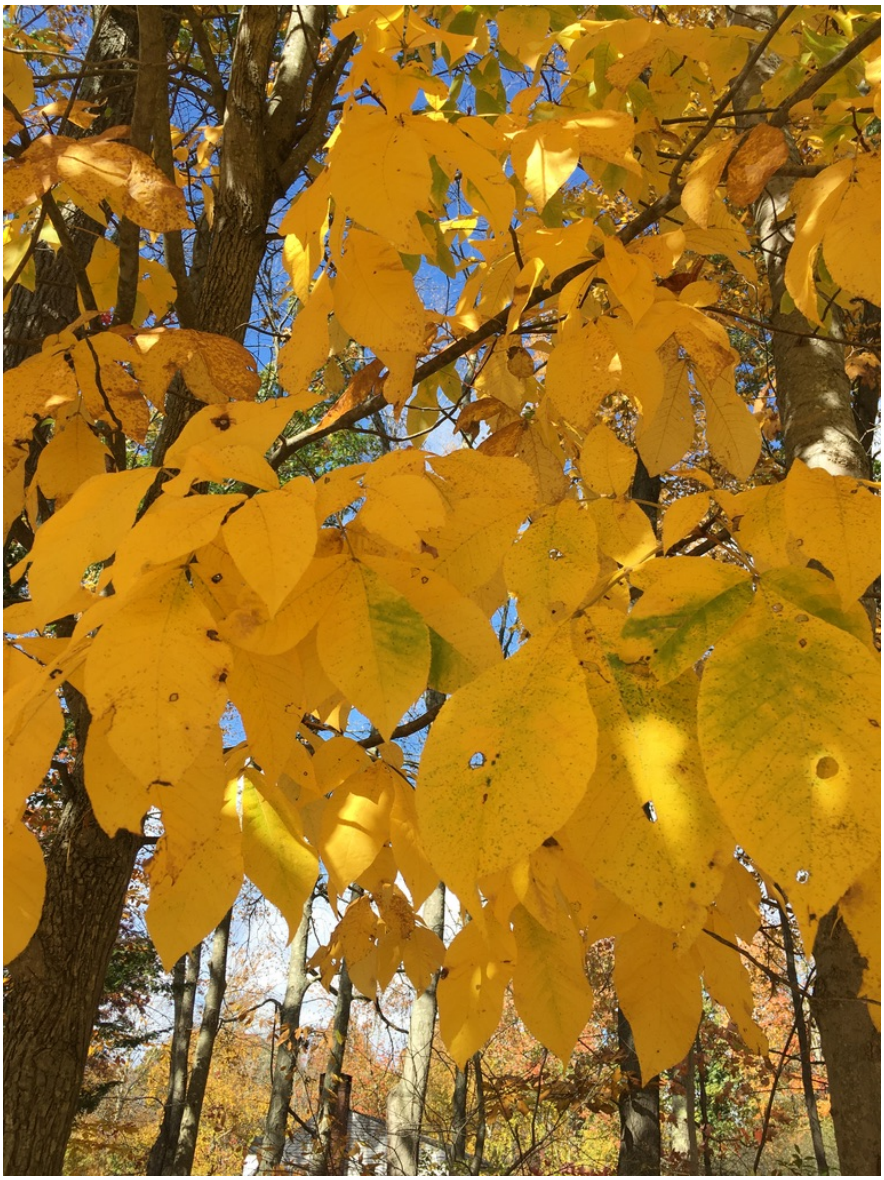
Field Notes – Second Week of October
Carrie Crompton

STILL TURNING . . .

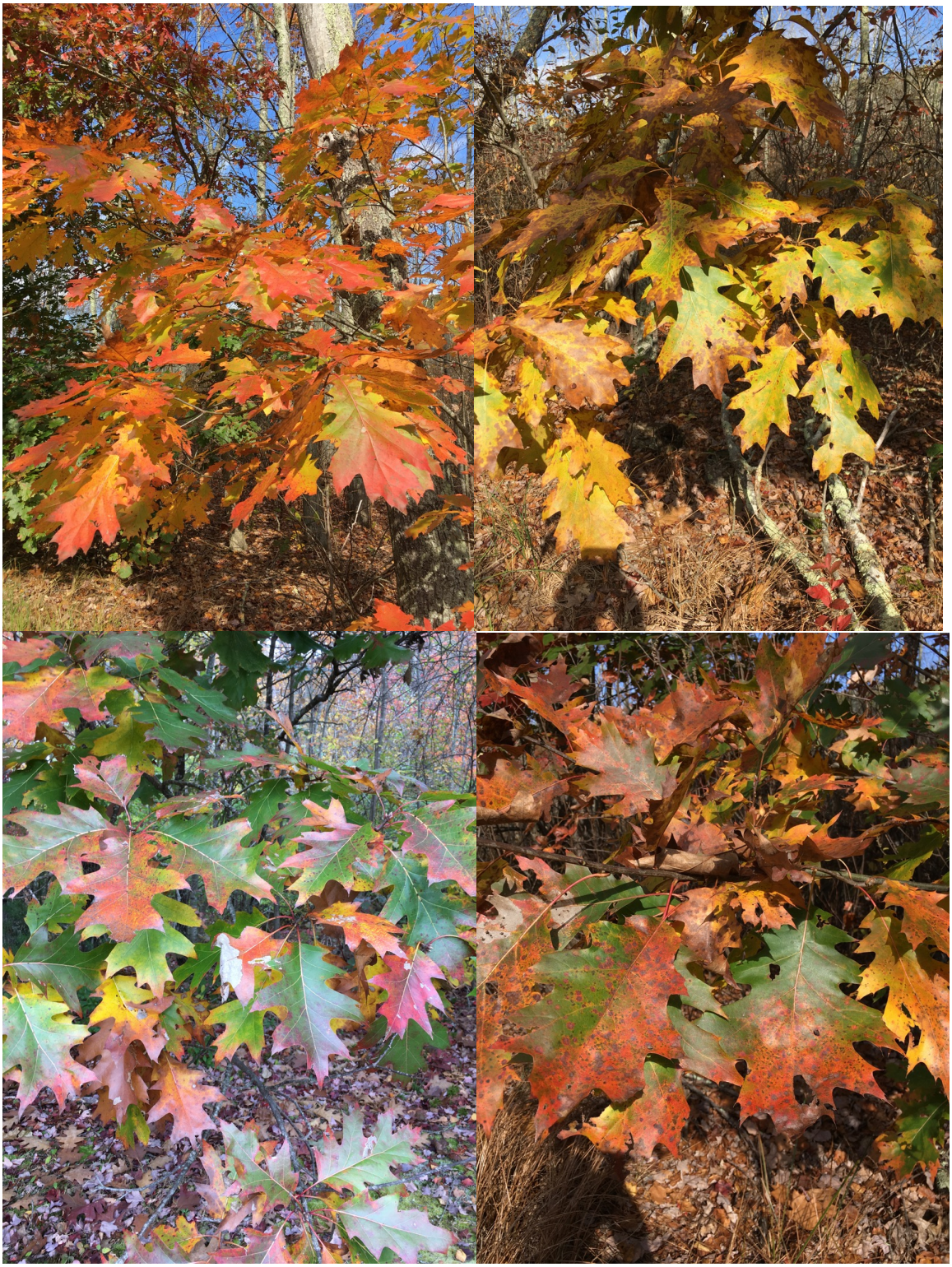
As September and early October are showtime for the birches and maples, the latter part of October is showtime for the hickories and oaks. Last week was great for the shagbark hickories; the pignut hickories are peaking this week.



Pignut Hickory (*Carya glabra*), Shoddy Mill Road, October 21

I see these gleaming along Route 6, and can't wait until I can stop on Shoddy Mill Road to take a picture. Their leaf color is a little lighter, I think, than that of the golden shagbark hickories, but this may be just a trick of the light – now that so many leaves are down, there is more light shining through the canopy.

The red oaks are turning all sorts of colors – red, orange, yellow, green, and brown all on the same tree or even in the same cluster of twigs.

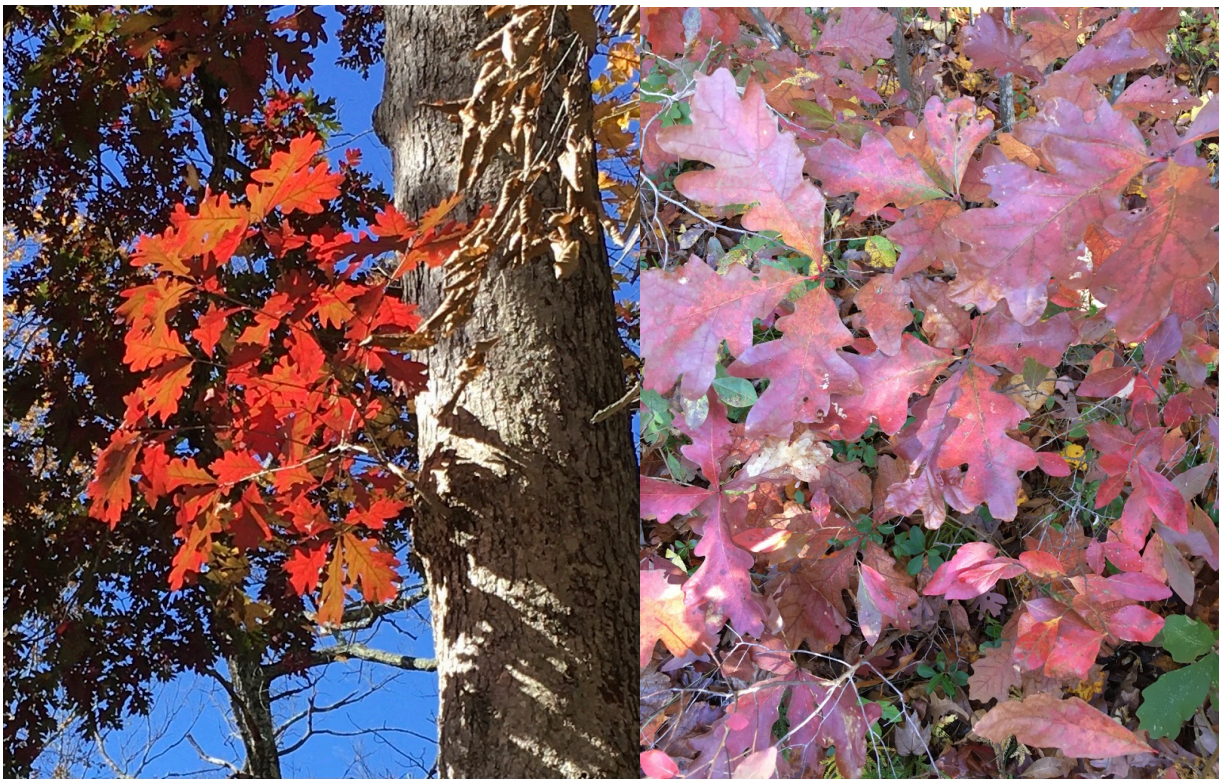


Red Oak (*Quercus rubrum*), Gay City, October 21, 2020

The scarlet oak leaves are more deeply lobed than the red oak leaves (the sinuses cut almost to the midrib). They do indeed turn scarlet at their peak.

Scarlet Oak (*Quercus coccinea*), Gay City, October 21, 2020

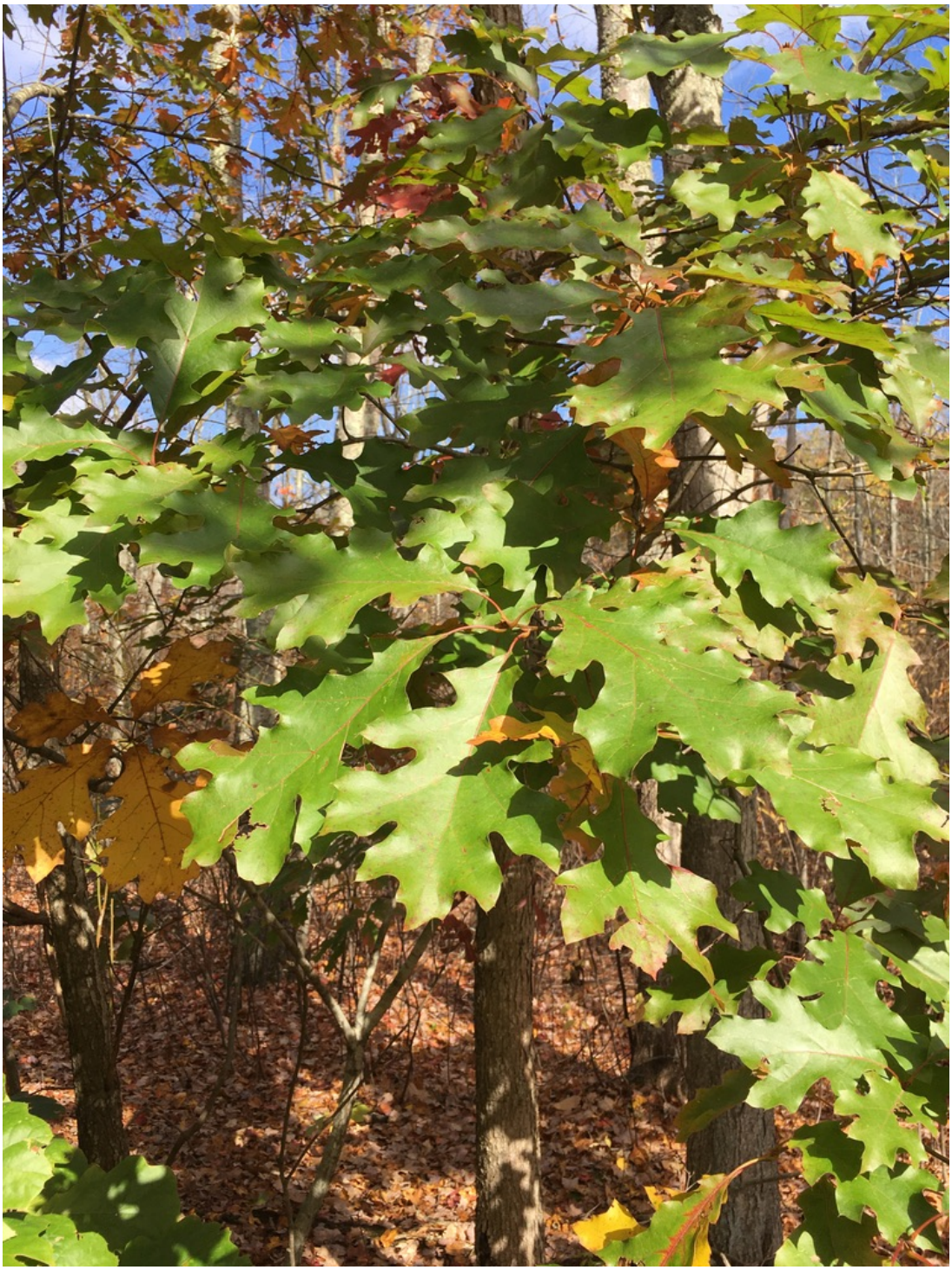
The white oaks are almost fully colored now:



White Oak (*Quercus alba*) at peak color, Hop River, October 17.

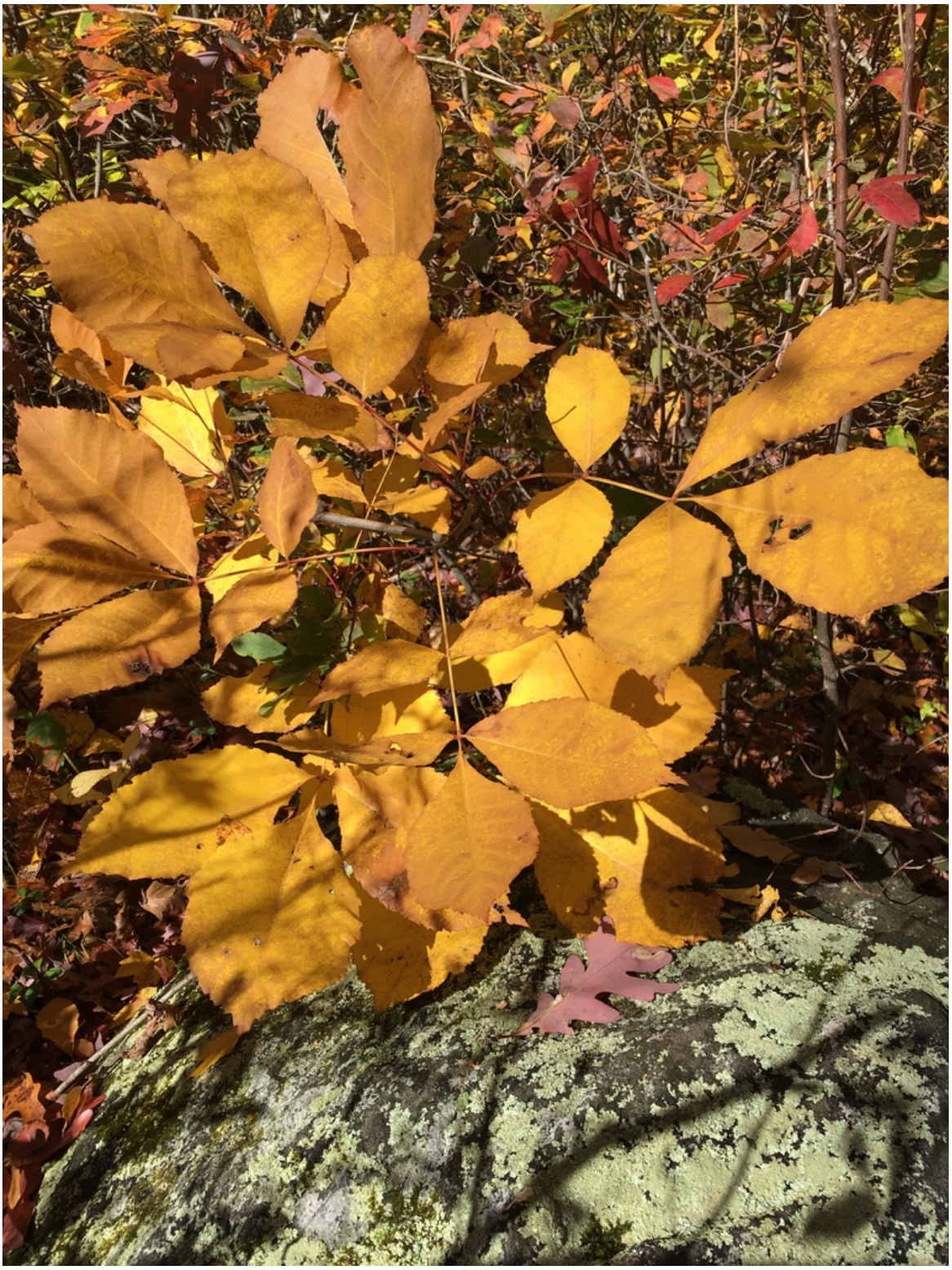
It's not often that the white oak colors are as bright as in the photo on the left. The more usual color is the muted pinkish purple on the right.

As for the black oaks, they're holding off – still green.



Black Oak (Quercus velutina), Gay City, October 21

Enough leaves have fallen now that the sun shines on even the lowest branches in the woods at mid-day.



Hickory seedling, Gay City, October 17

THE LILLIPUTIAN FOREST

The sunlight on the trail brings my eye to the forest floor and suddenly – for the first time since early spring -- I'm noticing mosses and lichens again. Overnight, the rain has turned the mosses that looked like gray lint on the rocks all summer into tiny green forests. The variety of textures and colors of our local mosses is wonderful – but of course, you have to look close to see the differences. I've been trying to learn our local mosses for several years, looking at them under a stereoscope, and I feel as though I'm finally able to recognize a few as friends. Here's the one I see most often on rocks in the woods:

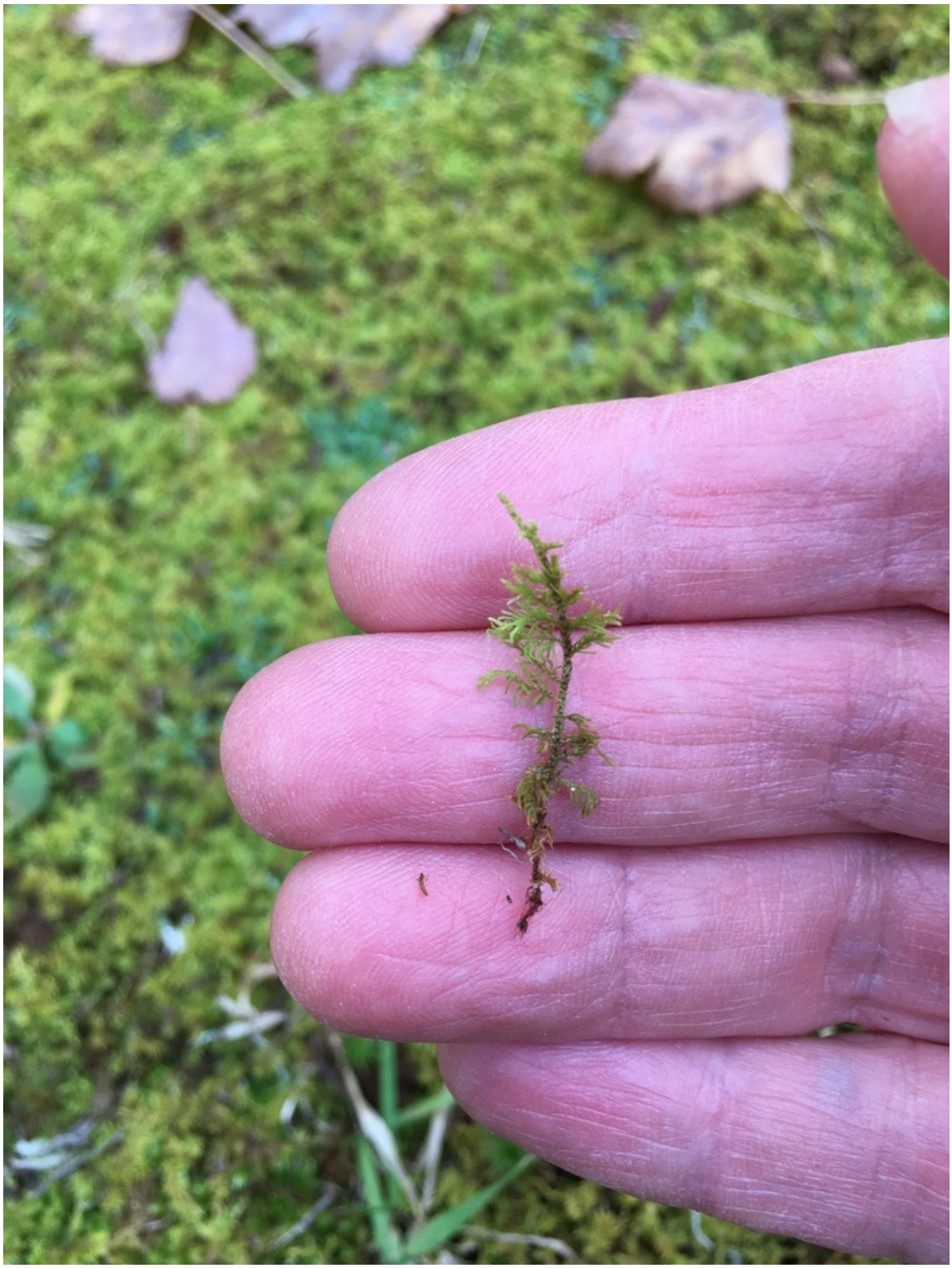
Broom Moss (*Dicranum scoparium*) on rock, Gay City, October 17.

Dicranum has a "brushed" look, as though someone has swept it with a broom (or a tiny hairbrush). All the plants in a given section of carpet seem to be brushed in the same direction.

The next most common moss I see is Fern Moss, *Thuidium delicatulum*.

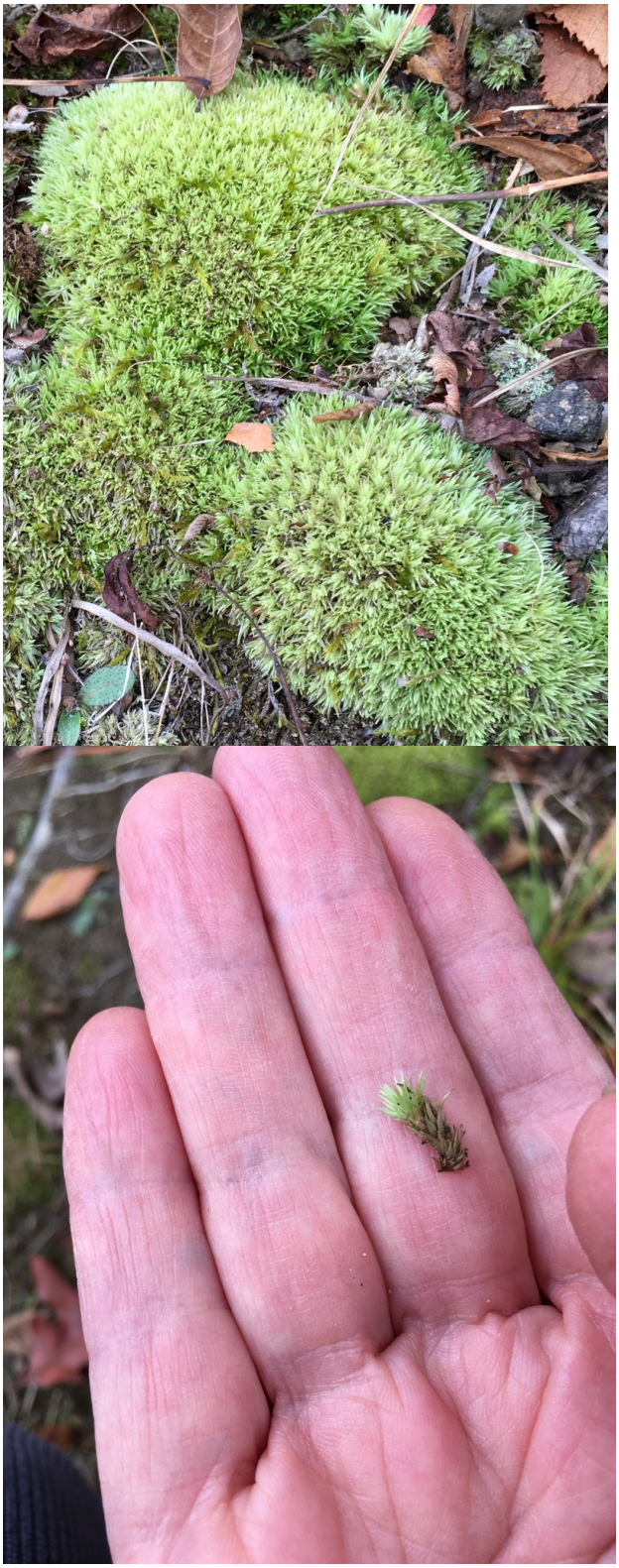
Fern Moss (*Thuidium delicatulum*) on downed log, Gay City, October 17

The name—*Thuidium delicatulum*—is delicious on the tongue. I almost always pronounce all nine syllables (silently) when I see it, just for the fun of the sound of the name in my mind's ear. (I'd say it out loud, but I don't want other trail users thinking I'm nuts.) Almost any downed log in moist woods will be colonized by *Thuidium*. Every tiny plant has the form of a tiny fern.



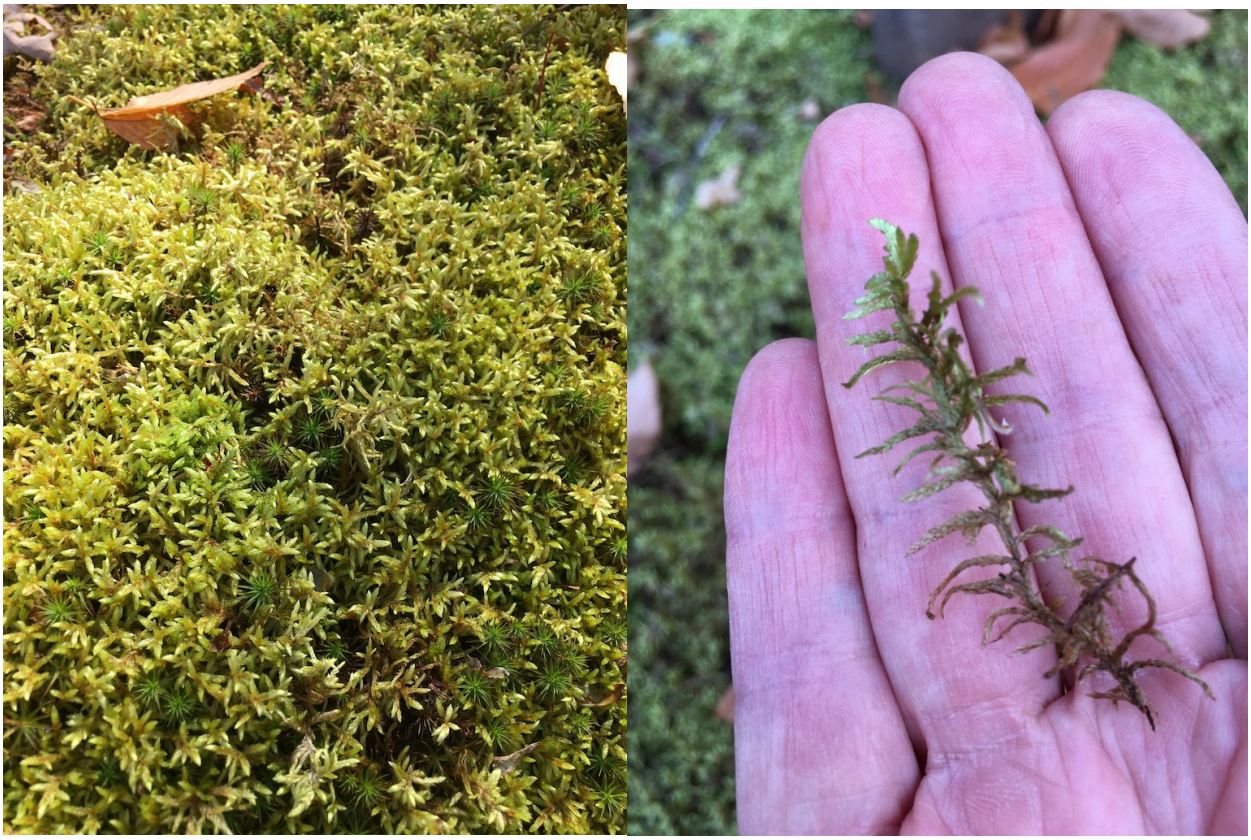
Fern Moss (*Thuidium delicatulum*)

Another that's hard to misidentify is Pincushion Moss:



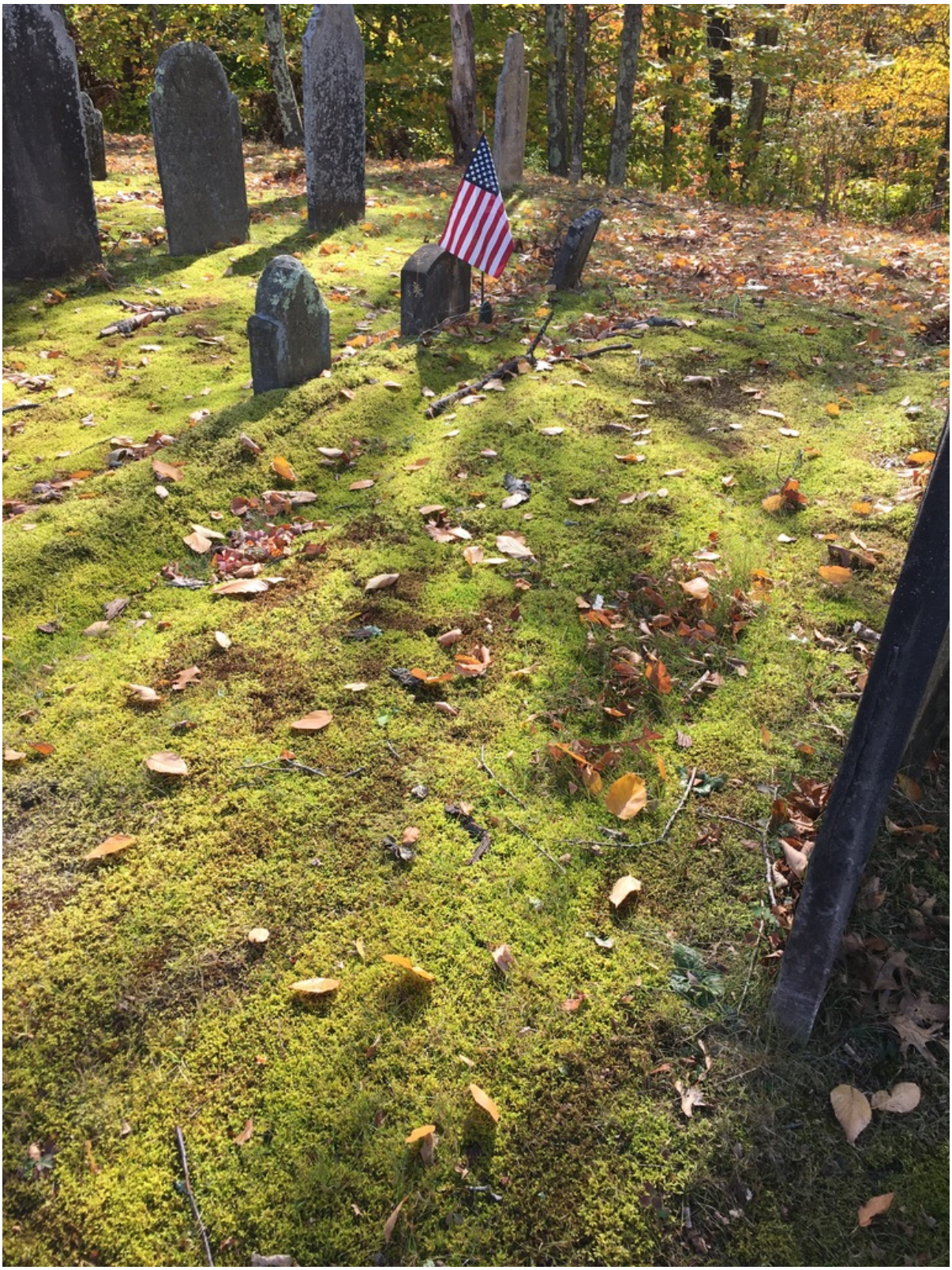
Pincushion Moss (*Leucobryum glaucum*), Gay City

I could fill pages with moss pictures, and perhaps I will later in the season, but I'll spare you for now, except for a few pics of mosses at Townsend Cemetery, a veritable moss and lichen sanctuary.



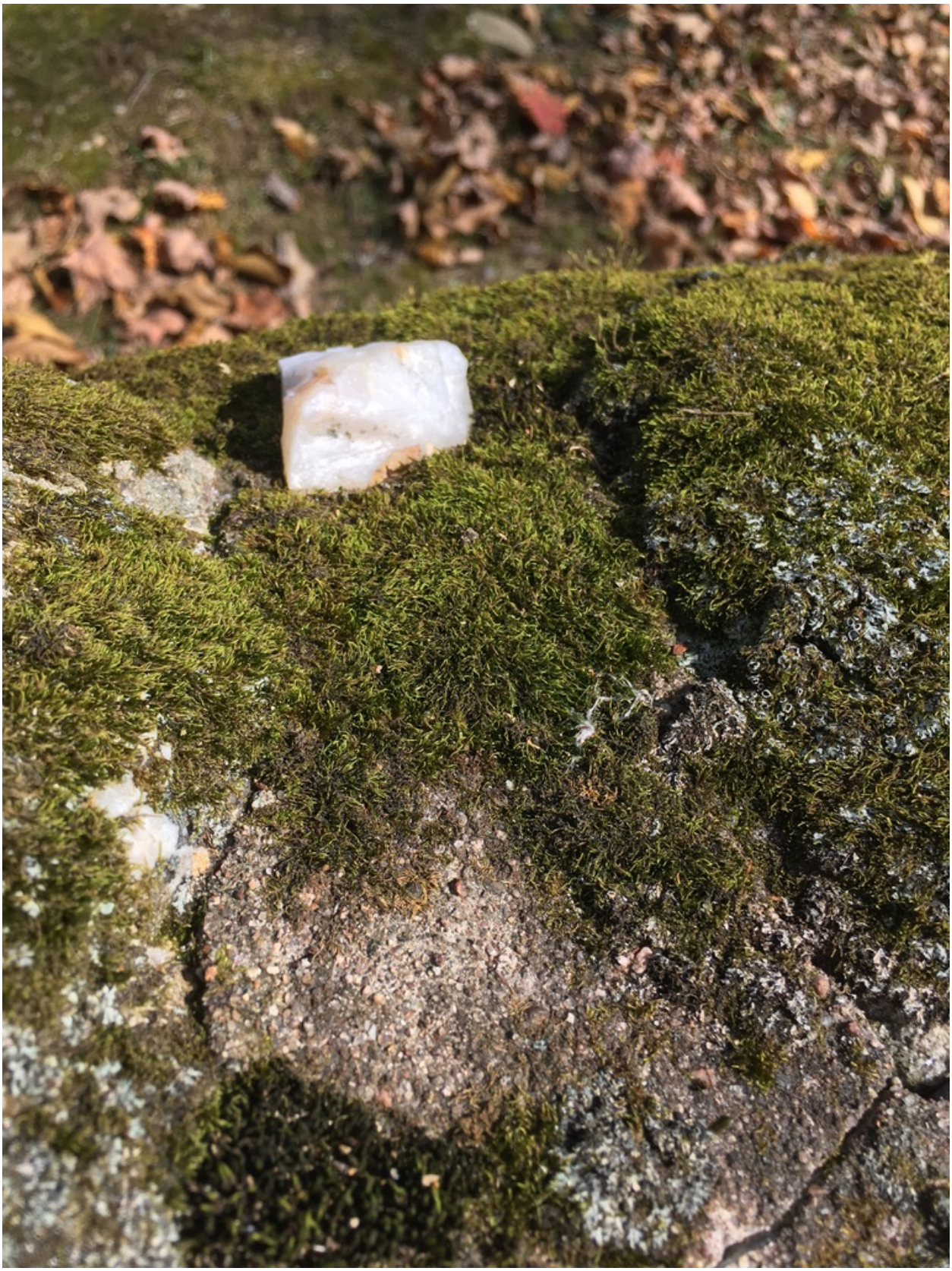
Red-Stemmed Feathermoss (*Pleurozium schreberi)* (with a little Common Haircap moss mixed in), Townsend Cemetery, October 18

This deep, soft bed of feathermoss grows between the ranks of the oldest stones in Townsend Cemetery. When you stand on it, your weight sinks into it for at least a couple of inches. (As you can see, an individual plant is over two two phalanges high.) I think of it as a featherbed for those early residents of Andover.



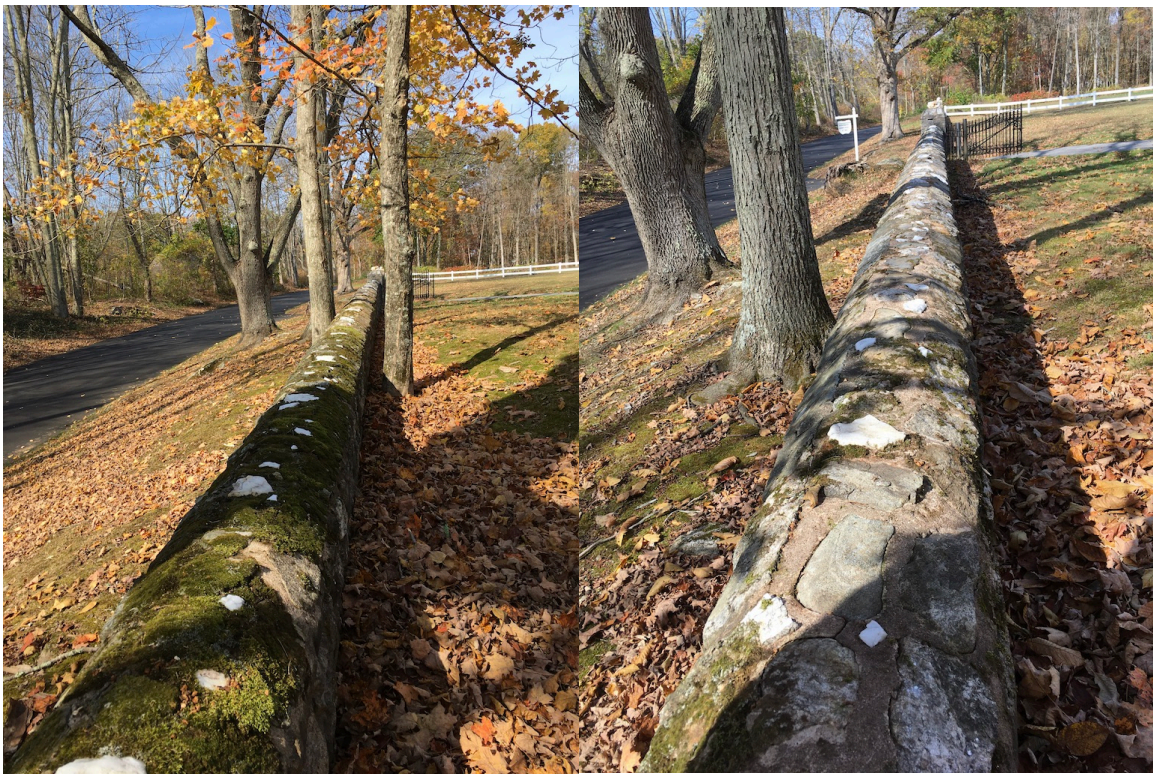
Red-stemmed Feathermoss among the oldest stones in Townsend Cemetery, October 20.

Another wonderful moss in the Townsend Cemetery is “seductive moss,” *Entodon seductrix*.



Seductive Moss (*Entodon seductrix*) growing on the wall of Townsend Cemetery, October 18

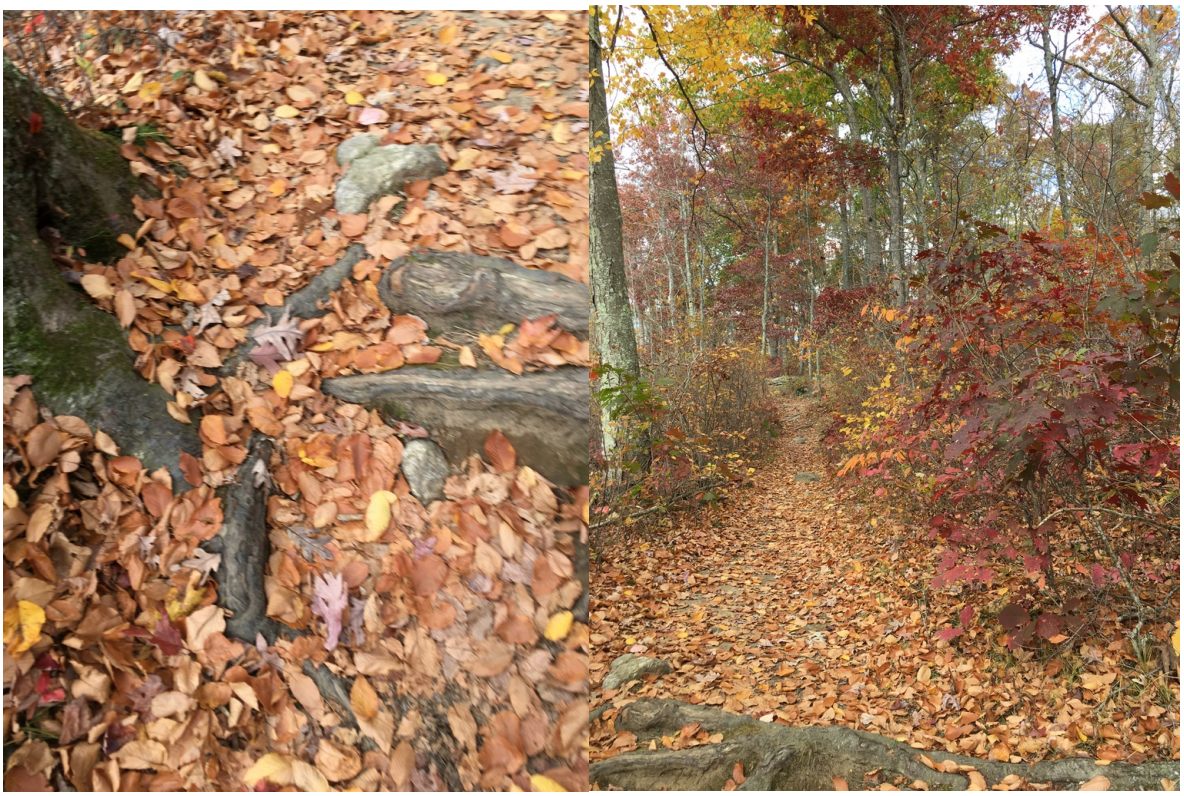
Seductive moss ("Come on in, the featherbeds are fine . . . ") used to top the entire length of the wall—over 200 linear feet— at the entrance to Townsend Cemetery, setting off the ornamental quartz stones with its shining leaves. In the past year, someone has harvested at least two-thirds of it. It will grow back, I'm sure, but it might take 50 years. Or longer.



Left: Moss that remains on Townsend Cemetery Wall / Right: over 140 feet of stripped-bare rock.

THE ELEMENTAL ECONOMY

For nearly a month, the trees, shrubs, and perennial forbs have been putting their liquid assets into savings. By now, most of the nitrogen that was bound up in DNA, RNA, and enzymes in the leaves has gone into savings in the roots, as well as a good deal of mobilized carbohydrate, now stored as starch. What's left in the leaves once they are released from their twigs?—All the other essential atoms in the leaf: carbon, phosphorus, potassium, calcium, magnesium, sulphur, iron, and a whole bunch of other "plant micronutrients" in tiny quantities. Of these, the only element that the trees and shrubs won't really need next year is carbon: the early re-leafing process will be fueled by the starch stored in roots, and once photosynthesis resumes, the air will once again provide more than enough carbon dioxide for the process. The trees *will* be needing "liquid reserves" of all the other nutrients.

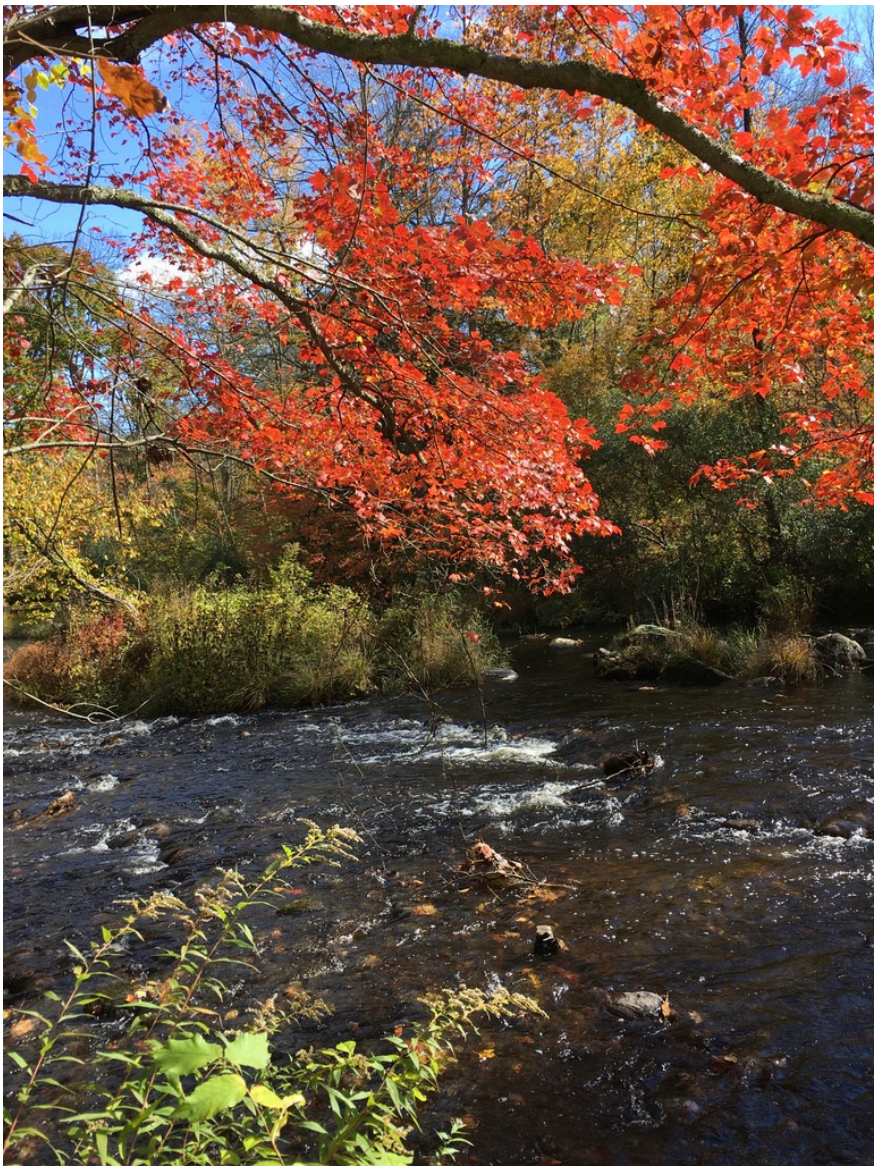


Leaf litter, Trail at Gay City, October 21

The storage of nitrogen and starch in the roots is like money under the mattress, the storage in the leaf litter like money in the bank. We know that when we put money in the bank, it gets used for purposes not directly our own, but we benefit, anyway. Same for plants: the leaf litter is used by countless creatures for food and shelter throughout the winter,[i] and its decomposition by microorganisms makes the nutrients available for the plants to take up again in the spring.[ii] This is a foundational cycle in the ecological economy of the forest.

WATERWAYS

We've gotten a couple of inches of rain in the past week. The Hop River is full and flowing again. Phew! We are still in a severe drought, but the River does look more like itself. There is water in Blackman's Brook and Staddle Brook, too (not much, but this is better than dry stones!)



Red Maple (*Acer rubrum*) over the Hop River, October 17

CRICKETS, KATYDIDS, AND BEES

We haven't had a hard frost yet. Crickets are still calling all day and into the evening. I heard katydids in Gay City during the afternoon of October 21. I am still seeing honeybees and bumblebees nectaring on heart-leaved asters and garden mums.

LOOKING FORWARD

Usually at this time of year, I'm planning madly about how to be comfortable and have fun *indoors* during the coming winter. This year, I'm planning madly about how to be comfortable and have fun *outdoors* all winter. Warm clothes, a mask, prescription goggles so that I can see clearly in the wind, daily walks. I think it will be interesting.

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[i] Laura Baird, "Wildlife connections: Leaf habitat" (https://ufi.ca.uky.edu/treetalk/wildlife-leaf-habitat).

[ii] Rebecca A. Bunn et al., "Revisiting the 'direct mineral cycling' hypotheses: Arbuscular mycorrhizal fungi colonize leaf litter, but why?" *Nature*, 25 March 2019. (https://www.nature.com/articles/s41396-019-0403-2).