

MARILANDICA

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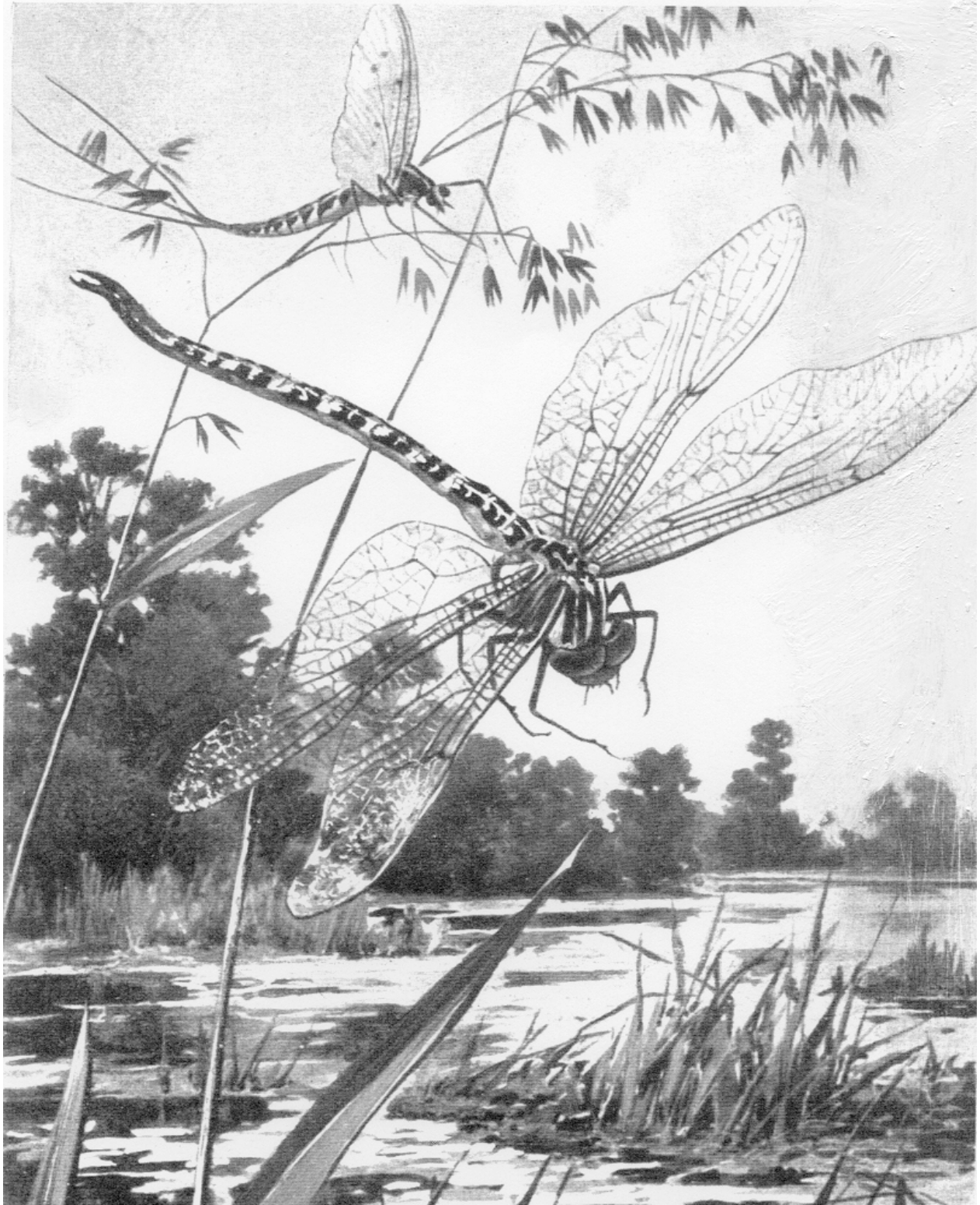
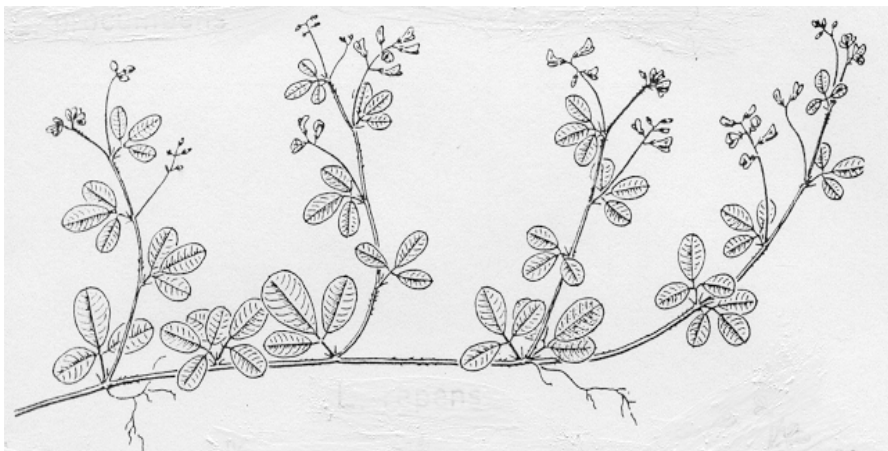


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Lespedeza repens

Submissions for *Marilandica* are welcomed. Word documents are preferred but not necessary. If you wish to contribute articles or other material, or have questions or comments, contact Rod Simmons at marilandica@mdflora.org, call 301-809-0139, or send to Meghan Tice at P.O. Box 25 Bowie, MD 20719.

The Maryland Native
Plant Society

(MNPS) is a nonprofit organization that uses education, research, and community service to increase the awareness and appreciation of native plants and their habitats, leading to their conservation and restoration. Membership is open to all who are interested in Maryland's native plants and their habitats, preserving Maryland's natural heritage, increasing their knowledge of native plants, and helping to further the Society's mission.

MNPS sponsors monthly meetings, workshops, field trips, and an annual fall conference.

Maryland Native Plant Society
P.O. Box 4877
Silver Spring, MD 20914
www.mdflora.org

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Native Woody Plants of Montgomery County

By John Mills Parrish

GYMNOSPERMAE-GYMNOSPERMS	State Rank/Status	Occurrence	Where Found
Cupressaceae - Cypress Family			
<i>Juniperus virginiana</i> (Eastern Red Cedar)		C	
Pinaceae - Pine Family			
<i>Pinus strobus</i> (White Pine)		VR	Patuxent St. Park; Northwest Br. Park
<i>Pinus rigida</i> (Pitch Pine)		UC	Scattered throughout county
<i>Pinus echinata</i> (Yellow Pine, Shortleaf Pine)		UC	Scattered throughout county
<i>Pinus pungens</i> (Table Mountain Pine)		VR	NW Branch Park; Blockhouse Pt. Park
<i>Pinus virginiana</i> (Virginia Pine)		C	
<i>Tsuga canadensis</i> (Hemlock)		VR	Patuxent St. Park; Seneca Ck. St. Park
ANGIOSPERMAE-MONOCOTS			
Smilacaceae - Catbrier Family			
<i>Smilax glauca</i> (Glaucous Greenbrier)		C	
<i>Smilax hispida</i> (syn. <i>S. tannoides</i>) (Bristly Greenbrier)		UC/R	Potomac River and Rock Ck. floodplain
<i>Smilax rotundifolia</i> (Common Greenbrier)		C	
ANGIOSPERMAE-DICOTS			
Salicaceae - Willow Family			
<i>Salix nigra</i> (Black Willow)		C	
<i>Salix caroliniana</i> (Carolina Willow)	S3	R	Potomac River floodplain
<i>Salix interior</i> (syn. <i>S. exigua</i>) (Sandbar Willow)	S1/E	VR/X?	Plummer's and High Is. (1902) (S.I.)
<i>Salix humilis</i> (Prairie Willow)		R	Travilah Serpentine Barrens
<i>Salix sericea</i> (Silky Willow)		UC	Little Bennett Pk.; NW Br. Pk. (Layhill)
<i>Populus grandidentata</i> (Bigtooth Aspen)		UC	Scattered across county - (uplands)
<i>Populus deltoides</i> (Cottonwood)		FC	
Myricaceae - Bayberry Family			
<i>Myrica cerifera</i> (Southern Bayberry)		VR	Little Paint Branch north of Fairland Park
<i>Comptonia peregrina</i> (Sweet Fern)		VR/X?	Lewisdale, (pers. com. C. Bergmann)
Juglandaceae - Walnut Family			
<i>Juglans cinerea</i> (Butternut)	S2S3	R	NW Branch; Patuxent and Potomac River
<i>Juglans nigra</i> (Black Walnut)		FC	
<i>Carya cordiformis</i> (Bitternut Hickory)		FC	
<i>Carya ovata</i> (Shagbark Hickory)		VR	Blockhouse Pt. Park; Patuxent St. Park
<i>Carya tomentosa</i> (Mockernut Hickory)		C	
<i>Carya glabra</i> (Pignut Hickory)		C	
<i>Carya ovalis</i> (Sweet Pignut Hickory)		UC	Scattered throughout county
<i>Carya laciniosa</i> (Big Shellbark Hickory)	S1/E	X	Historic record (Brinklow, Md.) MNHP
Betulaceae - Birch Family			
<i>Corylus americana</i> (Hazelnut)		FC	
<i>Ostrya virginiana</i> (Hop Hornbeam)		UC/R	Slopes along Potomac and Mill Creek
<i>Carpinus caroliniana</i> (Ironwood)		C	
<i>Betula lenta</i> (Black Birch)		UC/R	Scattered throughout county
<i>Betula nigra</i> (River Birch)		FC	
<i>Betula populifolia</i> (Gray Birch)	SU	VR	Fairland Park; Triadelphia Reservoir
<i>Alnus serrulata</i> (Smooth Alder)		FC	
Fagaceae - Beech Family			
<i>Fagus grandifolia</i> (American Beech)		FC	
<i>Castanea dentata</i> (American Chestnut)	S2S3	UC	Scattered throughout county
<i>Castanea pumila</i> (Chinquapin)		UC	Scattered throughout county
<i>Quercus alba</i> (White Oak)		C	

<i>Quercus stellata</i> (Post Oak)		UC	Scattered throughout county
<i>Quercus macrocarpa</i> (Bur Oak)	S1	VR	Great Falls to D.C. line along Potomac
<i>Quercus bicolor</i> (Swamp White Oak)		UC	Scattered throughout county
<i>Quercus michauxii</i> (Basket Oak, Swamp Chestnut Oak)		VR	Little Falls; Blockhouse Point
<i>Quercus muehlenbergii</i> (Chinquapin Oak)		R	Wheaton Reg. Park; Mill Ck.; Potomac
<i>Quercus prinoides</i> (Dwarf Chinquapin Oak)	S3	X	Clopper 1912; Wheaton 1915 (S. I.)
<i>Quercus prinus</i> (Chestnut Oak)		FC	
<i>Quercus rubra</i> (Northern Red Oak)		C	
<i>Quercus shumardii</i> (Shumard's Oak)	S2/T	VR	Hoyles Mill Park; Potomac floodplain
<i>Quercus velutina</i> (Black Oak)		C	
<i>Quercus palustris</i> (Pin Oak)		FC	
<i>Quercus coccinea</i> (Scarlet Oak)		FC	
<i>Quercus falcata</i> (Spanish Oak, Southern Red Oak)		FC	
<i>Quercus ilicifolia</i> (Bear Oak)		VR	Little Bennett Park
<i>Quercus marilandica</i> (Black Jack Oak)		UC/R	Travilah Serp. Barrens; Rt. 29 to PG line
<i>Quercus imbricaria</i> (Shingle Oak)		UC	Scattered throughout county
<i>Quercus phellos</i> (Willow Oak)		UC/R	Triassic basin; Little Paint Branch
Ulmaceae - Elm Family			
<i>Ulmus rubra</i> (Slippery Elm)		UC/FC	Prefers non-acid soils
<i>Ulmus americana</i> (American Elm)		C	
<i>Celtis occidentalis</i> (Hackberry)		UC	Potomac River; Triassic basin
<i>Celtis tenuifolia</i> (Dwarf Hackberry)		R	Shale barrens; slopes along Potomac
Moraceae - Mulberry Family			
<i>Morus rubra</i> (Red Mulberry)		UC/R	Hoyles Mill Diabase; Travilah Serp.
Loranthaceae - Mistletoe Family			
<i>Phoradendron flavescens</i> (Mistletoe)		VR	Nyssa grove, Potomac Meth. Church
Ranunculaceae - Crowfoot Family			
<i>Clematis virginiana</i> (Virgin's Bower)		FC	
<i>Clematis viorna</i> (Leatherflower)	S3	VR	Potomac Gorge; Muddy Branch Park
Menispermaceae - Moonseed Family			
<i>Menispermum canadense</i> (Moonseed)		UC	Prefers alluvial soils
Magnoliaceae - Magnolia Family			
<i>Magnolia virginiana</i> (Sweet Bay Magnolia)		R	Little Paint Br.; upper NWB & Rock Ck.
<i>Magnolia tripetala</i> (Umbrella Magnolia)	S3	VR	NW Br.; Patuxent St. Pk.; Sligo Ck. Pk.
<i>Magnolia acuminata</i> (Cucumber Tree)		VR	Blockhouse Point Conservation Park
<i>Liriodendron tulipifera</i> (Tulip Tree, Tulip Poplar)		C	
Annonaceae - Custard-apple Family			
<i>Asimina triloba</i> (Pawpaw)		UC	Locally abundant; also locally absent
Lauraceae - Laurel Family			
<i>Sassafras albidum</i> (Sassafras)		C	
<i>Lindera benzoin</i> (Spicebush)		C	
Saxifragaceae - Saxifrage Family			
<i>Hydrangea arborescens</i> (Hydrangea)		UC	Prefers steep rocky stream banks
<i>Ribes</i> sp. (Currant, Gooseberry)		X	Extirpated? I have no record for them.
Hamamelidaceae - Witch-Hazel Family			
<i>Hamamelis virginiana</i> (Witch Hazel)		FC	
<i>Liquidamber styraciflua</i> (Sweet Gum)		R	Rt. 29 east to PG County line
Platanaceae - Plane-tree Family			
<i>Platanus occidentalis</i> (Sycamore)		C	
Rosaceae - Rose Family			
<i>Physocarpus opulifolius</i> (Ninebark)		UC/R	Great Falls; Travilah Serpentine Barrens
<i>Spiraea alba</i> (Meadowsweet)		R	North Br. Rock Ck.; NW Br. Randolph
<i>Spiraea tomentosa</i> (Steeplebush)		VR	Rachel Carson Conservation Park

<i>Aronia arbutifolia</i> (Red Chokeberry)		UC	Little Paint Branch; scarce elsewhere
<i>Aronia melanocarpa</i> (Black Chokeberry)		UC	Little Paint Branch; scarce elsewhere
<i>Malus coronaria</i> (Wild Crabapple)		R	Travilah Serpentine Barrens
<i>Amelanchier stolonifera</i> (Running Juneberry)	S2/T	VR	Potomac Gorge open rock outcrops
<i>Amelanchier canadensis</i> (Swamp Juneberry)		VR	Little Paint Branch
<i>Amelanchier arborea</i> (Downy Juneberry)		C	
<i>Amelanchier laevis</i> (Smooth Juneberry)		UC	Scattered throughout county
<i>Crataegus uniflora</i> (Dwarf Hawthorn)		R	Potomac Gorge; Hoyles Mill Diabase
<i>Crataegus intricata</i> (Entangled Hawthorn)		UC/R	Travilah Serp. Barrens; Rock Ck. Park
<i>Crataegus viridis</i> (Southern Hawthorn)		R	Mill Creek wetland at Shady Grove Road
<i>Crataegus crus-galli</i> (Cockspur Hawthorn)		R	Travilah Serpentine Barrens
<i>Rubus odoratus</i> (Purple Flowering Raspberry)		X	Hist. from Great Falls (Palmer) (H&S)
<i>Rubus hispidus</i> (Swamp Dewberry)		FC	
<i>Rubus flagellaris</i> (Northern Dewberry)		FC	
<i>Rubus occidentalis</i> (Black Raspberry)		FC	
<i>Rubus allegheniensis</i> (Allegheny Blackberry)		UC	Patuxent State Park
<i>Rubus argutus</i> (Tall Blackberry)		C	
<i>Rosa palustris</i> (Swamp Rose)		UC	NBRC; NWB; LPB; scarce elsewhere
<i>Rosa carolina</i> (Pasture Rose)		FC	Travilah Serp. Barrens and elsewhere
<i>Prunus americana</i> (Wild Plum)		R	Travilah Serpentine Barrens; shale soils
<i>Prunus serotina</i> (Black Cherry)		C	
<i>Prunus pumila</i> (Dwarf Cherry)	SU	X	Gt. Falls - Pollard & Coville 1895 (S.I.)
Fabaceae - Legume Family			
<i>Gleditsia triacanthos</i> (Honey Locust)		UC	Potomac River floodplain
<i>Cercis canadensis</i> (Redbud)		UC/FC	locally common, prefers non acid soil
<i>Robinia pseudo-acacia</i> (Black Locust)		C	
Rutaceae - Rue/Citrus Family			
<i>Ptelea trifoliata</i> (Hop Tree)	S3	VR	Potomac Gorge
<i>Zanthoxylum americanum</i> (Northern Prickly Ash)	S1/E	VR	Hoyles Mill Diabase near Boyds, Md.
Anacardiaceae - Sumac/Cashew Family			
<i>Rhus glabra</i> (Smooth Sumac)		UC	Scattered throughout county
<i>Rhus copallina</i> (Shining Sumac)		C	
<i>Rhus typhina</i> (Staghorn Sumac)		C	
<i>Rhus aromatica</i> (Fragrant Sumac)		VR	River Road Shale Barrens
<i>Toxicodendron vernix</i> (Poison Sumac)		R	Little Paint Branch; Good Hope Trib.
<i>Toxicodendron radicans</i> (Poison Ivy)		C	
<i>Toxicodendron pubescens</i> (Poison Oak)		VR	Blockhouse Point rocky bluff outcrop
Aquifoliaceae - Holly Family			
<i>Ilex opaca</i> (American Holly)		FC	
<i>Ilex verticillata</i> (Winterberry)		FC	
<i>Ilex laevis</i> (Smooth Winterberry)		VR	Magnolia Bogs of the Little Paint Branch
<i>Ilex decidua</i> (Deciduous Holly)	S2	VR	Potomac Gorge
Celastraceae - Staff-tree Family			
<i>Euonymus atropurpureus</i> (Wahoo)		R	Potomac floodplain n. of White's Ferry
<i>Euonymus americanus</i> (Strawberry Bush)		FC	
<i>Celastrus scandens</i> (American Bittersweet)	Under review	VR	Hoyle s Mill Diabase Area
Staphyleaceae - Bladdernut Family			
<i>Staphylea trifolia</i> (Bladdernut)		UC	Local along streams, rich alluvial soils
Aceraceae - Maple Family			
<i>Acer saccharum</i> (Sugar Maple)		UC	Potomac River and Seneca Creek
<i>Acer rubrum</i> (Red Maple)		C	
<i>Acer saccharinum</i> (Silver Maple)		FC	Prefers rich soil along streambanks
<i>Acer negundo</i> (Box Elder)		C	
Rhamnaceae - Buckthorn Family			
<i>Ceanothus americanus</i> (New Jersey Tea)		UC/R	Serpentine, diabase, and shale barrens
<i>Ceanothus ovatus</i> (syn. <i>C. herbaceus</i>) (Prairie Redroot)		VR/X?	High Is. 1898; Little Falls 1876 (S.I.)

Vitaceae - Grape Family

<i>Parthenocissus quinquefolia</i> (Virginia Creeper)		C	
<i>Vitis labrusca</i> (Fox Grape)		FC	
<i>Vitis aestivalis</i> (Summer Grape)		C	
<i>Vitis riparia</i> (Riverbank Grape)		UC	Along the Potomac River
<i>Vitis vulpina</i> (Winter Grape)		FC	
<i>Vitis rupestris</i> (Sand Grape)	S1	VR/X?	Gt. Falls 1919; Plummer Is. 1906 (S. I.)

Tiliaceae - Linden/Basswood Family

<i>Tilia americana</i> (Basswood, Linden)		UC/R	Potomac floodplain; Seneca Ck. Wtrsd.
<i>Tilia heterophylla</i> (White Basswood)		UC/R	Intergrades with <i>T. americana</i> , Pot. R.

Clusiaceae - St. John's-wort Family

<i>Ascyrum hypericoides</i> (St. Andrew's Cross)		FC	Dry upland open woods and fields
<i>Hypericum spathulatum</i> (Shrubby St. John's Wort)		R	Great Falls; Travilah Serp.; Diabase
<i>Hypericum densiflorum</i> (Glade St. John's Wort)		X?	No record; grows in Howard County

Thymelaeaceae - Mezereum Family

<i>Dirca palustris</i> (Leatherwood)	S2/T	VR	Potomac Gorge; Travilah Serpentine
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Nyssaceae - Sour Gum/Tupelo Family

<i>Nyssa sylvatica</i> (Black Gum)		C	
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Araliaceae - Ginseng Family

<i>Aralia spinosa</i> (Devil's Walking Stick, Hercules' Club)		UC	Scattered throughout county
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Cornaceae - Dogwood Family

<i>Cornus florida</i> (Flowering Dogwood)		C	
<i>Cornus amomum</i> (Silky Dogwood)		FC	
<i>Cornus racemosa</i> (Gray-stemmed Dogwood)		VR	Travilah Serpentine Barrens
<i>Cornus alternifolia</i> (Alternate-leaved Dogwood)		X	Damascus, Md. (Mearns 1895) (S.I.)

Clethraceae - White-alders Family

<i>Clethra alnifolia</i> (Sweet Pepperbush)		VR	Fairland Regional Park near Little PB
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Ericaceae - Heath Family

<i>Chimaphila maculata</i> (Spotted Wintergreen)		C	
<i>Chimaphila umbellata</i> (Pipsissewa)	S1	VR	Patuxent St. Pk.; Hoyles Mill Cons. Pk.
<i>Rhododendron maximum</i> (Rosebay Rhododendron)		VR	Blockhouse Point/C&O Park (ravine)
<i>Rhododendron nudiflorum</i> (syn. <i>R. periclymenoides</i>) Pinxter Azalea		C	
<i>Rhododendron viscosum</i> (Swamp Azalea)		R	Little Paint Br.; NBRC; Rachel Carson
<i>Kalmia latifolia</i> (Mountain Laurel)		FC	
<i>Lyonia ligustrina</i> (Maleberry)		R	Little PB; NBRC; Travilah Serpentine
<i>Lyonia mariana</i> (Staggerbush)		VR	Briggs Chaney Rd./Little Paint Branch
<i>Leucothoe racemosa</i> (Swamp Sweetbells)		R	Little PB; NWB; Travilah Serpentine
<i>Epigaea repens</i> (Trailing Arbutus)		UC	Scattered throughout county
<i>Gaultheria procumbens</i> (Wintergreen)		R	NWB; Rck.; Rachel Carson; Little PB
<i>Gaylussacia baccata</i> (Black Huckleberry)		FC	
<i>Gaylussacia frondosa</i> (Dangleberry)		R	Little Paint Branch; Paint Branch
<i>Vaccinium stamineum</i> (Deerberry)		FC	
<i>Vaccinium angustifolium</i> (Late Low Blueberry)		R	Little Paint Branch; Travilah Serpentine
<i>Vaccinium vacillans</i> (Early Low Blueberry)		C	
<i>Vaccinium corymbosum</i> (Blue Highbush Blueberry)		R	Little Paint Branch
<i>Vaccinium atrococcum</i> (syn. <i>V. fuscatum</i>) (Black Highbush Blueberry)		FC	Scattered throughout county

Ebenaceae - Ebony Family

<i>Diopyros virginiana</i> (Persimmon)		C	
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Oleaceae - Olive Family

<i>Fraxinus americana</i> (White Ash)		C	
<i>Fraxinus pennsylvanica</i> (Green Ash)		C	
<i>Fraxinus nigra</i> (Black Ash)	S3	VR	Hoyles Mill Diabase; N. Germantn. Pk.
<i>Chionanthus virginicus</i> (Fringe Tree)		UC	Scattered throughout county

Bignoniaceae - Bigonia Family*Campsis radicans* (Trumpet Creeper) FC**Rubiaceae - Madder Family***Mitchella repens* (Partridgeberry) C
Cephalanthus occidentalis (Buttonbush) FC/UC

Open wetlands throughout county

Caprifoliaceae - Honeysuckle Family

<i>Lonicera sempervirens</i> (Trumpet Honeysuckle)	R	NWB, Rock Ck., and Wheaton Reg. Pks.
<i>Viburnum nudum</i> (Swamp Haw Viburnum)	R	Little Paint Br.; Good Hope wetlands
<i>Viburnum prunifolium</i> (Black Haw Viburnum)	C	
<i>Viburnum rafinesquianum</i> (Downy Arrowwood)	VR	Potomac River Gorge
<i>Viburnum dentatum</i> (includes <i>V. recognitum</i>) (Arrowwood)	C	
<i>Viburnum acerifolium</i> (Maple-leaved Viburnum)	C	
<i>Sambucus canadensis</i> (Elderberry)	FC	

* See back cover for descriptions and keys to rank/status, occurrence, and abbreviations.

Authors note: This native woody flora reflects 27 years of my botanical studies in Montgomery County, Maryland. I define “native” to be a plant likely native to Montgomery County, Maryland at the time of first European settlement. Except for 13 species, I have personally verified that the plants on this list ‘naturally occur’ in Montgomery County as of 2002. ‘Naturally occur’ means that a species is established in the wild by natural seed and/or vegetative dispersal methods such as by wind, water, wild animals and so forth. The 13 species I did not verify as ‘naturally occurring’ as of 2002 include: *Salix interior*, *Comptonia peregrina*, *Carya laciniosa*, *Quercus prinoides*, *Magnolia acuminata*, *Ribes* sp., *Rubus odoratus*, *Prunus pumila*, *Ceanothus ovatus*, *Vitis rupestris*, *Hypericum densiflorum*, *Cornus alternifolia*, and *Rhododendron maximum*. Though I know that cucumber tree (*Magnolia acuminata*) and rosebay rhododendron (*Rhododendron maximum*) grow at Blockhouse Point Park, I have observed only one specimen of each and thus am not sure whether they represent a natural occurrence even though they grow in mature forest. The remaining 11 species are documented from Montgomery and/or nearby localities. Carole Bergmann (Montgomery County Forest Ecologist) knew of a northern Montgomery County site for sweet fern (*Comptonia peregrina*), but a housing development destroyed the site. Hopefully another occurrence will be rediscovered soon.

Historical records indicate that the native flora of D.C. and vicinity was/is incredibly diverse. That said, there is no doubt that we humans have drastically altered the natural ranges of many species, for better or for worse, since European settlement. Botanists may argue ‘till the cows come home’ about what is or what is not native to a given area. Though no one really knows exactly what was native to this particular County 400 years ago, my approach is to be broadly inclusive. I wish I could go back in time to witness the pre-settlement landscape. Since I am but 44 and not 400 years old, I must rely on my best judgment and the literature and err on the side of inclusiveness as to what was likely our native flora prior to European settlement.

The data in the “occurrence” column is based upon my field observations and historical records for Montgomery County. I have used my best judgment to determine frequency of occurrence. I welcome constructive feedback and invitations to the field where there may be disagreements with any of my assessments. Inevitably, new information will also shed light on the status of the County’s woody flora. Lastly, I have indicated location data in the “where found” column only for those species listed as uncommon, rare, very rare, or extirpated. Those species listed as fairly common and common are usually easy to locate.

It is my sincere wish that this woody flora will inspire others to document their local flora for education and preservation purposes.

John M. Parrish is a field botanist who has extensively surveyed the flora and plant communities of Maryland, especially Montgomery County.

MNPS Field Botany Updates

By Rod Simmons, Cris Fleming, John Parrish, and Jake Hughes

MNPS conducts field surveys throughout Maryland each year to assess natural communities, inventory flora, study plant associations, and record information on species distribution. Besides having fun discovering new plants and places, the society performs an important role by documenting Maryland's native flora and habitats, both common and rare. Some of the survey sites are familiar parks and preserves. Others are unknown or have not been seen in a long time, and many are threatened by urbanization, pollution, and invasive exotic plants. Today, there are very few intact examples of these communities in parts of the state, especially the overdeveloped but floristically diverse Washington-Baltimore area. It is hoped that this information will bring attention to these sites as irreplaceable remnants of Maryland's natural heritage, and lead to their conservation.

These surveys also help the Maryland Natural Heritage Program track Rare, Threatened, and Endangered (R,T,&E) plants and special communities in Maryland. The location of R,T,&E species and habitats is reported to the Natural Heritage Program to be added to a database that includes all the known occurrences of state-listed R,T,&E species in Maryland. Most importantly, this information, and other assistance by MNPS, helps the state, counties, and land trusts prioritize lands for acquisition and develop appropriate management strategies.

The following is a list of some of the notable sites and flora recently surveyed by MNPS. Species actively tracked by the Maryland Natural Heritage Program (noted below) have a state rank of S1 (highly state rare) or S2 (state rare) and sometimes a state status of E (endangered) or T (threatened). A watchlist species is given a rank of S3 and is usually not actively tracked.

Bear Island, Montgomery County: Three colonies of the state-threatened Racemed milkwort (*Polygala polygama*) (S1T) were observed in sandy soil along the Billy Goat Trail.

Surveyor: Cris Fleming



Polygala cruciata

*"The tangled swamp, through which a pathway strays,
Becomes a garden of strange flowers and sprays."*

- Bryant

Beaverdam Creek Bogs, Prince George's County:

Several, large colonies of staggerbush (*Lyonia mariana*) were discovered growing in heavy sand under dominant, old-age stands of pitch pine (*Pinus rigida*) surrounding the Beaverdam Creek Bogs. The ericaceous, pine barren-like forest is well-developed on the sandy soils of this area - a section near the "Airport Bog" was discovered to have many very old, 9-10' circumference pitch pines, at least one qualifying as the state champion. Thanks to Chris Ludwig, Chief Biologist, VA Natural Heritage, formerly with the MD Natural Heritage Dept., for sharing his field notes and location of the Airport Bog with MNPS.

Surveyors: Rod Simmons and Mark Strong; Lou Aronica, Cris Fleming, Jake Hughes, Joe Metzger, Lowell Owens, John Parrish, and Meghan Tice.

Blockhouse Point Conservation Park, Montgomery County:

Table mountain pine (*Pinus pungens*); cucumber tree (*Magnolia acuminata*); poison oak (*Toxicodendron pubescens*). These plants are extremely rare in Montgomery County.

Surveyors: John Parrish and RG Steinman

Chapman Forest South, Charles County: An early field trip to this site along the entire length of the Chapman south tributary of Mattawoman Creek revealed extensive patches of slender-leaved toothwort (*Dentaria heterophylla*) growing in rich, silty alluvial soil of the floodplain and a very large deciduous holly (*Ilex decidua*) (S2) farther upstream than previously recorded. *D. heterophylla* is extremely rare on the coastal plain.

Surveyors: Rod Simmons and Meghan Tice; Lou Aronica, Adam Fisher, Sharon Geil, Jake Hughes, Marc and Alice Imlay, Brenda Jackson, and Julie Ulrich

C&O Canal National Park, Montgomery County: Perhaps the largest Shumard oak (*Quercus shumardii*) (S2T) in Maryland was discovered growing in rich floodplain forest along the Potomac River near Lock #7. The double-trunked tree (at 6') measured 18' in circumference at 54" above the ground, and was growing with other old-age Shumard oaks, chinquapin oaks, box elders, and hackberries. Several white trout lily (*Erythronium albidum*) (S2T) plants were growing on the woodland floor with many other early spring wildflowers such as wild blue phlox (*Phlox divaricata*), golden ragwort (*Senecio aurea*), Virginia bluebells (*Mertensia virginiana*), and others.

Surveyors: Lou Aronica, Rod Simmons, and Meghan Tice

Clara Barton Parkway, Washington, D.C.: Four flowering stems of the watchlist species, halberd-leaved rose mallow (*Hibiscus laevis*), were seen along the parkway just north of Chain Bridge. Usually found only in wetlands, it was here growing in dry upland soil. Also growing nearby was fog-fruit (*Lippia lanceolata*), another wetland species.

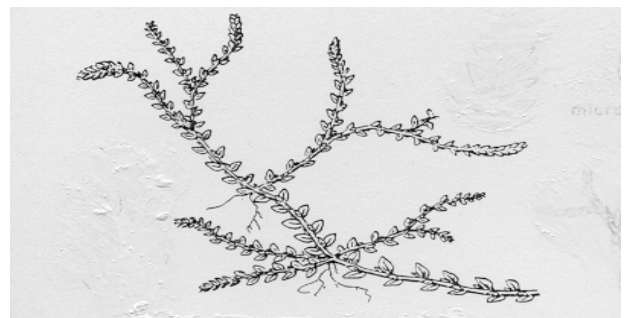
Surveyor: Cris Fleming

Hollywood Swamp, Prince George's County: A 220-acre bottomland along a braided section of Indian Creek inside the Beltway near Greenbelt consisting of silty, alluvial soils and floodplain topography, vernal pools, palustrine forest, and wet meadows. The native vegetation is very diverse and typical of floodplains and wetlands, with perhaps the *Quercus michauxii*-*Clethra alnifolia* community as the most notable. Here, dense stands of sweet

pepperbush (*C. alnifolia*), winterberry holly (*Ilex verticillata*), fetterbush (*Leucothoe racemosa*), black highbush blueberry (*Vaccinium atrococcum*), arrowwood (*Viburnum recognitum*), and other shrubs thrive in sandy-silty soil under a canopy old-age red maple (*Acer rubrum*), sweet gum (*Liquidambar styraciflua*), black gum (*Nyssa sylvatica*), and swamp chestnut oak (*Quercus michauxii*). *Q. michauxii* is rare as a dominant component so close to Washington, D.C., with many old-age canopy trees and abundant seedlings. The combination and abundance of *Clethra alnifolia* and *Q. michauxii* at this site suggest a relic community of coastal plain flora typical much farther south and east of the D.C., metro area. It is also noteworthy that this is the closest recorded station to Washington, D.C. for *C. alnifolia*. The state recently purchased 75 acres of this site. However, parts of the remaining land need protection as well.

Large, extensive colonies of dwarf ginseng (*Panax trifolius*), wood anemone (*Anemone quinquefolia*), and Canada mayflower (*Maianthemum canadense*) were discovered this spring growing in silty soil in oak-hickory forest on the eastern end of the property. Virginia sweetspire (*Itea virginica*) was observed growing in wet soil at the eastern edge of the large wet meadow. A colony of hedge hyssop (*Stachys hispida*) was discovered growing on a bank above Indian Creek. Nearby, on wet gravel-sand bars of Indian Creek, approximately one dozen primrose willow (*Ludwigia decurrens*) (S2S3) plants were seen. A single shingle oak (*Quercus imbricaria*) was seen in the adjacent floodplain forest.

Surveyors: Lou Aronica, Rod Simmons, and Meghan Tice; Carole Bergmann, Ellen Dashner, Jake Hughes, Beth Johnson, Joe Metzger, Pete McClurkin, Jane Osburn, Ken Wright, and MNPS field trip participants.



Selaginella apoda

Hoyles Mill Diabase Area, Boyds, Montgomery County: Quillwort (*Isoetes* sp.); tall boneset (*Eupatorium altissimum*) (S3); hedge hyssop (*Stachys* sp.), yet to be identified.

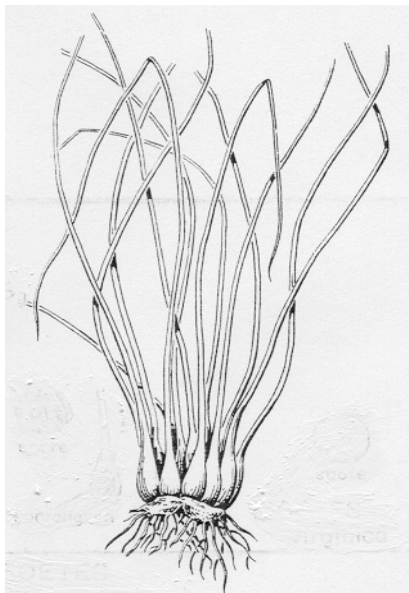
Surveyors: John Parrish and RG Steinman

Maryland Airport, Charles County: A very large population (several thousand flowering plants) of the state rare small-flowered baby blue-eyes (*Nemophila aphylla*) (S1) was discovered along a terrace floodplain and upper slope of a small tributary of Mattawoman Creek.

Surveyors: Cris Fleming and Jenny Solem-Lellinger.

Muirkirk, Prince George's County: Several sphagnum seepage wetlands colonized by dense thickets of sweetbay magnolia (*Magnolia virginiana*), *Clethra alnifolia*, highbush blueberry (*Vaccinium corymbosum*), poison sumac (*Toxicodendron vernix*), fringe tree (*Chionanthus virginicus*), and other bog flora were discovered growing in sandy-gravelly soil in a large section of pristine oak-hickory-heath forest on the east side of Muirkirk Road between Blue Ponds and Snowden Oaks near Laurel. Several colonies of sheep laurel (*Kalmia angustifolia*) (S3) were observed. This site is near the historic Muirkirk, Ammendale, and Laurel Bogs, which have all been destroyed.

Surveyors: Jake Hughes; Lou Aronica, John Parrish, Rod Simmons, and RG Steinman.



Isoetes engelmannii

North Branch Rock Creek Stream Valley Park, Montgomery County: Northern white violet (*Viola pallens*).

Surveyors: John Parrish and RG Steinman

North Germantown Park, Montgomery County: Black ash (*Fraxinus nigra*) (S3).

Surveyors: John Parrish and RG Steinman

Offutt Island, Montgomery County: About 40 large clumps of the state threatened narrow melicgrass (*Melica mutica*) (S1T) were found in the forested upland. Although seen in small colonies throughout the Potomac Gorge, this is the first recorded occurrence on Offutt Island.

Surveyor: Cris Fleming

Patuxent State Park, Montgomery County: Southern bog clubmoss (*Lycopodium appressum*); swamp hellebore (*Veratrum viride*); nodding trillium (*Trillium cernuum*) (S3); umbrella magnolia (*Magnolia tripetala*) (S3); pipsissewa (*Chimaphila umbellata*) (S1); shinleaf (*Pyrola elliptica*); round-leaved pyrola (*Pyrola rotundifolia*); four-leaved milkweed (*Asclepias quadrifolia*); Greek valerian (*Polemonium reptans*) (under review by MNHP); purple bergamot (*Monarda media*) (SU).

Surveyors: John Parrish and RG Steinman

Rachel Carson Conservation Park, Montgomery County: Steeplebush (*Spiraea tomentosa*).

Surveyors: John Parrish and RG Steinman

Rock Creek Park, Washington, D.C.: Groundnut (*Apios americana*), edge, rare – one locality; black edge sedge (*Carex nigromarginata*), dry deciduous forest, rare; blue huckleberry (*Gaylussacia frondosa*), deciduous forest, rare – one locality; spring avens (*Geum vernum*), edge, rare; Virginia pennywort (*Obolaria virginica*), deciduous forest, rare; dwarf ginseng (*Panax trifolius*), riparian, rare – one locality; yellow passionflower (*Passiflora lutea*), deciduous forest edge, rare; bashful bulrush (*Trichophorum planifolium*), deciduous forest, rare – one locality.

Surveyor: Jake Hughes

In Search of Another Orchid Species

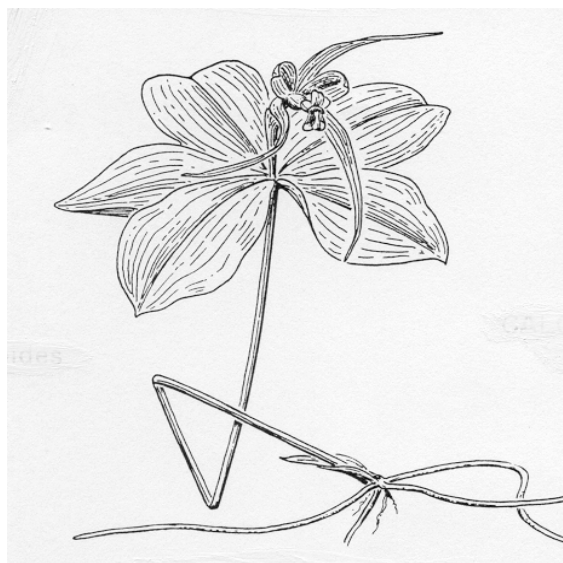
By Joseph F. Metzger, Jr.

In the Jan/Feb 2002 *Native News*, there was an article by Eileen O'Brien about a hike on Sugarloaf Mountain led by Bob Pickett last November. Ordinarily, I would have gone on this field trip but I made that mistake once. Anyone who knows me or has been on a field trip that I have led, knows that my pace would better be described as an amble, certainly not a hike. I tend to look at every herbaceous plant that has flowers over an eighth of an inch as well as some woody plants, particularly when the herbaceous ones are scarce (more than every two feet apart). One group of plants of which I am especially fond is the orchid family, and near the end of the article Eileen mentions "a rare orchid called spreading pogonia (*Cleistes divaricata*)."

To give you some background, there are 50 species of orchids known in Maryland and 13 more species found in adjacent states that could be here. Of these, I have seen 23 species in Maryland, one additional species in Virginia, and another (in cultivation) in Delaware. I have seen most of these in bloom, but a couple have still eluded me. One of the orchids that I haven't seen at all is the spreading pogonia.

Sometime later I talked to Eileen at one of the regular MNPS monthly meetings and asked her about the orchid she had seen. She described it and also drew a map showing where the plant was. I asked if she and Bob were free on Sunday for a small field trip. They weren't sure but would check their schedules and get back to me.

I live a little bit out in the country. The property next to me is a dairy farm and there are two more dairy farms on our three-mile winding road. The nearest town is in the next county and several miles away. To get to a town with more than a thousand people, I have to drive about 20 miles, which takes about half an hour. It takes about 25 minutes to get to the nearest interstate highway (I-70) and another 10 minutes to get to I-270. Catoctin Mountain Park is nearest to me at about half an hour. Any park that is less than an hour away usually becomes a favorite, which I visit 3 or more times a year. The Hereford area of Gunpowder Falls and Soldier's Delight are among the few in this range. Sugarloaf Mountain is also in this range, but has never been a favorite because much of the mountain seen along the road to and from the summit has been so altered by exotics



Isotria verticillata

"The antiquity of some of these little waifs and the vicissitudes they have survived entitles them to our respect, while the slender thread upon which their continued existence depends commends them to our most considerate care."

-W.L. McAtee

like evergreen azaleas, English ivy, and periwinkle. On Sunday afternoon, August 4, 2002, I decided to take the trip to Sugarloaf Mountain to see if I could add another orchid to my list of species. Ordinarily, I would take MD 75 to MD 355 just above Hyattstown in northern Montgomery County and then take MD 109 past I-270 to Comus Road, following Comus Road back into Frederick County to Sugarloaf Mountain. Looking at the map I decided it might be closer to turn west onto MD 80 and go through Urbana to get to Parks Mill Road and follow that to Mount Ephraim Road, which crosses through the property that contains Sugarloaf Mountain. In fact, the orchid was described as being only about 50 feet from Mount Ephraim Road.

I drove the distance along Mount Ephraim Road to Comus Road and then onto the road to the summit. I didn't see where the trail crossed Mount Ephraim Road. At the summit, I picked up a trail map at one of the trailheads and went back down the mountain. Looking at the map, it appeared the trail crossing was about 1.5 miles from the intersection of Comus Road and Mount Ephraim Road. I had passed it without noticing. Driving back along the road, I kept looking for the trails and for the creek. After two miles, I found the trail and parked in the pull-off just beyond the creek. I walked back and headed up the blue trail.

To my left was a healthy stand of cinnamon ferns (*Osmunda cinnamomea*). Apparently this was a wet area. Just beyond it on the same side was a large patch of flat tree clubmoss (*Lycopodium obscurum*). True to the instructions I received, at about 50 feet, a tree about 12 inches in diameter stood where the trail veered left. The tulip tree had been damaged and the side away from the trail was hollow up to about four feet. On the trailside of the tree were two plants which I recognized as whorled pogonia (*Isotria sp.*). Neither plant had bloomed this year but I believe they were the large whorled pogonia (*I. verticillata*), an orchid which is uncommon but not rare in Maryland. The habitat was wrong for the small whorled pogonia (*I. medeoloides*), which is listed as federally threatened and is considered to be extirpated in Maryland. On closer examination, I noticed a third smaller plant growing out of the moss, which was growing on the bark near the base of the tree. This plant is often overlooked or is mistaken for Indian cucumber root (*Medeola virginiana*), which often (as in this case) grows nearby.

I decided to continue looking, and off the trail about 10 feet behind the tree, I found about 20 stems of the orchid on either side of a fallen birch log. Going back to the trail, I noticed a few of the Indian cucumber root plants had bloomed this year and one had produced two berries. Looking up the trail, I noticed a rock outcrop on the left side about 100 feet farther. I decided to investigate, hoping I'd find some of the less common rock loving ferns. What I found was common rock fern (*Polypodium virginianum*) and a wood fern (*Dryopteris sp.*) too small to identify to species. On my way back to the trail, I noticed I was just above the seep where the cinnamon ferns were growing.

Walking the few feet down to the seep, I started looking for a small orchid which likes such conditions. After a few minutes, I had counted about 15 stems of little clubspur orchid (*Habenaria clavellata*) along the edges of the currently dry seep, a few seedpods on each stem. This delicate, little orchid with its single leaf about 3 inches long rarely exceeds 6 inches in height and is seldom seen even in mid July when it is in full bloom. In addition, I had seen three more species of ferns; royal fern (*Osmunda regalis*), lady fern (*Athyrium sp.*), and broad beech fern (*Phegopteris hexagonoptera*); as well as some bedraggled skunk cabbage (*Symplocarpus foetidus*) and lots of violets, possibly marsh blue violet (*Viola cucullata*). Growing in the dry soil just above the seep, on my 50-foot trek back to the trail, I came upon 5 more stems of whorled

pogonia. Upon almost reaching the trail, I spotted two rosettes of downy rattlesnake plantain (*Goodyera pubescens*). I finally arrived back at the trail and started back toward the road, when I noticed 10 more stems of whorled pogonia growing next to the trail and a few feet behind them a downy rattlesnake plantain in bloom. There were several more stems of whorled pogonia along the trail before I came to the tree marked so clearly on the hand drawn map which I had received. None of the whorled pogonia had bloomed this year but this is not uncommon. I finally wandered down the last 50 feet to the road.

Since I had nothing better to do, I decided to see if any other ferns grew along the road as I walked back to my car. Almost immediately, I spotted several Christmas ferns (*Polystichum acrostichoides*) and a few small fronds of New York fern (*Thelypteris noveboracensis*). While I never did see the promised spreading pogonia, I saw nearly 60 plants of three species of orchids, well over 100 plants of 8 species of ferns and hundreds of stems of a single species of clubmoss. Not bad for a half hour walk of less than a thousand feet.

Joe Metzger is a field botanist who has spent many years studying Maryland's flora and compiling a flora atlas and checklist.



Gentiana villosa

Just Boil the Seeds

By James MacDonald

Anyone who propagates native species eventually hears this piece of advice. If you want the seeds to germinate you should, well... boil them. This is a piece of advice that is so startlingly counter-intuitive that it appears to have taken on a life of its own. Unfortunately the advice never seems to come from a person who has actually tried boiling the species you are working with. Everyone repeats it but few have tried it. My luck at propagating *Baptisia*s had not been good, and since this advice is often associated with leguminous species, I decided to try it. I started by asking all my native plant friends about boiling. They all knew about boiling legumes but none had done it with a *Baptisia*. The internet turned up a number of messages in the native plant discussion groups from people talking about boiling seeds, but none of the writers had done it. I searched the literature. Some of the books I checked mentioned it but little of the advice I was finding seemed authoritative, and all of it was contradictory.

I decided to try a little experiment on my own. My objective was to get a higher rate of germination in the propagation of cream wild indigo (*Baptisia leucaphea*). These particular seeds seem to be cautious about germination. Who can blame them for being conservative? They are fairly large and have a very tough shell. They can easily spend a few years waiting in the soil for the perfect germination moment.

I collected the seeds from plants on a prairie relic in the northwestern corner of Green County, Wisconsin. It had been a good year for these *Baptisia*s. The plants had produced abundant seeds and I was lucky to find many seed pods that had been skipped by the weevils. The seeds were all collected on the same October day from plants growing within 1/8 mile of each other. I immediately cleaned the seeds and left them unsealed at room temperature for about six weeks. I then divided them into four groups of fifty seeds. Each *B. leucaphea* plant produces seeds ranging in color from black to light cream. I had heard rumors that the darker ones germinate more readily so I was careful to randomize the groups by size and color. My experiment had two variables, season of planting and being boiled.

Now when I say boiled I don't mean I made them into soup. I was cautious. I brought a quart of water to a rolling boil on the top of a gas stove. I would then toss in the seeds, count to ten and turn off

the gas. I let the seeds stand in the water overnight. The change was dramatic. Most of the seeds increased in size as they sat cooling in the water. Many of them doubled in size and some quadrupled.

I planted the first one hundred in seed starting flats during the fall. This fall planting took place during the first week of December. I planted them all about ½ inch deep and put each of the two lots in its own clear plastic grocery store deli carry out box filled with moist Scotts potting soil. I closed both boxes and put them into the fridge for stratification. The refrigerator cycles through a range of temperatures between 35° F and 45° F. The second set of 100 went into the fridge at the same time. They spent the winter right beside the first but in an unsealed plastic bag of moist vermiculite. None of the seeds were treated with a nitrogen fixing inoculum before planting and none were scarified.

On April 7, after four months of winter, I took all the seeds out of the fridge. Fifty of the seeds from the vermiculite I boiled in the same way I had those in the fall and I then planted both lots in two more plastic deli boxes. I put all four boxes in a line on a propagation shelf. This propagation shelf is under a bank of florescent shop lights that turn on and off in a diurnal cycle which matches the day length in Wisconsin on May 15. The lights cause the seed boxes to cycle between about 50° F and 90° F on most days.

The first results came soon. In order to test for germination by seed color, I had arranged the un-boiled seeds planted in the spring according to color. The black ones were in a row down one side of the box and the white ones were on the other. The remainder was sorted in rows by color across the box. After two days one of these black colored, spring planted, un-boiled seeds germinated. Within three more days every black seed had germinated forming a line of seven seedlings. The fall planted un-boiled box was slower. The first germination in that box came after seven days. There was a second germination two days later and a third three days after that. The final germination came at the end of the fourth week. The real action, though, was in the fall planted boiled box. After three days there were four germinations. Within another day there were a total of 15 and two more appeared the next day. One week after being removed from the fridge the box had 21 germinations. The most disappointing box was the one with spring planted, boiled seeds. There were no germinations at all. In each case, I waited one month for germinations before I pricked out the seedlings. More seeds would probably have

germinated if I had waited longer, but after a month the first ones were so large they needed transplanting.

	Fall planting		Spring planting	
	50	4	50	7
Un-boiled	50	4	50	7
Boiled	50	21	50	0

The results are dramatic, but what do they mean? One question is why the un-boiled spring planted seeds germinated immediately while the un-boiled fall seeds took much longer to start. I don't have a certain answer. It could be that the seeds in the vermiculite had more moisture. A second much more complicated question is why the fall boiling seemed to dramatically increase the germination rate over the spring boiling. These are legumes that have a seed coat tough enough so that many people scarify them. Since the seeds swelled after boiling, one effect of boiling could have been breaking open the seed coat. However, if this was the only thing happening, the spring and fall plantings of boiled seeds should have been more similar. This hot water version of scarification is a semi-explanation from the horticultural perspective, but the real question is what's happening from the seed's perspective. Why does boiling induce them to germinate? It could be that they believe there has been a fire. It is easy to see how the short, intense heat and then slow cooling produced by a prairie fire might be mimicked by my short boil. Germination after a burn is advantageous since the soil surface is clear and there is plenty of sun even for a one-inch plant. But if this is the single "reason," then the fall and spring boiled plantings should have been alike. The seeds know the burn came in the fall because it was before the cold of winter, but it is not clear why a fall burn would be more advantageous than a spring burn. It could be that the cold stratification increased germination only after the seed coat had been penetrated by boiling, so the spring boil came too late. That would fit with an increased rate germination due to more moisture in the vermiculite. But, we cannot be certain that moisture is the reason the seeds in vermiculite germinated more quickly.

The biochemistry of germination strategies is very poorly understood. It is clear to everyone who has done prairie plant propagation that a wide diurnal temperature fluctuation induces many species to germinate, but the biochemists have never

conclusively identified any changes in the seeds during these fluctuations. We know they know about the temperature, but we have no idea how they know. Frankly, until we locate a talking seed, exactly how these guys formulate a germination strategy will remain a mystery. Based on my experience, all I can say with certainty is that boiling the seeds of this species in the fall increased the germination rate.

James MacDonald has been propagating native plants from seeds of relic prairie populations in Green County, Wisconsin for the past 10 years, as part of a prairie restoration project he is conducting.



Collinsonia canadensis

*“There is pleasure in the pathless woods,
There is a rapture on the lonely shore,
There is society where none intrudes,
By the deep sea, and music in its roar:
I love not man the less, but Nature more.”*

-Lord Byron



M.L. Fernald, 1873-1950

Old-Time Botanizing

“The watching of vegetation from a moving train has long been a regular diversion of field botanists but it is Harper who has so far developed the art as to draw considerable deductions from observations thus swiftly made and without verifying specimens (i.e. Car-window Notes on the Vegetation of the Delaware Peninsula and Southern Virginia. Torrey. 1909.) A milder form of the sport is botanizing without slowing down from a speeding automobile, “rumble-seat botany” as Dr. Lincoln Constance calls it. A slower period gave us the “horse-and-buggy” glimpser. But “horse-and-buggy” and “rumble-seat” botanizing, without slowing down to collect specimens, as well as botanizing from the express train are all obsolescent. Witness the following: “these records, which are altogether right, must in fact be due to observations made from a sea plane in 1924, as no old-time land-crab botanist has before 1931 visited these tracts.” As an “old-time land-crab botanist,” I still find the old-time methods of exploring a flora the best. The “buggy,” the railroad train, and the automobile are invaluable aids, so long as they do not lead to inertia and superficiality, but land-crabbing is necessary if one wants to find the rare and phytogeographically most interesting plants.”

- M.L. Fernald, *Rhodora*, Vol. 39, 1937

National Forests Need Protection, Not Logging

More than 200 scientists from every state in the nation recently signed a letter to President Bush urging him to end commercial logging of our national forests and renew the Forest Service’s original vision of forest protection.

“Logging has caused devastating impacts on the ability of our national forests to provide wildlife habitat and economically valuable goods and services. The loss of biodiversity is the folly our descendants are least likely to forgive us. Mr. President, we urge you to end the destructive practice of commercial logging in the national forests and to begin a scientifically based program to restore habitat and native species,” the scientists say in the letter.

The timber industry has turned America’s publicly owned national forests into a patchwork of clearcuts and logging roads. Commercial logging, subsidized by American taxpayers, drains nutrients from the soil, washes topsoil into the streams, destroys wildlife habitat, and intensifies the severity of forest fires.

-Bob DeGroot/MAGIC

Maryland Native Plant Society Contacts:

Botany.....	Rod Simmons cecropia13@msn.com
Conservation.....	Lou Aronica 202-722-1081
Field Trips.....	Meghan Tice fieldtrips@mdflora.org
Flora of Maryland.....	Joe Metzger jmetzger50@hotmail.com
Invasive Exotic Plants.....	Marc Imlay ialm@erols.com
Membership.....	Blaine Eckberg memberships@mdflora.org
Monthly Meetings.....	Rod Simmons meetings@mdflora.org
President.....	Karyn Molines kmolines@chesapeake.net
Publications:	
Marilandica.....	Rod Simmons & Meghan Tice marilandica@mdflora.org
Native News.....	Meghan Tice nativenews@mdflora.org
Website.....	James MacDonald jmacdon@iamdigex.net

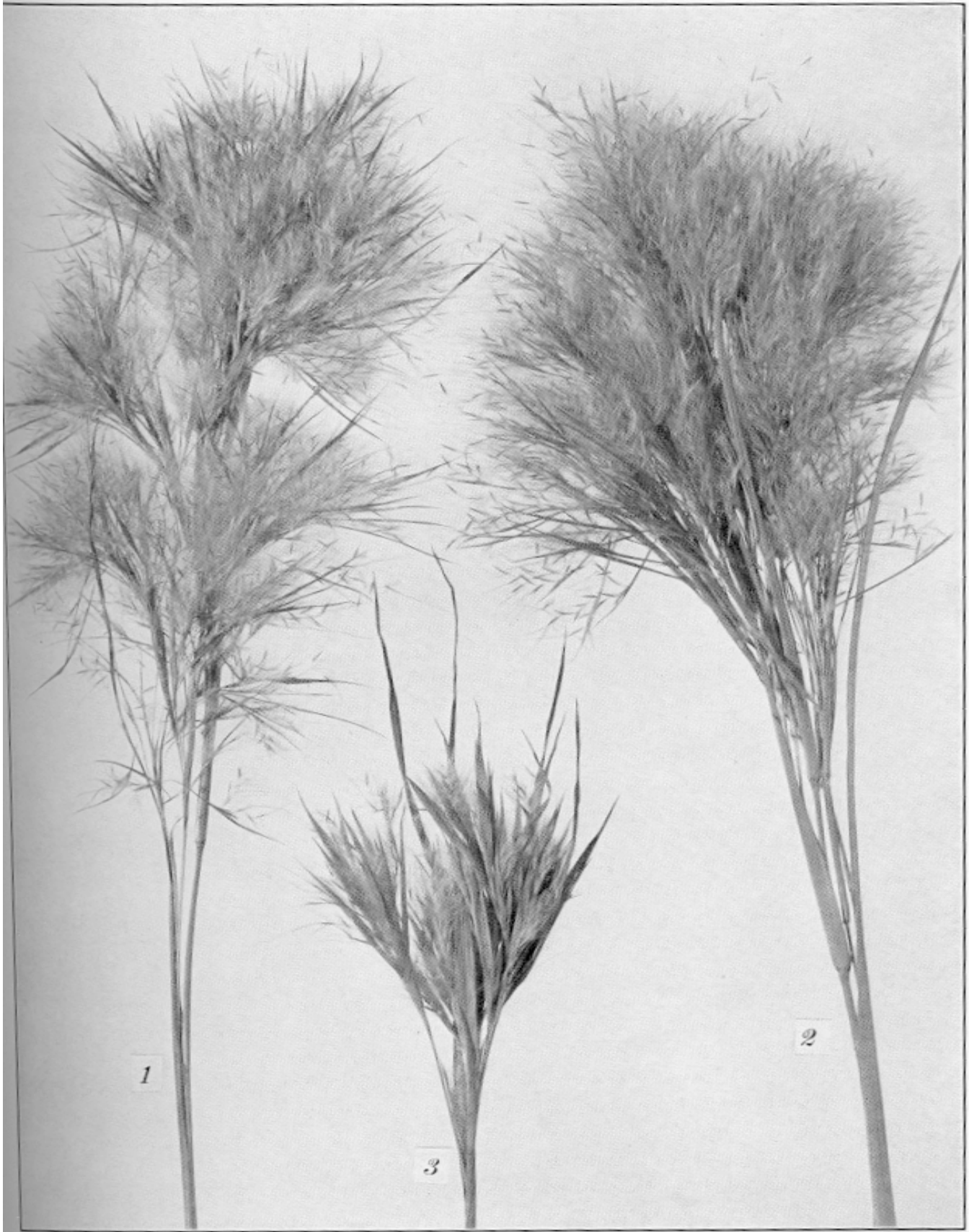
Some Varieties of *Andropogon virginicus* and *Andropogon scoparius*

[Plates reprinted from *Rhodora*, Vol. 37, 1935]



Andropogon virginicus and varieties; Fig. 1, var. *genuinus*; Fig. 2, var. *glaucus*; Fig. 3, var. *tetrastachyus*; Fig. 4, var. *glaucoptis*.

Photo J.F. Collins



Andropogon virginicus and varieties; Fig. 1, var. *tenuispatheus*; Fig. 2, var. *corymbosus*; Fig. 3, var. *abbreviatus*.

Photo J.F. Collins



Andropogon scoparius and varieties; Figs. 1 and 2, var. *septentrionalis*; Fig. 3, var. *frequens*; Fig. 4, var. *genuinus*; Fig. 5, var. *neo-mexicanus*.

Photo J.F. Collins



Andropogon scoparius and varieties; Figs. 1 and 2, var. *ducis*; Fig. 3, var. *divergens*; Fig. 4, var. *littoralis*.

Photo J.F. Collins

ABBREVIATIONS & PLACE NAMES (for use with 'where found' column)

Br.	Branch
Brinklow	Locality in Hawlings River watershed
Ck.	Creek
C&O	Chesapeake and Ohio Canal National Historic Park
Cons.	Conservation
Cty.	County
D.C.	District of Columbia
Fairland	Fairland Regional Park
Good Hope	Tributary of Paint Branch
Great Falls	Great Falls of Potomac River
Hist.	Historic
Hoyles Mill Diabase	Diabase geologic area, Boyds, Md.
Hoyles Mill Park	Hoyles Mill Conservation Park, Boyds, Md.
H&S	References Flora of D.C. and Vicinity, Hitchcock & Standley, 1919
Lewisdale	Locality near Frederick County, north of Little Bennett Park
Little Falls	Little Falls of Potomac River near D.C. line
LPB	Little Paint Branch
Mill Creek	Tributary of Rock Creek
MNHP	Maryland Natural Heritage Program database
N. or n.	North
NBRC	North Branch Rock Creek Stream Valley Park
NWB	Northwest Branch Park
Nyssa	Black Gum
PB	Paint Branch
PG	Prince George's County
Plummer's Is.	Island in Potomac River at Beltway
Pk.	Park
Potomac Gorge	Area from Great Falls to D.C. line
Pt.	Point
R.	River
Rachel Carson	Rachel Carson Conservation Park
Rck.	Rock Creek
Rd.	Road
Reg.	Regional
Rt. 29	Route 29 (Colesville Rd./Columbia Pike)
Serp.	Serpentine geologic area, Travilah, Md.
Shale	River Rd. Shale area
S.I.	Smithsonian Institution database records
St.	State
Triassic Basin	Greater Poolesville area to the Potomac River
Trib.	Tributary
Wtrsd.	Watershed

Key for 'Occurrence' Column

C	Common. Throughout Montgomery County.
FC	Fairly common. Found in most, but not all, areas of Montgomery County.
UC	Uncommon. Seen infrequently at scattered localities in the County.
R	Rare. Currently known in only 5 to 10 locations in Montgomery County.
VR	Very rare. Less than 5 locations currently known in Montgomery County.
X	Extirpated. Historically known in the County, but not known to currently occur.

Key for 'State Rank/Status' Column

State Rank

- S-1** Highly state rare. Critically imperiled in Maryland because of extreme rarity.
S-2 State rare. Imperiled in Maryland because of rarity.
S-3 Watchlist. Rare to uncommon in Maryland, worthy of attention due to limited distributions, declining populations, or ecological vulnerabilities.

State Status

This is the status of a species as determined by the Maryland Department of Natural Resources, in accordance with the Non-game and Endangered Species Conservation Act. Definitions for the following categories have been taken from Code of Maryland Regulations (COMAR) 08.03.08.

- E** Endangered. A species whose continued existence as a viable component of the state's flora or fauna is determined to be in jeopardy.
T Threatened. A species of flora or fauna which appears likely, within the foreseeable future, to become endangered in the state.
SU Possibly rare in Maryland but of uncertain status.

Note: Under Review indicates "Under Review for inclusion on Maryland rare species list."