular, expressed in the *Partners in Research* (1989): "Many of these Mid-Atlantic Regional parks face complex environmental, visitor-use, and cultural resource management problems, such as rapid declines in native wildlife populations, significant vegetation changes..." The publication continues in

After a plant was identified or verified from the

discussing the need for appropriate documentation of natural resources. The main purpose of this paper is to document the vascular flora of the Park. Such a flora offers opportunities to monitor vegetation response to management and to assess a probable ethnobotanical role in the present composition. Additionally, a floristic survey fills gaps in our knowledge of plant distributions and can help direct biological diversity conservation efforts.

MATERIALS AND METHODS

From 1990 through 1996, on scattered days throughout the growing seasons, vascular plant specimens were collected from several sites within the Park. An unpublished thesis, submitted to Virginia Polytechnic Institute and State University by Hamilton (1985), was used as a guide to the park boundaries and forested areas, with forest compartment numbers from the thesis serving as designations for most of the collection sites. Also, a map obtained from the Park with pasture and croplands marked was useful in assessing recent land-use history. Plant communities investigated included: grazed upland mixed woodlot, pasture, unfenced meadow that is sporadically mowed, open and shaded roadside, mixed forest and trail edge, periodically-mowed power-line right-of-way, hedge-row, crop land, and river's edge. Specimens were collected from the sites, field notes were made to aid identification, and the specimens were pressed for later identification or verification.

pressed specimen, the taxon was added to the list. In

addition, the following information is being recorded for each specimen in a database: specimen number, scientific name, authority, family, common name (if one exists), specific location within the park, collector, identifier or verifier, habitat, date collected, origin, and ethnobotanical significance. (The recording of this information continues for the species listed in this paper.) The information is on file in the Hampden-Sydney College Biology Department, and a hard copy of the species list is available at the Park. Voucher specimens have been filed at Hampden-Sydney College, as the Park has no appropriate facility for housing herbarium specimens. The list of the species identified as occurring within the Park is on file with the Virginia Department of Conservation and Recreation, Division of Natural Heritage. Nomenclature and designation of native or exotic status are according to *Atlas of the Virginia Flora III* (Harvill et al., 1992), except in a few instances where Fernald (1950) and Hitchcock (1971) were used. In this paper, families, genera, and species are given for each specimen. An asterisk at the binomial denotes county record species.

RESULTS AND DISCUSSION

Appendix 1 includes all known vascular plant taxa recorded for the Park. The list includes 327 species from 72 families. There are 52 new county records, determined by the absence of Appomattox County designations for those taxa in Harvill et al. (1992). These county records fill gaps in our knowledge of Virginia phytogeography, and suggest that the Central Piedmont has been under-botanized. One taxon, *Asclepias purpurascens* L., included here is on the state's rare plant list (Killeffer, 1999). It should be noted that this milkweed species is one of the new county records.

Any flora is dynamic, with species entering and leaving depending on conditions. The exotic component of this flora is 19 to 20 %. This is close to the upper estimation of exotic flora for the state, as the Virginia Division of Natural Heritage estimates the state's flora is between 15 to 20+ % non-native, depending on which non-natives are considered part of the established flora (Virginia Department of Conservation and Recreation, Division of Natural Heritage, unpublished data). The maintenance of fields, pastures, rights-of-way, lawns, and early successional thickets will likely perpetuate the exotic component of the flora, as well as many of the native grasses and forbs which depend on such conditions. If the land management regime of the Park

is significantly changed in the future, shifts in the composition of the flora are to be expected. With the present flora serving as a baseline, these future shifts in composition might then be detected, and the ecological effects of various land management practices more fully understood.

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Appendix 1

FLORA OF APPOMATTOX COURT HOUSE NATIONAL HISTORICAL PARK

* denotes new county record (Harvill et al., 1992)

Lycopodiaceae

Lycopodium digitatum A. Braun

Ophioglossaceae

Botrychium virginianum (L.) Swartz

Aspidiaceae

Athyrium asplenoides (Michaux) A. A. Eaton

Onoclea sensibilis L.

Polystichum acrostichoides (Michaux) Schott

Pinaceae

Pinus echinata Miller

Pinus virginiana Miller

Tsuga canadensis (L.) Carr

Cupressaceae

Juniperus virginiana L.

Alismataceae

Alisma subcordatum Raf.

Poaceae

Andropogon virginicus L.

Aristida dichotoma Michaux

Arthraxon hispidus (Thunb.) Makino var.

cryptatherus (Hackel) Honda

Avena sativa L.

Bromus japonicus Thunb. (*B. arvensis* L.)

Dichanthelium boscii (Poiret) G. & C.

* *Dichanthelium clandestinum* (L.) Gould

Dichanthelium commutatum (Schultes) Gould

Dichanthelium dichotomum (L.) Gould

* *Dichanthelium scoparium* (Lam.) Gould

Elymus riparius Wiegand

Eragrostis spectabilis (Pursh) Steudel

Festuca elatior L.

Glyceria striata (Lam.) Hitchcock

Hystrix patula Moench

Poaceae (continued)

Microstegium vimineum (Trinius) A. Camus

Panicum anceps Michaux

* *Paspalum floridanum* Michaux

* *Paspalum laeve* Michaux

Phleum pratense L.

Poa compressa L.

* *Setaria faberii* W. Hermann

* *Setaria lutescens* (Weigel) Hubb. (*S. glauca* (L.)

Beauvois)

Sorghum halepense (L.) Persoon

Sorghastrum nutans (L.) Nash

Tridens flavus (L.) Hitchcock

Tripsacum dactyloides (L.) L.

Cyperaceae

* *Carex caroliniana* Schweinitz

* *Carex cephalophora* Willdenow

Carex crinita Lam.

Carex frankii Kunth

* *Carex laevivaginata* (Kukenthal) Mackenzie

* *Carex laxiflora* Lam.

Carex lurida Wahlenberg

Carex pensylvanica Lam.

Carex scoparia Willdenow

Carex squarrosa L.

* *Carex swanii* (Fernald) Mackenzie

Cyperus ovularis (Michaux) Torrey

* *Cyperus pseudovegetus* Steudel

* *Cyperus retrofractus* (L.) Torrey

* *Eleocharis obtusa* (Willdenow) Schultes

Eleocharis tenuis (Willdenow) Schultes

Scirpus atrovirens Willdenow

* *Scirpus validus* Vahl

* *Scleria pauciflora* Willdenow

Araceae

Arisaema triphyllum (L.) Schott

Commelinaceae

- * *Commelina communis* L.

Juncaceae

- Juncus dichotomus* Ell.
- Juncus effusus* L.
- Juncus tenuis* Willdenow

Liliaceae

- Allium vineale* L.
- Hemerocallis fulva* (L.) L.
- Muscari racemosum* (L.) Miller
- Polygonatum biflorum* (Walter) Ell.
- Smilacina racemosa* (L.) Desf.
- Smilax glauca* Walter
- Smilax rotundifolia* L.
- Uvularia perfoliata* L.

Amaryllidaceae

- Hypoxis hirsuta* (L.) Coville

Iridaceae

- Sisyrinchium angustifolium* Miller

Orchidaceae

- Goodyera pubescens* (Willdenow) R. Brown
- Spiranthes gracilis* (Bigelow) Beck
- Spiranthes grayi* Ames

Juglandaceae

- Carya glabra* (Miller) Sweet
- Carya ovalis* (Wang) Sargent
- * *Carya ovata* (Miller) K. Koch
- Carya tomentosa* (Poiret) Nuttall
- Juglans nigra* L.

Betulaceae

- Carpinus caroliniana* Walter
- Alnus serrulata* (Aiton) Willdenow

Fagaceae

- Fagus grandifolia* Ehrhart
- Quercus alba* L.
- Quercus falcata* Michaux
- Quercus marilandica* Muenchh
- Quercus prinus* L.
- Quercus phellos* L.
- Quercus stellata* Wang.

Ulmaceae

- Ulmus americana* L.

Moraceae

- Morus rubra* L.

Urticaceae

- Boehmeria cylindrica* (L.) Swartz
- * *Urtica dioica* L.

Aristolochiaceae

- * *Aristolochia serpentaria* L.

Polygonaceae

- Polygonum cespitosum* Blume
- Polygonum persicaria* L.
- Polygonum sagittatum* L.
- Rumex acetosella* L.
- Rumex crispus* L.
- Rumex patientia* L.

Phytolaccaceae

- Phytolacca americana* L.

Caryophyllaceae

- Cerastium fontanum* Baumg.
- Cerastium glomeratum* Thuillier
- Dianthus armeria* L. (Aiton) Willdenow
- Silene antirrhina* L.
- Stellaria media* (L.) Cyrillo

Ranunculaceae

- Anemone virginiana* L.
- Clematis ochroleuca* Aiton
- Ranunculus bulbosus* L.
- Thalictrum pubescens* Pursh

Berberidaceae

- Podophyllum peltatum* L.

Lauraceae

- Sassafras albidum* (Nuttall) Nees

Brassicaceae

- Barbarea vulgaris* R. Brown
- Brassica rapa* L.
- Cardamine hirsuta* L.
- Lepidium campestre* (L.) R. Brown
- * *Teesdalia nudicaulis* (L.) R. Brown

Platanaceae

- Platanus occidentalis* L.

Rosaceae

- Agrimonia parviflora* Aiton
- Duchesnia indica* (Andrz.) Focke
- Fragaria virginiana* Duchesne
- Geum canadense* Jacquin
- * *Potentilla canadensis* L.
- Potentilla recta* L.

Rosaceae (continued)

- Prunus serotina* Ehrhart
Rosa carolina L.
 * *Rosa palustris* Marshall
 * *Rubus allegheniensis* Porter
Rubus occidentalis L.

Linaceae

- * *Linum virginianum* L.

Fabaceae

- Albizia julibrissin* Durazzini
Amphicarpa bracteata (L.) Fernald
Baptisia tinctoria (L.) R. Brown
Cassia fasciculata Michaux
Cassia nictitans L.
Cercis canadensis L.
Coronilla varia L.
Desmodium canescens (L.) DC.
Desmodium glutinosum (Willdenow) Wood
 * *Desmodium laevigatum* (Nuttall) DC.
 * *Desmodium marilandicum* (L.) DC.
Desmodium nudiflorum (L.) DC.
 * *Desmodium obtusum* (Willdenow) DC.
 * *Desmodium paniculatum* (L.) DC.
Desmodium rotundifolium DC.
Desmodium viridiflorum (L.) DC.
Gleditsia triacanthos L.
Lespedeza cuneata (Dumont) G. Don
 * *Lespedeza intermedia* (Watson) Britton
Lespedeza procumbens Michaux
 * *Lespedeza repens* (L.) Barton
Lespedeza stipulacea Maxim.
Lespedeza virginica (L.) Britton
Melilotus alba Desr.
Robinia pseudo-acacia L.
Strophostyles umbellata (Willdenow) Britton
Stylosanthes biflora (L.) BSP.
Tephrosia virginiana (L.) Persoon
Trifolium arvense L.
Trifolium campestre Schreber
Trifolium dubium Sibthorp
Trifolium pratense L.
Trifolium repens L.
Vicia caroliniana Walter
Vicia dasycarpa Tenore
Vicia sativa L. (*V. angustifolia* L.)
Vicia villosa Roth

Oxalidaceae

- Oxalis dillenii* L.
Oxalis stricta L.

Geraniaceae

- * *Geranium dissectum* L.

Simaroubaceae

- Ailanthus altissima* (Miller) Swingle

Polygalaceae

- Polygala verticillata* L.

Euphorbiaceae

- Acalypha rhomboidea* Raf.
Euphorbia corollata L.
Euphorbia cyparissias L.
Euphorbia maculata L.

Anacardiaceae

- Rhus copallina* L.
Rhus glabra L.

Aquifoliaceae

- Ilex opaca* Aiton

Celastraceae

- Euonymus americanus* L.

Aceraceae

- Acer negundo* L.
Acer rubrum L.

Balsaminaceae

- Impatiens capensis* Meerb.

Rhamnaceae

- Ceanothus americanus* L.

Vitaceae

- Parthenocissus quinquefolia* (L.) Planchon
Vitis labrusca L.
 * *Vitis rotundifolia* Michaux

Hypericaceae

- Hypericum gentianoides* (L.) BSP.
Hypericum hypericoides (L.) Crantz
Hypericum mutilum L.
Hypericum punctatum Lam.

Cistaceae

- * *Helianthemum canadense* (L.) Michaux
Lechea sp.

Violaceae

- Viola palmata* L.
Viola papilionacea Pursh
Viola rafinesquii Greene

Lythraceae

Cuphea viscosissima Jacquin

Onagraceae

Ludwigia alternifolia L.
Ludwigia palustris (L.) Elliott
Oenothera fruticosa L. ssp.
glauca (Michaux) Straley

Apiaceae

Daucus carota L.
Sanicula canadensis L.
Thaspium trifoliatum (L.) Gray

Nyssaceae

Nyssa sylvatica Marshall

Cornaceae

Cornus florida L.

Ericaceae

Chimaphila maculata (L.) Pursh
Vaccinium pallidum Aiton
Vaccinium stamineum L.

Primulaceae

* *Anagallis arvensis* L.
Lysimachia ciliata L.

Oleaceae

Fraxinus americana L.
* *Fraxinus pennsylvanica* Marshall
Ligustrum sp.

Gentianaceae

Sabatia angularis (L.) Pursh

Apocynaceae

Apocynum cannabinum L.

Asclepiadaceae

Asclepias amplexicaulis Smith
* *Asclepias purpurascens* L.
Asclepias syriaca L.
Asclepias tuberosa L.
Asclepias viridiflora Raf.
Cynanchum laeve (Michaux) Persoon

Convolvulaceae

Calystegia sepium (L.) R. Brown
Convolvulus arvensis L.
* *Ipomoea hederacea* (L.) Jacquin
Ipomoea pandurata (L.) G. F. W. Meyer
Ipomoea purpurea (L.) Roth

Boraginaceae

Lithospermum arvense L.
* *Myosotis macrosperma* Engelm.

Verbenaceae

Verbena simplex Lehmann
Verbena urticifolia L.

Phrymaceae

Phryma leptostachya L.

Lamiaceae

Hedeoma pulegioides (L.) Persoon
Lamium amplexicaule K.
Lycopus americanus Barton
Lycopus virginicus L.
Perilla frutescens (L.) Britton
Prunella vulgaris L.
Pycnanthemum sp.
Pycnanthemum incanum (L.) Michaux
Pycnanthemum tenuifolium Schrader
Salvia lyrata L.
Satureja vulgaris (L.) Fritsch
Scutellaria elliptica Muhl.
Scutellaria integrifolia L.

Solanaceae

Solanum carolinense L.

Scrophulariaceae

Agalinis fasciculata (Elliott) Raf.
* *Agalinis tenuifolia* (Vahl) Raf.
Aureolaria virginica (L.) Pennell
Mimulus ringens L.
Paulownia tomentosa (Thunberg) Steudel
Verbascum blattaria L.
Veronica hederifolia L.
* *Veronica officinalis* L.

Acanthaceae

Ruellia caroliniensis (Walter) Steudel

Plantaginaceae

Plantago aristata Michaux
Plantago lanceolata L.
Plantago rugelii Duchesne

Rubiaceae

Cephalanthus occidentalis L.
* *Diodia virginiana* L.
Galium circaezans Michaux
Galium pilosum Aiton
* *Galium parisiense* L.
Galium tinctorium L.

Rubiaceae (continued)

- * *Galium triflorum* Michaux
- Houstonia pusilla* Schoefp.
- Houstonia purpurea* L.

Caprifoliaceae

- Lonicera japonica* Thunberg
- Sambucus canadensis* L.
- Symphoricarpos orbiculatus* Moench
- Viburnum* sp.

Campanulaceae

- Lobelia inflata* L.
- Lobelia siphilitica* L.
- Specularia perfoliata* (L.) A. DC.

Asteraceae

- Achillea millefolium* L.
- * *Ageratina altissima* (L.) K. & R.
- Ambrosia artemisiifolia* L.
- Ambrosia trifida* L.
- Aster divaricatus* L.
- Aster dumosus* L.
- Aster pilosus* Willdenow
- Bidens bipinnata* L.
- Bidens frondosa* L.
- Centaurea maculosa* Lam.
- Chrysanthemum leucanthemum* L.
- Cichorium intybus* L.
- * *Cirsium arvense* (L.) Scopoli
- Cirsium discolor* (Willdenow) Spengel
- Coreopsis verticillata* L.
- Eclipta alba* (L.) Hasskarl
- Elephantopus carolinianus* Raesch
- Erigeron annuus* (L.) Persoon
- Erigeron canadensis* L.
- * *Erigeron philadelphicus* L.

Asteraceae (continued)

- Erigeron strigosus* Muhl. ex Willdenow
- Eupatorium coelestinum* L.
- Eupatorium fistulosum* Barratt
- Eupatorium godfreyanum* Cronq.
- Eupatorium hyssopifolium* L.
- Gnaphalium purpureum* L.
- Gnaphalium obtusifolium* L.
- * *Helianthus strumosus* L.
- Heterotheca mariana* (L.) Shinnars
- Hieracium caespitosum* Dumort
- Hieracium pilosella* L.
- * *Hieracium scabrum* Michaux
- Hieracium venosum* L.
- Krigia virginica* (L.) Willdenow
- * *Kuhnia eupatorioides* L.
- Lactuca saligna* L.
- Liatris squarrosa* (L.) Michaux
- Mikania scandens* (L.) Willdenow
- Parthenium integrifolium* L.
- Pyrrhopappus carolinianus* (Walter) DC.
- Rudbeckia hirta* L.
- Senecio anonymus* Wood
- Sericocarpus asteroides* (L.) BSP.
- Silphium trifoliatum* L.
- Solidago canadensis* L.
- Solidago juncea* Aiton
- Solidago nemoralis* Aiton
- * *Solidago rugosa* Miller
- Solidago* sp.
- Solidago speciosa* Nuttall
- Taraxacum erythrospermum* Andr. ex Besser
- * *Verbesina alternifolia* (L.) Britton ex Kearney
- Verbesina occidentalis* (L.) Walter
- Vernonia glauca* (L.) Willdenow
- Vernonia noveboracensis* (L.) Michaux