

# The Leaflet

Ice Mountain Walk–Emily Southgate

AUTUMN 2017

Permafrost in West Virginia? You don't have to go to Canada to experience the effects of permafrost, just to Ice Mountain Preserve. Eighteen to twelve thousand years ago, when there were glaciers in Pennsylvania about 200 miles away from Ice Mountain, species characteristic of cold (boreal) climates flourished in what is now West Virginia. Although there were no glaciers, there was plenty of ice and snow. As the climate warmed, most boreal species died out, migrating north slowly by seed. At Ice Mountain and a few other places, glacial relics survived because local geology provided refrigeration.

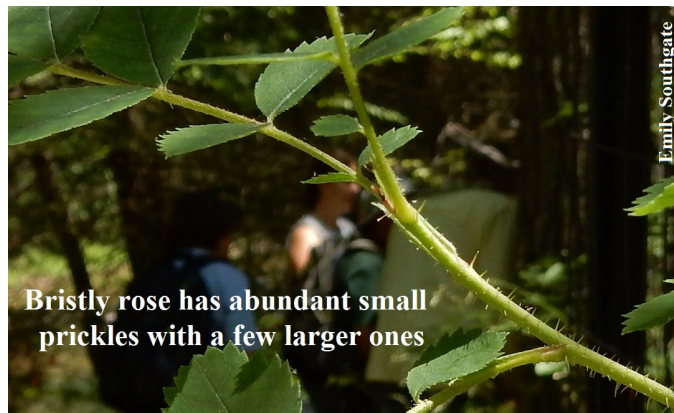
At Ice Mountain a steep, rough boulder field lies on top of fissured shale bedrock which slopes steeply down to the north toward North River. In winter, cold air, snow and ice penetrate through the boulder field into the shale and freeze solid. During summer, cold air seeps out from this ice along a narrow band of cool air vents about 0.2 mile long and a few feet wide on the slope above the creek. This cold air and the shade of Eastern Hemlock trees create an icy microclimate, where glacial, relic plants flourish.

On June 11 Piedmont Chapter board member Kristin Zimet led a group of 10 on a fascinating tour of The Nature Conservancy's Preserve at Ice Mountain. To protect the resource and because the trail starts out on private property, the Preserve is only open to the public by private tour with approved Nature Conservancy docents, and we are fortunate that Kristin is one of them. We started out in the historic, but no-longer thriving, village of North River Mills and walked through some old fields to the forest above North River. We tried to keep our botanizing to a minimum across the fields, to be sure that we had as much time as possible along the ice caves. We were glad we did, as it was a lot cooler next to the vents. Just inside a vent, one of our group measured the temperature at 38° F. Several of us took advantage of the cool rocks for a refreshing brief rest. You could see why these cool-climate plants were happy here.

To me the most charismatic plant we saw was Twinflower (*Linnaea borealis*). Carl von Linné, who invented the binomial scientific naming system used world-wide, chose twinflower to bear his name, adding the specific epithet,



growing with Partridgeberry (*Mitchella repens*)



Bristly rose has abundant small prickles with a few larger ones

*borealis*, to indicate its usual habitat in boreal forests. Specific epithets of other plants we found also indicate their northern affinities: Bunchberry (*Cornus canadensis*), Canada Mayflower (*Maianthemum canadense*), Northern Bedstraw (*Galium boreale*) and Starflower (*Trientalis borealis*). At least two of the plants we saw, Twinflower and Bristly Rose (*Rosa acicularis*), are found only in a few counties in West Virginia and not at all in Virginia.

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The Virginia Native Plant Society (VNPS), founded as the Virginia Wildflower Society in 1982, is a non-profit organization of people who share an interest in Virginia's wild plants and habitats and a concern for their protection.

The Piedmont Chapter is a sub-group of VNPS in the northern point of Virginia east of the Blue Ridge Mountains. It includes Loudoun, Fauquier, Culpeper, Rappahannock, Warren, Clarke, and Frederick counties.

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**The Leaflet can be seen online in color at [www.vnps.org/piedmont](http://www.vnps.org/piedmont)**

The Chapter's email address is [piedmontvnps@gmail.com](mailto:piedmontvnps@gmail.com)

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#### The Leaflet

### Ice Mountain Walk (continued)

We also saw Appalachian wood fern (*Gymnocarpium appalachianum*), which is only found in the central Appalachians. It is classified as globally vulnerable (G3), which means it is at moderate risk of extinction due to a restricted range with relatively few populations (often 80 or fewer).

We could perhaps imagine ourselves in the Adirondack Mountains of New York or on the Bruce Peninsula in Ontario! We thank The Nature Conservancy and all those who are also working to protect this special place.



### Black Ash Treatment in Thompson WMA—Ron Hughes, Lands and Facilities Manager, Virginia Dept. of Game and Inland Fisheries (DGIF)

The Fairfax County Park Authority (forestry section) assisted DGIF in treating some of the black ash trees in the Thompson Wildlife Management Area seepage swamp. They trained me and other DGIF staff on the use of the equipment and pesticide administration process and lent DGIF the equipment for this season. Labor and equipment was free so chemical was the only cost. The window for injection is only two weeks in May, between full leaf-out and emergence of the adult beetles. DGIF staff schedules only allowed two days afield, but next year will result in more days with greater treatment. Rachel Griesmer-Zakhar, Urban Forester with Fairfax County Urban Forest Management helped Tyler Uργο, DGIF Wildlife Biologist Assistant and Ron Hughes apply the pesticide.

We used a forced air injection system to inject TREE-age pesticide (Emamectin Benzoate) to trees 3" in diameter and up. Many of the trees that VNPS helped identify and mark earlier in the spring were too small to inject. We treated 42 healthy trees. Unfortunately, there was a lot more impact from borers than was initially thought. All but two of the larger trees (7-17 inch range) were dead and many medium trees were dead or falling out. About half the trees we saw were dead. Small, healthy saplings and seedlings were present in the forest in abundance but couldn't be treated. Of the 42 trees we treated only one bore seeds. In addition I am working on getting some parasitoid wasps to release in the area in the next few weeks to supplement control efforts.



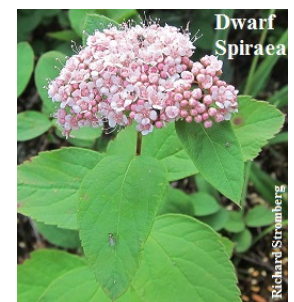




## Reddish Knob Driving Tour–Karen Hendershot

On July 9 a band of Piedmont VNPS members set out on a driving adventure to Augusta County's Reddish Knob, a peak of Shenandoah Mountain in the George Washington National Forest. With an elevation approaching 4,400 feet, this area offers a bounty of wildflowers, as well as a lush 360-degree view including untouched wilderness and distant Harrisonburg.

Sally Anderson, Piedmont Chapter President, and Lynn Cameron, co-chair of Friends of Shenandoah Mountain, led the tour. The Mountain is home to one of the largest tracts of unfragmented wilderness in the Eastern United States. Lynn's group is seeking Congressional legislation to preserve 90,000 acres as a National Scenic Area to permanently protect it as a haven for recreation and a source of clean water.



One of our first discoveries was Pipevine (*Isotrema macrophyllum*), also called Dutchman's Pipe for the shape of its flower. It is the host plant for Pipevine Swallowtail butterflies (*Battus philenor*), so small wonder that we saw one a short distance away.

Among interesting trees along our drive were Table Mountain Pine (*Pinus pungens*), with its prickly cones, and Cucumber Tree (*Magnolia acuminata*), with its large oblong leaves and cucumber-like fruit. Huge three-pointed leaves and the vertical white stripes on its bark distinguished Striped Maple (*Acer pennsylvanicum*).

The rocky terrain of Reddish Knob was ideal for Dwarf Spirea (*Spiraea corymbosa*), which was happily growing up the crevices of a large rock outcropping. We also found New Jersey Tea (*Ceanothus americanus*), its round clusters of tiny white flowers quite decorative against its dark green leaves, and Evergreen Mountain Fetterbush (*Pieris floribunda*), whose seed heads rose in golden spikes over its glossy leaves.

Notable among the many herbaceous plants on our trip were the charming yellow faces of Sundrops (*Oenothera fruticosa*), as well as their cousins Evening Primrose (*Oenothera biennis*). Starry campion (*Silene stellata*), with its fringed white flowers and whorled leaves, appeared near Early Goldenrod (*Solidago juncea*). Two members of the pea family were particularly lovely,

with delicate leaves and flowers: Yellow Wild Indigo (*Baptisia tinctoria*) and Goat's Rue (*Tephrosia virginiana*), which had soft white and pink flowers.

Our journey took a sinister turn when we came upon a tangled vine of Carrion Flower (*Smilax herbacea*). We were spared the foul smell of its flowers, which had turned to clumps of green berries. But moods soon brightened as we reached a hillside of Canada lilies (*Lilium canadense*) growing in pleasant affiliation with White Wild Bergamot (*Monarda clinopodia*) – a lovely cap to our fine tour.





## Shenandoah National Park Drive—Richard Stromberg

On August 13, seventeen people in five cars joined me on a drive down Skyline Drive in the North Section of Shenandoah National Park. The weather could not have been better, and the views were spectacular.

The roadside was dominated by Sweet-scented Joe-pye-weed (*Eutrochium purpureum*) and yellow composites, including three Sunflower species (*Helianthus*) and Green-headed Coneflower (*Rudbeckia laciniata*). Sally Anderson pulled back a ray of one flower to find a pistil to determine that it was a False Sunflower (*Heliopsis helianthoides*).

We examined geological features at some of the ten stops along the way, based on Geology along Skyline Drive by Roger L. Badger: sedimentary rocks between basalt flows at Signal Knob Overlook; the contrast of the ridges of the Blue Ridge to the south, the Valley and Ridge Physiographic Province to the west, and the Piedmont to the east at Range View Overlook; basalt dikes intruded into granite at Little Devils Stairs Overlook. But mostly we looked at plants.

We identified over sixty plant species. At each stop we added new ones to the list. At a pull-off at the top of Dickey Hill, we walked a short way into the woods to the Dickey Ridge Trail to see where over a hundred Yellow Lady's-slippers (*Cypripedium parviflorum*) bloom in late May. We saw some with fruit. Among other species we noted Pointed-leaf Tick-trefoil (*Hylodesmum glutinosum*).

At the Jenkins Gap parking lot Karen Hendershot bent to get a closer look at Wild Basil (*Clinopodium vulgare*) but jumped back when she spotted a large Timber Rattlesnake curled in the grass. Leaving it behind, we walked a short way into the woods to the Appalachian Trail to look at how the forest has recovered from the 2011 fire. It was quite lush, and you had to look closely to see charred logs. Horsebalm (*Collinsonia canadensis*) lined the trail.

At Range View Overlook we started our Goldenrod inventory: Tall Goldenrod (*Solidago altissima*), Early Goldenrod (*S. juncea*), and Silverrod (*S. bicolor*).

Around the Jenkins Gap parking lot we saw Turks-cap Lily (*Lilium superbum*), Thimbleweed (*Anemone virginiana*), and Black Cohosh (*Actaea racemosa*) in fruit. We walked into the woods on the Appalachian Trail to see Ramps (*Allium tricoccum*), four-inch stalks topped by globes of fruit. On the way Blue Cohosh (*Caulophyllum thalictroides*) berries were turning blue.



The granite face across the Drive from Hogback Overlook occupied us for almost an hour. Southern Harebell (*Campanula divaricata*) and Allegheny Stonecrop (*Hylotelephium telephioides*) filled small ledges. Purple-flowering Raspberry (*Rubus odoratus*) and Wild Quinine (*Parthenium integrifolium*) mixed with each other, and many Wild Columbine (*Aquilegia canadensis*) were still blooming. One horizontal crack contained three different ferns. One shrub had us baffled. Sally and Carrie Blair thought it looked like a willow, but aren't they wetland plants? Research back home found Upland Willow (*Salix humilis*), which fit the habitat and matched the long, entire leaves.

Last stop was Elk Wallow Wayside, where we could indulge in blackberry ice cream or milkshakes.

Some of us saw *Panax quinquefolius*, but we are not telling where.



The End



**VIRGINIA NATIVE PLANT SOCIETY  
PIEDMONT CHAPTER ANNUAL MEETING  
SUNDAY, OCTOBER 8, 2017, NOON**

Earth Village Education, 9125 Lake Daniel Rd, Marshall, VA 20115

AGENDA

- Pot Luck Luncheon
- Business Meeting
- Presentation about Earth Village Education
- Tour of the facility

The Board of the Piedmont Chapter of the Virginia Native Plant Society presents the following candidates for election to serve 2017-2018. Board members and Officers may be elected to two consecutive 2-year terms, but then are ineligible for reelection for one full year to assure opportunity for others to participate and contribute new ideas. We hope to have a few more nominees by the time we meet in October and invite members to come forward and add their name to the list. Nominations are welcome from the floor.

Officers:

President: to be determined  
Vice President: to be determined  
Secretary: to be determined  
Treasurer: to be determined

Directors (terms begin and end in October):

Continuing:	Lil Ledford 2016-18, 2 <sup>nd</sup> term
	Jocelyn Sladen 2016-18, 2 <sup>nd</sup> term
	Blanca Vandervoort 2016-18, 2 <sup>nd</sup> term
	Richard Stromberg 2016-18, 2 <sup>nd</sup> term
	Brenda Crawford, 2017-19, 2 <sup>nd</sup> term
	Ron Hughes 2017-19, 2 <sup>nd</sup> term
	Ellie Daley 2017-19, 1 <sup>st</sup> term
	Karen Hendershot, 2016-18, 1 <sup>st</sup> term
	McNeill Mann 2016-18, 1 <sup>st</sup> term
Returning:	Kristin Zimet 2017-19, 1 <sup>st</sup> term
New:	Karen Fall 2017-19, 1 <sup>st</sup> term
	Diane Gulick 2017-19, 1 <sup>st</sup> term
	Diane Krumme 2017-19, 1 <sup>st</sup> term
Leaving:	Sally Anderson, Robin Williams
	Cathy Mayes, Mary Keith Ruffner
	Carrie Blair, Emily Southgate
	Marie Majarov, Ed Tobias

2017 Piedmont Chapter Ballot

For the proposed Officers and Directors

I am in favor\_\_\_\_\_ not in favor\_\_\_\_\_

Signature \_\_\_\_\_

For the proposed Officers and Directors

I am in favor\_\_\_\_\_ not in favor\_\_\_\_\_

(second person of a family membership)

Signature \_\_\_\_\_

**IF YOU CANNOT ATTEND THE CHAPTER ANNUAL MEETING ON OCTOBER 8, PLEASE COMPLETE THIS BALLOT AND MAIL BY SEPTEMBER 22 TO Piedmont Chapter Virginia Native Plant Society, P.O. Box 336, The Plains, VA 20198 or email your vote to [piedmontvnps@gmail.com](mailto:piedmontvnps@gmail.com)**

Directions to Earth Village Education: From Exit 27 of I-66, turn south onto Free State Road and immediately turn right onto Crest Hill Road (VA-647); take next left onto Lake Daniel Road and go ¼ miles to the entrance to Earth Village Education.





<b>Saturday</b>	<b>Sep 9</b>	<b>9am-3pm</b>	<b>Loudoun Wildlife Conservancy Native Plant Sale</b>
<b>Loudoun County.</b> Morven Park, 17195 Southern Planter Lane, Leesburg. A wide variety of native plants will be offered by Watermark Woods Nursery in Hamilton, Hill House Farm and Nursery in Castleton, and Nature by Design in Alexandria. The sale is staffed by volunteers who have knowledge of native plants. To see plants each nursery carries or to place orders ahead of time (all nursery stock is not present), visit their websites. Questions: Contact Ann Garvey at <a href="mailto:agarvey@loudounwildlife.org">agarvey@loudounwildlife.org</a> or Danielle Dillion at <a href="mailto:ddillion@loudounwildlife.org">ddillion@loudounwildlife.org</a> .			
<b>Sunday</b>	<b>Sep 10</b>	<b>1pm</b>	<b>Piedmont Prairie Sunday Walk</b>
<b>Culpeper County.</b> The twenty foot grassland along Raccoon Ford Road has not been overtaken by woody plants because it is periodically mowed offering a unique habitat in northern Virginia. This is a level roadside walk. For more information, email <a href="mailto:piedmontvnps@gmail.com">piedmontvnps@gmail.com</a> .			
<b>Saturday</b>	<b>September 23</b>	<b>10am-noon</b>	<b>SCBI Forest Monitoring Plot</b>
<b>Warren County.</b> Hear a discussion of the tree mortality census at the Smithsonian Conservation Biology Institute forest monitoring plot, part of the Biotic Disturbances and Tree Mortality in Virginia's Blue Ridge Ecoregion project funded by VNPS a grant, followed by a walk in the forest. For details, email <a href="mailto:piedmontvnps@gmail.com">piedmontvnps@gmail.com</a> .			
<b>Tuesdays</b>	<b>Sep 26-Oct 24</b>	<b>4-6pm</b>	<b>Autumn Colors: Autumn Tree Identification</b>
<b>Fauquier County.</b> Earth Village Education. In this beginner-friendly class, every Tuesday for five weeks, tree expert and master naturalist Carrie Blair will show how to identify dozens of trees at a glance. Register at <a href="https://www.eventbrite.com/e/fall-colors-autumn-tree-identification-registration-36790973793">https://www.eventbrite.com/e/fall-colors-autumn-tree-identification-registration-36790973793</a>			
<b>Sunday</b>	<b>Oct 8</b>	<b>noon</b>	<b>Chapter Annual Meeting, Earth Village Education</b>
<b>Fauquier County.</b> The chapter annual meeting will be held at Earth Village Education. All are welcome. Details of the Annual Meeting are on page 5.			
<b>Sat-Sun</b>	<b>Oct 14-15</b>	<b>9am-4:30pm</b>	<b>Arborfest at Blandy</b>
<b>Clarke County.</b> Visit the VNPS booth during this annual event to get advice on how to select and grow native plants in your special location. There will be handouts with useful information for you to pick up. We would love to have volunteers to help us staff our booth, hand out brochures, talk to people about plants, what we do, etc. Contact Cathy Mayes at <a href="mailto:mayesCD@aol.com">mayesCD@aol.com</a> to volunteer. Arborfest Information at <a href="http://blandy.virginia.edu">http://blandy.virginia.edu</a> .			
<b>Sunday</b>	<b>November 12</b>	<b>1pm</b>	<b>Sunday Walk</b>
Being planned. For more information, email <a href="mailto:piedmontvnps@gmail.com">piedmontvnps@gmail.com</a> .			

### Wavyleaf Basketgrass Control—Richard Stromberg

July 9 my wife and I drove down US-340 to Elkton and turned east on U.S. 33 to a road at the western boundary of Shenandoah National Park. Jim Hurley of the Blue Ridge PRISM (Partnership for Regional Invasive Species Management, <http://blueridgeprism.org>) had emailed us the following invitation:

Jake Hughes, Exotic Plant Manager for the Park, has scheduled four volunteer treatment days this summer, Saturday and Sunday July 8 & 9, and Saturday and Sunday July 29 & 30 and will need to rely on volunteers for the foreseeable future to stop Wavyleaf from continuing its spread to proximate areas in Greene, Albemarle, Augusta, Rockingham and Page Counties. Jake was very gratified by the results from the volunteer day last August, when fifteen of us treated four acres of the infestation. That day alone amounted to a \$2,000 contribution in volunteer labor to the Park, resources that Jake just doesn't have to fight this plant.

On each of the four treatment days in July, we hope to field a team of fifteen backpack sprayers and up to ten hand-weeders. The backpack sprayers will work under Jake's pesticide license, and will spray the target plants with a 2% glyphosate solution, the same herbicide and concentration as in Roundup. Equipment will be provided and a lesson in how to use it and recognize the plant. No experience is necessary; all that is needed is enthusiasm and strength/stamina to carry a 22-lb. (half-full) or 34-lb (full) pack for 1/2 to 1 hr per pack over uneven terrain in a forest understory. Hand-weeders will patrol peripheral areas of the infestation, weeding small colonies. We will begin the work at 9:00 a.m. each day, and you can stay as long as you like until we quit at 4:00pm.

(continued on page 7)



## Wavyleaf Basketgrass Control (continued)

Jake had emailed the following to Jim:

Here are a couple of before treatment (2016)/after treatment (2017) photo pairs from the site in Swift Run Gap we treated last August with the volunteer crew you recruited. The results are really impressive! The



dense carpets of mature wavyleaf have been almost completely eliminated and only scattered seedlings--which won't produce any seed until 2018 at the earliest--remain. The effort that group of amazing volunteers contributed--on what was one of the hottest and most miserably humid days of the summer--suppressed what was one of the most extensive stands of wavyleaf known to exist in the park. If we had funding for wavyleaf management, this work would have taken several days of crew time at a cost of well over \$3,000. The event you spearheaded was easily one of the most productive and beneficial volunteer workdays I've had the pleasure of helping with in my nearly 20 years of invasive plant management. Though it'll be hard to top what was accomplished last year, I look forward to working with you again this year to tackle more of this most worrisome invasive weed.

My wife and I were the only ones to hand pull small populations. The plants are not deep-rooted but grow along thin stolons that have nodes about every half inch that can either put down roots or sprout leafy stems. The runners break easily, but we did the best we could. I used my phone to create waypoints for large populations conducive to spraying and passed them on to Jake for future expeditions.

The infestation is right at the western border of the Park. Since there are no trails going through the area, I asked Jake how he had found the infestation. He told us he had discovered the Wavyleaf Grass when he went to check on a Bamboo population they had removed some years ago, so it was pure chance that it was discovered.



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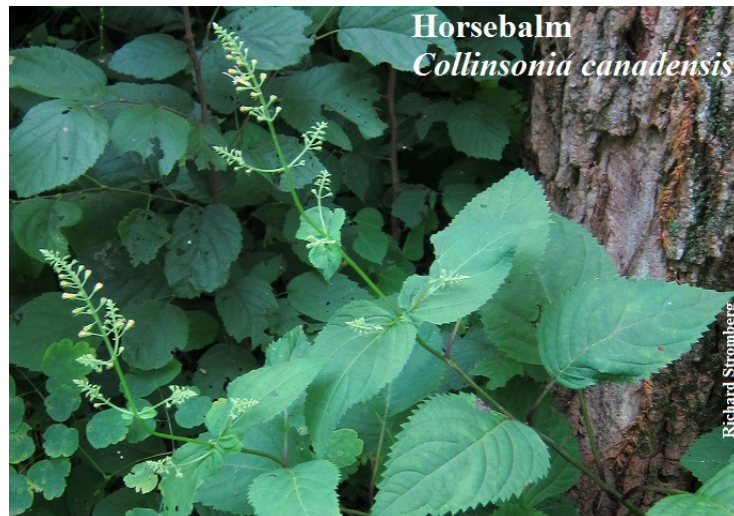



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