

Meristems

The Polly Hill Arboretum
West Tisbury, Massachusetts

Vol. 22, No. 1, Spring 2020



M. 'Elizabeth.' Photo: Patrick Cullina

Pandemic Can't Stop the Healing Power of Nature

In March, the Island and our entire world were shaken, and our way of life altered due to a life-threatening virus which continues to challenge us on a daily basis. Like many Vineyard nonprofits and public gardens throughout our state, region, and country, we have been beset by challenges we never could have imagined a few short months ago.

By early April we closed our buildings to the general public, but were able to keep our grounds open. Working closely with the town of West Tisbury and in accordance with CDC guidelines, the Arboretum has become a welcome respite to those feeling isolated within their homes or seeking to walk in the fresh air while taking in the

beauty of our plants and gardens.

As we face the summer season ahead, we are taking a wait-and-see approach to our work and planning here at the Arboretum. The safety of our visitors, members, and staff has been paramount in our decision making; we move forward with a sense of gratitude and hope. The staff miss working side-by-side with our dedicated volunteers, and because of the unpredictability of so many aspects of this new way of life, we have been forced to cancel many of our most cherished programs, including our in-person spring plant sale, and educational internships.

What has become clear to all who are enduring this unprecedented time is that

our relationships to each other and to our natural world are paramount in giving us both solace and energy as we encounter each new day. The Arboretum is committed to our members as well as to our world-class collection of plants. We take pride in our historic buildings and quintessential Vineyard landscape and will continue to work hard to preserve our founder's legacy and our mission in the days ahead.

Please stay safe and healthy, and if you are on-Island, come walk our grounds and revel in the spirit of the landscape—it's here for you!

—*The Board and Staff
of the Polly Hill Arboretum*

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The Polly Hill Arboretum

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The mission of the Polly Hill Arboretum is to perpetuate the experimental tradition in horticulture established by Polly Hill by sharing knowledge of plants and scientific procedure through educational programs, research, plant conservation, and exploration. The Arboretum seeks to preserve its meadows and woodlands, to promote an understanding of its collections, and to encourage their utilization for scholarship, observation, and the enjoyment of all.

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The lichen-covered fireplace aglow with the soft light of spring

Message from the Director

I am writing from the Arboretum's historic Cowbarn on a mid-May morning while the daffodils outside begin their sixth week of extended bloom. Our staff meets weekly via video conferencing, and occasionally from a distance, to plan and operate the Arboretum while staying safe. In this edition of our newsletter, we announce new board members and recognize the long-term service of two members who have retired from our Board. We also share recent staff changes and updates from our grounds on new technologies. I hope you enjoy articles featuring two unique and stunning plant groups, Island native orchids and yellow magnolias!

Having heard from so many members who have come to visit, we are planning to meet your green garden needs in a time where just being in nature, gardening in our yards, or feeling the warm sun on our faces, is uplifting and of great comfort. Our pre-order plant sale is just one way we are staying connected. Each week I look forward to seeing the expansive diversity of unique and one-of-a-kind Polly Hill plants in our greenhouses and nursery. It's like walking into a chocolate factory—a sensory overload!

The growing year ahead is just that. While we lack the infusion of youthful energy from our summer college interns, we set out to grow plants with a determination to keep adding beauty and diversity to our collections. Last fall we had a successful expedition to Japan, and those seedlings emerged this spring and are now thriving in our greenhouse. While it looks as if our Visitor Center will be closed for safety reasons, we continue to work on making your visit an enjoyable one. Please consider bringing your family to participate in our new quest by grabbing a map from our kiosk and launching a fun-filled journey of discovery on our grounds.

Yes, this summer will be an altogether different one on the Island and for all of us as we adjust and remain hopeful for better days ahead. What remains the same is the special landscape and plants at PHA. We look forward to seeing you, from a distance!

The Board Welcomes Two New Directors

The PHA Board of Directors welcomed Nina Bramhall and Selena Roman in April. Both new board members live in West Tisbury, a stone's throw from the Arboretum.

Nina Bramhall is an avid gardener with a keen interest in the natural environment of the Vineyard. She says, "I had the privilege of knowing Polly personally, as she and my grandmother were good friends. I remember being amazed that she started her work there at age 50 by planting seeds! My grandmother and I would marvel at the magnolias and stewartias and all the azaleas that she hybridized. The idea of 'creating' a plant was truly remarkable to me," adding "I am honored to be part of such a wonderful establishment."

Nina has served on the boards of both Vineyard Youth Tennis and Vineyard Community Youth Tennis. She coached the high school girls' tennis team to four consecutive state championships. Nina is a noted author (*Behind the Times on Purpose: The Charlotte Inn* and *Potluck at Midnight Farm*) and a renowned photographer. Her portraits are part of the MV Hospital art collection.

Nina and her husband Paul Schneider (author and editor of *Martha's Vineyard Magazine*) have a son, Nathaniel.



Nina Bramhall

Selena Roman can often be found walking our grounds before 7 a.m. She, too, has a keen interest in the plants and ponds of our neighborhood, living less than a third of a mile from our Homestead administrative offices. She says, "The arboretum holds a special place in my heart as I first met Polly by an introduction from Ann Nelson's mom, Peg Littlefield, over 30 years ago. Visits yielded coffee cans sprouting sprigs and plants, a few that now live and thrive this side of the road."



Selena Roman

Selena has served on the West Tisbury Millbrook Watershed Committee and now works on the newly created Millbrook Watershed Management group along with PHA Executive Director, Tim Boland. She is presently the general manager of the real estate company, Tea Lane Associates.

Selena and her husband Bill (manager of the Edgartown Yacht Club) have a son, Walker.

Curator Todd Rounsaville Departs to the National Arboretum

We are both happy and regretful to announce that Curator Todd Rounsaville left the PHA in early April to take a position as researcher at the National Arboretum, in Washington, D.C. Todd arrived at PHA in May 2017 as our third Curator. During his tenure, Todd led several significant changes and upgrades to the PHA collections and facilities. Immediately after his arrival, he took on the complex and necessary transition of our plant records system from BgBase to a more user-friendly soft-



Todd Rounsaville

ware, IrisBG. A corresponding program called Arboretum Explorer allows PHA visitors to walk the grounds and view plant information on their own mobile devices. Along with this significant advancement, our mapping system was also upgraded, enabling staff to easily add plant records data from our mobile devices in the field to our central database.

Todd worked with our collections staff to obtain grants that led to the transformation of our nursery and growing facilities. The entire production area was renovated and improved with new heating systems, as well as an expanded pot-in-pot nursery that allows us to grow trees in large containers under automatic drip irrigation. This new system eliminates the need for constant weeding and enables us to evaluate the merits of trees before they are transplanted into our collections.

While Todd's impact was notable here at PHA, he also led an extended trip to Japan in 2018, and many of those seedlings are thriving at our nursery today. In addition, he represent-

ed the Arboretum well as chair of the Plant Collections Network (PCN). The American Public Gardens Association Plant Collections Network coordinates a continent-wide approach to plant germplasm preservation and promotes excellence in plant collections management. "Todd represented our organization with integrity and professionalism while working to improve our collections on every level," says Tim Boland, Executive Director. "His new position is a tremendous match in terms of his skill set and ability to successfully lead large complex projects. We will miss his thoughtful management as well as his teaching skills and camaraderie with staff, volunteers, and our Board of Directors."

While Todd has left in a physical sense, we expect we will have ample opportunity to collaborate with him on future plant expeditions and collection development projects, which are at the core of his new position. Please join us in wishing Todd success at the National Arboretum!

Board Retirees, July 2020

Two important contributors to The Polly Hill Arboretum Board of Directors retire in July. Both Claire Sawyers and Doug Sederholm joined the board in 2011.

Claire's association with the Arboretum began before the beginning, when she knew Polly and later advised David Smith and Stephen Spongberg on formulating the Landscape Design Intent Plan—a document that still guides work at the Arboretum. While her directorship of the Swarthmore College's Scott Arboretum involves a much larger institution with the very different challenges of being a college campus, her academic and personal interest in public horticulture and garden design has helped both the Board and our Director Tim Boland anticipate, approach, and solve many dilemmas common to public gardens. As an example, when the board first discussed initiating a planned giving program, Claire not only provided examples of what other institutions have done, but she also suggested approaches others had found successful. Tim adds 'Claire has been a great source of guidance for the Arboretum and has a strong sense of our authenticity, which is what makes this landscape unique and special. She has helped us hold onto to the tenets that Polly established so long ago.'

Doug's legal and strong MV Commission background has seen us through many institutional growing pains. The last nine years represent almost half the life of the Arboretum as a public garden. Doug vitalized the Governance Committee for the Board and has ably guided our growth and maturity as a board of directors while the Arboretum has become the highly recognized public garden it is today. Whether we were facing land acquisition challenges, contractual issues, or bylaw and policy questions, Doug's practical approach and sense of humor were instrumental in creating the strong organizational foundation we now have. Tim Boland: "Doug loves Martha's Vineyard and that is embodied in his work at the MVC and here on behalf of PHA. I am so grateful for his hard work and friendship."

While we will miss Claire and Doug's wise counsel on the Board, we are grateful that we will not be losing their ongoing personal interest and, when needed, their professional expertise. We thank them both for nine years of valuable service.

Find PHA Online

In the wake of COVID-19, we at PHA, like at many organizations, have increased our online presence to connect with our extended community during the pandemic. We aim to make it possible for members and friends near and far to experience the beauty of the 2020 growing season, and participate in our education programs, which have been moved online until further notice, or in some cases been postponed until next year.

PHA Website

• pollyhillarboretum.org

Social Media

• [instagram.com/pollyhillarboretum](https://www.instagram.com/pollyhillarboretum)
• [facebook.com/pollyhillarboretum](https://www.facebook.com/pollyhillarboretum)
• twitter.com/pollyhillarb

Join us on your social media platform of choice—whether you prefer Instagram, Facebook, or Twitter. We are especially active on Instagram, where we post photos of special and unusual specimens, plant quizzes, and interesting sightings on our grounds. Our Facebook page is home to engaging plant-related content, videos, and program announcements.

Youtube Channel

• [youtube.com](https://www.youtube.com), search: *Polly Hill Arboretum*
This spring, we launched our Youtube channel on Arbor Day 2020 with a video of PHA Grounds Manager/Arborist Ian Jochems demonstrating how to plant a tree. Subscribe for virtual Arboretum tours and useful gardening tips.

Youth Education Online Resources

• pollyhillarboretum.org/education/youth-education

While we couldn't welcome the school students for field trips or visit them in their classrooms this season, we are working to provide them, and all Island kids, with ideas for educational nature-based activities. If you're looking for ways to keep learning with your kids this summer, check out the youth education section of the Arboretum's website for printable activity PDFs written by PHA Youth Educator Elliott Bennett.

Adult Education Webinars

• pollyhillarboretum.org/education/calendar
PHA Executive Director Tim Boland kicked off the season with two online presentations on spring flowering trees, and we look forward to hosting a selection of our summer speakers online. Stay tuned!

Six-Plant Tours (weekly on Instagram)

• [instagram.com/pollyhillarboretum](https://www.instagram.com/pollyhillarboretum)
Though the Visitor Center is closed and we are without summer interns this year, the Six-Plant Tour series lives on! PHA Plant Recorder Liz Thomas has taken over as the creator of our virtual Six-Plant Tours. Check our Instagram feed for the latest tour, featuring six interesting plants, with photos, facts, and a map of their locations on the Arboretum grounds.

Handles & Links for Polly Hill Arboretum's Online Programs

PHA Website: pollyhillarboretum.org

Instagram: [instagram.com/pollyhillarboretum](https://www.instagram.com/pollyhillarboretum) (from mobile app, search: *pollyhillarboretum*)

Facebook: [facebook.com/pollyhillarboretum](https://www.facebook.com/pollyhillarboretum) (from mobile app, search: *Polly Hill Arboretum*)

Twitter: twitter.com/pollyhillarb (from mobile app, search: *pollyhillarb*)

Youtube Channel: [youtube.com](https://www.youtube.com), search: *Polly Hill Arboretum*

Youth Education Online Resources: pollyhillarboretum.org/education/youth-education

Adult Education Webinars, and other Programs: pollyhillarboretum.org/education/calendar

Six-Plant Tours, on Instagram: [instagram.com/pollyhillarboretum](https://www.instagram.com/pollyhillarboretum)



Images from the Arboretum's Instagram feed

A New Quest for Polly Hill Arboretum

The Arboretum has had its own quest in past years, and was at one time part of an Island-wide quest. Youth Educator Elliott Bennett recently revived this fun tradition with a fresh take. Designing a new Arboretum quest along with with Education, Membership, and Outreach Coordinator Ann Quigley, Elliott has created an engaging way for kids and families to discover the unique plants of the Arboretum, bringing them to corners of the grounds they may never have explored, and providing fascinating plant facts along the way.

Welcome to Polly Hill Arboretum
Think of us like a plant museum
Follow this quest & you will see
The best & the coolest of our trees
Rare & beautiful plants abound
Using these verses they can be found

Follow the path past the kiosk to enter
Ahead you will see our Visitor Center *
Filled with info for all ages
Who want to see nature in all her stages
Need a bathroom? Don't despair
Look to the right & you'll see one there *

So many special trees here to see
Notice their bark, leaves & flowers; it's key!
But follow the rules for our grounds, it's easy
Enjoy any day, sunny, rainy, or breezy
Stay on the path, don't pick the flowers
Take home only pictures you can admire for hours
We want all to enjoy the plants & be wowed!
And please remember, no dogs allowed

If identifying a plant, you are unable
Near each one you will find a label
On which you'll see genus, species, & common name
No two labels are the same
They tell where the plant is from, if it's rare,
And of course how long it has been there

Walking past the Visitor Center, go straight ahead
Into Holly Park with berries red
Holly leaves are waxy, prickly, & green
So many different kinds to be seen

Walk through the gap in the wall & turn right
You are now in West Field with all of its sights!
On the Island White Oak, Post Oak, & Black Oak
abound
But only here can the endangered Oglethorpe Oak
be found!
Toward the eastern wall of West Field, our oak
grove is there
How many species can you find that are rare?

In this area you will also see
The unique Island native, the Sassafras tree
Mitten, football, & tri-lobed leaves all on one plant
This woodland specimen is hard to transplant



The kousa dogwood allée in full bloom

In 1602, while searching for this tree, I am told
An explorer arrived on M.V. called Gosnold
In England, Sassafras was worth its weight in gold
To soothe aches & pains, an important medicine of old

Head east with the wall around the West Field
Maples, dogwoods, & rhododendrons are revealed

Onward until you reach Polly's Play Pen
Open the big wooden door & then
Make sure you close it so deer can't get in!
They'll feast on the specimens found within
You are now in Polly's plant laboratory
How the plants got here is quite a story

Here Polly protected the exotic & rare
She propagated & hybridized azaleas with care
The North Tisbury Azaleas are Polly's creation
Find the cultivars named after all her relations

If you like to explore, & play hide & seek
Outside the Play Pen fence you can sneak
Polly made a wind-break with her tall evergreens
Among them you can wander & never be seen

You might not know rhododendrons are true
evergreens
Pine trees & spruce are what most people have seen
Evergreens bearing cones are called conifers
Look here for *Cunninghamia*, the tallest of firs

Traveling south & then right, find camouflage
patterned bark
Some green, some cream, some white & some dark
Stewartia is the name of these
They were some of Polly's best loved trees

Turn & walk to Polly's garden nursery
On your left is a symbol of an anniversary
The Bigleaf Magnolia named 'Julian Hill'
Grown from seed by Polly & standing here still
Julian was her husband, kind & smart
Who believed in her talents from the start

Turn toward the road & walk till you see
The ancient *Metasequoia* tree
This same species lived in the time of the dinosaurs
Reaching tall as a building with fifteen floors
A species with ancestors from the Cretaceous
Once a seed, it now needs a spot that is spacious

Down the Dogwood Allée past the grand Hornbeams
To the right are camellias, & another of Polly's dreams:
A Fernleaf Beech with branches that droop
All the way down to the ground they swoop

Four giant beeches can be found
At each corner of our grounds
But those aren't the only ones, to be sure
Look out for others, if you take a detour!



Araucaria araucana, or monkey puzzle tree, native to Chile

Now turn 180 degrees & head across the Allée
Look for three spiny trees from far away
Native to Chile, with leaves thick & prickly
It adapted here nicely, but not very quickly
Monkey Puzzle Trees are a visitor favorite
Among folks of all ages they are a hit

But why the Monkey Puzzle? You may ask
Who failed in this naming task?
There are no monkeys or chimpanzees
Up in the Chilean Andes!
The English plant explorers are to blame
For giving these trees a silly name
Threatened in their native country
By invasive species, but not a monkey!

Keep walking south till you hit a stone wall
On the other side are trees spindly & tall
Most people call it the Black Gum Tree
But Beetlebung is its name, here on M.V.

To get to the next spot walk east by the wall
It's quite a ways to walk so don't stall
A vestige of the farm that Polly revered...
Explore the Far Barn where sheep were once sheared *
Tell us one thing there that you thought was neat!
You can write it down on your sheet.

The end of your quest has finally neared
To one last plant will you be steered
Toward the Visitor Center & then turn right
Past the cedar limb Bower; it's quite a sight

The Weeping Beech tree you will see nearby
Take a picture of yourself by the plaque you'll find
You can post it online as proof of your quest
And hopefully comment... "That was the best!"

* Note: Our Visitor Center, Far Barn, and public restrooms are closed until further notice during the COVID-19 pandemic. We will announce the reopening of our buildings when it is deemed safe.

David Fielder: A Link to PHA's Past

by Ann Quigley

David Fielder and I spoke over the phone one day in April about his current role on the grounds volunteer crew and his family's historical connection with Polly and her arboretum. He first met Polly as a teenager during summers visiting his grandmother Dionis Riggs, a close friend of Polly who was born on the Island, and whose family went back many generations on Martha's Vineyard. These days, during normal times, he volunteers twice a week working with a team of staff and volunteers on the Arboretum grounds year-round, from the downright hot mornings of August to chilly winter days, when the numbers on the crew noticeably dwindle.

At the time of his interview, the Arboretum's volunteer program had been shut down for over a month due to the coronavirus, and David's own garden was receiving more than usual attention by comparison. An avid home horticulturist, he describes a seedling starting station he fashioned from wire shelving with grow lights attached. The seedling rack was already housing 50 tomato plant starts, his wife Libby's flower seeds, micro-greens, kale, chard, and spinach, and soon, it would be squash and cucumbers. He predicts that gardens all over the country are going to be especially beautiful this year. "There are a lot of people who are doing so much more this year because there's a sense that people might need more local food," he comments, "but also people need the activity; they need something to keep them busy." And he has certainly been keeping busy! His large vegetable garden is surrounded by a fence and gate modeled after Polly's Play Pen, the enclosure PHA Founder Polly Hill originally built to keep deer away from her more vulnerable plants. He says "It keeps the deer out very effectively," adding "as long as I keep the gates closed!"

David and his wife Libby have lived on Martha's Vineyard full-time since 2011, but he has been visiting family on the Vineyard since his youth. He remembers his grandmother's friend Polly Hill generously sharing plants with his grandmother, mother, and aunts, and fondly recalls Polly bringing him to see a clutch of young owls in Far Barn, where the same owl box still provides a home for barn owls today.

When he was about 17, his father was deployed to Saigon during the Vietnam War, and while they couldn't join him there, his mother brought David and his four siblings

to live in Taipei, the capital of Taiwan (then known as the Republic of China), to be closer to their father for more frequent visits. By that time, Polly was already a serious horticulturist, and she sent them a letter asking if they could try to track down a particular low-growing shrub, the Mount Seven Star azalea, named for the mountain about an hour outside of Taipei. David remembers that although Polly didn't have a team of staff to send out on plant expeditions like many public gardens do now, she communicated with horticulturists around the world, and she would try to capitalize on these connections as well as traveling friends. On one particular family expedition to Mount Seven Star, his brother lost his footing, slid a little ways down a slope of the mountain, and happened upon the very plant they were looking for. They made a collection on behalf of Polly, who had gotten permission from the Taiwanese Interior Ministry, and sent the seeds back to Martha's Vineyard, where Polly grew them out and registered the one surviving seedling as *Rhododendron nakaharae* 'Mount Seven Star,' becoming one of several low-growing semi-evergreen cultivars referred to as the North Tisbury Azaleas. These azaleas, while still fairly rare in the average garden center, have made it to specialty plant experts around the globe. And if you're on Martha's Vineyard, you can see several large specimens in Polly's Play Pen at the Arboretum.

When David moved to Martha's Vineyard from Virginia 9 years ago, his sister Dinny and brother-in-law Gary (now co-chair of the PHA Board of Directors) were already members of the volunteer grounds crew. Dinny and David's mother Ann (who still helps out collecting sticks on the Arboretum grounds) and their aunt Alvida had both volunteered as cashiers in the Arboretum's Visitor Center over the years. A family legacy of involvement with PHA before and after its establishment as a public garden already existed, and David was quick to jump on the bandwagon in retirement, and, as he says, he's never looked back.

With the grounds volunteers, David works on projects that run the gamut from raking leaves and caging young specimens, to mass plantings, and on occasion, deaccessioning large trees. He comments that the more time you spend on the grounds, the greater personal connection you feel to the landscape and individual plants. He says "there's nothing



David Fielder

like coming back year after year and checking on those things that you helped to create." He enjoys looking in on the diminutive *Iris cristata* he helped plant in Holly Park along with the interns one summer, and the large holly that he worked on using a pruning technique called "hatracking," which can rejuvenate straggly, overgrown holly trees. He says volunteering at PHA is a great return on investment, in terms of what you put in and what you get back. He sings the praises of both former and current PHA grounds staff, who he says are very generous with their time in answering questions, and always place emphasis on making the volunteer experience an educational one. He also enjoys the social aspect, whether it's chatting with fellow volunteers during a regular work shift, or getting together at the volunteer soup days in the cold season and the annual August volunteer party.

And then of course there are the occasional plant giveaway perks, whether it's surplus seedlings, a deaccessioned plant, or a volunteer appreciation freebie. Over the years, he's acquired many plants through giveaways and shopping at our plant sale, and he says it's fun to see the PHA plants in his West Tisbury yard leafing out and growing taller every season. He estimates that by now he has over 100 trees, shrubs, and herbaceous perennials that originated at the Arboretum, and he now has the skills to care for them like an expert, gleaned from his hours with the grounds crew. "I learned to use tools and techniques I never would have become aware of without working on the Arboretum grounds, and I found myself getting more and more interested in plant science." He adds, "It's hard to beat that combination of a beautiful environment, getting out and getting your hands dirty, and wonderful people to work with; that makes a pretty compelling package." We agree, and we feel fortunate to have David on our team.

We look forward to when we can safely welcome back our grounds volunteers! If you are interested in trying it out when the time comes, or would like more information, please contact Grounds Manager Ian Jochems at ian@pollyhillarboretum.org.

Island Orchids

by Elizabeth Thomas

If I told you a cryptic species lay waiting in the woods behind your home, what would you imagine? Something fantastical? Ancient? Secret? Ominous? What about a delicate flower?

You might be a botanist if you chose the last one. Terrestrial orchids grow from the ground, and many are referred to as being “cryptic”; that is, they are difficult to find or seem to possess some resistance to being fully understood.

It’s funny to think of Orchidaceae as the second largest plant family in the world, when its members are so seemingly sparse in the landscape. Of the world’s roughly 28,000 orchid species, about 250 of them can be found in North America; of these, over half are endangered or threatened in their native range. Because their life cycles depend on exclusive mutualisms between highly specific pollinators and fungal partners, orchids are particularly vulnerable to habitat degradation and subtle changes within their ecosystems.

Martha’s Vineyard is home to around



Pink lady's slippers

11 genera and 21 species of terrestrial orchid, from the mesic forests of the up-Island moraine to the sandplain grasslands in Edgartown. Peak orchid season on the Island is late July to early August, when a majority of our species have overlapping bloom periods. However, they can be found any time of year if you know where to look, and what to look for.

Who would guess a New England winter is prime for an orchid sighting? Endangered in the state of Massachusetts, the cranefly orchid (*Tipularia discolor*) produces its single leaf in the wintertime when plenty of sunlight reaches the forest floor. One leaf might sound underwhelming, but when you stumble upon a colony with their leaves polka-dotted on top and bright purple underneath, they are a pleasure to behold. In fact, the leaves are showier than their inflorescences, whose delicate form and subtle coloring blend in with the surrounding summertime understory of their woodland habitat. We’re lucky to have a few healthy populations of this rare orchid up-Island in the mesic forests of the moraine.

Moving into spring, we might see another species which is made more conspicuous by its foliage: the large whorled pogonia (*Isotria*

verticillata). Its trifecta of long, pointed sepals gives this flower a lot of character (“a wild, twisted, fantastic appearance” in the words of famed naturalist W.H. Gibson), but its spindly form and earthy tones could work as camouflage if it wasn’t for the spiral of bright green leaves—reminiscent of trillium—to catch the eye.

Our other early orchids have some of the Island’s showiest flowers. One of the most common orchids here is the pink lady’s slipper (*Cypripedium acaule*), a plant known to even the most casual of late springtime nature walkers. It only grows in acidic soils but is less picky about moisture, which is why you can find it across a range of ecosystems, from its preferred dry woodland habitat to bogs and even sandplain grassland (as evidenced by a specimen in the PHA herbarium). It’s most recognizable by its large pink pouch (the labellum, or modified petal) and broad basal leaves. It uses a sweet scent to lure bumblebees through a slit and into the inflated labellum, where the bees inadvertently deposit pollen from the last flower they visited as they pass under the stigma (female reproductive part). Alas, these bees have been duped and there is no nectar reward;



The inflorescence of *Spiranthes lacera* found on Martha’s Vineyard. Photo: Kristen Geagan

they must travel deeper into the labellum to reach the only exit hole, leading them to squeeze past the male floral parts, thereby picking up new pollen for the next flower. How do bees keep falling for this trick? Along with the large whorled pogonia and many others, this orchid relies on “naïve bees” who are newly emerged for foraging and haven’t yet learned to recognize imposters. However, they learn quite quickly—one factor that leads to the low fruit set of this species and can contribute to the rarity of other orchid species.

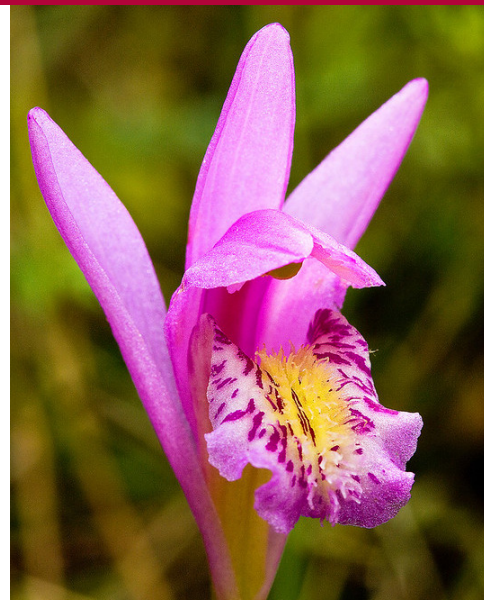
It’s fun to imagine the deceptive behavior of these plants as reflecting the vagaries of springtime, as this season’s other showy orchid uses a similar tactic. The dragon’s mouth orchid (*Arethusa bulbosa*) looks like a little pink dragon’s head and also relies on inexperienced bumblebees. In addition to scent, it features an ultraviolet pattern on its flat labellum to guide the bees across its reproductive parts. Unlike the common lady’s slipper, the dragon’s mouth orchid prefers moist, open habitat and is considered rare and threatened in the state of Massachusetts (so please, if you see one, leave it be!).

Once it warms up and summer is in full swing, we have several species of bog orchid (*Platanthera* spp.) and ladies’ tresses (*Spiranthes* spp.) popping up around the Island. You could say these orchids have a more “honest” relationship with their pollinators, as they actually provide the expected nectar. Our six

species of bog orchid all prefer moist habitats and are mostly pollinated by moths and butterflies; their flowers are usually fringed and grow in robust spikes, with colors ranging from white to green to purple, depending on the species. The ladies’ tresses bloom in a narrower spike, and have white flowers arranged in one or more spirals around the stem. They prefer dry, open habitats and are pollinated by various types of bees, but mainly bumblebees. Early ladies’ tresses (*Spiranthes vernalis*) is a threatened species in Massachusetts.

As summer ripens, so do our fly-pollinated orchids. Martha’s Vineyard has two species of adder’s mouth orchid (*Malaxis* spp.), and neither is ornamental; the plants are short and the flowers are tiny, green, and not particularly interesting even at eye-level. However, Bayard’s green adder’s mouth (*Malaxis bayardii*) is nothing to sneeze at; it’s globally imperiled and is one of the rarest orchids in northeastern North America, with only a handful of populations known anywhere! It grows in dry forests and sandplains, whereas the regular green adder’s mouth (*Malaxis unifolia*) prefers wet sites.

An inconspicuous orchid is not boring; on the contrary, it’s a gift for the enlightened. Ornamental orchids scream for you to notice them, but cryptic terrestrial orchids whisper at the edge of your vision. To discover one is like being let in on a secret. Knowing your

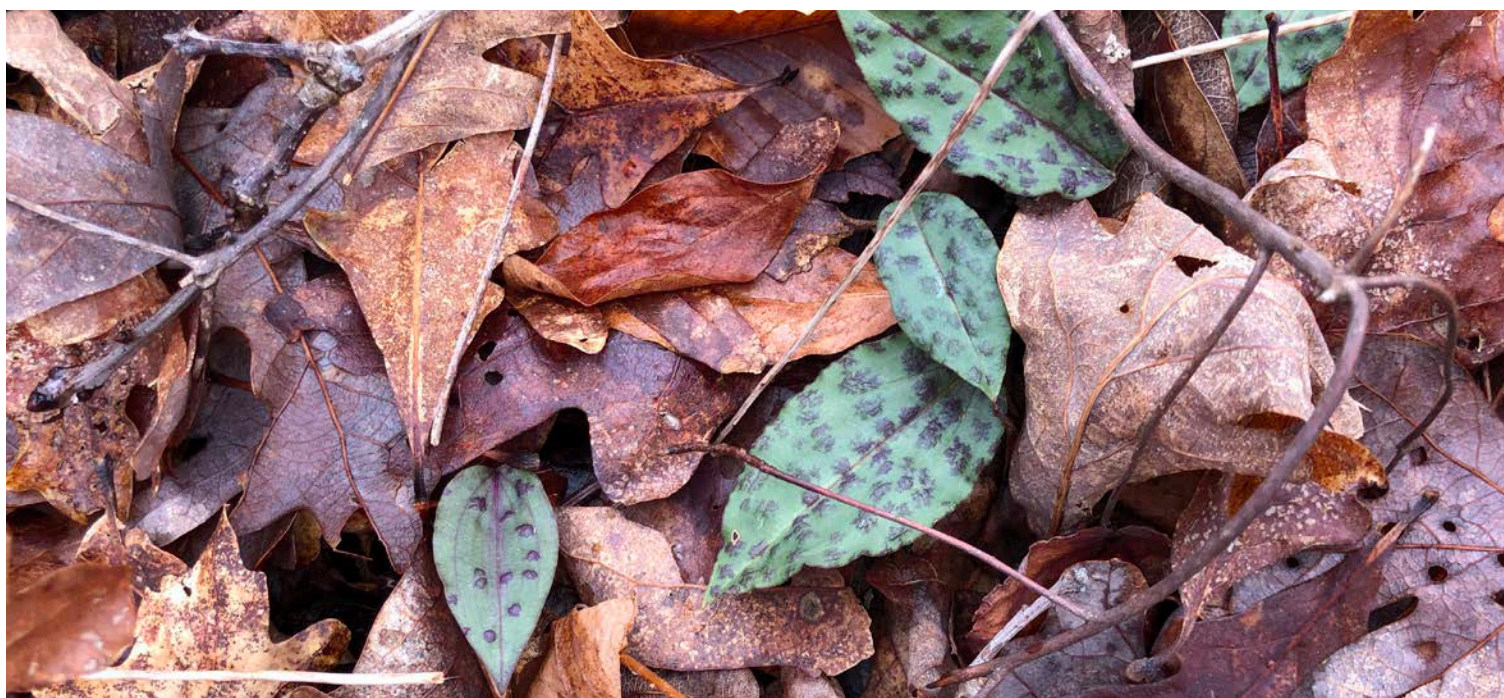


Dragon’s mouth orchid.
Photo: <https://www.flickr.com/photos/ncorchid>



Large whorled pogonia. Photo: Jim Fowler

orchids is understanding just a little bit more about the landscape as a whole, and as an Islander, every season presents an opportunity for education in these unique plants.



The leaves of *Tipularia discolor* growing in West Tisbury

Mapping with GIS at PHA

by Oliver Osnoss

“Our inventions are wont to be pretty toys, which distract our attention from serious things. They are but improved means to an unimproved end, an end which it was already but too easy to arrive at...”

At least 166 years have passed since Henry David Thoreau wrote of a simpler life and the perils of technology from a small cabin in the woods near Walden pond. The question of whether technologies add true value to our lives, or if, as Thoreau wrote, they are an improved means to an unimproved end, is made more relevant today by the rate at which technology is accelerating our lives.

I have this in mind as I create maps of Polly Hill Arboretum using Geographic Information System (GIS) mapping software. GIS is a mix of geography, surveying, and digital analysis with seemingly endless applications for its use. Using ArcGIS Pro, the latest software released by the Environmental Systems Research Group (ESRI), I am making a series of maps to document existing conditions and help plan for the future at PHA. I use publicly available geospatial data from MassGIS as well as data generated at Polly Hill Arboretum, both on the ground and from the air.

With the help of Chris Seidel from the Martha's Vineyard Commission, we have been mapping the grounds using a drone. The imagery captured by the drone is uploaded to ArcGIS Pro and used to help us track changes in the landscape and make decisions for the future. With this new visual data, we have begun to observe vegetation patterns in the meadows over time. We are also using the drone imagery to help lay out trails in the future Woodland Garden.



An aerial drone image of Polly's Play Pen and the Conifer Rows. Photo: Chris Seidel

Yellow-flowered Magnolias: An Overview and Eight Favorites

by Matthew Lobdell

With their large and charismatic flowers, magnolias are a frequent source of joy in the spring landscape. They can also be a source of disappointment, with the earliest flowers often lulled into a false sense of security after several warm days, only to be reduced to a brown, crumpled state after a late spring frost. However, yellow magnolias are often less susceptible. They tend to flower later in the spring, after the last frost in most climates, with their flowers thus more reliably enjoyed.

Yellow magnolias started to become available in the early 1980s. They generally resulted from the selective breeding of various east Asian native species with the North American native cucumber-tree (*Magnolia acuminata*). On the surface, the cucumber-tree appears to be an unlikely partner. The flowers are rather small, and though an interesting

shade of blue-green, would likely not be frequently described as ornamental. Additionally, one looking to debate the merits of the flowers would almost certainly need a pair of binoculars, as the tree is known to reach heights of nearly 100 feet in its native Appalachian woods and ravines. However, toward the southern end of the plant's distribution, a rare variant occurs. The yellow cucumber-tree (*Magnolia acuminata* var. *subcordata*) is much shorter in stature (roughly 30 feet), and produces flowers ranging from yellow-green to butter yellow. Both varieties have been utilized as parents in yellow-flowered garden magnolias.

Yellow magnolias vary primarily in their height, ranging anywhere from small and shrubby, to tall trees rivaling their *Magnolia acuminata* parent. Flower color ranges from

Polly Hill herself was an early adopter of digital record keeping and the Arboretum has heaps of information recorded electronically. This data library includes GPS coordinates for nearly every tree and plant, indicating their exact location on the grounds, within a foot or two. In GIS I can layer these data points with other types of information. For example: I am in the process of making maps of all of our water systems and utilities. These layers can be turned on and off, edited, and used repeatedly in many different maps.

GPS, GIS, and drone technology are marvels, but what lasting value do they provide that did not exist when Thoreau, a surveyor himself, held a surveyor stick and drew plans with ink on paper? My contemplations have yielded the conclusion that the significant advantage of working with GIS technology is the speed and agility with which the data can be collected, edited, analyzed, and shared. This improved means facilitates an improved end by creating a more informed understanding of the land. It enables us to study the landscape through many lenses, analyze the pertinent information and relationships within the landscape, communicate this information in rich and diverse maps, and plan for the future.



M. 'Elizabeth.' Photo: Matt Lobdell



M. 'Yellow Fever.' Photo: Matt Lobdell

an off white ivory, to cream, to deep golden yellow. Some selections flower before the emergence of the leaves, others after. Flowers of the former group are often easier observed, though those of the latter group are often a darker yellow, making them more visible among the leaves. Below you can read about eight of my favorites based on observations at Polly Hill Arboretum and the Morton Arboretum in Lisle, Illinois.

'Elizabeth,' an introduction by Brooklyn Botanic Garden in 1977, was the first hybrid yellow magnolia and is arguably still the best, provided one can provide space for this large-growing tree. A cross between the yulan magnolia (*Magnolia denudata*) and the cucumber-tree (*Magnolia acuminata*), its flowers are creamy yellow, appearing before the leaves. 'Yellow Fever' has the same parentage as 'Elizabeth' and is overall a similar plant, though the flowers have a faint pink blush to the outer base. In 1981, Brooklyn Botanic Garden introduced another yellow flowering magnolia, 'Yellow Bird.' It resembles a fine yellow flowering form of *M. acuminata*,

flowering with the leaves.

'Butterflies' was one of the first yellow magnolia introductions by the prolific Phil Savage Jr. of Bloomfield Hills, Michigan. Selected in 1989, it resulted from a cross of *M. acuminata* with a peculiar creamy colored form of *M. denudata*, resulting in a smaller plant with golden-yellow flowers distinctly darker than the ivory tones of 'Elizabeth' or 'Yellow Fever.' Though smaller, they are prolific, resulting in a full effect. Two more of my favorite Savage introductions are 'Maxine Merrill,' and 'Gold Star.' The former is a cross of 'Miss Honeybee' and *Magnolia × loebneri* 'Merrill,' with flowers consisting of six sturdy bright yellow tepals, and the latter is a cross of 'Miss Honeybee' and the star magnolia (*M. stellata*), contrasted from 'Maxine Merrill' by its lighter colored flowers and greater tepal count upwards of 14.

From across the Atlantic hails 'Daphne,' an introduction from Arboretum Wespelaar in Belgium. It resembles 'Miss Honeybee' (one of its parents) in that its flowers occur with the leaves, but they are a very dark yellow,

perhaps one of the darkest.

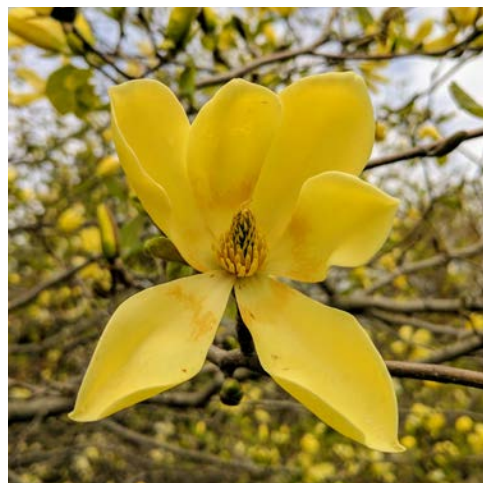
Finally, rounding out my list of favorites is 'Judy Zuk.' Originating as a cross from the Brooklyn Botanic Garden, the flowers are golden yellow, nearly orange-yellow on the outside. It is named for the late former director of the Brooklyn Botanic Garden and the Scott Arboretum, Judith Zuk.

With well over 100 yellow-flowered magnolias known to exist, there is certainly one for the taste of every gardener. I encourage those looking for more information to seek out Magnolia Society International; a wealth of information ranging from an archive of journals dating back to the 1960s, as well as a recently updated checklist of all magnolia cultivars, is available on the website. I hope you will consider a magnolia, especially a yellow one, as the next introduction to your garden!

Matt Lobdell is curator of living collections at the Morton Arboretum, and a PHA Research Associate. Matt was formerly an Island resident and the first Curatorial Intern at PHA in 2008.



M. 'Yellow Bird.' Photo: Andrew Bunting



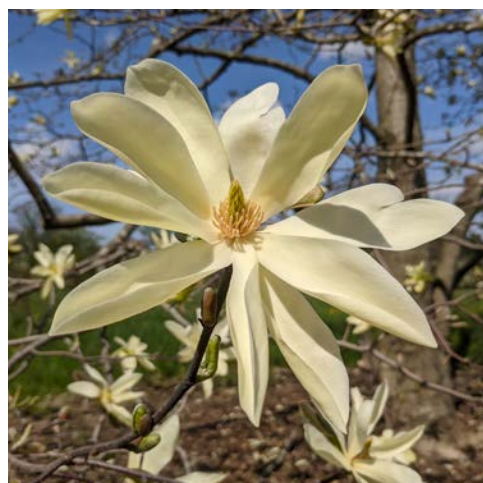
M. 'Maxine Merrill.' Photo: Matt Lobdell



M. 'Daphne.'



M. 'Butterflies.' Photo: Matt Lobdell



M. 'Gold Star.' Photo: Matt Lobdell



M. 'Judy Zuk.' Photo: Andrew Bunting

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twitter.com/pollyhillarb
[youtube.com](https://www.youtube.com), search: *polly hill arboretum*

ADMINISTRATIVE OFFICES

The Homestead
809 State Road
West Tisbury, MA 02575

VISITOR CENTER/ VISITOR ENTRANCE

795 State Road
West Tisbury, MA 02575

ACCESSIBILITY

The Visitor Center is wheelchair accessible.

VISITOR CENTER HOURS

Closed until further notice due to safety concerns surrounding COVID-19

ARBORETUM GROUNDS HOURS

Sunrise–sunset, year-round

ADMISSION

\$5
Free to members & children under 12

FREE PARKING

DRIVING DIRECTIONS

See pollyhillarboretum.org

mer.i.stem: *n. botany.* The growing point or area of rapidly dividing cells at the tip of a stem, root, or branch.



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THEN AND NOW

Aerial Arboretum Views

The use of new technologies has always been part of the PHA legacy. Polly Hill was one of the first private gardeners to computerize her plant records, beginning in 1972. While database technologies have exploded, so too have geospatial mapping technologies. Pictured here is a recent bird's eye view drone photograph of the PHA property below a 1995 Google satellite image of the same area, which seemed miraculous at the time! While these comparisons give us a contrasting perspective, they also demonstrate the fleeting nature of landscapes, further motivation for our attempts to capture them at precise moments in time.



1995



2020. Photo: Phil daRosa