

# Meristems

The Polly Hill Arboretum  
West Tisbury, Massachusetts

Vol. 23, No. 1, Spring 2021



The seven-son flower, *Heptacodium miconioides*, was brought into the garden world by PHA Director Emeritus Stephen A. Spongberg from his 1980 expedition to China.

## Edey Foundation Funds Digitization Project

As buds burst and bloom on the Arboretum grounds this spring, so too does opportunity: grant funds awarded to us by the Edey Foundation. With this grant, we are able to purchase equipment for the imaging of the entire preserved collection of the Polly Hill Arboretum Herbarium (PHARB).

We have a growing collection of nearly 4,000 herbarium specimens from Dukes County, made possible by the countless hours and expertise of our PHA Research Associates Gregory Palermo and Margaret Curtin, other botanists and conservationists who help collect, identify, and provide access to our flora, and our team of volunteer “gluers.” These specimens not only act as a historical record of the Island’s flora and a research tool for scientists and land managers, but also help aid plant

identification and track populations of rare and important plants.

Although specimens can last for upwards of 200 years if processed and stored correctly, they’re very fragile and may deteriorate each time they’re handled. To create research-grade digital copies, specialized equipment must be used to ensure clear and accurate representation of all details, including color, texture, and size. The Edey grant has allowed us to purchase a professional light box, a tool which produces optimal lighting to capture these features, along with a camera, lens, barcodes, and other necessary equipment for the task.

The value of herbarium data increases with time, and high-quality digital images immortalize these important collections, allowing not only free, broad access for the

community and global researchers, but also an insurance policy against disaster and inevitable decay. We’re excited to begin digitizing this summer, with the help of MV High School student Ella Buchert, our first digitization intern! We’re also excited to extend this resource to the Martha’s Vineyard Museum, whose historic E.S. Burgess herbarium specimens will be imaged after our own.

Once our collection is fully digitized, it will be available to view by anyone for free, from the comfort of their own home or classroom. We hope our Island neighbors will enjoy using these images to identify species or to simply explore and become acquainted with the plants which uphold our island ecology. We thank the Edey Foundation for this exciting opportunity.

### Contents

1	EDEY FOUNDATION FUNDS DIGITIZATION PROJECT
2	MESSAGE FROM THE DIRECTOR
3	EDUCATION AND OUTREACH
6	ARBORETUM NEWS
8	VOLUNTEER PROFILE

9	SUSTAINABILITY AT PHA
9	SCIENCE AND PLANT CONSERVATION
10	FROM THE LIVING COLLECTIONS
12	FROM THE HERBARIUM





PHA Horticulturist Oliver Osnoss gives a tree planting demonstration on Arbor Day.

## 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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## Message from the Director

Welcome! Welcome! That's how we feel about the joyous opportunity to safely reunite with our visitors and members for in-person programs. Early in 2021, we looked for creative and fun ways to help our Island community get outside. I thank our staff for creating the very popular gnome hunt and the equally imaginative poetry contest focused on our most favorite subject, trees! What will the summer of 2021 bring? More fun for families and our members as we reopen our Visitor Center and welcome back Islanders and first-time visitors to Polly Hill Arboretum. The grounds will remain open as they have been during the pandemic, with the exception of Wednesdays, when we close during the day to carry out more intense maintenance activities. Please note, the Far Barn and our restrooms are open this year.

Visitors this year will notice new interpretive panels in the Visitor Center and a mid-season opening of our Native Tree Trail. After years of having our woodlands closed due to hazardous trees, we plan to open the first stage of our tree trail this year. This allows visitors to

become familiar with our woodland, learn about our native trees, and to see a forest in transition as we share insights into woodland history and ecology.

Inside this issue, you will read about some sad news for the Board, staff, and our members, and that is the passing of two past PHA Board members and our first Executive Director, Steven A. Sponberg. The Arboretum you love to visit for its beauty, incredible plants, and programming is made possible by the special people who are a part of our story. Their legacy continues today.

Finally, I encourage you to become an ambassador for the Arboretum by bringing new friends to our campus and sharing the interesting and beautiful plant collections, historic grounds, and buildings. There are many lessons the pandemic has brought us; here at PHA we have learned that we need nature, and nature needs us. We look forward to your visit.

*Timothy M. Boland*



# Summer Program Preview

This summer we are thrilled to welcome people back to the Arboretum for in-person classes, as well as a number of in-person lectures! We will offer small in-person classes, special tours, lectures in the Far Barn, as well as some virtual lectures. For dates, details, and our complete summer schedule, look for our summer/fall program guide mailing or visit our programs calendar at [pollyhillarboretum.org](http://pollyhillarboretum.org). Some lectures listed as virtual in our Program Guide will now be held in person. Check our website calendar for updated event details.

Our first in-person summer lecture will be held in July. Island wildlife biologist Liz Olson of BiodiversityWorks will share the adventures of their radio-tagged spotted turtles, in-person at the Far Barn. We then look forward to welcoming Chipper Wichman, President of the National Tropical Botanical Garden, as our featured speaker for the annual



**Abra Lee, national speaker, writer, and owner of Conquer the Soil, will dive into the historical and cultural significance of trees, as well as figures in Black American garden history, in her lecture *Power to the Trees* at the Arboretum on July 28.**

Lisina and Frank W. Hoch Lecture. Chipper will give a virtual presentation telling the story of a unique garden's response to climate change in Hawaii. In late July, Abra Lee, national speaker, writer, and owner of Conquer the Soil, will dive into the historical and cultural significance of trees, as well as inspiring figures in Black American garden history, in her lecture *Power to the Trees*, in person at the Far Barn.

August will begin with an in-person talk by Cornell University Professor Dr. Don Rakow for our annual David H. Smith Memorial Lecture, exploring the connection between nature and wellbeing, titled "Nature Rx: A Prescription We Can All Live By." Following the talk, Dr. Rakow will lead a mindful nature

walk at the Arboretum. Later in August, we will welcome Jennifer Jewell, host of the public radio podcast "Cultivating Place," to share her philosophy that gardeners are powerful agents of positive change in our world. This lecture will be held in-person, and Jennifer's books will be available for purchase. Our final lecture this summer will take place at the Far Barn in late September, with Cornell University Professor Anurag Agrawal using striking visual imagery to convey the latest scientific research on monarch butterfly and milkweed conservation. We are grateful to our community sponsors who help make possible our summer lecture series. This year, we would like to thank Barlett Tree Experts, Donaroma's Nursery and Landscape Services, the Dukes Conservation District, Heather Gardens, and Middletown Nursery, Home and Garden Center.

In addition to our lecture series, we are excited to see people back at the Arboretum this summer for an assortment of classes and workshops. Our summer classes will start with a series of nature drawing courses led by local artist Lizzy Schule, beginning in early June and running through July. Also in June, we will host a new series called "Mindfulness in the Arboretum." Local yoga and Chi Kung instructor Kanta Lipsky will lead "Balance in Nature," an hour of gentle movement designed to strengthen our connection to the earth. In late June, Shanta Gabriel, an alternative health instructor, will guide forest bathing walks to promote wellbeing.

We will also have opportunities to learn about plants and gardening in June and July. In late June, Martha's Vineyard Land Bank ecologist Julie Russell will lead a crash course in plant identification, teaching easy ways to use plant family patterns to identify a variety of Arboretum plants. In late July, Kew-trained gardener, photographer, and author of *Cultivated: The Elements of Floral Style*, Chrisin Geall, will lead a summer floral demonstration using Island-grown branches and blooms.

August starts on a creative note with local artist Lynn Hoeft's "Watercolor in Bloom" series for all levels of artistic experience. For the many gardeners struggling with deer in the garden, Grounds Manager/Arborist Ian Jochems will teach a highly requested course, "'Deer Proofing' Your Garden," in mid-August. PHA Plant Recorder Liz Thomas will bring back her virtual botanical dye class, this year with a focus on common local wild plants. The following week, Liz will lead a tour to



***Polystichum acrostichoides*** Photo Dan Jaffe Wilder

provide a chance to see some of these dye plants at the Arboretum.

This September, create a livelier garden by learning how to select the right native plants for pollinators with PHA Horticulturist Oliver Osnoss. Also in September, we are excited to welcome author, photographer, and ecological horticulturist Dan Jaffe Wilder to PHA for three days of nature photography workshops. Finally, in late September/early October, join a field trip to Bamford Preserve and Katama Airfield to learn about sandplain grassland restoration ecology with Mike Whittemore,



**Bamford Preserve restoration area, an exemplary sandplain grassland habitat.** Photo Mike Whittemore

Stewardship Manager with The Nature Conservancy for Cape Cod and the Islands.

This summer, visitors can experience a new part of the Arboretum with our Native Tree Trail opening in July. This new woodland trail will highlight trees native to Martha's Vineyard, with special staff-led tours the week of the opening. In addition to our themed "Looking Together" tours the second and fourth Tuesday of each month, Grounds Manager/Arborist Ian Jochems will lead his popular Edgartown tree tour in early September.

We look forward to seeing you at our virtual events and in-person at the Arboretum this summer! Additional events and classes may be added throughout the season. To receive email updates, subscribe on the homepage of our website, [pollyhillarboretum.org](http://pollyhillarboretum.org).



# Beyond Annuals: Growing Perennials in Containers *by Ann Quigley*

As a plant-lover and a renter, I have only a small apartment and a deck on which to indulge my obsession with plants. But surrounded by the variety and beauty of perennials, shrubs, and trees at PHA, I have been tempted to look beyond the typical container-grown annuals and experiment with some interesting perennial plants that could survive the winter right in their pots and keep growing the following year. Many people move their potted perennials to their garden at the end of the season, but even if you don't have a yard, you can still enjoy many aspects of perennial gardening.

In my situation, a deck with mostly full sun and a small shaded area, I wanted plants that would do well in those conditions and create a changing array of blooms, foliage, and varied textures all season long. I also wanted to attract hummingbirds and provide some food for pollinators. I was not swearing off annuals completely, and still planned to incorporate some favorite annual flowers and edibles into my containers. Time to experiment!

Choosing perennials to grow in containers is a lot of fun, especially if you bring a spirit of experimentation, and expect that not every plant will survive (just like in traditional gardening). The PHA plant sale, local garden centers, and mail-order nurseries are all great options for purchasing new plants. If you have them available, you can dig plants from your yard (or a friend's yard) and transplant them to a pot so that they can be placed in spots where they wouldn't normally be able to grow.

Many online nurseries make suggestions for perennials that will do well in containers; this can be helpful, but don't let those cate-



**A mound of glowing green sedum emerges in May after its first winter in a pot**



**Perennial thyme & marjoram mixed with annual asters**



**Fothergilla leaves emerging above a blanket of pansies**

gories limit you. Some plants I have successfully overwintered in pots (without cover or insulation) are blue flag irises, blue vervain, goldenrod, sedum, a dwarf japanese maple, a fothergilla shrub, various ferns, blue-eyed grass, catmint, coral bells, hyssop-leaf thoroughwort, toad lilies, and herbs like chives, mint, and thyme.

Unless you're planning on transferring your plants to a garden in the fall, it's helpful to select plants which are hardier than the minimum for your local climate. So although Martha's Vineyard is in USDA hardiness zone 7a, I looked mostly for plants hardy to zone 4 or 5, knowing that plants in pots are less insulated from the cold and more susceptible to freezes and thaws than those overwintering in the ground. If you can provide shelter from wind and temperature fluctuations by placing

your pots in a garage, greenhouse, shed, or cold frame, you can often have success with plants for warmer zones.

If you're planning to overwinter containers outdoors, you can use mulch to provide some protection, and placing pots against the exterior of a heated building can help regulate temperature during cold spells. Pot material is also a consideration. You risk having clay, porcelain, or other porous pots break from rapidly fluctuating temperatures if you leave them outdoors throughout the winter; metal, wood, and non-porous composites are safer choices. However, if you like the look of terra cotta or porcelain, the pots will often last several years, and many are not prohibitively expensive to replace. Just be sure to choose a large enough container (perennials tend to have bigger root systems and need more space than annuals), make sure there's adequate drainage, and use good quality soil.

Learning to grow perennial plants in containers has been an experimental learning process. Being able to watch a plant emerge from the soil in early spring, develop throughout the season, and evolve between years, adds a new dimension to the container gardening experience. The birds and butterflies love my deck, and now, so do I! Best of all, when I move, I can take my beloved perennials along.



**Bright green perennial mint with a backdrop of a rusty-hued coleus**





Creeping phlox spilling out of a hanging planter

### Tips for Beautiful & Functional Designs with Perennials in Containers

- Integrate plants with winter interest—evergreens, grasses, or woody plants with colorful twigs.
- Use a few tall plants, trees, or vines, & some low and trailing plants to create height variety & a more dramatic effect.
- To add to the multi-level visual effect, place some plants in hanging containers, some on railings or tables, & some on stands or upturned pots.
- In spring when overwintered plants in mixed containers begin to fill out, it may be necessary to edit more “enthusiastic” plants so they don’t crowd out their neighbors.
- Keep potted perennials pruned back more aggressively. This helps with more continuous blooms, & for leggy plants creates a more compact form, which will be more likely to remain upright even without the support of nearby plants like in a traditional garden.
- Intermix annual herbs, veggies, & flowers, as well as houseplants summering outdoors, corms, & bulbs. Annuals can fill empty spaces as perennials grow larger, & their often shallower roots provide less competition.
- At the end of the season, don’t immediately prune back spent flower stalks: leave seeds & berries for the birds to enjoy, & stems for overwintering insects.



Fern textures mix well together



The flower stalk of coral bells unfurling among catmint, strawberries, native irises, & blue vervain

### Some Benefits to Container Gardening with Perennials

- Your plant display changes more in size, color & texture throughout the growing season, & starts earlier.
- Perennials are more low-maintenance than most annuals, needing less dead-heading & with deeper roots, they are less likely to wilt from lack of watering on a hot summer day.
- Growing perennials in pots in addition to using annuals expands your plant combination options.
- You can grow native plants, which in turn helps local insects and birds.
- At the end of the season when annuals may be fading, late-blooming perennials are just hitting their peak, & some can tolerate light frosts.
- Even if you do own land or have a traditional garden, you can expand the areas where you garden with perennials into new spots like paved areas, patios, decks, & over degraded soil.



Delicate pink toad lilies with their equally attractive chartreuse seed pods flourishing after their second year overwintering in a container



The bees flocked to the spotted joe pye weed, growing here among the cucumber vines



## Arboretum Wish List

### Screen Door for Visitor Center (\$2,000)

Keeping the main door to our Visitor Center open during the summertime is an inviting way to welcome visitors inside, and increase air flow. However, the open doors also let in birds and insects, which fly up to the large glass windows in the high-ceilinged space and become trapped, sometimes resulting in the death of a bird, and often causing distress to our staff, volunteers, and visitors. With a custom screen door, built for the extra-large Visitor Center entry by PHA caretaker Tucker Hubbell, we will prevent birds and insects from entering, while welcoming guests with an open door.

### Chipper (\$29,000)

Owning our own wood chipper would allow our small horticultural staff to better care for our living collections and maintain the grounds. PHA Grounds Manager Ian Jochems says, "During tree pruning and removals, we cut the material, load it into a work truck, and then dump it into piles in our maintenance area where hopefully within six months a contracted company will chip it. This requires moving material several times and doesn't allow us to keep our maintenance areas as clean as we would like. It also increases the wear and tear and compaction on the grounds due to the high number of loads we have to take out." Ian explains that as wood sits waiting to be chipped, nutrients are lost, reducing their value in enriching the soil. Being able to process material on the spot with our own chipper will increase staff efficiency, reduce the number of trips across the grounds, increase our plant health care, and improve our soil enrichment program.



**If you are interested in sponsoring either of these items with a donation to Polly Hill Arboretum, please contact us at [info@pollyhillarboretum.org](mailto:info@pollyhillarboretum.org). Thank you for your consideration!**

## PHA Welcomes New Board Member

We are pleased to introduce Lisa MacKenty, the newest member of the Polly Hill Arboretum Board of Directors. Prior to joining the PHA Board, Lisa served on the PHA staff housing committee. With over 30 years experience in the financial services industry, she is a great addition to the Board's Finance Committee. Lisa resides full time on Edgartown Great Pond with her husband, Michael. "We are very pleased to have Lisa join our board. She is a clear and pragmatic thinker with a strong financial skill-set and interest in the programs and people of the PHA. She has been an insightful and delightful presence on the Affordable Housing Committee," says Tim Boland, Executive Director. The PHA will report on the affordable housing plans as they develop. Lisa says "I am excited about joining this great



**Lisa MacKenty**

team and looking forward to contributing to the continuing success of the Polly Hill Arboretum."

## Bridget Reed Leaves PHA for Ohio

PHA Plant Propagator Bridget Reed, who came to PHA from Kentucky in 2018, departed this spring for a position at the Dawes Arboretum in Newark, OH. During her time at PHA, Bridget brought energy, enthusiasm, and warmth to the Arboretum staff, visitors, and greenhouse volunteers. She ushered thousands of special PHA plants and native species into life, including helping

to propagate clones of the *Magnolia* 'David', a bigleaf magnolia cultivar named after the Arboretum's co-founder. As Nursery Manager at Dawes Arboretum, a nearly 2,000 acre public garden 30 minutes east of Columbus, she is responsible for plant propagation and overseeing native plant production for the conservation department. We wish Bridget luck in her new position!

## Arboretum Wish Fulfilled

### New Visitor Center Television

We thank Bob and Kathy Lavieri for sponsoring our new LG SuperSign television for the PHA Visitor Center. This year, we are transitioning the Visitor Center to be a more educational space, including printed panels as well as a new digital signage TV, which will be used to display visitor information, upcoming programs, educational information, plant photos, and video content. We are excited to have this new medium available to communicate with guests, and we are grateful for Bob and Kathy's generosity.

## Volunteer Opportunity: We're Seeking School Guides

It has been a joy to see students exploring the Arboretum again! We are looking for more school guides to lead small groups during field trips at the Arboretum this fall. Volunteering as a school guide is a wonderful way to work with children, enjoy the Arboretum, and meet new friends who enjoy education and the outdoors as much as you do. If you are interested in helping out, please email us at [info@pollyhillarboretum.org](mailto:info@pollyhillarboretum.org).

# In Memoriam: Director Emeritus, Stephen A. Spongberg

Polly Hill described a perfect someone, “young, enthusiastic, energetic, and knowledgeable,” to fill the position of Executive Director of the Polly Hill Arboretum. “I thought, well, I’m not young, but for the rest, I might fill that description,” remembered Stephen A. Spongberg, Director Emeritus of PHA (*Meristems*, Fall 2001). We are sad to share that Steve passed away on March 18, 2021. The Arboretum community and a plethora of famous plantspeople mourn Steve’s passing. Steve was appointed the first director of PHA in 1998 and served as such until 2004. “Steve set the foundation for the quality and high standards that we continue today. He was a collections advocate who believed that the Arboretum should strive to assemble a scientific collection of well-curated woody plants, beyond being a beautiful place to visit,” says PHA Executive Director, Tim Boland.

Steve’s impact spans across the Arboretum’s landscape with the development and opening of the Visitor Center (1998), the first landscape master plan (2001), and the acquisition of the Littlefield property (2002). He established the newsletter you hold in your hands today, *Meristems*, widely recognized in the botanic garden community for its quality and depth of information. “I love the name *Meristems*,” explains Tim. “It describes the growing tip of the roots and shoots of a plant—the actively dividing cells. To extend the botany metaphor, the name symbolizes the active

growth of an embryonic arboretum. Steve took over, established a strong root system, and from there, PHA’s growth flourished.” When you consider the vulnerability of an emerging not-for-profit in its infancy, Steve was the steady force who worked with a dedicated founding board to turn a fledgling institution into a firmly established organization across multiple programmatic areas. Steve also established the position of Curator at the Arboretum. Tim, who was hired as PHA’s first Curator before taking over as Executive Director, is grateful for the opportunity Steve provided—to be part of such an exceptional institution.

Upon Steve’s retirement in 2004, PHA named its horticultural library in his honor. The library is a key component to our research and educational work. Its development over many years reflects Steve’s interests and research objectives. There are very few arboreta of our size with such a comprehensive collection of natural history, botanical, and horticultural books. “Steve had a bibliographic mind,” states Tim. “He could quite quickly call up a reference in his head, and yes, we would have it in our library!”

Before his time at PHA, Steve Spongberg was a horticultural taxonomist at the Arnold Arboretum of Harvard University in Boston, MA for 28 years. His accomplishments there still resonate today; see: <https://arboretum.harvard.edu/stories/remembering-stephen-spongberg/>.



Steve with his wife Happy (left) and his daughter Nia, on-Island, 1999



In 2011, Steve Spongberg was awarded the Magnolia Society International (MSI) highest honor, the D. Todd Gresham award for his outstanding contributions to the art and science of magnolias. Pictured here (at center) with MSI board members Dick Figlar (left) and Andrew Bunting in front of the library named in Steve’s honor.

Steve’s past publications and scholarly work, along with his seed expeditions, earned him the Veitch Memorial Medal. The Royal Horticultural Society presents this prestigious international award to those “who have made an outstanding contribution to the advancement and improvement of the science and practice of horticulture.” Steve also received the D. Todd Gresham Award in 2011 from the Magnolia Society International, recognizing outstanding service or a significant contribution to the development, knowledge, or promotion of magnolias.

Steve was a teacher at heart who impacted many lives in profound and enduring ways. When you walk the grounds this year and marvel at the seven-son-flower (*Heptacodium miconioides*) or the tiny exquisite flowers of leatherwood (*Dirca palustris*), you’ll be looking at evidence of how Steve Spongberg made our world a more beautiful and diverse place. Steve’s influence and presence will continue in the plants and the special landscape that is the Polly Hill Arboretum.



PHA Executive Director Tim Boland (left) and Director Emeritus Steve Spongberg (seated) celebrate the champion pagoda tree (*Styphnolobium japonicum*) in Edgartown, MA with famed British plantsman, Roy Lancaster, August 2007. Photo Tom Clark



## In Memoriam: Board Members Prentice Bowsher & Richard Reische

The Arboretum is sad to share news of the recent passing of two former Board members. Prentice Bowsher, formerly of Edgartown, MA and Washington, DC, joined our grounds crew as a volunteer in 2007 and our Board of Directors in 2012. Prentice and his wife Sally Steenland eventually retired to Washington, DC. Prentice passed away in early January of this year and his obituary stated, “What he loved most of all was volunteering twice a week at the Polly Hill Arboretum. He worked with a core group of volunteers to prune, weed and keep the grounds beautiful. They often got together for dinner, fishing excursions and picnics. For several years, Prentice served on Polly Hill’s board.” “He was the type of guy who wanted to better the world, be it by volunteering at PHA and other Island organizations or helping me carry out planning activities while serving on our Board,” says Tim Boland, Executive Director. “He was wise, fun to work with, and admired by everyone who crossed his path.”

Richard “Dick” Reische of Wilton, CT and West Tisbury, MA passed away peacefully on Dec. 2, 2020. Dick served on our Board of Directors from 2012 to 2019. He was an astute investor who lent his talents to our Finance Committee and helped our endowment grow. “Joan Smith (then PHA Board Chair) recommended Dick for our Finance committee. He was a calming presence, and was respected for his balanced and thoughtful approach to investment strategy,” says Tim. He also travelled with his wife Diana (PHA Visitor Center Volunteer) to Belgium on a PHA-led tour. Tim adds, “I remember Diana and Dick delighting in the amazing European gardens and adding to the camaraderie of the group on the trip.”

Their families both designated PHA for tribute donations, and we have received a generous outpouring of gifts in memory of both Prentice and Dick. We are so grateful for their time and service on our Board and the fond memories we have of both of these generous and genuine contributors to the Arboretum. They will be missed.

## Martha Hubbell

PHA volunteer Martha Hubbell grew up with an appreciation for plants. Her mom was an avid gardener, and her dad was a tree aficionado. She remembers brushing the ice off the leaves of the *Magnolia grandiflora* growing outside her family’s living room window as a child, and the excitement when, as an adult, she saw the same trees growing at Polly Hill Arboretum.

Martha first came to Martha’s Vineyard in 1974, completed her student teaching, taught kindergarten in the West Tisbury School, and then worked at the West Tisbury Library. Her husband, Tucker, is PHA’s trusty and skilled caretaker and builder. Martha and Tucker raised their two children, Tim and Kate, on the Island.

Martha was first enticed to join the PHA community soon after it became a public arboretum in 1998 by Nancy Weaver, long-time Volunteer Coordinator and Plant Recorder. She was introduced to the grounds through Nancy’s tour guide training, but it was only after she retired and the PHA Education Center and Botany Lab was built in 2016 (new home to the PHA herbarium), that she officially began as a volunteer, at the urging of Erin Hepfner, former Visitor Services/Resource Specialist. Her husband Tucker had told Erin about Martha’s pressed flower cards, and Erin thought she would be a perfect fit for the job of gluing plant specimens for our scientific collections. We are fortunate that Martha agreed to give it a try, as she has become a valuable member of the herbarium volunteers over the past four years.

Collectively referred to as “the gluers,” the volunteer group that Martha is part of is tasked with the responsibility of gluing the dried, pressed specimens to their permanent homes on the herbarium sheets. The completed sheets, called vouchers, will each join the historic library of plants housed at the Arboretum, helping to inform research about the changing plant populations of Martha’s Vineyard. Normally the gluers work together as a group on Wednesdays throughout the winter, but to uphold the strict social distancing guidelines of the past year, they spent this last “gluing season” working alone on separately assigned days. Martha came in on Wednesday afternoons all throughout the winter, diligently working on specimens collected the previous season from our Island flora, and exotic collections from expeditions in the mountain forests of Japan.



Martha Hubbell

Martha’s experience with the exacting art of making dried flower cards no doubt contributes to her skill and expertise as a “gluer” at PHA. Each specimen needs to be considered carefully and glued strategically, ensuring the most diagnostic parts of the plant are showing (typically flowers, fruits, and both sides of leaves). This is not always an easy task, as some specimens are large and unwieldy, tiny and delicate, or just plain confusing. In addition to arrangement, she must also decide how to apply the glue (by brush, sponge, or assisted by a small tape strap). According to PHA Plant Recorder Liz Thomas, “Martha’s work is not only technical but artistic: the way she positions the specimens on the paper often looks closer to a work of art than a scientific sample. Her aptitude for the work shines in her beautiful specimens and the impressively tall pile of finished specimens left on the table at the end of each Wednesday.”

Martha says that her work at the herbarium is “the perfect work for the winter months. I like having the social interaction along with having the challenge of gluing specimens artistically on a page.” As a gardener, she says PHA has introduced her to many new trees and plants which she’s then bought for her own garden over the years. For example, one new acquisition was inspired by the ‘Jelena’ witch-hazel which she could see “aglow” out the herbarium window as she did her gluing.

We are privileged to have Martha as an herbarium volunteer, and grateful to all of our dedicated volunteers who help us run almost every aspect of the Arboretum. If you are interested in volunteering, email [info@pollyhillarboretum.org](mailto:info@pollyhillarboretum.org) for more information about our volunteer programs.



# Reducing Our Carbon Footprint: Battery-Powered Equipment

Conservation and environmental preservation are vital to PHA's mission, so we always strive to choose a more sustainable option when we see an opportunity. In keeping with the goal of reducing energy usage and waste, the Arboretum has been transitioning to electric, battery-powered equipment since 2018. Chainsaws are one of an arborist's most frequently used tools, but they tend to be noisy and give off toxic fumes, so replacing our aging gas-powered chainsaws seemed like the logical place to start. Not only are the battery-powered chainsaws noticeably quieter, improving our visitors' experience and preserving our staff's hearing, but since they don't run on gasoline or a gas/oil mixture, there is no toxic exhaust and no consumption of fossil fuels.

Since purchasing our two original chainsaws, we have added an electric string trimmer and lawn mower, and most of our shop tools, such as drills, impact driver, and circular saw, now also run on batteries. There are some drawbacks to electric equipment; it doesn't always work as well in colder weather, and it needs to be periodically recharged. However, according to PHA Grounds Manager/Arborist Ian Jochems, technological advancements continue to improve electric tools significantly, and their benefits to the environment make them the best choice. There are also fewer maintenance parts such as spark plugs, gas filters, and air filters to add to the landfill, and you don't have to empty out and dispose of fuel at the end of the season. Direct solar powered charging may not be too far in the future.

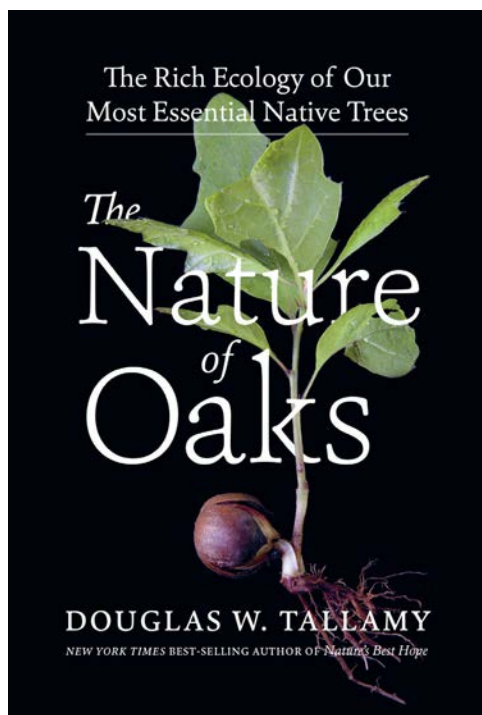
If you are interested in adding more electric tools to your landscape care, Ian recommends looking at different brands to see what is included in their suite of tools, and choose a brand that offers the largest number of tools that you need, or may want in the future. Because batteries are generally universal within a brand, you can save money by purchasing fewer batteries and charging units. Buying two batteries for several tools means you will always have a charged-up battery waiting for you.

At Polly Hill Arboretum, we produce energy via solar panels for 100% of our electricity needs, including charging our tools, so battery-powered equipment was a logical choice. Not only is it a sustainable part of our grounds maintenance program, but a healthier choice for all.

## SCIENCE AND PLANT CONSERVATION — BOOK REVIEW

### *The Nature of Oaks: The Rich Ecology of Our Most Essential Native Trees*

by Douglas W. Tallamy  
Timber Press, Portland, Oregon, 197 pages



Oaks are all around us, and with just over ninety species found in the United States alone, why should we consider planting them in our home gardens? Douglas Tallamy gives us more than enough reasons with his fascinating and compelling book devoted to native oaks and the essential life support they provide to a multitude of co-dependent lifeforms. The prologue sets the stage with a simple native tree truth: "Oaks support more forms of life and more fascinating interactions than any other tree genus in North America." Tallamy challenges us to be more observant, to engage with the nature of oaks, and to champion their planting.

*The Nature of Oaks* is highly readable to both the novice and professional. It takes you on a month-to-month journey through a year of life with oaks, including the fantastic fauna found just below the bark crevices or underneath the fallen leaves carpeting the forest floor. Tidy gardeners who rake and remove fall leaves should take note: the leaves of oak trees, slow to decompose, hold more life beneath them than the oak trees above! As you travel through the seasons with native oaks, you will

discover new insights and encounter ecological theories such as why oaks have banner acorn years, known as masting, and the possible reasons that oak species retain a portion of their dried, dead leaves (known as marcescence) over the winter months.

Doug Tallamy has written a series of books, *Bringing Nature Home*, *Nature's Best Hope*, and now *The Nature of Oaks*, which opens our eyes with powerful messages about the web of life and challenges our misconceptions about nature. It includes a regional list of oak species to consider planting in your part of the country and an excellent chapter on raising your own oak trees from acorns. While the tone is hopeful in a time of extraordinary ecological challenges, as in his previous books, he provides the solution: us!—with our hearts and minds focused on the stewardship of the only planet we have. The best way to engage in a hopeful future is to plant oaks, lots of them! Let this book be your inspiration and guide.

© Tim Boland.  
First published in *The American Gardener*, the magazine of the American Horticultural Society ([www.ahsgardening.org](http://www.ahsgardening.org)).



# Fairies in the Garden: A Look at the Genus

I'd never been particularly captivated by barrenwort (*Epimedium* spp.), a short, semi-evergreen, herbaceous shade perennial from across the Atlantic (or Pacific, depending on your coast). Though a long beloved plant to the Japanese gardener and a more recent treasure to American gardeners, I found their thin, prickly-looking leaves to be somewhat dry and uninviting. I much preferred other plants belonging to the barberry family (Berberidaceae)—mayapple and blue cohosh, natives to the woodland behind my house, always seemed a bit more inviting.

My attitude towards barrenwort changed when I started working at Polly Hill Arboretum, and found them blooming in the dappled springtime sunlight of Holly Park and Polly's Play Pen. I couldn't help but become enchanted by their delicate flowers, held aloft in airy racemes, like little swarms of fairies. This graceful suggestion of movement coupled with the shape of the flowers has begotten *Epimedium* another common name: fairy wings.

*Epimedium* species with elongated sepals and long petal spurs inspire these visions of ethereal beings, and are perhaps the most common form. Some barrenworts have blooms shaped like shallow bells, while others resemble the flat, round outer bracts of hydrangea flowers. Flower color varies with a range

of white, yellow, pink, orange, and violet, depending on the species.

Barrenwort foliage is also seen as a feature by many, due to its pleasing color and form. Generally green, and often bronzed with copper or red, the leaflets are also shaped elegantly: with a cordate (heart-shaped) base, they attach to a slender, wiry stem. What look like single leaves are actually leaflets of larger compound leaves.

All species are rhizomatous, with the majority having short, stubby rhizomes which allow them to spread, though rather slowly. These barrenworts are considered to be “clumping” and are best planted as small groups. Other species produce longer rhizomes, allowing them to spread more quickly and vigorously; these make excellent groundcovers where conditions are right. Regardless of rhizome type, all epimediums prefer a planting site similar to their natural habitat: light, dappled shade and rich, moist, well-drained soils.

Native to temperate woodland and scrub in hilly and mountainous regions, barrenwort suffers in climates of dry cold or moist heat. Its natural range extends in a broken sweep across the midlatitude regions of the northern hemisphere, beginning in Japan and eastern Asia and extending westward to Algeria in

northern Africa. Rather than a solid band, it occurs in distinct clusters across this range, with each species bound to a somewhat limited locality. Normally, geographic isolation between populations would eventually lead to a diversity of forms, as subtle differences in the gene pool become amplified through the generations. Curiously, *Epimedium* species are not highly differentiated, and differ little outside of their minor floral and leaf variations, many of which probably arose as chance mutations rather than evolutionary adaptations.

This lack of diversity coupled with its broad, disconnected range suggests the genus had “fully evolved” to its present form before spreading widely about 3–5 million years ago, when temperate forests stretched from the Atlantic in Europe to the Pacific in Asia. The glaciers of the preceding ice age wiped out much of this habitat in Europe, leaving behind only pockets of populations which had been able to migrate southward. The center of epimedium diversity is in China, where it is believed to have originated, and whose temperate forests survived this ice age, allowing continuous evolution.

Due to the relatively low levels of differentiation within the genus, *Epimedium* species will often readily hybridize when grown closely together in the garden. One of the most



*Epimedium* 'Songbirds'



*Epimedium davidii*, a native of China



The foliage of *Epimedium pinnatum* subsp. *colchicum*



# Epimedium by Elizabeth Thomas

popular barrenworts for the contemporary garden, *Epimedium* × *perralchicum*, originated as a spontaneous garden hybrid in Surrey, England, in the late 19th century. It arose as an offspring between the Algerian species *E. perralderianum* and *E. pinnatum* subsp. *colchicum* from the Black Sea region. One of the most vigorous species, *E. pinnatum* lends this characteristic to its hybrid progeny, and is therefore commonly used in breeding projects.

Several accessions of *Epimedium* × *perralchicum*, one of the hardiest and most vigorous barrenworts for the northern garden, can be found growing on the PHA grounds. We have planted more of this spreading type with buttery yellow flowers than any other epimedium. Among our specimens is the cultivar 'Frohnleiten', which is distinguished by its higher-held flowers of a brighter yellow.

Another garden hybrid on our grounds, *Epimedium* × *warleyense*, is thought to be a cross between *E. pinnatum* subsp. *colchicum* and *E. alpinum*, a native of southern Europe. The two species mingled in an Essex (UK) garden at the turn of the 20th century, and the resulting hybrid was discovered indirectly: by a botanist viewing a commissioned painting of that same garden. The unique coloring of its flowers—a rosy, reddish orange—stood

out to him as a species he didn't recognize. Given its *E. pinnatum* parentage, this barrenwort is a spreader. Find its cultivar 'Orangekonigin' growing near our Visitor Center.

Hybrids sometimes occur naturally in their native habitat, and produce fertile, stable hybrid offspring. The Japanese taxon *Epimedium* × *setosum* is just such an example. Though teeny, its airy white flowers lend a whimsical affect to this clumping barrenwort, which can also be found growing in the Holly Park garden area.

If purple and pink are more your thing, check out the clumping *Epimedium brachyrrhizum*, a native from China and one of the earliest to flower, or the pink and purple shades of *Epimedium grandiflorum* 'Lilafee' and 'Yubae', cultivars of a vigorously spreading Asiatic species. Both *E. brachyrrhizum* and *E. grandiflorum* exhibit the "fairy wing" floral form, which reminds me more of a jester's hat than Tinkerbell. These plants, too, can be found at PHA, along with many other barrenworts and other herbaceous plants in the barberry family. If you'd like one of these deer-proof, disease-resistant shade plants for your own garden, the clumping, fairy-wing type *Epimedium* 'Purple Pixie' is available to purchase through our plant sale.



*Epimedium brachyrrhizum*, a native of China  
photo Tom Clark

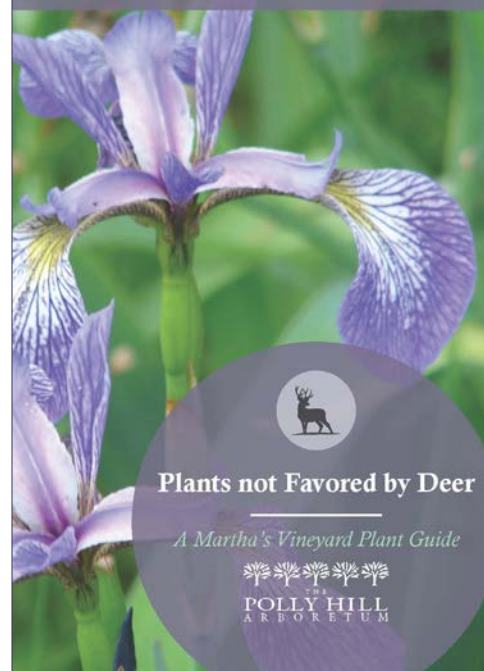


*Epimedium pinnatum* subsp. *colchicum*, native to areas around the Black Sea  
photo Tom Clark

## Get Those Deer Out of Here!

For gardeners frustrated by deer damage on their perennials, shrubs, and young trees, PHA has a new publication. *Plants Not Favored by Deer: A Martha's Vineyard Plant Guide* includes information on native plants

### PHA Special Topics



which deer are unlikely to damage, suggestions for alternatives to garden favorites that deer love ("deer candy"), and advice on repellents and fences. Also included is a full list of perennials, shrubs, and trees that are well-suited to Martha's Vineyard. This publication is available as a PDF on our website. A printed version will be available this summer, free to members and available to those who are not members for a small fee. For more advice on gardening with deer, visit our website to register for PHA Grounds Manager/Arborist Ian Jochem's class, "Deer Proofing Your Garden," which will be held on August 14. Participants will receive a copy of the *Plants Not Favored by Deer* publication.



## THE POLLY HILL ARBORETUM

### MAILING ADDRESS

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West Tisbury, MA 02575

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508-693-5772 Fax

### FIND US ONLINE

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

Open 9:30am to 4pm daily, excluding  
Wednesdays, through mid-October

### ARBORETUM GROUNDS HOURS

Sunrise–sunset, year-round  
Closed Wednesdays 8am to 4pm

### ADMISSION

\$5  
Free to members & children 12 and  
under

### FREE PARKING

### DRIVING DIRECTIONS

See [pollyhillarboretum.org](http://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.



## THE POLLY HILL ARBORETUM

PO Box 561  
West Tisbury, MA 02575  
[pollyhillarboretum.org](http://pollyhillarboretum.org)

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## FROM THE HERBARIUM

# Glory of the Snow

The pressed plant specimens (vouchers) in the PHA herbarium are artfully arranged to exhibit key features that aid in their identification. This beautiful specimen of glory of the snow (*Chionodoxa forbesii*) was collected in Edgartown by PHA Research Associates Margaret Curtin and Greg Palermo. The voucher number, 18-01, indicates that it was the first specimen collected in 2018. This bulbous plant originated in Turkey; however, it has been widely planted as an ornamental bulb. While not considered an invasive plant, it naturalizes easily by seed in open grass or meadows.

