What does your Arboretum look like? If you take photographs on your visits to the Arnold Arboretum, let the world see your vision of this special place by sharing your images on the Arboretum website. The photographs shown here are a sampling of the variety of images currently exhibited on the My Arboretum Flickr page. Arboretum staff often select images from “My Arboretum” to appear as the featured image on the Arboretum homepage.

To join this ongoing exhibition, email a digital photograph to arbweb@arnarb.harvard.edu with “My Arboretum” as the subject. In your message, include your name if you wish to be credited, a title for your photograph, and a caption if desired. Captions can be a maximum of 30 words and could describe the reason you took the picture, the name of a plant, or the location. You may submit multiple images, but each should be emailed separately. Family photos, landscape views, plant and animal close-ups are all welcome, as long as you took the image at the Arboretum.
Robert E. Cook stepped down as Director of the Arnold Arboretum on December 31, 2009, after 21 years of transformative leadership. During the search for a new director, Richard Pagett is serving as Interim Managing Director. Richard consulted with the Arnold Arboretum during the development of its strategic plan, and has more than 25 years of administrative experience at Harvard. He is currently supervising the work of staff and supporting departmental cooperation to further advance the Arboretum’s mission during this transition.

Although I had been a casual visitor at the Arboretum before, eight years ago I had the good fortune to spend an extended period of time working with a group of Arboretum staff on the strategic plan for its long-term future. It was a chance not only to meet and work with an extraordinarily committed group of people but a rare opportunity to see the Arboretum from within. So, this past fall, when the Provost asked me if I would be available to serve as interim managing director until a new director was named, I accepted with pleasure and welcomed the chance to renew old acquaintances and catch up on the many changes of the past few years. I am delighted to be back.

One aspect of the Arboretum’s work for which I am gaining a better appreciation is that every plant in the collection has a specific story. Whether it is the details about when the Arboretum acquired the specimen, where it came from, or how it has fared in the landscape, the superb documentation of every one of the 15,000 accessioned plants ensures their value for scientific discovery. Several of the articles featured in this issue of *Silva* provide a clearer picture of how—and why—the Arboretum curates its living collection to such a high standard.

The issue features an interview with Curator Michael Dosmann, who discusses his work to modernize and streamline procedures for plant records and the steps underway to refine the collection. The Arboretum’s newest Horticultural Technologist, Sue Pfeiffer, shares some of the insights she gained into the Arboretum’s collection and plants while working last year as a Curatorial Fellow. And Steve Schneider, Manager of Horticulture, writes about his team’s recent and ongoing work to renovate one of our most popular visitor destinations—the Bradley Rosaceous Collection. While this project will create a richer experience in this garden, it has also given the Arboretum the opportunity to reassess the condition and collections value of the plants on display.

I hope you will visit the Arboretum this spring and enjoy the benefits of the work done every day to study, document, and care for this extraordinary collection of plants. The staff and I are pleased to steward this beautiful spot and look forward to the continuation of this important legacy under a new director.

—Richard Pagett, Interim Managing Director of the Arnold Arboretum
When he joined the Arnold Arboretum staff as Curator of Living Collections in January 2007, Michael Dosmann already had some experience making decisions about the kinds of plants the Arboretum grows in its landscape. As a Katharine H. Putnam Fellow from 2000 to 2002, Michael helped coordinate the plant selection for the Leventritt Shrub and Vine Garden, then in its final design phase. The fellowship also gave him the opportunity to utilize the collection for scientific study. His work yielded articles on the propagation of a rare monkshood (Aconitum), a collections analysis of the 1980 Sino-American Botanical Expedition, and the taxonomy of weeping katsura (Cercidiphyllum japonicum f. pendulum). As curator, Michael oversees the development of the institution’s living and cultivated herbarium collections.

Q. What are your major responsibilities as the Curator of Living Collections?

A. I often say I wear 365 different hats—one for every day of the year—but I would say my main charge is to ensure that the living collections are managed and developed at the highest standards. I use our collections policy to develop the collection. It guides not only what new acquisitions of high value we should obtain, but also what low-value accessions are no longer needed and can be deaccessioned. Documentation of a plant’s provenance, its condition and maintenance details, and use for research is critically important.

To accomplish this work, I supervise a talented group in the curatorial department (comprising Kyle Port, Kathryn Richardson, Susan Hardy Brown, and a Curatorial Fellow). I’m also part of the horticulture management team, along with Steve Schneider (Manager of Horticulture) and Oren McBee (Manager of the Dana Greenhouses and Nursery). We three work collaboratively on just about every major project and task in the collections. I also maintain a 20% research appointment, so I dedicate a significant amount of time towards those efforts.

Q. You mentioned the horticulture management team, but of course there is a lot of work performed by other members of the horticulture staff. How do you think the Landscape Management Plan has changed the way the entire horticulture staff assists curatorial efforts?

A. I believe that everybody curates at the Arboretum. Each of us conducts some sort of curatorial work, including providing expert care for the plants, observing their characteristics, questioning their identity, repopulating them, and ensuring they are properly labeled or mapped. With respect to the Landscape Management Plan specifically, it has yielded tremendous dividends. Now that each horticultural technologist is assigned a zone in the landscape, the plants receive a greater level of care. The horticulturist becomes a specialist in that zone—the eyes and ears for the area. They monitor plants for signs of declining health, unusual flowering or fruiting, and look out for missing labels or misidentifications. It is very important to...
keep these lines of communication open and to be aware of what is going on in all parts of the collection.

Q. A curator has a responsibility to the existing collection, and a responsibility to continue to collect. Do you feel constrained by factors such as the Arboretum’s policies, limited space, or the historical character of the landscape?

A. This is a great question. Contrary to conventional wisdom, I feel these actually make my job easier. Many museums, including botanic gardens, struggle with prioritization. Theoretically, if you have unlimited space, financial resources, and staff, it is conceivable to indiscriminately collect everything under the sun. However, this is not the case here, so we apply a well-crafted collections policy to prioritize all of our development efforts. It informs our decision-making with respect to new accessions, and also plays a role in how we assess our current holdings to make disposal decisions. That may sound like “tough love,” but growing low-value plants spreads our resources too thinly.

With respect to the historical nature of the landscape (particularly the planting scheme that follows the Bentham and Hooker Sequence), for the most part it never causes any major issue or challenge. In those cases where there is limited space or the plant in question would not grow very well in a particular location within the Sequence, we have the option of locating the plant in an area of the Arboretum that lies outside the Sequence, such as Peters Hill or the Leventritt Shrub and Vine Garden.

Q. From a curatorial standpoint, do you feel there is a tension in building a collection for research purposes that also has traditionally held a strong horticultural focus?

A. Oh, not at all. There is a common misconception that the two are mutually exclusive. I do not believe there should be a hierarchy or dichotomy between these groups. Accessions can serve equally important research or amenity purposes, or both. Who can deny that a unique, wild-collected three-flower maple (Acer triflorum) also has beautiful bark and serves a display function? Likewise, a beautiful yellow-stemmed cultivar of red osier dogwood (Cornus sericea) can actually have great research potential to a scientist studying the evolution of pigmentation.

Q. You often refer to documentation. Other than leveraging new technologies, has the Arboretum’s approach to documenting its living collections changed significantly over time?

A. Early in its history, the Arboretum became a strong advocate for record keeping. We have been ahead of the curve ever since. We meticulously gather such information as passport data and field notes, field check results, voucher specimens, notes on nomenclature, and more. As a result, our collection is one of the best documented in the world, and many of our curatorial approaches have been adopted by our peers. Certainly, we are not going to change this commitment. However, we have to be strategic and prioritize these tasks. We have to ask ourselves, “Is this particular task critical to our mission, or are we doing it because we always have?” Have we defined the purpose of the work, and then built an appropriate system to best meet those needs?

Over the past few years, I’ve tried to focus our efforts and gain efficiency. For example, we’ve standardized a number of collections-control procedures with the Plant Inventory Operations Manual and shifted our mapping from CAD (computer-aided design) to GIS (geographical information system). We’ve also adopted a view that those collections of highest priority are the ones that should have the most robust levels of documentation. Thus, core collections are the ones targeted first for voucher collections, record auditing, and other tasks.

Q. What do you think are the biggest challenges facing the Arboretum’s plant collections today?

A. There are a number of challenges. Above all others, though, the specter of catastrophe always looms in my mind. I think it is safe to say that the Arboretum was caught off guard in 1938 when the hurricane hit. It took years to deal with its aftermath. Through careful preparation and prioritization, I feel that we are well prepared for such unfortunate events and, therefore, could take the immediate actions necessary to recover more quickly. It’s worth mentioning that, while we always worry about extreme weather events, we are also very concerned about decimating insects such as the Asian Longhorned Beetle.
So what can the Arboretum do to respond?
A. A key component is having an understanding of collections priority. In response to any disaster—whether by insects, disease, or weather—we must direct our prevention, recovery, and/or repropagation efforts first to the most valuable members of the collection. Importantly, today we have the expert horticulturists needed to quickly and appropriately scout, assess, and take action in their respective zones.

Looking to the future, can you offer a sneak peek at what your current priorities might be in terms of collections development?
A. For the next decade, we will continue to fill in obvious gaps in our collection, and will be on the lookout for novel species of documented origin to complement or replace existing plants. However, our primary efforts will be focused on strengthening our core collections of maple (Acer), beech (Fagus), hickory (Carya), stewartia, and hemlock (Tsuga) to build species diversity among and within each group. We also plan to strengthen several other collections, including birch (Betula), hornbeam (Carpinus) and hophornbeam (Ostrya), as well as acquire new oaks (Quercus) to replace the aging overstory. Geographically, there are several areas in North America and Asia that would be important targets for acquisition. The intermountain region of Canada and the US has potential, as does the upper Midwest and Southeast. Internationally, the Russian Far East, particularly the Amur River region north of China and North Korea, is worth looking into; and I feel we would be well served to return to Hubei Province in China.

Since you mention remaining active in your own research, could you share your personal thoughts on the value of the Arboretum’s collection for scientific discovery?
A. At its very core, this collection exists to support research. That does not mean that other uses are inferior, but much of what we do in curation—meticulous record keeping, seeking out plant material of documented origin, supplying material to scientists—supports the process of discovery. This rich collection is a resource sought out by scientists the world over, who conduct a vast array of collections-based studies. Despite its active use, there is great potential to increase its use for direct research. Every librarian wants her or his books read, right? I’m no different.

CTFS ADDS TEMPERATE FOREST SITES IN EAST ASIA

In late September, Stuart Davies visited northeast China and Taiwan to strengthen collaborative ties with scientific partners in two regions where the Arboretum has been involved since the explorations of Ernest H. Wilson a century ago. Stuart directs the Asia Program for the Center for Tropical Forest Science (CTFS), which helps maintain the Arboretum’s long history of research and collaboration in East Asia.

CTFS has been studying the tropical forests of Southeast Asia since the mid 1980s. Three large-scale forest research plots have recently been established in temperate China under a partnership between CTFS and the Chinese Forest Biodiversity program of the Chinese Academy of Sciences. The addition of these plots to the global CTFS network will enable researchers to conduct comparative studies of ecology and biodiversity in forests that span 45 degrees of latitude, from the tropics to the temperate zone. These sites provide a critical biological observatory with which to measure and monitor the impact of global change.
A GARDEN REIMAGINED
Renovations Underway in the Bradley Rosaceous Collection

Stephen Schneider, Manager of Horticulture

Spring at the Arnold Arboretum’s Forest Hills gate is usually striking. The many cherries in bloom along Forest Hills Road beckon you to explore the sights and aromas of the Eleanor Cabot Bradley Rosaceous Collection. Visitors over the past year may have noticed some very distinct changes in and around this entrance to the Arboretum. Horticultural staff undertook the first part of a three-phase suite of renovations to this important collection and popular landscape destination.

This work represents the first major change to the display of the Arboretum’s extensive collection of rose-family plants, which was created in 1985 though a gift by longtime Arboretum friend Eleanor Cabot Bradley. As time passed and the garden grew into its own, it became necessary to rethink the overall management of this collection from both horticultural and curatorial perspectives. In particular, we wanted to reassess the value and placement of the plants in the garden, and thin overcrowded planting beds to better delineate and display individual accessions.

These decisions were considered in tandem with aims expressed in the Arboretum’s Interpretive Master Plan to enhance the experience of Arboretum visitors. Reorganizing the Bradley Rosaceous Collection (BRC) would give us the opportunity to improve accessibility within the garden, and create new opportunities to engage the public with these diverse and beautiful plants. Working closely with Julie Moir Messervy Design Studio, the Arboretum approved a renovation plan to better organize the collection, improve circulation and educational opportunities for visitors, and facilitate improved plant maintenance by Arboretum staff.

The first step in realizing these goals involved a thorough plant-by-plant review of the collection by the curatorial department. Based on assessments of their cultural needs, condition, and collections value, some plants—like the Arboretum’s conservation collection of Amelanchier nantucketensis—were shifted to other parts of the garden. Some plants stayed in place, while many others where moved to a temporary holding area in the nurseries at the Dana Greenhouses for safe-keeping during the renovation.

Landscape alterations began last spring with the removal of a large bed surrounding the cherries along Forest Hills Road. By turfing this area, and providing space for future plantings of flowering cherry trees, we created a more scenic presentation that will eventually serve as a “Cherry Promenade.” This will allow visitors to walk around and continued
under these trees during their peak blooming time in April and May.

Planting bed deconstruction continued throughout the spring and summer. With the arrival of fall, the horticulture crew began the task of reshaping the beds. Approximately 5,000 double cobbles were moved multiple times in the process. Field leadership for this effort was provided by Horticultural Technologists Kirsten “Kit” Ganshaw and Matthew Connelly. Kit provides ongoing care of the BRC and kept the operation flowing in a way that, above all, paid strong attention to the plants. Matt’s extensive experience with stonework—and outstanding skills with equipment operation—enabled us to stay on time and on budget while attaining beautiful results. In the spirit of “many hands making light work,” nearly everyone on the horticulture crew contributed to the completion of this phase of the project.

The next round of renovations will begin this spring with additional plant removals and relocations. Final bed reconfiguration will resume in fall, including the installation of a “Rose Roundabout” in the large open area at the north end of the garden known as “The Gathering.” Once completed, this revised area will display numerous hybrid roses, notable for their rich colors and fragrance.

NEW VOLUNTEERS
INTERPRET THE ARBORETUM

For the second season, visitors can engage with volunteer Arboretum Interpreters stationed in busy areas of the Arboretum landscape. Interpreters are knowledgeable in aspects of Arboretum history, special collections, and topics like how trees make flowers, fruits, and seeds; how the Arboretum studies and cares for its plants; and how the Arboretum is organized. The Interpreter program was developed from suggestions and feedback gathered in the Arboretum’s 2007 visitor study. In 2009, the Arboretum launched the program with a corps of 21 enthusiastic volunteers.

Volunteers will be stationed outdoors on Saturdays and Sundays in spring and fall. With a rolling toolbox, interpreters travel to different areas of the Arboretum, looking for a spot with numerous visitors and interesting plants. There, the interpreters set up a table with supplies, activities, and information. Locations vary; ask in the Visitor Center on the day of your visit.

Stop by the Interpreter table for a quick answer to your plant questions, get directions, and be on your way. Or, stay a little longer—delve into the activities, learn something new, and take away a self-guided tour or activity to keep exploring on your own. It’s a great way for families and small groups to get just the right amount of information in the midst of a visit.
THE SCIENCE OF RARITY

Exploring the Growing Scarcity of *Spiraea virginiana*

Jessica Brzyski, Deland Fellow

Many plant species face declining populations worldwide due to detrimental impacts such as urbanization and deforestation. Currently, one-third of the nearly 2,000 species listed on the US Threatened and Endangered Species List are flowering plants. Rare plant species face a variety of threats, from habitat destruction to increased competition from exotic and invasive species. Unfortunately, research on rare plants lags behind that of common ones, perhaps due to restrictions imposed on access to rare plants. However, investigating rare species is imperative to advance conservation efforts, ensure the survival of interrelated organisms, and illuminate the factors that drive species to the brink of extinction.

This summer I received a Deland Grant from the Arnold Arboretum to use their collection to study one such threatened species, *Spiraea virginiana*. A native shrub in the rose family, *S. virginiana* shares characteristics of many riparian (riverbank) species: it is sun loving, capable of asexual reproduction, has wind- and water-dispersed seeds, and thrives through seasonal flooding. This beautiful plant, listed as a threatened species by the federal government in 1990, is imperiled in every state it inhabits. As a result, the Arnold Arboretum has cultivated and maintained *S. virginiana* as part of its commitment to the Center for Plant Conservation.

The Arnold Arboretum holds the largest known collection of the species: 52 accessions collected from the entire geographic distribution of *S. virginiana*. This diversity makes the Arboretum an exceptional site to conduct research on the plant, particularly to manipulate pollinations. Hand pollination helped me address one aspect of my research, which is to investigate the plant’s reproductive biology. *Spiraea virginiana* can reproduce clonally, but little is known about whether the species is capable of reproducing with its own pollen (self-pollinating).

To analyze this, I placed mesh bags over certain flowers to exclude natural pollinators. This gave me total control over the pollination process. I also performed controlled hand-pollinations between this native spiraea and one of its invasive competitors, *S. japonica*. Results of this test will determine if the two species are capable of hybridizing. Because the two species often grow together in nature, a potential for hybridizing could result in increased rarity or even extinction of the native species. In my experiment, I manipulated pollination of 220 flowers, which I later collected and am currently analyzing to determine the viability of the resulting seeds. If the species cannot reproduce by self-pollination, viable seed and new individuals become less likely and its increased rarity in the wild more probable.

My research examines both the genetic and ecological factors that may contribute to rarity in riparian habitats. By bridging these two disciplines, I hope to construct a clearer picture of how plants persist in such a harsh environment, and better understand the threats they face in our developing world. With the knowledge gained through this and other studies like it, we will come closer to finding ways to prevent rare plants from disappearing in the wild.
It was a cold day in January 2006 as Ben Willis and I pruned a grove of *Amelanchier* along a quiet back road at the Niagara Parks Botanical Garden. As the sun shone and the birds chirped around us, Ben began recounting his experiences as an intern at the Arnold Arboretum. His stories stuck with me, and two years later I was on a plane headed to Boston ready to embark on an adventure.

My own experience as an intern was memorable. I was surrounded by a beautiful landscape filled with new plants to discover. As I mulched and weeded the beds, a great source of information on these plants hung right in front of me—the plant label! I was introduced to new and rare plants, and to the idea of wild-collected material as unique gene sources. Some plants managed to trick me because, although I was familiar with them, I had never seen them at a mature size. I remember gazing up at a cedar of Lebanon (*Cedrus libani*) in the grove, in awe of its size. I was beginning to understand why the Arnold Arboretum was such a special place.

Upon completion of the internship and my studies at Niagara Parks, I returned to the Arboretum the following season for a one-year curatorial fellowship. My previous experiences introduced me to plant records, but this was a unique opportunity to explore the world of curation. Under the guidance of the curation staff, I was involved in numerous projects, the first being the identification of micro-climates within the Arboretum. Using historically documented sites in addition to twelve new ones, we deployed instruments throughout the grounds to monitor temperature and relative humidity throughout the year. Although the study will continue for many years, it has already provided some interesting results. The information is being used to place some tender plants in protected locations, helping the Arboretum to build its collections.

The most challenging—but also most rewarding—project was a curatorial review of the shrubs on Peters Hill. This process involved field checking all shrubs, and evaluating their health and collections value. All plants were ranked on a 1-to-9 scale based on their documentation—the higher the rank the more value each shrub added to the collection. Of the 143 accessions evaluated, 34% were deaccessioned, 28% were relocated to their proper placement within the Bentham and Hooker Sequence, and 38% remain on Peters Hill, either in their current location or new locations designed to enhance visitor experience. The overall result reduced the maintenance requirements for the area and opened up new vistas (“viewsheds”) in the landscape.

These projects and many other collaborations with staff enabled me to develop a range of curatorial skills including field checking, updating records, researching historical maps, labeling accessions, and mapping locations using GPS (global positioning system). While these experiences helped build my skills in collections management, more importantly they allowed me to truly experience the value of the Arboretum’s collection—the stories behind each plant. For example, now when I look up at the *Cedrus libani* in admiration, I understand that its presence here provides a lesson on the importance of geographic location in the sourcing of seed. After several failed attempts at growing this tender exotic at the Arboretum, seeds were collected from a population growing in a colder climate, and today we see the success of the Arboretum’s persistence. Our cedars of Lebanon, accessioned in 1902, hail from seed wild-collected in Turkey and represent the first introduction of these majestic trees into the northeastern United States.

As I now embark on my next adventure at the Arboretum, as a Horticultural Technologist in the Leventritt Shrub and Vine Garden, I will use what I have learned to maintain the collection and express myself in the landscape. As I continue to discover the stories and scientific significance of the Arboretum’s amazing collection of plants, I look forward to sharing these stories with interns and visitors alike.
Adult education at the Arnold Arboretum is a community resource for the study of horticulture, botany, and garden arts.
## Horticulture

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At the age of 14, inspired by Jean Craighead George’s novel, *My Side of the Mountain*, I made a “four-poster” bed of sticks and brush that actually supported my body twelve inches off the ground. I sheepishly felt too old to be playing in the woods. In retrospect it seems like a reasonable undertaking: build a bed among pines, lie back, and sense the world’s spin through needled boughs. I understand now what I sensed intuitively as a teen—time spent in nature or in a garden is a requirement for my well-being.

Reports and ongoing research measure the benefits of interacting with trees and nature. In a study to document the effect of *Shinrin-yoku*, or the act of taking in the atmosphere of the forest, subjects were exposed to forest and urban settings in Japan and physiological effects were measured. As might be expected, sitting in and observing a forest produced calmer, more refreshed feelings than sitting in a city.\(^1\)

Another study measured cognitive benefits of interacting with nature. Research showed that when testing memory, orienting, and executive attention, performance improved significantly after participants walked in an arboretum, but not after walking along an urban streetscape. The study explains that nature “…modestly grabs attention in a bottom-up fashion, allowing top-down directed-attention abilities a chance to replenish.” In contrast, urban environments “…are filled with stimulation that captures attention dramatically and additionally requires directed attention (e.g., to avoid being hit by a car), making them less restorative.”\(^2\)

Studies documenting the physiological and psychological effect of trees and nature on humans show improvement to attention deficit hyperactivity and cognitive control; reduction in stress, crime, and domestic violence; shorter stays in hospitals, as well as increased feelings of safety.

Trees also influence economics. Workers who have views of nature are healthier, reporting fewer absences, and are more satisfied with work and life. Consider this with regard to productivity and healthcare costs. Perhaps we should include trees in the ongoing healthcare debate: “plant two trees and call me in the morning” might be more effective than legislation. In terms of retail studies and purchasing patterns, people who were shown images of shopping areas preferred those with trees, especially those with orderly canopies. They associated higher product value and better merchant interaction with those images that included trees, even indicating a willingness to pay higher prices. Is it possible that trees could initiate an economic turn-around?

Defining trees in terms of value to humans doesn’t quite capture their greatness—could we call it their souls? Is it possible that research is helping us to comprehend the soul of trees—their immaterial essence? Could it be said that a tree’s effect of increasing cognitive control is an actuating cause? This may be a consideration that scientist Diana Beresford-Kroeger maintains among the trees in her Ontario garden. Botany, chemistry, medicine, and lore inform her questions and lead her to intriguing conclusions. Skeptics may dismiss her; others may say that she’s in the vanguard. Decide for yourself at her lecture on May 20. In the meantime, pause, even for a brief moment, amid the trees.

Focused Studies

**Adult Education** at the Arnold Arboretum is centered on our collections of temperate woody plants. We offer core classes in plant identification, horticultural methods, and propagation. We recommend that all students complete an introductory botany class as a preliminary step. Note that not all classes are offered every semester, or even every year. However, we are always developing new ones.

**Temperate Woody Plant Identification (Spring/Summer 2010)**
The ability to identify a wide variety of hardy woody plants is essential for understanding the floral and horticultural environment of New England. The classes below provide a foundation for this skill.

- **BOT 104** Winter Tree Observations: Evergreens and Deciduous Trees
- **BOT 126** An Introduction to Plant Ecology
- **BOT 172** Introduction to Winter Tree Identification
- **BOT 293** Invasive Plants: ID, Ecology, and Control
- **HOR 103** Identifying the 25 Most Common Trees in Boston
- **HOR 125** Woody Vines for the Garden
- **HOR 131** Garden Plants Great and Small
- **HOR 346** Conifers for Urban Sites
- **WAL 203** Exciting Introductions? Or Stealth Invaders?
- **WAL 310** A Rose Family Reunion
- **WAL 371** Korean Plants of the Arboretum

**Horticultural Methods for Woody Plants**
Proper care of woody plants is important to their overall health. These classes teach techniques for woody plant care.

- **HOR 111** Landscape Maintenance in Spanish
- **HOR 113** Horticultural Math
- **HOR 155** More Fruit Please! Expanding Your Home Harvest
- **HOR 167** Landscaping With Native Plants
- **HOR 191** Landscape Maintenance: An Organic Approach
- **HOR 193** Chainsaws: Use, Safety, and Maintenance
- **HOR 195** Planting and Transplanting: Demonstrated Techniques for Trees and Shrubs
- **HOR 314** Pruning In Winter
- **HOR 328** Woody Plant Health Care: Identifying Insect Pests, Plant Diseases, and Stresses
- **HOR 359** Assessing Tree Health and Structure
- **HOR 416** Your Garden As Habitat

**Woody Plant Propagation (Year-long Cycle)**
The elements of propagation—from taking cuttings and germinating seeds to hardening off, potting, and planting out—are covered in the classes listed below.

- **HOR 336** Growing Plants from Seeds (Spring)
- **HOR 303** Propagation 1: Hardwood Cuttings and Seeds (Fall)
- **HOR 305** Propagation 2: Grafting of Ornamental Trees (Winter)
- **HOR 307** Propagation 3: Layering and Softwood Cuttings (Summer—offered occasionally)
- **HOR 320** Advanced Propagation: Choice & Challenging Plants (Summer—offered occasionally)
- **HOR 316** Budding Workshop (Summer—offered occasionally)
April

Growing Vegetables in the City

Abby Hird, Arboretum Associate, Arnold Arboretum

3 Sessions
Tue Apr 6, 13, 27 6:30pm–8:30pm [DG]
Learn the where, what, and why of urban vegetable gardening with horticulturist Abby Hird. Raised on a Nebraska farm, educated in horticulture, and now living here in Boston, Abby Hird will talk about her gardening adaptations in the city environment. She will guide you through site evaluation, plant selection, and common problems and possible solutions in raising home-grown food. She’ll also talk about community resources for gardening, ideas for maximizing yield from a small plot, as well as ways to grow food more sustainably. This class is for nascent gardeners and those who have been frustrated by previous run-ins with vegetables.

Fee $60 member, $72 nonmember

Garden Plants Great and Small

Jen Kettell, Horticultural Technologist, Arnold Arboretum

1 Session
Thu April 8 6:30–8:30pm [HB]
Low-growing and ground-covering woody plants can add texture, unity, and dimension to even the smallest of gardens. In fact, these can be the perfect solution for the city gardener—small, low-maintenance plants that help to shade out weeds while adding interest. They can be used in many ways; for example, to accentuate pathways or control erosion, as dwarf hedging, as a surround for spring bulbs, and even to distract from the “bare ankles” of taller shrubs. Horticulturist Jen Kettell will show some of her favorites appropriate for a variety of site conditions and design uses.

Fee $20 member, $25 nonmember

WOW—Botany is Exciting!

Carol Govan, Artist and Naturalist

1 Session
Sat April 10 9:30 am–2:30pm [WCBG]
Do you love plants and want to understand them better? Enjoy early arrival of spring in the WCBG Greenhouses as Carol Govan introduces botany using basic terminology, direct observations and journaling to explore basic plant morphology (seeds, roots, shoots, flowers and fruit). No previous experience is necessary. Class meets at the Wellesley College Botanic Gardens’ Visitor Center.

Fee $65 member, $78 nonmember
Offered in collaboration with New England Wild Flower Society

More Fruit, Please! Expanding Your Home Harvest

Ben Crouch, Urban Orchard Specialist

2 Sessions
Sun Apr 11, 18 1:00–3:00pm [HB]
With proper planning and plant selection, fruiting trees and shrubs can be an attractive and low-maintenance option for growing food in the home landscape. Former City Fruit program director for Earthworks, Ben will provide basic tips and outline resources for planning, planting, tending and harvesting a home orchard. Learn the particulars of growing blueberries, apples, pears, plums and other less common fruit. There’s nothing fresher than home grown.

Fee $45 member, $50 nonmember
Offered in collaboration with Newton Community Education

Planting Design in Multiple Dimensions

Warren Leach, Horticulturist and Landscape Designer

1 Session
Sat Apr 10 9:30am–3:00pm [HB]
Explore the tao of planting design—the expression of form, texture, color, and line—that reveals the beauty of trees, shrubs, and herbaceous perennials in a cohesive garden or landscape. Each of these expressions can be experienced through touch, vision, or movement. However, in the design process they are often considered at the intellectual level only as abstractions. Landscape designer and horticulturist Warren Leach will help participants to blend the ideals of design with the realities of horticulture as he teaches his view of planting design. Whether planning a mixed border, contemplative garden space, or entry garden where plants counterbalance architectural forms, Warren’s approach emphasizes the inherent beauty of leaves, twigs, and flowers in stunning combinations in which plants become the predominant architecture of the garden.

Fee $65 member, $78 nonmember
Offered in collaboration with New England Wild Flower Society
Invasive Plants: ID, Ecology, and Control  

**Bot 293**

*Ted Elliman, vegetation manager, new england wild flower society*

1 session

Sat Apr 17 10:00am–2:00pm [NEWFS]

Get a head start on invasive control this year by learning to identify invasives in the early season. This course provides an introduction to about 40 of the most common invasive non-native plants in our local landscapes. Through lecture, discussion, power-point presentation, herbarium specimens, and a walk outside, become familiar with identification clues as well as the habits of a number of these plants that are so disruptive of natural ecosystems. Discuss management techniques for many of these species, on both a home and a landscape scale. The Invaders issue of the Society’s magazine, as well as the MA Field Guide to Invasives, will be available for purchase at a discount.

Fee $44 member, $52 nonmember

Offered in collaboration with New England Wild Flower Society

Planting and Transplanting: Demonstrated Techniques for Trees and Shrubs  

**Hor 195**

*John DelRosso, head arborist, arnold arboretum*

1 session

Sat Apr 24 9:00am–1:00pm [DG]

Setting out young trees and shrubs is a major spring gardening task. Learn planting and transplanting techniques that will give a new tree or shrub the best chance of survival. John DelRosso will cover planting-hole preparation, settling the plant in, finishing touches, and maintenance. After the lecture, he will demonstrate these techniques in the Arboretum’s nursery. Dress for the outdoors.

Fee $40 member, $48 nonmember

Credit APLD: 1.5ceu; MCLP: 1ceu; MCA: 0.5ceu

Steps to a Better Garden: Starting from the Ground Up!  

**Hor 100**

*Peter Medaglia, owner, gold medal gardens*

4 sessions

Sat Apr 24, May 1, 8, 15 1:00–3:30pm [HB]

Everyone wants a more beautiful garden, but many of us have no idea how to achieve this, short of hiring a professional. None the less, a better understanding of some basic garden design concepts and horticultural techniques can make vast improvements. Apply these this spring and your garden will show a difference almost immediately.

Peter Medaglia, an organic and sustainable landscape designer and farmer, will present the fundamentals of organic gardening in simple terms. He will discuss problems commonly encountered in new or existing gardens and make suggestions for assessing, planting, designing and maintaining which can change your garden for

Wild Urban Plants of the Northeast  

**Hor 533**

*Peter Del Tredici, senior research scientist, arnold arboretum*

1 session

Thu April 15 6:30–8:00pm [HB]

Longtime staff member Peter Del Tredici will unveil his most recent accomplishment, a new field guide to the wild urban plants of the northeastern United States. With camera in hand, Peter has studied and photographed those plants that seem to defy the urban odds, growing between sidewalk cracks, clinging to life on salty highway embankments, or comfortably foresting a rail corridor. In this lecture, he will speak about biological opportunism and the ecological services provided to urbanites by some of the plants we love to hate and those for which we have little appreciation. Peter will help you to understand these plants—the natural vegetation of the urban environment—from a new and refreshing perspective. Peter’s lecture will be followed by a book signing.

Free. Registration required.
the better, “from the ground up!” This is not a class about lawn care or vegetable gardening, but a class on landscaping that might just turn your neighbors “green with envy.” Participants are encouraged to bring home garden photos (as it looks now, and in full summer growth if available) to the first meeting.

Fee: $100 member, $120 nonmember

**East Meets West**  
**WAL 330**

Jane Phipps, Arboretum Docent

1 Session

Sun Apr 25 1:00–2:30pm [HB]

Why is it that certain kinds of plants exist naturally in both eastern Asia and eastern North America, even though these continents are oceans apart? Why do plants from eastern Asia grow so well in our climate? Beginning with Charles Sargent’s first visit to Japan in 1892, the Arboretum has been a meeting place for woody plants naturally separated by thousands of miles, and the ideal site to study this fascinating relationship. Take a walk to meet Asian cousins of familiar native trees and shrubs to learn what brought these plants together.

Free. No registration required.

**May**

**Botanizing Together: The Beauty Within**  
**BOT 220**

Carol Govan, Artist and Naturalist

2 Sessions

Sat May 1, 8 9:30am–12:30pm [WCBG]

With Carol Govan as your guide, discover the world within plants with the use of hand lenses and microscopes to enhance the observations of the naked eye. Be amazed by the beauty of botanical design as you focus on plant structure. Using easy drawing conventions to capture the intricacies of your subject, you will be more likely to remember both the form and function of plants. Bring a sketchbook, a plastic eraser, a kneaded eraser, a hard and a soft pencil (2H and 2B suggested), and a hand lens.

Fee $50 member, $65 nonmember

Offered in collaboration with Wellesley College Friends of Horticulture

**Organic Landscaping at Harvard University**  
**WAL 267**

Wayne Carbone, Manager of Landscape Services, Harvard University

1 Session

Tue May 11 11:00am–12:30pm [Philips Brooks House, Harvard Yard]

Find out how to transition to organic practices from Harvard University landscape professional Wayne Carbone. During this tour, Wayne will describe the development of Harvard’s sustainable landscape program and show the large brewers used for making compost tea.

**Garden: An Act of Faith**  
**HOR 509**

Topher Delaney, Landscape Architect and Environmental Artist

1 Session

Tue May 4 7:00–8:30pm [TC]

“A garden is in essence the consequence of action. To make a garden is to invest in the future. The verb “to garden” references physical action—evocation of a faith in the future.” —Artist statement

At the age of 39, Topher Delaney a San Francisco-based artist and landscape designer, was diagnosed with breast cancer. Ms. Delaney made a pact with God: if she survived, she vowed she would devote her practice to helping others heal. Over the past twenty two years, Ms. Delaney has focused on creating designs of healing gardens for hospitals and sanctuaries. She believes “gardens are sanctuaries, hallowed places of personal retreat.”

Topher Delaney’s projects explore cultural interpretations of landscape architecture, site installation, and public art. Her project sites range in scale from intimate to expansive, from private residences to medical facilities to corporate rooftop gardens and large-scale public art installations. Her gardens at the Marin Cancer Center and the San Diego Children’s Hospital demonstrate the palpably healing character of her creations. Learn more by visiting her website, www.tdelaney.com.

Fee $20 Arboretum and Trinity members, $25 nonmember

This lecture takes place at Trinity Church, 206 Clarendon Street in Copley Square, Boston.

Offered in collaboration with Trinity Church in the City of Boston
The Power and Purpose of Trees: A Walk with Diana Beresford-Kroeger

Diana Beresford-Kroeger
1 Session
Thu May 20 2:00–4:00pm [HB]
The Arnold Arboretum proves the perfect classroom for renegade botanist Diana Beresford-Kroeger. She will lead you among trees from around the globe, describing their subtle and not so subtle qualities that contribute to the environment. Mixing lore and chemistry, fact and theory, Diana will broaden your understanding of the inherent importance of trees to the lives of all on this planet.
Fee $25 member, $30 nonmember

Trees for Life: Planting the Global Forest

Diana Beresford-Kroeger
1 Session
Thu May 20 7:00pm–8:30pm [HB]
Though schooled in classical botany, medical biochemistry, organic and radio-nuclear chemistry, as well as experimental surgery, Diana Beresford-Kroeger’s thoughts about trees are anything but classical. She has a collection of ideas, some radical, for how trees can be used to affect climate change as well as human health. According to Beresford-Kroeger, we have yet to fully understand the function and contribution of trees. In this lecture Diana will espouse the intrinsic values of particular trees, explain her hopes for reforesting the planet, and share some of the lore that fuels her passion to continue her research on trees.
Fee $15 member, $20 nonmember
Offered in collaboration with Wellesley College Friends of Horticulture

Your Garden As Habitat

Kim Smith, Garden Author and Designer
4 Sessions
Tue May 11, 18, 25, Jun 1
6:30–8:30pm [HB]
In his book, Bringing Nature Home, Doug Tallamy urges everyone to turn yards into habitats. This is exactly what Gloucester designer Kim Smith has been doing (and writing about) for years. Kim will present the necessary elements for making your garden welcoming to birds, bees, butterflies, and other wildlife. She will help you assess your existing garden to create a more life-sustaining ecosystem. Plants and examples of other features will be discussed based on their value to particular vertebrates and invertebrates.
Bring photos and sketches of your outdoor space to class for comment and discussion. Students are invited to research a specific habitat that is of interest and make a presentation to the class. Through lectures, discussions, and supplemental reading you will gain a deeper understanding of the interconnected world that we human beings share with plants and wildlife and how to translate that information to your own garden. Kim will have copies of her book, Oh Garden of Fresh Possibilities!, available for sale.
Fee $85 member, $100 nonmember
Offered in collaboration with Newton Community Education

Guided Bird Walk

Robert Mayer, Arboretum Docent
1 Session
Thu May 13 7:00–9:00am [HB]
Join expert birder Bob Mayer for an easy two-hour walk departing from the Arborway Gate. The focus will be on the many migrant bird species that use the Arboretum as hotel and refueling station. Bring binoculars if you have them. This free walk is part of the Birds and Bards Festival; visit our website for the full schedule of events.
Free. No registration required.
A Cruise through the Crabapples  

Nancy Rose, Editor, Arnoldia

1 Session

Thu May 13  1:00–2:30pm [PHG]

A stroll through the crabapple collection on Peters Hill will delight your nose as well as your eyes. With Nancy Rose as your guide, you will look at some crabapples with historical links to the Arboretum’s missions of plant exploration, research, and education, and also discuss which crabapples would be good for your own yard. Get tips on selecting the best crabapples for disease resistance and colorful fall fruit while enjoying the spring display. Class meets at the Peters Hill Gate.

Free. No registration required.

Nature Photography Workshop  

Erik Gehring, Freelance Photographer and Multi-media Producer

1 Session

Sat May 15  9:00am–Noon [DG] (rain date: May 22)

Improve your photographs of nature in this half-day workshop—a one-hour slide talk followed by hands-on experience. Class takes place at the Arnold Arboretum at one of the most beautiful times of year, soon after Lilac Sunday. Learn about composition, color, light, depth of field and focus. Bring your camera and manual (if you have one). You should be familiar with operating your camera prior to the workshop.

Fee $60

Offered in collaboration with the Eliot School of Fine & Applied Arts

Bards and Blooms  

Sheryl White, Visitor Education Assistant

1 Session

Sat May 15  2:00–4:00pm [HB]

What was Walt Whitman talking about when he said “...Lilac and star and bird twined with the chant of my soul”? Find out on this multi-sensory, interactive poetry walk. This free walk is part of the Birds and Bards Festival; visit our website for the full schedule of events from May 13 through May 16.

Free. No registration required.

June

Field Sketching in the Wellesley College Gardens  

Carol Govan, Artist and Naturalist

3 sessions

Tue June 1, 8, 15  9:30–Noon [WCBG]

Carol Govan will encourage you to make sketches—not formal drawings—to increase your understanding of trees and learn to focus on features useful in identifying specimens. After observing and recording forms and branching patterns from afar in Wellesley College’s botanical gardens, you will move in for a closer look at twigs, bark, leaves, flowers, and fruit. Your quick sketches in the form of note-taking will help you look closer and remember what you have seen. Bring a sketchbook, #2 pencil, and hand lens.

Fee $60 member, $75 nonmember

Offered in collaboration with Wellesley College Friends of Horticulture

New England Plant Communities  

Ted Elliman, Vegetation Manager, New England Wild Flower Society

5 Sessions

Wed June 2, 9, 23  6:30–8:30pm [NEWFS] and Sat Jun 12, 19  10:00am–2:00pm [Field Trips]

The diversity of plant communities in New England is astounding, including several forest types, freshwater wetlands, coastal dunes, grasslands, heaths, tidal marshes, and montane communities. Understanding the dominant canopy species, indicator species, and range helps us to interpret our own landscape’s ecological identity. Lectures cover effects of soils, topography, moisture, geological conditions, and glaciation. Field trips to study the composition and structure of some distinctive plant communities complement the lectures. Extensive handouts are included.

Fee $208 member, $240 nonmember

Offered in collaboration with New England Wild Flower Society

Design with Plants  

Christie Dustman, Designer, APLD

4 Sessions

Thu Jun 3, 10, 17, 24  6:30–8:30pm [DG and HB]

As you survey your garden, do you have only one of each plant? Do you see other gardens that seem to be in bloom throughout the seasons and then come
home to your unexciting garden? Does planting design seem to be an innate sense that you just don’t have? Come and learn to think about plants in terms of their form and function first, and then learn some strategies to best lay out your planting plan. The class will consist of classroom exercises, lectures, and a visit to a nearby nursery or garden. Students should bring the following to the first class: enlarged photo of the front of their house, roll of tracing paper, mechanical pencil and eraser, landscape plan from previous class or a landscape plan with planting beds shown. First class meeting (June 3) takes place in the Dana Greenhouse classroom; offsite class will begin 1/2 hour earlier at 6:00pm.

Fee $95 member, $115 nonmember

Woody Plant Health Care: Identifying Insect Pests, Plant Diseases, and Stresses

John DelRosso, Head Arborist, Arnold Arboretum

2 Sessions
Thu Jun 3 6:00–9:00pm and Sat Jun 5 9:00am–Noon [HB]

During an evening lecture and a daytime walk, John DelRosso will present current methods of identifying, monitoring, and managing various types of insect pests, plant diseases, and stresses that affect woody plants. The group will tour the Arboretum in search of over twenty different examples of the common problems associated with landscape plant material. Students are encouraged to bring sample bags and a hand lens and to wear comfortable walking shoes for the Saturday walk.

Fee $72 member, $87 nonmember
Credit MCLP: 1ceu, MCA: 1ceu

In the Groves: A Summer Solstice Journey

Diane Edgecomb, Storyteller, and Margot Chamberlain, Celtic Harpist

2 Sessions (select one)
WAL 224A Fri Jun 18 6:30–8:30pm [HB]
WAL 224B Sat Jun 19 6:30–8:30pm [HB]

Transport yourself to a different time and place with this enchanting evening of tree lore and summer-solstice legends. Diane and Margot spin tales of the human connection with trees and the deep meaning we have assigned to them through the ages. This unique performance, designed specifically for the Arboretum, will start at the Hunnewell Building and continue along tree-lined paths with story and music. The evening culminates with the haunting Czech legend “The Wild Woman of the Birch Grove” told amid the birches of Bussey Hill at sunset. Appropriate for adults and for children ten years and above. Bring a cushion to sit on if you wish. Registrants will walk approximately two miles on and off trails. The performance takes place rain or shine. In the event of rain, it will be held in the Hunnewell Building lecture hall.

Fee $20 per person; space is limited.

Storyteller Diane Edgecomb has been recognized nationally as a leader in bringing together storytelling and nature themes. She has been featured on National Public Radio as well as at theaters, museums, and nature centers throughout the Northeast. A versatile performer, Edgecomb has been hailed by Publisher's Weekly as “a storyteller in the grand tradition, virtuoso of the spoken word.”

Margot Chamberlain has sung and played medieval bowed strings, recorders, and the medieval harp with the early music groups Quadrivium and Live Oak and has performed with the Christmas Revels and other Revels productions in New England. For the past 15 years she has devoted herself to the Celtic harp. She has recorded on Woodbine, Encina, Sound Reflections, and Living Folk Records.
Botanizing Together: Signs of Late Spring  BOT 234

Carol Govan, Artist and Naturalist
2 Sessions
Sat Jun 12, 19  9:30am–12:30pm
[WCBG]
Observe plants and their associates (insects, butterflies, mushrooms) and nature journal with Carol Govan! Some easy drawing conventions will be covered as well as practice with different coloring media. Attempting to draw your subject helps you remember it no matter what the drawing looks like. Bring sketchbook, a plastic eraser, a kneaded eraser, 2H and 2B pencil, and hand lens. The gardens can be damp under foot in spring. Please dress appropriately for the weather.
Fee $50 member, $65 nonmember
Offered in collaboration with Wellesley College Friends of Horticulture

A Rose Family Reunion  WAL 310

Nancy Rose, Editor, Arnoldia
1 Session
Sat Jun 12  1:00–2:30pm [HB]
The rose family is more than just roses. This large group of plants contains plenty of ornamental trees and shrubs but also an astonishing array of edible fruits including apples, cherries, peaches, almonds, and strawberries. On this tour through the Arboretum’s Bradley Rosaceous Collection we’ll look at some of the beautiful, unusual, and edible members of the rose family, complete with interesting tales of how these plants came to the Arboretum and what’s happening in the collection.
Free. No registration required.

Walk with Natives  WAL 209

Visitor Education Staff and David Tarbet, Arboretum Docent
4 Sessions (select one)
Thu Jun 17, Fri Jul 16, Sun Aug 15, Sat Sep 11  1:00–2:30pm [HB]
Imagine travelling back in time 100, 200, even 2,000 years! What did this landscape look like? Would the same kinds of trees growing in the Arboretum now have grown here then? Take a walk back in time to explore trees and their uses. This tour expands on the Walk with Natives self-guided tour on page 31.
Free. No registration required.

Identifying the 25 Most Common Trees in Boston  HOR 103

Kyle Port, Manager of Plant Records, Arnold Arboretum
1 Session
Sun Jun 13  9:00am–1:00pm [HB]
In just a few hours you can learn to identify 90 percent of the trees growing in Boston, both native and nonnative. Beginning in the classroom, you will briefly review the characteristics of the 25 most common trees and learn the botanical terminology necessary to describe them. You will then walk the grounds of the Arboretum to look at mature specimens of these trees.
Fee $45 member, $55 nonmember
Credit MCLP: 1ceu, MCA: .5ceu

Korean Plants of the Arboretum  WAL 371

Michael Dosmann, Curator of Living Collections, Arnold Arboretum
1 Session
Wed Jun 16  5:30–7:00pm [HB]
The Arboretum’s strong connection to China may be well known, but did you know that numerous trees and shrubs in the Arboretum’s collection hail from the Korean Peninsula? Michael Dosmann has “botanized” through Korea on Arboretum-sponsored expeditions. Take a stroll through the Arboretum landscape to hear his stories about some of these fascinating plants.
Free. No registration required.
Composition by Design  ART 395
Susan T. Fisher, Director, Art Institute at the Arizona-Sonora Desert Museum
3 Sessions
Tue–Thru Aug 3–5 9:30am–3:30pm [WCBG]
Amplify your ability to plan your next painting or photograph so your work stands out from the crowd. Susan Fisher unlocks the mystery of composition in fine art while you indulge your artist’s eye browsing through images of well-known paintings. Acquire the tools to enhance your own artistic expression. Susan will encourage you to analyze line, shape, value, color, and structure to empower you when planning your next piece. Composition exercises will ground you in concepts that translate from brush arts to photography. No prerequisites.
Fee $300 member, $375 nonmember
Offered in collaboration with Wellesley College Friends of Horticulture

Woody Vines for the Garden  HOR 125
Jen Kettell, Horticultural Technologist, Arnold Arboretum
1 Session
Thu Jun 17 6:00–8:00pm [DG]
Effective landscape design includes creative development of vertical space, and vines should be considered from the outset. While touring the Leventritt Garden of Shrubs and Vines, horticulturist Jen Kettell will introduce you to an array of woody vines. She will explain their various growth habits and attachment mechanisms which determine how they are best used in the garden. Focusing on floral, foliar, and fruiting characteristics, she’ll recommend vines for a variety of situations.
Fee $20 member, $24 nonmember
Offered in collaboration with the New England Wild Flower Society

August

Exciting Introductions or Stealth Invaders?  WAL 203
Marty Amdur, Arboretum Docent
1 Session
Sat Aug 7 1:00–2:30pm [HB]
There is a lot of concern today about invasive plants, but many were intentionally introduced because of their horticultural value. How do we define invasive and how
September

Insect Science: Collecting and Preserving  HOR 323
Sue Pfeiffer, Horticultural Technologist, Arnold Arboretum of Harvard University 1 Session
Wed Aug 11 5:30–7:30pm [HB]

Insects provide a wealth of information about the environment in which they are found. In this class with Sue Pfeiffer, you will tune in to insects in the landscape, learn about their life stages, and see how paying attention to their actions and population numbers can guide horticultural maintenance. Sue, who has helped collect insects to assist integrated pest management efforts as well as visiting entomologists at the Arnold Arboretum, will give a brief overview of insect anatomy, their life cycles, and describe the major insect families and their identifying characteristics. She will demonstrate how to assess a population as well as various methods of attracting, capturing, and collecting insects. She’ll also show how to preserve and display some of these complex and delicate beauties. In the process you will gain an appreciation for these creatures, whether beneficial, damaging, or simply irritating. Note: this is not a class on integrated pest management.

Fee $20 member, $25 nonmember

Introduction to Botany  BOT 100
K. N. Gandhi, Botanist, Harvard University Herbaria 8 Sessions
Tue Sep 21, 28, Oct 5, 12, 19, 16, Nov 2, 9 6:30–8:30pm [HUH]

“Thank you so much, not only for the wealth of knowledge you offered us, but also for the way in which you did it. The world somehow changed for me over these last few months—I’ll never look at a plant casually or with indifferent ignorance again!”

—Fall 2009 Botany 100 student

In the class, you will learn botany from dedicated instructor and plant nomenclature specialist Kanchi Gandhi. Among the topics to be explored: plant cells and tissues, anatomy and morphology, reproduction, nutrition, growth and development, plant diversity, evolution, classification, and nomenclature. This course, offering both lecture and laboratory activities, introduces botany to new students or serves as a refresher course. Required text: Botany for Gardeners by Brian Capon. Contact the Arboretum’s bookstore (617.384.5209) for book availability.

Fee $225 member, $270 nonmember
Credit MCLP: 1ceu; MCA: 1ceu

Offered in collaboration with the New England Wild Flower Society

October

Propagating Trees and Shrubs from Cuttings and Seeds  HOR 303
Jack Alexander, Plant Propagator, Arnold Arboretum 2 Sessions
Sat Oct 23, Nov 6 9:00am–4:00pm [DG]

Need to nurture? Then join longtime Arboretum propagator Jack Alexander to learn basic information and techniques for propagating most woody plants.

Session One includes a lecture and workshop on seed propagation and construction of a propagation case. Session Two will be a lecture and workshop on hardwood cuttings. You will leave class with numerous cuttings and seeds to care for. To participate, you must sign an Assumption of Risk and Release in order to practice the techniques taught in class. Bring a lunch and beverage. If you own hand pruners, bring them to class. A sharp knife and an apron may also be helpful. You will be collecting propagules from the Arboretum grounds on both afternoons regardless of weather, so dress accordingly and wear comfortable shoes.

Fee $180 member, $215 nonmember
Credit MCLP: 1ceu
Registration Information

The Arnold Arboretum’s adult education program offers many types of classes for adult learners. These are listed chronologically with dates and times noted with each class description. Letters in brackets designate meeting places. See the key to meeting places on page 12. See page 10 for an overview of classes by topic. If you have questions, contact Pamela Thompson, Manager of Adult Education, at 617.384.5277.

Registration—Online

To register online, please visit:
www.arboretum.harvard.edu/adult_ed

Once you have selected the classes you wish to register for, the online registration system will guide you through the process, step by step. Payment is by credit card only (Visa, MasterCard, or American Express). If you are registering for more than one person, please attach a separate sheet with names, addresses, and telephone numbers. Consider your registration to be complete when you have received this email.

Registration—Mail or Telephone

To register by mail for adult education classes, please complete the form on page 23 and 24. You may register by phone with a credit card at 617.384.5277.

Registrations are processed upon receipt and confirmed in writing. You may pay by cash, check, or credit card (Visa, MasterCard, or American Express). If you are registering for more than one person, please attach a separate sheet with names, addresses, and telephone numbers. Consider your registration to be complete when you have received written confirmation.

Mail registration form to:
Adult Education Registrar
Arnold Arboretum
125 Arborway
Boston, MA 02130

Fees and Membership

Fees for classes are listed with each class description. Members receive a discount of up to twenty percent for most classes. If you are a current member, or if you are enclosing a new or renewed membership with this registration, you are entitled to pay the member rate. If our records do not indicate that your membership is current, we must charge for classes at the nonmember rate. Please write separate checks for membership and class registration. For more information, call 617.384.5766 or visit our website at www.arboretum.harvard.edu.

Harvard University’s Tuition Assistance Plan (TAP) for faculty and staff may be applied toward classes at the rate of $20 per class.

Children at Classes

We regret that it is not possible to include babies, children, or pets in classes designed for adults.

Parking for Arboretum Classes

Hunnewell Building [HB]
Monday through Friday, for daytime and evening classes, students may drive through the main gates and park in front of the Hunnewell Building if space is available. Otherwise parking is along the Arborway. For all weekend classes and events, the main gates remain closed and parking is along the Arborway.

Dana Greenhouse [DG]
For weekday, evening, and weekend classes, students may park in designated spaces and along the greenhouse drive in front of the Bonsai House unless otherwise directed. Do not block any entrances to the shrub and vine garden or access drives surrounding the greenhouse facility. Please do not park on the grass.

Note: At both locations be aware of Arboretum visitors (especially children), employees, and Arboretum equipment and vehicles when parking at and leaving our facilities.

Cancellations and Refunds

You may cancel a class registration and receive a partial refund by calling the adult education department five business days prior to the first class. With such cancellations, a $5.00 per class cancellation fee will be deducted. We regret that no refunds or credits can be given for withdrawals from classes in progress or for classes you have not attended.

If registration numbers are insufficient, we reserve the right to cancel a class. In this case, a full refund will be issued.

Please note that check refunds can take up to 60 days to process. We recommend payment by credit card when possible.

Weather Cancellations

Class cancellations due to inclement weather are announced by recorded message at 617.384.5277. If you think that your class may have been canceled, please call the adult education department at this number.

Confirmation of Attendance

The adult education department does not maintain attendance records and cannot confirm your attendance at past class meetings. If you need proof of attendance at classes, you are responsible for obtaining your instructor’s signature at each class meeting. To request a list of all the Arboretum classes for which you have registered, please contact Pamela Thompson, manager of adult education, at 617.384.5277.

Professional Credits

Certified members of the Association of Professional Landscape Designers (APLD), Massachusetts Certified Arborists (MCA), and Massachusetts Certified Landscape Professionals (MCLP) may earn continuing education units for attending selected Arnold Arboretum classes. These classes and the number of credits offered are indicated by the following: (APLD: #ceu) (MCA: #ceu) (MCLP: #ceu). Other classes may also be accepted for accreditation. Contact the accrediting organization in advance for approval.

Instructor Biographies

Biographies of our current instructors are available on our website on the adult education page.
REGISTRATION ONLINE: www.arboretum.harvard.edu/adult_ed

Registration
Classes fill quickly. Please register early (please print).

NAME
STREET
CITY STATE ZIP
HOME PHONE BUSINESS PHONE
EMAIL

Method of Payment (credit card preferred)
☐ VISA  ☐ MasterCard  ☐ American Express

AMOUNT (total from other side)
CARDHOLDER NAME
CREDIT CARD #
EXP. DATE SECURITY CODE
SIGNATURE

☐ Check or money order payable to the Arnold Arboretum

Are you a current member of the Arnold Arboretum?
☐ Yes  ☐ No  If yes, under what name is your membership listed?

Please suggest new course ideas or make comments below.

Join the Friends of the Arnold Arboretum

Select a level of membership:
☐ Student/Teacher $20
☐ Individual $35
☐ Household $50
☐ Sustaining $100
☐ Sponsor $200
☐ Patron $500
☐ Benefactor $1000

I would like to receive the quarterly journal Arnoldia (for tax purposes, a $20 value).
☐ Yes  ☐ No

Name and Address (please print)
MR., MS., MRS.
STREET
CITY STATE ZIP
Payment can be made with a check, money order, or credit card (Visa, MasterCard, American Express only). Please make checks payable to the Arnold Arboretum and send a separate check for class fees. Students and teachers, please send a copy of your I.D. with this form.

☐ My check is enclosed  ☐ Please charge my credit card:  ☐ Visa  ☐ MasterCard  ☐ American Express

CARDHOLDER NAME
CREDIT CARD #
EXP. DATE
SIGNATURE

To register for Arnold Arboretum classes, please complete this form. If you are registering for more than one person, please attach a separate sheet with names, addresses, and telephone numbers. Credit card registration may be made online or by telephone at 617.384.5277.

Registrations are processed upon receipt. You may pay by cash, check, or credit card (Visa, MasterCard, or American Express). All registrations will be confirmed in writing. Your registration is complete after you have received written confirmation.

Mail registration form to:
Adult Education Registrar
Arnold Arboretum
125 Arborway
Boston, MA 02130

If you are a current member, or if you are enclosing a new or renewed membership with this registration, you are entitled to pay the member’s discounted rate. If our records do not indicate that your membership is current, we must charge for classes at the nonmember rate.

Please write separate checks for membership and class registration.
Thank You for Becoming a Friend of the Arnold Arboretum!

New members will be sent an introductory packet containing maps and information, the current issues of *Arnoldia* and *Silva*, a membership card(s), and a window decal. Please allow two to three weeks for processing. Call the membership office with any questions at 617.384.5766. Please write your name as you would like it to appear on your member card(s):

**MEMBER CARD**

**2nd MEMBER CARD**

(household level and above only)

I would like to receive information about news/events via email.

**EMAIL ADDRESS(ES)**

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**Help Us Make New Friends!** Do you know someone who would like information on our classes, free tours, and member benefits? Please provide their names and addresses and we will put them on our mailing list.

**MR., MS., MRS.**

**STREET**

**CITY**

**STATE**

**ZIP**

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If you are already a member, thank you!

Please give this membership application to a friend.
Breaking buds and glorious blooms signal the splendor of springtime. Fresh green leaves and cool pockets of shade ease us into the relaxing days of summer. An ever-changing landscape awaits you.
Events and Exhibitions

Lilac Sunday
Sunday, May 9
10:00am–4:00pm

Join lilac enthusiasts from throughout New England to celebrate this century-old tradition. Enjoy a dazzling array of over 180 kinds of lilacs with delightful fragrances and gorgeous colors—plus tours, dancing, art, music, children’s activities, and food (picnicking allowed on this day only). On Lilac Sunday, the Arboretum is open as usual from dawn to dusk, with special activities from 10:00am until 4:00pm. Free. Public transportation is strongly encouraged.

Birds And Bards Festival
A Celebration of Green Space on the Orange Line

Thursday, May 13–Sunday, May 16

Presented by the Arnold Arboretum, Forest Hills Educational Trust, Franklin Park Coalition, Franklin Park Zoo and Mass Audubon’s Boston Nature Center.

Entering its 5th year, the Birds and Bards festival once again invites nature lovers young and old to explore over 1100 acres of green space woven into the urban landscape in the southern edge of Boston. Events take place at multiple sites and include guided nature, poetry and history walks, fun family events and evening activities. Check our website or call 617.384.5209 for more information and a complete schedule for the weekend.

Arboretum Free Events
Meet at the Hunnewell Visitor Center. No registration required.

Guided Bird Walk
Thu May 13, 7:00–9:00am; see page 16 for details.

Bards and Blooms Interactive Poetry Walk
Sat May 15, 2:00–4:00pm; see page 17 for details.
The Sacred Forest
Paintings by Lynn Avery

March 13–April 25
Hunnewell Building Lecture Hall
Reception with the artist
Saturday, March 13, 1:00–3:00pm
Artist talk
Wednesday, April 14, 6:30–8:00pm

The works in The Sacred Forest convey the power and spirituality felt in the presence of an ancient or immense grove of trees. Inspired by a concern for the environment, and motivated by mounting evidence that trees around the world are increasingly at risk, Lynn Avery has created a series of forceful, large-scale paintings that speak both to trees’ immense intensity and their uncertain future. The Sacred Forest is Avery’s way of promoting public awareness of concerns for the future of our natural world.

Enduring Trees
Paintings by Zsuzsanna Szegedi

May 2–June 13
Hunnewell Building Lecture Hall
Reception with the artist
Saturday, May 2, 1:00–3:00pm
Artist talk
Saturday, June 5, 4:00–6:00pm
Meet at HB. Talk will be outdoors, weather permitting.

The dramatic forms of broken branches and knotted, gnarled trunks have been a focal point for Szegedi since she started painting trees over 10 years ago. Using bold color and strong brushwork, she explores the contrast that exists both in ourselves and in nature—protected and wild, together and alone, light and dark. Each is defined by its opposite, and forever linked. See works from her Presence/Absence project as well as paintings created during her artist-in-residence last year at the Fruitlands Museum in Harvard, MA.

Note: The lecture hall is often used for meetings and classes. Please call 617.384.5209 for exhibition availability. See page 30 for Visitor Center hours.
Glimpse
Mixed Media by Barbara Hocker

June 19–August 1
Hunnewell Building Lecture Hall

Artist talk and reception
Saturday, June 19, 1:00–3:00pm

Much of Barbara’s work begins in Connecticut’s state forests and nature preserves with her digital camera. Her finished work inhabits the expanding field between photography, printmaking, and digital media. Images are given form by attention to the tactile qualities of paper, encaustic, and collage. She fuses a material sensibility with a love of nature to create mixed media works, capturing moments and details that are intimate and beautiful as well as fleeting and imperfect.

Plein Air in the Arboretum
Paintings by the NH-PleinAir Artists

August 7–September 19
Hunnewell Building Lecture Hall

Reception with the artists
Join the artists for a short presentation and Q&A session
Saturday, August 14, 1:00–3:00pm

Since last fall, intrepid painters from NH-PleinAir have been making regular pilgrimages to the Arnold Arboretum, braving the elements—and the traffic!—to realize their collective and individual visions. The works in this exhibition feature the trees and landscapes of the Arboretum captured en plein air (“in the open air”) throughout the seasons. The group was founded in 2004 and has over 300 members who paint outside regularly throughout New England.

Call for Artists: Jamaica Plain Open Studios

Artists in the Arboretum

September 22–October 17
Hunnewell Building Lecture Hall

Local artists are invited to submit work inspired by the plants, landscape, and collections of the Arnold Arboretum for the upcoming show organized in conjunction with Jamaica Plain Open Studios. The deadline for submissions is July 14 at 4:00pm. Exhibition details and submission forms are available on our website: www.arboretum.harvard.edu/jpos.
Free Guided Walking Tours

Experience the Arboretum in a new way—take a guided tour and gain a richer understanding of this special place. Trained docents point out seasonal highlights and tell you stories the plants would tell—if they could talk! Every tour is different; you’ll hear about the science of trees, Arboretum history, future Arboretum plans, and seasonal points of interest.

Tours begin in front of the Hunnewell Building unless otherwise noted, last around 90 minutes, and are geared toward adults. There is no need to register. For more information or cancellation updates due to inclement weather, call 617.384.5209.

Free Tour Schedule

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<th>Saturdays at 10:30am</th>
<th>Wednesdays at 12:15pm</th>
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<td>April 10, 24</td>
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Special Theme Tours

Free. No need to register.

East Meets West
Jane Phipps, Docent
Sun Apr 25 1:00–2:30pm [HB]
See page 15 for details.

A Cruise Through the Crabapples
Nancy Rose, Arnoldia Editor
Thu May 13 1:00–2:30pm [PHG]
See page 17 for details.

A Rose Family Reunion
Nancy Rose, Arnoldia Editor
Sat Jun 12 1:00–2:30pm [HB]
See page 19 for details.

Korean Plants of the Arboretum
Michael Dosmann, Curator of the Living Collections
Wed Jun 16 5:30–7:00pm [HB]
See page 19 for details.

Walk with Natives
Visitor Education Staff and David Tarbet, Docent
Thu Jun 17, Fri Jul 16, Sun Aug 15, Sat Sept 11
1:00–2:30pm [HB]
See page 19 for details.

Exciting Introductions or Stealth Invaders?
Marty Amdur, Docent
Sat Aug 7 1:00–2:30pm [HB]
See page 20 for details.

Private Group Tours

The Arboretum is a beautiful place to bring a group for a private tour. Visitor Education staff work with you to develop a tour that meets your group’s needs, providing a memorable experience for a wide range of audiences. Trained, knowledgeable guides adapt tours to fit your group’s interests, and our low docent-to-participant ratio enables a rich, personal experience.

Both bus and walking tours are available. For more information, or to request a tour packet with full details, contact Sheryl White at 617.384.5892 or at sheryl_white@harvard.edu.
Family Fun

Foster a sense of wonder for nature in your child while exploring nature, science, and trees at the Arboretum. Here are three free ways to dig deeper: drop-in activities, interpreter interactions, and vacation week nature hikes! No registration required.

Drop by the Visitor Center for special family activities on the last Saturday of each month, April through October. Activities run from 11:00 am to 1:00 pm and may include scavenger hunts, science investigations, craft activities, stories, guided walks, and more—discover something new each month!

Look for volunteer interpreters stationed outdoors, ready to give your visit a boost with hands-on fun and learning.

Vacation week family adventures! Search for signs of spring on a guided nature hike:
- Tue April 20 1:00–2:30 pm
- Fri April 23 1:00–2:30 pm

Bring water and a snack (and binoculars, if you have them); wear sneakers or hiking boots and a hat. These hikes are appropriate for children from age 6 to 12 with an accompanying adult. Meet at the Hunnewell Visitor Center. In case of inclement weather, call 617.384.5209.

Plant Information Hotline

Run by knowledgeable volunteers, the hotline is available for questions about woody plants hardy in the Boston area. Available live every Monday from 1:00–3:00 pm, or leave a message any time. Call 617.384.5235 or submit your question by email at plantinfo@arnarb.harvard.edu.

Getting Here

Visitor Parking & Driving Permits

Visitor parking is available around the Arboretum’s perimeter. No parking is allowed inside the Arboretum gates. Individuals with special needs may request a driving permit at the Hunnewell Visitor Center, weekdays only, from 10:00 am to 2:30 pm. For more information please call 617.384.5209. For parking for classes, see page 22.

Visitor Services

The Visitor Center, located in the Hunnewell Building, is open at the following times:
- Monday–Friday 9:00 am to 4:00 pm
- Saturday 10:00 am to 4:00 pm
- Sunday Noon to 4:00 pm
- Holidays Closed

See website for holiday closings.

Telephone: 617.384.5209

Services available in the Visitor Center include:
- Personal assistance to enrich your visit
- Maps and self-guided tour brochures
- Special exhibitions, including “Science in the Pleasure Ground” and seasonal art shows
- Bookshop, featuring a large selection of books and educational items for children and adults
- Restrooms
- Horticultural library, open Monday through Saturday 10:00 am to 4:00 pm. For more information, call 617.522.1086 or email hortlib@arnarb.harvard.edu.
Imagine travelling back in time 100, 200, even 2,000 years! On the Walk with Natives tour, discover trees that would have grown on this land long before it was the Arboretum, and find out how people have used them throughout time. What did this landscape look like? Would the same kinds of trees that grow in the Arboretum today have grown here then? If you relied on these trees to survive, would you know which ones could provide a meal or make a good boat?

Your shoes are your time machine; step into the landscape and explore!

1. Highbush blueberry  
   (*Vaccinium corymbosum*)
2. Sugar maple  
   (*Acer saccharum*)
3. Paper birch  
   (*Betula papyrifera*)
4. Shagbark hickory  
   (*Carya ovata*)
5. White oak  
   (*Quercus alba*)
6. American beech  
   (*Fagus grandifolia*)
7. Eastern hemlock  
   (*Tsuga canadensis*)
8. Eastern white pine  
   (*Pinus strobus*)

**Cell Phone Tour**

Call to hear more about the Arboretum and its native trees. When you see the symbol at left, dial 617.895.4085, then enter the tour stop number. (No extra charges, just your airtime.)
Find the clues and solve the mystery! As you find each plant on this tour, use the information on the signs to answer the clues below. Then put the circled letters in the blanks that match the clue number to fill in the mystery word. Solve the mystery, then come back to the Visitor Center for a special prize! If you need help as you Walk with Natives, call 617.384.5209 for assistance.

Hunt for the Mystery Word

**Clues for your search:**

1. A nutritious, long-lasting mixture of ground dried meat, fat, and wild berries.
   - - - - - - - - -

2. It takes 40 gallons of this substance to make one gallon of maple syrup.
   - -

3. What animals would hunters have been trying to call with birch bark horns?
   - - - -

4. This word is used to describe hickory bark, or any bark that naturally peels off a tree trunk.
   - - - - - - - - - -

5. In the 19th century, flocks of millions of these birds fed on beech nuts each fall.
   - - - - - Pigeon

6. This famous ship’s oak hull enabled it to withstand cannon fire.
   - - - - - - -

7. The Arnold Arboretum’s landscape designer who considered Hemlock Hill an exceptional vista.
   - - - - -

8. What mark was carved into white pines to indicate they were the property of the British crown?
   Kings Broad - - - -

**The Mystery Word is:**

4 1 7 4 5 3 1 8 6 2

**Hint!**

Some plants grew naturally on this land before it was the Arboretum. What are these plants called?
Enjoy the Awakening Landscape!

Members’ Tour Day
Saturday, May 1, 2010

Each spring we are delighted to host staff-led walking tours for members of the Friends of the Arnold Arboretum. The event will be held on Saturday, May 1, 2010, from 10:00am to noon. Join us for this opportunity to explore the landscape and its unique joys as the flowering season begins. Delve into the Arboretum’s vast living collection, tap the expertise of our knowledgeable staff, and renew your spirit after a long winter.

The event begins at the Hunnewell Building with coffee and light refreshments, followed by tours led by Arboretum living collections staff. The tours, each with a special focus, will last approximately two hours, and may cover considerable ground. Be sure to dress for the weather, wear comfortable walking shoes, and bring a refillable water bottle.

A reminder with additional details will be mailed to members. Or sign up for our monthly E-newsletter today at www.arboretum.harvard.edu and receive a reminder via email along with updates on Arboretum news, events, and classes.

Members at the Sustaining level and above will have an opportunity to pick up the 2010 Plant Dividend selection at the Members’ Tour Day event. The benefits of picking up your plant in person include protecting your plant from damage during shipping, helping the Arboretum reduce costs, and curbing the use of shipping materials. Eligible members—please be on the lookout for your Plant Dividend letter and reply form which will contain more details about this year’s plant selection. We’d love to share your 2010 Plant Dividend plant with you in person!

If you would like to upgrade your membership and participate in the 2010 Plant Dividend, contact the membership office at membership@arnarb.harvard.edu or call 617.384.5766.

Please join today at one of the following membership levels to help advance the Arboretum’s mission and begin receiving your benefits. Additional benefits are offered at the Sustaining level and above.

- Student/Teacher ...... $20
- Individual ........... $35
- Household ........... $50
- Sustaining ........... $100
- Organization .......... $150
- Sponsor ............... $200
- Patron ............... $500
- Benefactor .......... $1000

To join or learn more, please contact the membership office at 617.384.5766, or request information by email at membership@arnarb.harvard.edu. Thank you!
The Ultimate Early Bloomer

*Hamamelis x intermedia* 'Arnold Promise'

An interesting byproduct of planting related species side by side is that pollinating insects can become unwitting hybridizers. Such was certainly the case with one of the Arboretum’s most famous introductions, *Hamamelis x intermedia* 'Arnold Promise'. A beautiful and vigorous witch hazel, 'Arnold Promise' was given its name to honor the place where it began, a happy accident of nature.

The story begins in 1928, when Arboretum propagator William Judd collected and grew seed from a Chinese witch hazel (*H. mollis*)—an accession originating from E. H. Wilson’s 1905 expedition to western Sichuan. Nearly two decades later, famed Arboretum taxonomist Alfred Rehder deduced that the resulting plants were likely hybrids, as they exhibited intermediate characteristics of the Chinese witch hazel and its neighbor in the Arboretum landscape, the Japanese witch hazel (*H. japonica*). With this in mind, he selected an appropriate name for the new plants: *H. x intermedia*. By the late 1950s, staff observed that one of the hybrids, a plant growing adjacent to the Hunnewell Building, consistently bloomed with larger flowers and over a longer period than the others. This individual was given the cultivar name ‘Arnold Promise’. Offspring of this plant continue to delight late winter visitors, and over time it has become a mainstay in New England nurseries.

The pleasingly fragrant flowers are composed of a reddish calyx and clear yellow petals, each nearly an inch in length. Even following severe winters, these are consistently borne in great profusion from mid-February to early March. Come fall, its autumn foliage color is a clear, bright yellow. Unlike the vernal witch hazel (*H. vernalis*), the dead leaves never persist through the winter to obscure the following year’s floral display.

As if these features were not enough to recommend it, the shrub’s broadly vase-shaped habit and gently ascending stems lend a gracious aspect to its appearance in all seasons.

As the delightful product of happenstance and astute growers, *Hamamelis x intermedia* 'Arnold Promise' stands as one of the Arboretum’s great contributions to horticulture. As a harbinger for spring in a climate notorious for long and difficult winters, the promise it keeps is that perseverance is rewarded.