NEWSLETTER OF THE PIEDMONT CHAPTER OF THE VIRGINIA NATIVE PLANT SOCIETY

The Leaflet

Exploring a Section of the Appalachian Trail

SPRING 2022

by Carla Overbeck with help from Sally Anderson

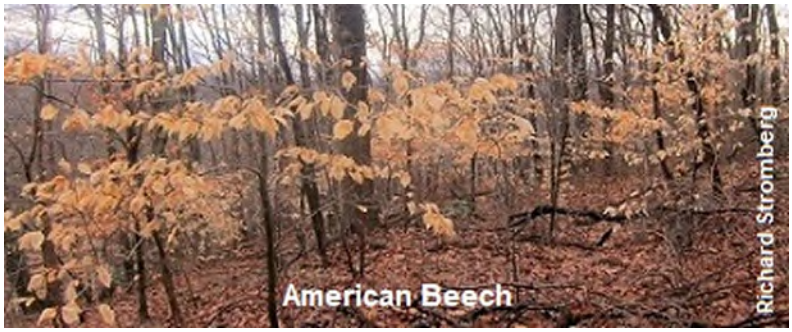
On December 11, eleven intrepid walkers, led by Emily Southgate and Sally Anderson with Kristin Zimet as backup botanist, explored a part of the Appalachian Trail beginning at the Ashby Hollow trailhead in eastern Clarke County. This is the first time at least in recent memory that the Piedmont Chapter has led a walk in this area, and it was well worth the trip. Emily explained that the area had once been farmed, but it is now heavily forested with some quite large specimens of Tuliptrees (*Liriodendron tulipifera*) and several large oaks of various species (*Quercus sp.*)

The expected rain showers never came, just a sprinkle. The main thrust at first was spotting green signs of life on the ground as well as dried flower remnants. Common Greenbrier (*Smilax rotundifolia*) with its leathery leaves was present on many parts of the one-mile walk to a small waterfall. Several clumps of Wild Ginger (*Asarum canadense*) exhibited huge green leaves, much larger than I usually see. As for dried plants, we did not spend a lot of time as we often do botanizing species of goldenrods and asters. There were many members of both, with remnants of flower heads or leaves.

Further along the trail Emily and Sally discussed trees and shrubs quite a bit. Spicebush (*Lindera benzoin*) displayed flower buds at the ends of branches, while one small Tuliptree still held on to its dried flowers. I found one dried Tuliptree flower on the ground that Sally took apart to show us its many seeds. Oaks of various types were plentiful. I'm always interested to see Chestnut Oaks (*Quercus montana*), since we have one in our side yard. We saw two kinds of trees often known as Ironwood, both the American Hornbeam (*Carpinus caroliniana*) with its smooth, gray bark and the Hop Hornbeam (*Ostrya virginiana*) with its scaly brown bark.

As we walked further along the up and down trail, Sally noted that we were entering a different environment. While most of the trees behind us had lost their leaves, a forest of American Beech trees (*Fagus grandifolia*) had kept quite a few of their yellowish leaves, making a welcome contrast. Several of these beeches with their light gray, smooth bark had initials and hearts carved into them unfortunately.

This area supports many more trees, shrubs, and small plants than discussed here. We crossed over a stream to get take a peek at the small waterfall and then headed back to the trailhead, walking single file. Anyone with balance issues would welcome a good walking stick to navigate the rocks and tree roots on the trail.



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 on-line in color at www.vnps.org/piedmont**

The Chapter's email address is piedmontvnps@gmail.com

Managing Blandy's Meadow by Sally Anderson

The first of our two 2022 Winter Speaker Series programs on managing grasslands was given by Jack Monstead, the Assistant Curator for the Nancy Larrick Crosby Native Plant Trail at The Blandy Experimental Farm. His talk was titled "New Growth in Old Fields." It focused on his research on how best to help native forbs and grasses recover in fields previously dedicated to human use. The management goal here is to increase native biodiversity and control invasive plants.

Jack explained that this former hayfield was planted in native grasses and forbs (herbaceous wildflowers) just over 20 years ago. It was laid out in research plots with different mixes of grasses planted in the plots, a beginning that can still be seen in today's vegetation patterns. Interestingly, the edge along the wetlands was not treated at that time, and has some of the best plant diversity and wildflower color. Over the years since then, portions of the meadow site were burned when feasible, usually in spring. Some herbicide use targeted serious invasive plants. Some bush hogging and cutting of woody plants was done.

Invasive plants are a difficult problem. Some of this seems to be a result of the arboretum's plant collections. Introduced invasive plants such as the shrub Dahurian Buckthorn (*Rhamnus davurica*) and Japanese Raspberry (*Rubus parvifolius*) are extremely problematic now and require a lot of management effort. The approach being used for these plants now is much more frequent mowing and treating stumps of unwanted woody vegetation with herbicides. Only ten Japanese Raspberry plants were planted and now this weed covers acres! In my own view, this kind of information is valuable to share with people who seem to feel that planting a few invasives is not a problem. We know better these days.

Fire as an invasive plant management tool does not sound as if it has been very effective, although it can promote the native grassland vegetation. Increasing biodiversity is another area where trials are ongoing. Because of the long history of use as a hayfield, there are fewer native plant seeds in the meadow soils (the seed bank). The original planting included wildflowers, but the grasses and invasives were so dominant that many did not survive. One ongoing trial is to take a plot, clear the invasive vegetation and plant larger herbaceous plants. By keeping this plot weeded until it fills in, Blandy hopes that seeds will spread to the surrounding meadow as the invasive vegetation is managed. In other areas, herbicides were applied within the field and these strips were seeded with natives. Data is still being collected on these trials.

These are a few of the points made in the talk. Beautiful pictures and much more complete information can be seen on the recording. You can view this program at https://vimeo.com/showcase/9214416.

Skunk Cabbages at Sky Meadows article and photos by Karen Hendershot

Despite the winter weather, Mother Nature has been busy-busy-busy, as evidenced by all we saw on our February 12 venture into Sky Meadows State Park. Close to 25 participants enjoyed a mild day to witness Skunk Cabbage (*Symplocarpus foetidus*) emerging in gay maroon and chartreuse colors from the soppy black edges of wet woodland along Gap Run. But for nature lovers, there were many more things to see, and signs that spring is not far away.

Skunk Cabbage – the first plant to flower in our area – emerges in January or February, depending on weather conditions. The colorful spathe comes up like a hood and shelters the bulb-like spadix which holds multiple petal-less flowers. Its genus name "*Symplocarpus"* means connected fruits, reflecting their growth on the spadix. Very large leaves follow much later. Our leaders, Emily Southgate, Sally Anderson, and Phil Daley explained two unusual features of Skunk Cabbage that allow it to function in the cold. It is thermogenic, meaning it can generate heat, often melting snow around it. And its spadix has a powdery coating that enables ice to slip right off – a feature being studied in airplane design. Why is it called Skunk Cabbage? A break in the leaves or a full opening of the flowers will reveal characteristic odors, the "*foetidus*" (fetid) in the species name. The flower's odor, along with the warmth generated, helps explain how it gets pollinated in winter. Flies and beetles are thought to be the main pollinators, attracted by carrion-like odor of the flowers. But we were able to witness a bee with fat pollen sacs (see lower part of the picture) entering an open spathe and spending a good deal of time inside.

Mosses (Bryophyta), too, were in reproduction mode. Emily explained how water is necessary for the sperm to swim to the egg in order for fertilization to occur. The capsule at the top of the resulting sporophyte will open and release spores which will produce new plants in damp areas.

We also came across a beautiful patch of Common Running-cedar or Running-pine (*Diphasiastrum digitatum*). Unlike mosses, which have no vascular system to transport water and nutrients, Running-cedar has a vascular system but, along with ferns and horsetails, split off from flowering plants and reproduces via spore production.

A Pawpaw (*Asimina triloba*) on the sunny side of the trail exhibited not only long leaf buds (often called "Audubon's paintbrush" because John Audubon used them in the wild), but also round flower buds that were beginning to fatten up. Nearby, twigs of a Bitternut Hickory (*Carya cordiformis*) were bright with saffron-shaded buds. A quite unexpected sign of spring was found by Emily's sister, Mason. Arising from the damp soil and still tightly wrapped was a Jack-in-the pulpit (*Arisaema triphyllum*). Like Skunk Cabbage, it is a member of the Arum Family but is generally seen later, reaching full bloom in April.

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Skunk Cabbages at Sky Meadows (continued)

The woodland seep was populated with trees that are fond of dampness. Large Pin Oaks (*Quercus palustris*) were throughout the area. Emily explained that the "Pin" in the name comes from the very twiggy nature of their branches, which often hang low to the ground. Gently lobed leaves of Swamp White Oak (*Quercus bicolor*) were evident, now brown on the top but white on the back. We also found huge Black Haws (*Viburnum prunifolium)*, identifiable by chunky bark and short, opposite branches. Black Haws are happy residents of this region on both wet and dry land. Sally told us their berries may be enjoyed by people, as well as by birds and other animals.

Our exploration was not without bad actors. Japanese Stiltgrass (*Microstegium vimineum*) covered the area in dense matts and Sally identified a nasty nonnative bush called Trifoliate Orange (*Citrus trifoliata)*, whose stout thorns can pierce tractor tires.

Evidence of the fauna inhabiting the woods was observed as part of our group found they were accompanied by a Common Box Turtle (*Terrapene carolina*), prematurely coaxed out of hibernation by the warm weather. Then participant Ed LeGrand called our attention to a giant paper-like nest high in a tree. Part of the nest had fallen to the ground, allowing us to appreciate its delicate gray and white striations. Phil believed it to have been built by Bald-faced Hornets (*Dolichovespula maculata*). Heading back to our cars, we passed large example of scat, whose size and abundant fur content fascinated the "inner five-year-olds" in us. "Coyote" (*Canis latrans*) exclaimed the naturalists among us -- a fun (and funny) finish to a lovely day!

What Stuck You? by Richard Stromberg

At one time or another every botanizer has been bloodied by an armed plant. In common terms the armaments are called thorns, spines, or prickles, and the terms are used interchangeably. But botanically these three terms have specific meanings based on their structure. Their function is to protect the plant from being eaten.

A **thorn** is a modified branch/stem. Thorns may be branched and, in some species, may even have leaves. They arise from a bud.

As the name implies, Hawthorns (genus *Cretaegus*) have thorns. They are straight, have sharp points, and can be up to three inches long. Many hawthorn species grow in the eastern United States, difficult to tell apart.

Japanese Barberry (*Berberis thunbergii*) is an invasive alien that is found all too often along our trails. It has short, thin thorns.

You will know Honey locust (*Gleditsia triacanthos*) by the massive (up to six inches), multi-pronged thorns growing right out of the trunk. They have been known to puncture vehicle tires.

A **spine** is derived from a leaf. It may be a whole leaf modified into a pointed weapon or be part of a leaf.

The very common Black locust (*Robinia pseudoacacia*) has half-inch spines on branches and young trunks.

Appalachian Gooseberry (*Ribes rotundifolium*), the only gooseberry or current common in our mountains, has occasional spines in nodes.

Cacti may have minute leaves, but most or all of the leaves have evolved into spines. The only native cactus in our area is the Eastern Prickly Pear (*Opuntia humifusa*). Its segmented stems are flattened. They may show some tiny leaves, less than a quarter inch long. The stems have several areoles which have tufts of barbed hairs called glochids and may have one or two spines up to two inches long.

The pointy lobes on the leaves of evergreen Holly species (*Ilex*) are spines because they are outgrowths of the leaves.

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The events below are subject to cancellation or may be restricted to 15 people because of Covid-19.

Saturday Mar 12 1pm Phelps Wildlife Management Area Walk

Fauquier County. Ron Hughes, wildlife biologist of the Virginia Department of Wildlife Resources, will lead a walk through rolling low hills near the Rappahannock River. Register at piedmontvnps@gmail.com.

Sunday Apr 3 1pm G. Richard Thompson WMA Invasive Removal

Fauquier County. We will look for early signs of spring while we pull Garlic Mustard, led by Sally Anderson. Bring gloves and drinking water. For more information, email piedmontvnps@gmail.com.

Saturday Apr 9 10am Shenandoah River State Park Walk

Warren County. Master Naturalist Richard Stromberg will lead a walk to see Bluebells and other spring flowers along the Shenandoah River. Register at piedmontvnps@gmail.com.

Tuesday Apr 12 10am Balls Bluff Regional Park Walk

Loudoun County. Join Phil Daley to discover some of our earliest ephemerals like Bluebells, Harbinger-of-spring, Bloodroot, Dutchman's Breeches and others on a trail overlooking the Potomac River near Leesburg. For more information, email piedmontvnps@gmail.com.

Sunday May 1 5pm G. Richard Thompson WMA Trillium Walk

Fauquier County. Master Naturalist Sally Anderson will lead this evening walk to see millions of Trilliums and other spring flowers. Register at piedmontvnps@gmail.com

What Stuck You? (continued)

The most common type of spikey weapon on plants is a **prickle**. Prickles are outgrowths of the epidermis of the plant. They have no vascular connection to the plant as thorns and spines do and can be popped off the plant (carefully).

The worst plants you can face on the trail are the Greenbriers (*Smilax* species). Greenbrier vines form dense tangles of armed stems and keep trail maintainers busy keeping them away from the trail.

You are probably well aware of some other species that can stick you: Thistles (*Cirsium* species) and two genera in the Rose Family: roses (*Rosa* species) and raspberries/ blackberries (*Rubus* species). They all bear prickles.

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What Stuck You? (continued)

Three members of the Smartweed family are called tearthumbs because of the small, recurved prickles on their vining stems: Halberd-leaf Tearthumb (*Persicaria arifolia*), Arrow-leaf Tearthumb (*P. sagittata*), and the invasive alien Mile-a-minute (*P. perfoliata*).

Teasels (*Dipsacus* species) have many little prickles on their stems. The name Teasel derives from the many stiff bristles on the flower head used to tease wool to loosen the fibers and spread them out.

Devil's Walking Stick (*Aralia spinosa*) it has a straight, central stem like a walking stick, but it is armed with many stout prickles that would make it uncomfortable to grasp. The specific name *spinosa* means spiny, but they are prickles not spines.

Horse-nettle (*Solanum carolinense*) has nasty stickers all along the stem and on the back of the mid-rib of the leaves. Sources call them prickles or spines or both. I am going to have to check which it is next time I see one.

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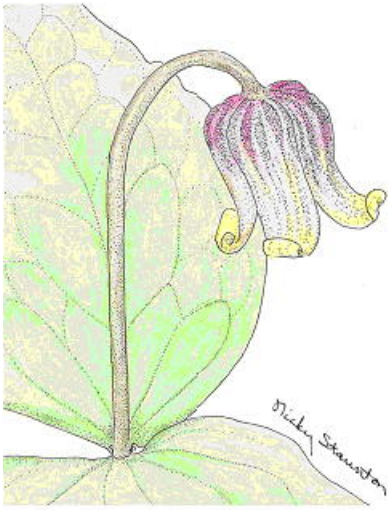

Curlyheads (Clematis ochroleuca)