The President's Corner

Cabin fever is stronger than ever before and apparently this has encouraged NPSNJ members and friends to prepare and to get out even in the freezing cold.

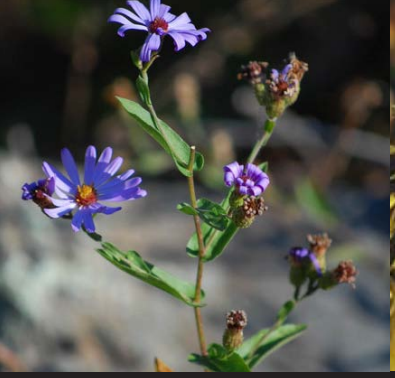
Thus, our very own Joe Alvarez had over 900 people preregister for his 'Winter Botany' webinar but only 500 could attend this 'maxed out' stellar happening. Well, Millie and I are also in the throes of discontent and have acquired 4 winter botany keys. One which is free on-line is **'Know Your Trees'** at: http://cortland.cce.cornell.edu/resources/know-your-trees .
It is not all smooth sailing when you use the winter key, but you will make a start on the ID of 40 common trees in our area.

Your NPSNJ is just starting to try and influence state legislation to help protect rare and threatened plants. I suggest we support Senate bill S83 (2021) without any amendments. This landmark bill will promote the sale of native plants in garden centers and help educate the public on the importance of native plants. Amendments are being considered that will greatly complicate matters for NJ gardeners, and this bill looks great just as it is. To read the bill, https://www.njleg.state.nj.us/bills/BillView.asp?BillNumber=S83

The NPSNJ Board and I also suggest we do not support Assembly Bill A985 (2020) as it is currently written because it restricts propagation of many of our common native plants and will even make criminal what we are currently doing with over 800 native plants. For more information and to see the bill, http://npsnj.org/articles/nj_bill_5201.html

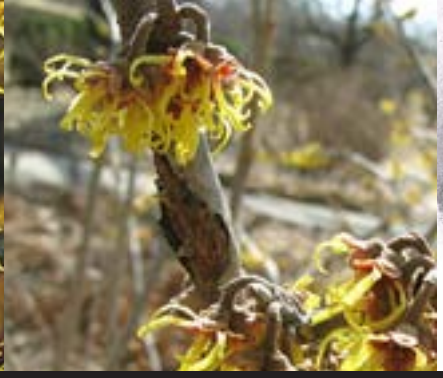
Yours,

Hubert Ling
president@npsnj.org

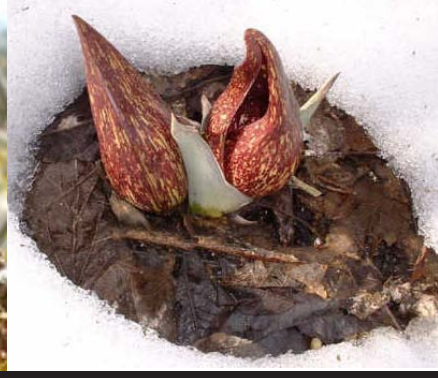


Late Purple Aster
Symphyotrichum patens

Common Witch Hazel
Hamamelis virginiana



Vernal Witch Hazel
Hamamelis vernalis



Skunk cabbage
Symplocarpus foetidus

Former Inhabitants; and Winter Visitors

By John Suskewich,
Essex Chapter

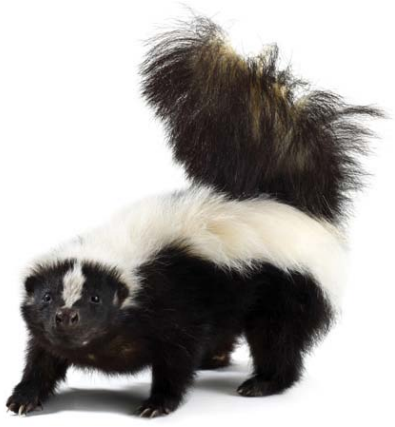
My favorite flowers are ones that bloom very late, like these native plants: spreading aster, and common witch hazel; or very early, like these: vernal witch hazel, and skunk cabbage.

Just before two feet of snow buried everything, the glass-fragile stems of spreading or late purple aster, *Symphyotrichum patens*, were unbowed and unbroken in our front yard, and the petals retained just the faintest tinge of indigo. Into the first week of December, that plant was in full bloom, typical aster blue ray petals surrounding a yellow disc, and bees converged on it like tipplers descending on the last open bar on the block. It's a great plant because it is shockingly late to flower, but it's kind of rambunctious so it has to be contained or weeded a lot. Like, a lot.

Almost at the same time, common witch hazel, *Hamamelis virginiana*, is unfurling stringy, spidery, strappy yellow petals that are pleasingly, piercingly pungent, like a sexy after-shave. The straight species can become a tall and portly multi-stemmed shrub, that is really too big for our yard, but what the hey, too late now…

Once cold weather begins to relax its grip even slightly in February, vernal witch hazel, *Hamamelis vernalis*, brings that same fragrance to the late winter garden. I'm kind of sneaking this Midwestern native shrub in here, but because I need to see some kind of flower now after shoveling snow all day, I'm pretending not to know it's from the Ozarks. Besides I'm aware of at least one specimen of it in New Jersey.

The scientific name of skunk cabbage, *Symplocarpus foetidus*, sounds just as unappealing as its common one, but it's a very cool spring ephemeral. First to pop up is the flowering part, which in addition to smelling like "spoiled meat" also performs the horticultural trick of "thermogenesis", which means it creates its own heat. If people could do that, think how we could save on our utility bills. It is often found in wet places, or near them, like along the railroad embankment in Upper Montclair. Usually lugubriously maroon, the spathe/spadix can use that thermogenic trait to thaw the ground around it, and even melt snow. The flowering remnants are then engulfed by very dramatic, massive cabbage-like leaves, which smell malodorous when crunched and could possibly drive off pesky garden critters, except actual skunks, I guess.



An Unlikely Garden Ally

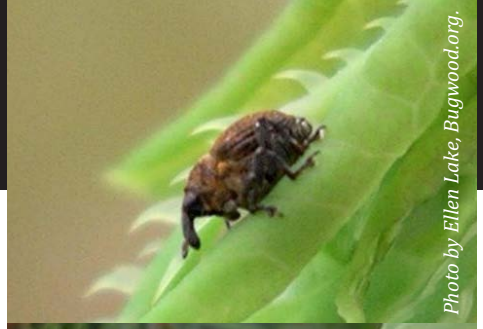


Photo by Ellen Lake, Bugwood.org.

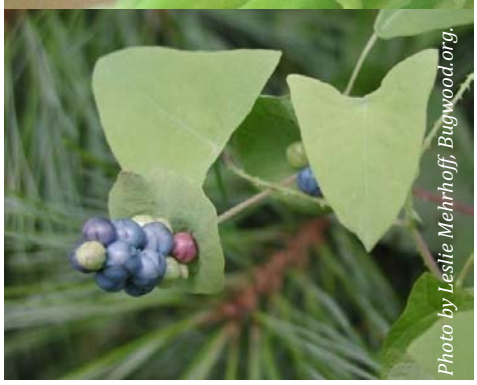


Photo by Leslie Mehrhoff, Bugwood.org.

By Hara Rola
Jersey Shore Chapter

If your garden is plagued by the Asian invasive annual, Mile-a minute weed, *Persicaria perfoliate*, also known as Devil's Tearthumb, don't fret since nature has the solution. There's an unlikely ally in the war against Mile-a-minute: a particular species of weevil known as *Rhinoncomimus latipes*. These tiny black beetles, which are about the size of a grain of rice, have been imported from Asia to dine on its favorite food, Mile-a-minute weed, which is the only plant it eats and lays its eggs on. So the lowly weevil, usually considered a pest, is not so evil after all, well at least not this specific one.

The "Mile-a-minute" weevil has been getting much attention over the last 17 years in U.S. environmental conservation for its value in helping to control the pesty weed that finds its way onto natural lands, as well as residential properties. Mile-a-minute can grow up to 6 inches a day. However, it has met its match with the marathon eating weevils that have a voracious appetite for the viny "salad bar" that can snake its way through any garden or natural area and smother native plants.

I have dealt with Mile-a-minute weed on a small scale for the last few seasons. At the end of each growing season, I think I have eliminated the infectious weed only to see it re-emerge the next year. This slender vine has down-pointed sharp outgrowths, bright green triangle-shaped leaves and blue-purple berries. It thrives in full sunlight, where it outcompetes many native plants, which it will eventually kill by covering them and blocking out the light. It can be frustrating wrestling with this long green serpent of the plant world, which was accidentally introduced with nursery stock into York County, PA in the 1930s. Since its arrival, it has spread to 12 other east coast states. Mile-a-minute is primarily spread by its seeds that are dispersed via the droppings of birds and other wildlife that eat its berries.

It was over 20 years ago that scientists started searching for a host-specific insect that would prey on Mile-a-minute. By July 2004, *Rhinoncomimus latipes* was approved for release in North America by the Department of Agriculture. New Jersey, Delaware, Pennsylvania, and Maryland were the first states to receive the weevils. Since then, they have been distributed to nine other states. Given that these weevils only attack and eat Mile-a-minute, there is no concern about them doing harm to the environment even though they are not native to North America.

The weevils have been quite successful at increasing their population and spreading across a region. If you have Mile-a-minute on your property, they could show up on their own without a dinner invitation. You will find the adults sitting on the tips of the plant or in the stem nodes. Small orange scarring on the nodes is where the larvae, which don't leave the plant, have burrowed into the plant stem and remain there until maturity. And it is the larvae that do the most significant damage to the Mile-a-minute weed. The black adults will usually appear an orange-brown color due to a coating by the plant's sap from feeding.

If you don't already have weevils feeding on your Mile-a-minute intruder, they can be purchased from The Department of Agriculture's Phillip Alampi Beneficial Insect Rearing Laboratory, 20 Cosey Rd., Ewing Twp., NJ 08628. Contact Marcello Mongano at 609-530-4192. The weevils can also be acquired from another property owner that has them established on Mile-a-minute. They can be captured by knocking about one hundred or so into a coffee can with some of the Mile-a-minute matter in the bottom. Cover the can and be sure to insert several pin holes for air. Keep the can cool until it's time to release them. Once you introduce the weevils onto your Mile-a-minute weed, they will begin to establish a functional population that will slow the growth of the invasive squatter but not eradicate it. The weevil eggs take around 28 days to reach adulthood. And this species goes through four overlapping generations during a Mid-Atlantic growing season. I plan to recruit my own squad of the tiny eaters to help keep my native plants thriving.

Hara L. Rola, a NPSNJ member, spent a decade working for Saddler's Woods Conservation Association, Haddon Township, NJ in forest management and restoration. She is a published writer and poet whose main focus is on the natural world.

Resources:

"Biological Control: A Guide to Natural Enemies in North America," Rhinoncomimus latipes, by J. Hough-Goldstein, Department of Entomology & Wildlife Ecology, University of Delaware, Newark DE 19716. Sourced at: https://biocontrol.entomology.cornell.edu/weedfeed/Rhinoncomimus.php

"Weevils to the Rescue—Helping to Reduce Spread of Mile-A-Minute!" By Andrew Rohrbaugh, Botanist, Ecological Services Section Bureau of Forestry. February 27, 2020. www.dcnr.pa.gov/GoodNatured/Pages/Article.aspx?post=118

"Invasive Plant Meets its Match When Weevils Come Calling," by Candus Thomson, The Baltimore Sun, July 23, 2012. www.baltimoresun.com/news/bs-xpm-2012-07-23-bs-md-good-highway-bugs-20120712-story.html

Still Green in Winter

...well, until last week's snowfall

By Jane Kinkle
Essex Chapter

In checking out my native perennial garden beds in early winter I observed that most of the herbaceous perennials had totally died back to the ground leaving only their dried brown stalks behind. Their green leaves will wait for spring or early summer to reappear. If not cut back, the hollow stems of these herbaceous plants can serve as shelter for many native pollinators in their overwintering stages: eggs, larvae, pupae or adults.

Other perennials such as golden alexander (*Zizia aurea*), golden ragwort (*Packera aurea*), meadow rue (*Thalictrum pubescens*), Robin's fleabane (*Erigeron pulchellus*), chocolate root (*Geum rivale*), green & gold (*Chrysogonum virginianum*) and several species of evergreen ferns are still green, and I marvel at their resiliency! In staying green all winter, they must have a survival advantage. They can photosynthesize to store energy all year long, but I wondered how these stalwarts are able to survive the cold, snow and winter's icy winds, all while the leaves of the other perennials in the beds have turned brown and brittle?

I know that typical evergreens like most of the conifers have a variety of physical adaptations that help them survive the cold and snow. These include triangular shapes to shed snow, reduced leaf size or needles which offer decreased surface area exposed to the cold, and they have a waxy leaf coating

The next time you observe native perennials that are still green in winter, see if you can determine which adaptations are helping them survive

(cuticle) to reduce the rate of evaporation, which helps to prevent desiccation. But what about my evergreen perennials that are mostly ground covers?

Some research has helped me understand how they survive using the following adaptations:

Low Growing: Growing low to the ground reduces damage caused by wind and ice particles. Cold winds whip right by them. It is almost like they hunker down to survive the winter. Low growers can also trap airborne dust and use it as a source of nutrients.

Valves in their Cells: The water in many plants' cells freeze, then the cells burst and die. Some plants, however, have specialized valves in their cells that seal off individually frozen cells. This helps prevent a chain reaction of cell death from occurring. I would love to find a micrograph of these special cell valves. I wonder what these valves look like?

Small Tough Leaves: Some evergreen perennials have small tough, waxy, or leathery leaves which are not likely to be damaged by snow and cold. Small leaves also conserve water which can be lost through larger surface areas.

Hairy Stems and/or Leaves: Tiny hairs on stems and leaves form a layer of insulation protecting plants from the cold. Hairy stems and leaves can retain heat on a sunny winter day.

The next time you observe native perennials that are still green in winter, see if you can determine which adaptations are helping them survive.

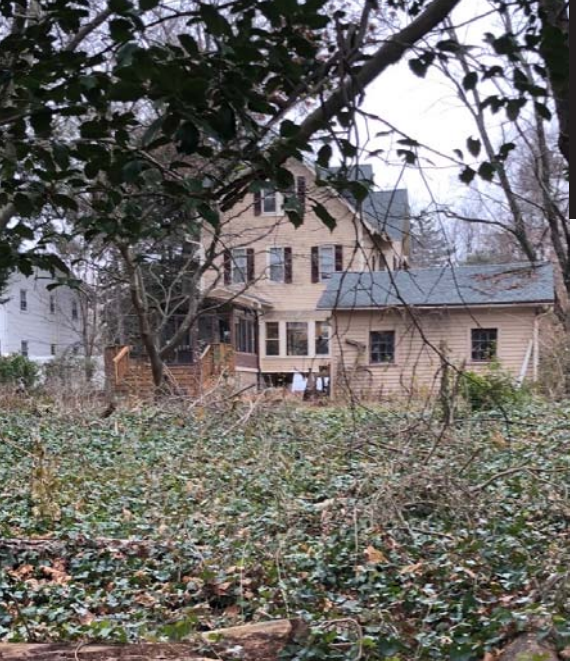
Reference

https://www.reference.com/science/plants-adapt-cold-weather-6a9ecd79de2e5450

Gold Ragwort *Packer aurea*

Fleabane *Erigeron*

Golden Alexander *Zizia aurea*



Gardens and the Larger World

**"When our sea-walled garden,
the whole land,
Is full of weeds..."**

(William Shakespeare, Richard II, 3.4.46-47)

By Jay Katz
NPSNJ Horticulture Chair

Enter the Gardener and his servant in Shakespeare's Richard II. Richard's Queen has situated herself behind a bush to listen for news of her husband's fate: he's been captured by his rival, Bolingbroke (soon-to-be Henry IV). The Queen has decided to eavesdrop here, because gardeners know all the best gossip. The Gardner turns to his servant and gives him his marching orders:

**Go, bind thou up yon dangling apricocks,
Which, like unruly children, make their sire
Stoop with oppression of their prodigal weight:
Give some supportance to the bending twigs.
Go thou, and like an executioner,
Cut off the heads of too fast growing sprays,
That look too lofty in our commonwealth:
All must be even in our government.
You thus employ'd, I will go root away
The noisome weeds, which without profit suck
The soil's fertility from wholesome flowers.**

(3.4.32-42)

The Gardner imagines each task as a monarch might, looking to preserve balance in his kingdom: too many apricots, "like unruly children," oppress their "sire" tree with "prodigal weight," so prop those branches up! Shoots from shrubs—those ambitious, "too fast growing sprays… / look too lofty in our commonwealth," so "like an executioner," get to pruning! "All must be even in our commonwealth."

The Gardener's somewhat savvier servant responds:

**Why should we in the compass of a pale
Keep law and form and due proportion,
Showing, as in a model, our firm estate,
When our sea-walled garden, the whole land,
Is full of weeds...?**

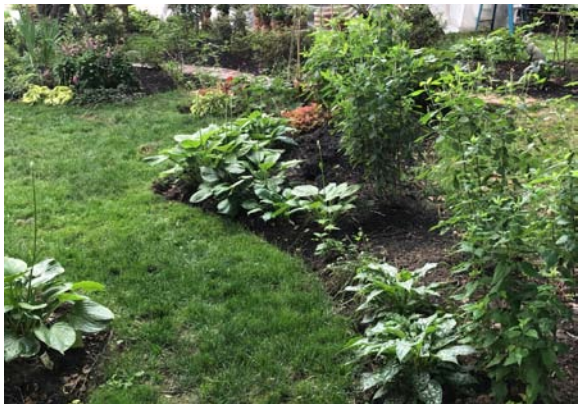
(3.4.43-46)

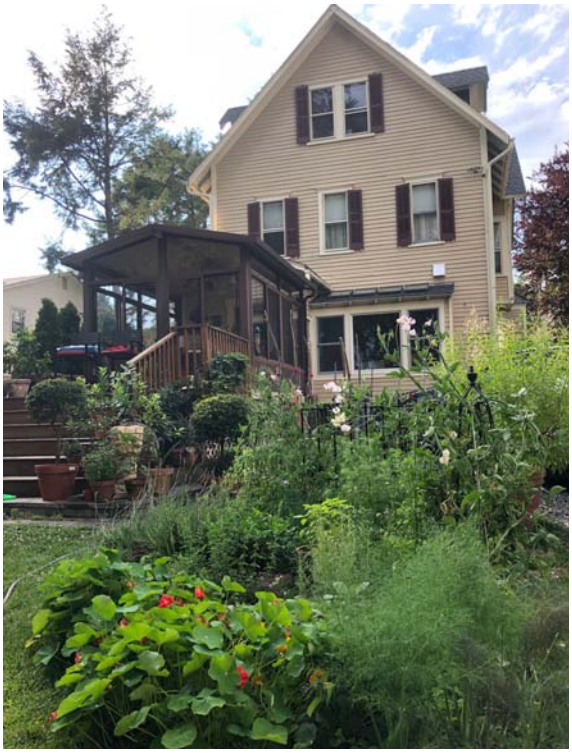
Astutely recognizing that a civil war—the overthrow of the divinely ordained king—might alter one's priorities, the servant wonders why they should care about this little garden or keeping it to its proper proportions. It's a good question. I've been asking it myself recently.

Renaissance writers, like Shakespeare, often imagined gardens as a microcosm of the State: the order of one's garden reflected the order of one's household and the order of the Kingdom. As you might have noticed in the words above, weeds are bad: they "without profit suck / The soil's fertility from the wholesome flowers." Richard II's failures as monarch—failures that lead to his deposition—are, after all, failures in pruning "the weeds which his broad-spreading leaves did shelter, / That seem'd in eating him to hold him up." These malignant scions—Richard's spend-thrift, semi-noble friends, perfectly named the Earl of Wiltshire, Bushy, and Green—have sucked the soils fertility" from Richard, and left him vulnerable to insurrection.

A Renaissance native plant society would have been downright seditious…

As a gardener, I've busied myself for the past few years weeding, planting, designing, etc. My family and I moved to a new home two years ago—a home with a lovely back yard, knee-deep in English ivy, Japanese wisteria, and autumn olive. In the last two years, I've managed to banish these invaders—like a good, Renaissance Gardener-Monarch. In their place, I've established a nicely proportioned, well-cultivated set of beds and boarders—of largely native plants. (Are the invasives or the natives the "weeds" in this scenario?) I've tried to use my Red Cedars, Iron Wood, Gray Birches, etc. to screen out neighbors so, when I take a moment to sit down, I can pretend nothing else exists but my managed, loosely-symmetrical garden. I've won a Pennsylvania Horticultural Society award for my work…





And my work has been—at least, in part—to escape. Unlike Shakespeare's Gardener, rather than creating a garden that reflects our political "order" (whatever that might look like rendered in greenery…), I've created a garden that distracts me from it. But like Shakespeare, I have created something artificial (gardens, after all, aren't kingdoms, and "weeds" don't "without profit, suck"). In the last year, there have been countless articles and episodes in the gardening media devoted to the psychological benefits of gardening. And gardening has been incredibly helpful to me: I can occupy my mind by designing and buying; and exhaust myself by lifting and digging and planting. When I was young, I started gardening at the same time as I started seriously reading and writing (my NPSNJ title, as Hubert has retooled it, is "the English major"); and, I think I did so for the same reason: It let me take the pieces of an oftentimes too-jagged world, and reshape them into something smooth and sustaining. Now, when I watch the butterflies and birds, I'm almost unaware of political realities and their future consequences, hanging ominously in the air overhead—at least for a bit.

That said, planting and propagating native plants extends the reach of my little garden out into the natural world—attracting and sustaining insects, birds, and other wildlife. We work tirelessly—in the unnatural worlds of politics and advocacy—to transform our landscapes into something more natural. So, of course, we gardeners do something impactful and politically relevant. But, while a lot of us may imagine ourselves, shovel in hand, cracking through the veneer of suburbia, allowing a primordial "reality" to reemerge, that reality doesn't exist apart from us. In pulling up the butterfly bushes and seeding the landscape with native grasses, we are remaking the world into something smoother and more sustaining than it is. Like it or not, we're in a world of the unnaturally natural. Our gardens are artificial, escapist, and unnatural at the same time as they are restorative and sustaining to the living things around us. Our gardens are like Shakespeare's poetry, and the Gardener's symbolic pruning: rooted in our humanity.

Which Tree Is The Most Important Tree In New Jersey?

By Hubert Ling
President, NPSNJ

The candidate I would like to put forward is Pitch Pine, *Pinus rigida*. Pitch Pine is found naturally growing from Canada to Georgia and west to Minnesota; in NJ Pitch Pine is found in almost all counties. It is found in low-lying wet areas along with red maple and in the dry, high elevation reaches of High Point State Park. As the predominant tree in the Pine Barrens, it is commonly found growing in dry acidic sandy areas along with black oak, blackjack oak, and post oak.

The NJ Pine Barrens is the largest undeveloped area from Boston to Washington, DC. In 1978, 1,700 square miles was set aside as the Pinelands National Reserve and later the UN designated the area as an International Biosphere Reserve. About 850 species of vascular plants make their home in the Pinelands, of which 92 are considered rare or endangered. In addition over 300 species of birds, 91 fish, 59 reptiles and amphibians, and 39 mammals live there; of these 43 animals are rare.

Pitch Pine is a small to medium sized tree which lives for about a maximum of 300 years. The hard wood is saturated with pitch which gives the tree its common name. The needles are in bundles of 3, generally 2.5-4.5" long, and thick and rigid thus the scientific name Pinus rigida. Pitch Pine grows rapidly at about 1' per year for 50-60 years and then much slowly the next 30 years. After that, growth in height almost stops. In more protected areas it can grow to 80' with a maximum of 100'.

The tree has remarkable powers of regeneration and is especially designed to recover after fire; numerous sprouts will emerge from stumps if the main trunk is damaged by storm or fire. In fact, if fire is suppressed Pitch Pines are gradually replaced by deciduous trees such as oaks.

Pitch Pines have two types of cones: serotinous, and nonserotinous. The nonserotinous cones open as soon as they are mature (in 2 years). However, serotinous cones open only after a fire. Many Pitch Pine trees have only one type of cone, but some trees bear both types. Trees which grow in areas with frequent fires (every 6-12 years) mostly have serotinous cones, while trees in areas with infrequent fires (75 years or more) may have mostly nonserotinous cones.

Areas where fire is frequent are home to the amazing dwarf (pigmy) forest of Pitch Pine and shrub oaks 7-10' tall. If you haven't done it before, it is fun to climb up a small mound of sand and look down on miles of forest which is scarcely taller than you. Dwarf trees transplanted to richer soil in fire-protected areas grow to standard heights of 50-80', so it's the environment, not genetics, which is in control of maintaining the pigmy forest.

Besides providing a home for numerous animals and plants, Pitch Pines are useful in a number of ways. Deer nibble on young pine seedlings and numerous birds and mammals consume the seeds. Since the tree is small, generally twisted or curved, and slow growing when older, Pitch Pines have never been a major lumber tree. However, they are prized for bonsai trees and can naturally grow in a mat as low as 1 foot high on mountain tops. Pitch Pine was an important source of turpentine and has found some use for ship building, mine timbers, and railroad ties since it is resistant to decay; currently it is used for pulp, and crates. Native Americans used it for decorative carvings, to seal seams in birch bark canoes, and as an antiseptic for burns, cuts, boils, and abscesses. It was also used as a laxative and to treat rheumatism. Pine pitch has also been used to attach arrowheads to shafts after being hardened by ash from a fire. Two cultivars of Pitch Pine are available; 'Little Giant' and "Beach Sand' both are low growing and tolerate poor soil.

Gauntlet

I travel down
the narrow trail
wet and warm
it is mid-spring
leaf and bloom
are exploding…
a good year
for poison ivy
it lines the path
an aggressive hedge
inching farther
into the walk zone
reaching out
with shiny green tongues
to lick
whatever passes
hoping for
exposed skin
to brush upon
lay its oil
erupt with joy
into a roily flush

Hara L. Rola