FALL

POTOWMACK NEWS

Potowmack Chapter of the Virginia Native Plant Society

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Two Centuries of Botanical Exploration in the Wilds of Turkeycock Run

By Rod Simmons, October 2015

MAGNOLIA BOG ALONG THE EAST BRANCH OF TURKEYCOCK RUN. PHOTO BY R.H. SIMMONS.

The two branches of Turkeycock Run emerge as pristine, strong-flowing springs atop the high elevation, Pliocene-aged gravel terrace at Pinecrest in northeastern Fairfax County, Virginia. Slowly over millennia, the spring-formed perennial streams have created two exceptionally beautiful stream valleys. Over the last dozen or so years, VNPS Potowmack Chapter has led several botany and geology forays to both sites.

The eastern branch of Turkeycock Run begins on the east slope of Mount Pleasant at Columbia Pike (eastern flank of "Mason's Hill") and flows mainly along the west side Lincolnia Road to its confluence with the west branch of Turkeycock Run at Fairland on the south side of Little River Turnpike (Rt. 236). The west branch of Turkeycock Run originates in Oak-Heath Forest atop the terrace at Turkeycock Run Stream Valley Park (at the north end of Roberts Avenue) at Pinecrest, and flows southeast through Green Spring Gardens to Fairland.

Several plant communities are encountered as one travels from highest elevation to lowest along these streams: Oak-Heath Forest atop the terrace; acidic Pitch Pine (*Pinus rigida*) seepages just below Mount Pleasant; Mesic Mixed Hardwood Forest with old-age American Beech (*Fagus grandifolia*), Northern Red Oak (*Quercus rubra*), and Tuliptree (*Liriodendron tulipifera*) along the stream valley of Turkeycock Run Stream Valley Park; Coastal Plain / Piedmont Small-Stream Floodplain Forest; and a mosaic of woodland seeps, Northern Coastal Plain Terrace Gravel Bog remnants (Magnolia Bog), and Acidic Seepage Swamp. Both stream branches sustain relic Magnolia Bogs: the west branch with the "Green Spring Bog" and the east branch near Lincolnia which is the focus of this article with three small bogs, including F. R. Fosberg's "hillside" bog.

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Upcoming Events

Potowmack Chapter Annual Meeting

Sunday, Nov 8, 12:30-3:00 pm
Green Spring Gardens Horticulture Center

Enjoy refreshments and mingling at 12:30; program begins at 1:00:

Naked Mountain: The Delights and Challenges of Owning One of Virginia's Natural Area Preserves

Talk by Marcia S. Mabee

Naked Mountain is Marcia Mabee's 284-acre property in Nelson County, Virginia. It was placed under an open space easement held by the Virginia Department of Conservation and Recreation in 2006, but the discoveries and obligations never end.

All who attend the Annual Meeting will receive a copy of *Native Plants for Northern Virginia.*

Rock Creek Park Field Trip

Sat, Dec 5, 9:30 am

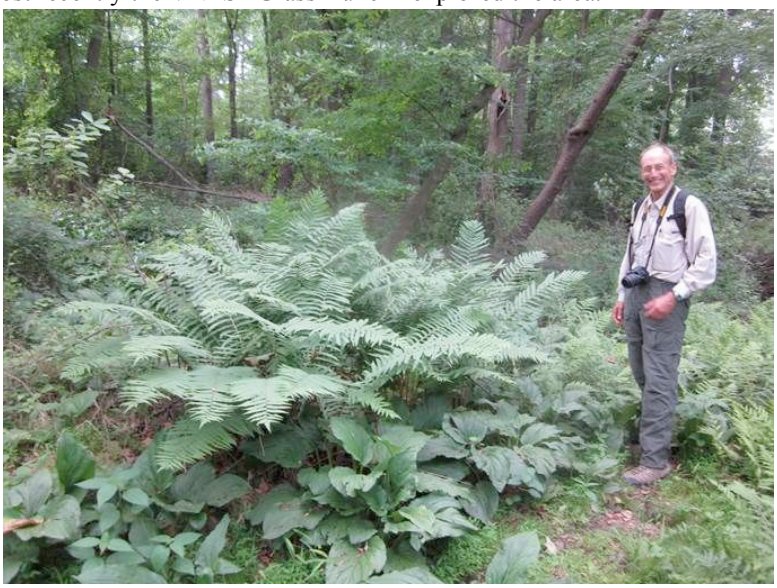
Led by Melanie Choukas-Bradley and Susan Austin Roth, author and photographer of *A Year in Rock Creek Park, the Wild, Wooded Heart of Washington, DC.* Beginning at Boundary Bridge on the Maryland-DC line, we'll walk a scenic stretch of Rock Creek. If weather permits, we'll picnic on a dramatic rocky ledge crowned with American beech and witch-hazel – maybe in bloom? Space limited: watch for Eventbrite registration info.

All events are free and open to the public. Join our listserve at http://groups.yahoo.com/group/vnps-pot to receive notices with walk registration links

Turkeycock Run continued from page 1

Prior to the Civil War, Lincolnia was called Lebanon, which at the time was a small settlement on the south side of Duke Street (Little River Turnpike) opposite present-day Landmark Mall. Before the construction of Shirley Highway, Lincolnia Road once extended continuously from the east slope of Mount Pleasant at Columbia Pike southeastward across Duke Street and south along present-day S. Whiting Street to S. Van Dorn Street and on to the Lincolnia Station in the Eisenhower Valley below. During the Civil War, Union troops changed the name of the settlement from Lebanon to Lincolnia (Simmons 2015a).

The east branch of Turkeycock Run and close vicinity has had a long history of botanical exploration, beginning in the late 19th century. William Palmer collected various plants, including Clinton's Wood Fern (*Dryopteris clintoniana*) and natural hybrids, from near this vicinity in 1899; Nellie C. Knappen reported flora from Lincolnia in the early 1920s; E.H. Walker collected Magnolia Bog flora, including Long's Rush (*Juncus longii*), from the old sand and gravel mine complex and bog adjoining Turkeycock Run in 1945; H.G. Deignan collected similar flora from this site in 1945; F.R. Fosberg, also in 1945, collected from woodland seeps and a Magnolia Bog along the slope above Turkeycock Run (probably the same site as Walker's); Rod Simmons extensively surveyed the uplands and stream valley flora of the watershed in the early 1990s, noting many of the previously documented plants and habitats; Carl and Jerry Taylor and Rod and Dianne Simmons searched the boggy areas and seepage stream for Clinton's Wood Fern several years ago; and most recently the VNPS "Grass Bunch" explored the area.



Carl Taylor and giant Cinnamon Fern (*Osmundastrum cinnamomeum* var. *cinnamomeum*) along the east branch of Turkeycock Run. Photo by R.H. Simmons.

The vegetation of much of the eastern branch of Turkeycock Run would be best classified as Coastal Plain / Piedmont Small-Stream Floodplain Forest: *Liquidambar styraciflua - Liriodendron tulipifera / Lindera benzoin / Arisaema triphyllum* Forest (USNVC: CEGL004418). Unlike the rich floodplains of large streams and rivers, these perennially-damp forest communities are flooded very rarely by stream overflows and are mainly fed by a mosaic of seeps and springs that emanate from the porous sandy-gravelly soils of slopes along the stream valleys. They occur at the lowest landscape position in the stream valley along banks and flat alluvial benches just above the streams on acidic, sandy-clayey loams, often over underlying clay, but are not swamps or bogs.

Vegetation varies somewhat with stream size, soil and moisture conditions, and geography, but Tuliptree, Sweetgum (*Liquidambar styraciflua*), and Red Maple (*Acer rubrum*) are the dominant canopy trees of this community type. Tuliptree is

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Submissions to *Potowmack News* may be sent to The Editor at vnps.pot@gmail.com

Potowmack Chapter
Virginia Native Plant Society
P.O. Box 5311
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If you cannot attend the annual meeting, please send in this ballot by November 8 to Potowmack Chapter VNPS, PO Box5311, Arlington, VA 22205, or email your vote to vnps-pot@gmail.com

Election of Officers for 2016

The board of the Potowmack Chapter VNPS presents the following slate of officers for the 2016 year, with terms beginning January 1. This slate will be voted on at the Annual Meeting on November 8.

Note that the position of Vice President is vacant. Please consider volunteering.
Contact Alan Ford for further information at amford@acm.org

Slate of Officers

President:	**__Alan Ford**	**Write-in_____**
Vice President:	**open**	**Write-in_____**
Secretary:	**__Pat Salamone**	**Write-in_____**
Treasurer:	**__Scott Knudsen**	**Write-in_____**

FY2016 Budget Approval

The Board of the Potowmack Chapter VNPS presents the following proposed budget for fiscal year 2016

INCOME	
Donations	$500
Member Dues	$5,800
Sales	$9,200
Other	$100
Total Income	**$15,600**
Expenses	
Administrative	$1,300
Green Spring Fees	$1,500
Membership	$200
Registry	$100
Programs	$3,500
Education	$100
Newsletter	$3,000
Internship at Green Spring	$3,700
Plant Sales	$800
Printing/Publications	$200
Merchandise	$200
Special Board Action	$1,000
Total	**$15,600**
Board Approved Expenses Against Savings	
Internship at Huntley Meadows	$2,800
Tree removal	$1,000
Larry Morse Memorial Fund	$200
Total	**$4,000**

I approve _____ disapprove_____ the FY2016 budget.

Turkeycock Run Continued from page 2

characteristic of well-drained sites along small order streams of the fall line and adjoining Coastal Plain of our area, with Red Maple to a lesser extent. Sweetgum can also occur as a canopy co-dominant, but becomes increasingly important on poorer-drained soils and on the Coastal Plain. Occasionally, oak species - typically White Oak (*Quercus alba*) near the fall line and Southern Red Oak (*Quercus falcata*) on the Coastal Plain - and American Beech are also co-dominant. Many of the canopy trees are old-age and reach great size.

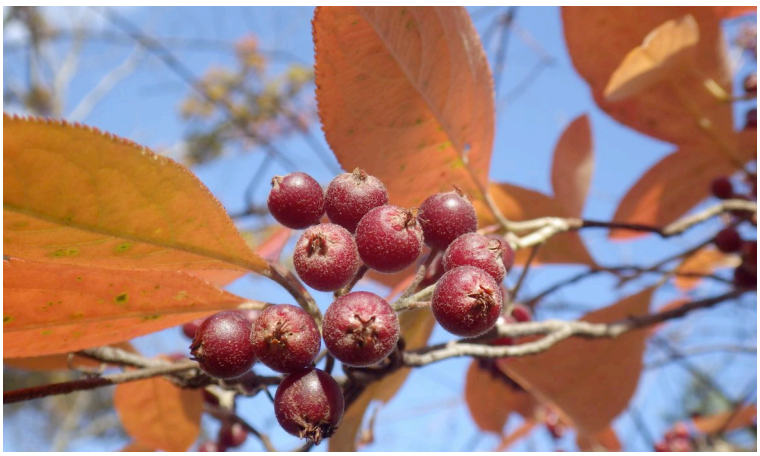
The understory and shrub layers are usually sparse, with Spicebush (*Lindera benzoin*) the characteristic shrub. The herbaceous layer is diverse, though large expanses of the forest floor are typically carpeted in lush colonies of New York Fern (*Parathelypteris noveboracensis*), intermixed to a lesser extent with Southern Lady Fern (*Athyrium asplenioides*). Common Jack-in-the-pulpit (*Arisaema triphyllum* ssp. *triphyllum*) is frequent in areas not dominated by fern colonies, along with Sessile Bellwort (*Uvularia sessilifolia*), Partridge-berry (*Mitchella repens*), numerous carices (*Carex* spp.), and other herbaceous plants. Extensive colonies of Dwarf Ginseng (*Panax trifolius*) and Wood Anemone (*Anemone quinquefolia*) are fairly common in spring.

The process that begins with rainwater infiltration into the sandy-gravelly terraces, including the formation of seeps and springs as groundwater comes in contact with clays of the Potomac Formation, occasionally gives rise to Magnolia Bogs, a globally-rare type of upland seepage wetland uniquely associated with Potomac Formation soils and acidic gravel terraces. Growing on forested slopes slightly above the bogs in permanently damp soil where the ground water is just below the surface (capillary fringe) are woodland seeps, characterized by Common Ground-pine (*Dendrolycopodium obscurum*), Canada Mayflower (*Maianthemum canadense*), and others. Wetter, permanently saturated seeps are characterized by dense colonies of Skunk Cabbage (*Symplocarpus foetidus*), with American False-hellebore (*Veratrum viride* var. *viride*) to a lesser extent. Significant groundwater flow passing through seeps, accumulating in bogs, and continuing on as outflow through Acidic Seepage Swamp communities are all vital components of the intricate process of naturally slowing surface flow and limiting stream valley erosion in forested environments with abundant groundwater seepages.

Gravelly and shallow-banked east branch of Turkeycock Run during torrential spring rain. Not many streams in the county are in such good condition. Photo by R.H. Simmons.

Magnolia Bogs are acidic, fen-like seeps uniquely associated with gravel terraces of the inner Coastal Plain near the Fall Zone that are named for a characteristic assemblage of Sweetbay Magnolia (*Magnolia virginiana*), Sphagnum moss (*Sphagnum* spp.), and other bog flora (McAtee 1918). Occasionally, they are referred to as "McAteean Bogs", after W.L. McAtee who first defined them in 1918. These bogs typically form on a slumped bench at the toe slope of hillsides where a strong-flowing spring or seep flows from an upland gravel and sand aquifer over a thick, impervious layer of underlying clay which prevents the downward infiltration of water. This seepage flow and highly acidic, exposed sands and gravels of the Cretaceous-aged Potomac Formation create optimal conditions for the formation of bogs (Simmons 2015b).

With floristic affinities to similar communities in the New Jersey Pine Barrens region, their global distribution generally follows the Fall Zone in a narrow, east-west band from the Jessup area at the northern limit of their range in Howard County, Maryland, to their southern limit near Fredericksburg, Virginia (Simmons 2015b). Throughout their range, they were never very common or large, usually occupying an acre or less. Nonetheless, they are vitally important resources both for the pure, naturally-filtered waters which flow continuously from them – even during periods of drought – and the relic populations of ancient northward and westward migrations of rare Coastal Plain flora, which have persisted in these small communities well inland and fairly close to the Piedmont (Simmons and Strong 2002).



Habitats are characterized by dense, shaded thickets of ferns, shrubs, and stunted trees, as well as sunnier, peaty-saturated open areas dominated by graminoids, herbaceous plants, and scattered shrubs. Sphagnum moss is often a ubiquitous groundcover. Vegetation is very diverse and typically includes Cinnamon Fern (*Osmundastrum cinnamomeum* var. *cinnamomeum*), Royal Fern (*Osmunda spectabilis*), Virginia Chain Fern (*Woodwardia virginica*), Pitch Pine, Nuttall's Reedgrass (*Calamagrostis coarctata*), Prickly Bog Sedge (*Carex atlantica* ssp. *atlantica*), Northern Long Sedge (*Carex folliculata*), Bristly-stalk Sedge (*Carex leptalea*), Twisted Spikerush (*Eleocharis tortilis*), Slender Beaksedge (*Rhynchospora gracilenta*), Long's Rush (*Juncus longii*), Coastal Carrion-flower (*Smilax pseudochina*), Sweetbay Magnolia (*Magnolia virginiana*), Canadian Serviceberry (*Amelanchier canadensis*), Red Chokeberry (*Aronia arbutifolia*), Poison Sumac

(*Toxicodendron vernix*), Winterberry (*Ilex verticillata*), Black Gum (*Nyssa sylvatica*), Virginia Meadow Beauty (*Rhexia virginica*), Fetterbush (*Eubotrys racemosus*), Dangleberry (*Gaylussacia frondosa*), Swamp Azalea (*Rhododendron viscosum*), Highbush Blueberry (*Vaccinium corymbosum*), Fringetree (*Chionanthus virginicus*), Southern Wild Raisin (*Viburnum nudum*), Vervain Thoroughwort (*Eupatorium pilosum*), and numerous others (Simmons 2015b).

Today, less than two dozen or so sites remain throughout their global range, degraded to varying degrees by hydrologic disturbance, non-native invasive plants, possible fire exclusion, woody succession, and various anthropogenic impacts. They are ranked as "critically imperiled" globally, as well as in Virginia, D.C., and Maryland (Fleming et al. 2013).

As recently as three decades ago, many of these interior stream valleys were largely free of significant populations of invasive exotic plants. However, Japanese Stiltgrass (*Microstegium vimineum*) has since become established and represents a serious threat to the future sustainability of forest communities because of its rampant growth rate, pervasive seed bank, negative effects on soil microorganisms, and ability to thrive in areas of soil disturbance, such as along trails and areas frequented by White-tailed Deer (Brewer 2010).

Although most Coastal Plain / Piedmont Small-Stream Floodplain Forest communities and forested stream valleys of our area are designated Resource Protection Areas (RPAs), many remain high conservation priorities because of the degradation resulting from increasing urbanization of watersheds; subsequent hydrologic disturbances; placement and maintenance of sewer easements; an influx of non-native invasive plants; and destructive and often unnecessary stream bank restoration projects, including riparian buffer plantings. It is encouraging that following our Grass Bunch and Site Registry foray of a year ago, together with the site investigations of our friends from Fairfax County Stormwater Planning Division, we have initiated a discussion with Andrea Reese of the Northern Virginia Conservation Trust to help us explore the possibilities of working with private landowners along much of the east branch stream valley to place their properties into conservation easements.

Above: Magnolia bog along the east branch of Turkeycock Run
Previous page: Red Chokeberry (*Aronia arbutifolia*). all photos by R.H. Simmons

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Know Your Praying Mantis Eggcases

We've all seen praying mantis eggcases, or ootheca, if you want to get fancy. Maybe we've even watched the baby mantises emerging in a classroom jar, or looked at the ads online for eggcases that will hatch out all the mantises anyone could possibly want. But it's good to know that alongside those Chinese mantid ootheca sold by the thousands, we do have some mantises of our own. Thanks to Laura Beaty for finding and pointing these out at the VNPS propagation beds this spring: on the left, the slender ootheca of the Carolina Mantis (*Stagmomantis carolina*); on the right, the larger, more familiar ootheca of the Chinese Mantid (*Tenodora sinensis*).

Carolina mantis females are big and heavy, short-winged and unable to fly, while the males are smaller, lighter, and long-winged. They do the flying to search for a mate. Carolina mantises may be green, brown or gray, depending on what camouflages them best at the time when they molt.

. Photo by Margaret Chatham

If you would like to receive this newsletter (in full color!) electronically, contact Alan Ford at: amford@acm.org