Join us for the fifth annual Director's Lecture Series at the Arnold Arboretum. The series features nationally recognized experts examining an array of contemporary topics related to Earth's biodiversity and evolutionary history, the environment, conservation biology, and key social issues associated with current science. Opportunities to chat with the speaker follow each lecture.

**Mutants in our Midst: Darwin, Horticulture, and Evolution**

*Ned Friedman, Director of the Arnold Arboretum and Arnold Professor of Organismic and Evolutionary Biology, Harvard University*

**Monday, January 12 7:00–8:30pm [Hunnewell Building]**

Although often overlooked as such, many of the horticultural varieties that we grow in gardens are premier examples of the ongoing process of evolution: random mutations that lead, on the rarest of occasions, to novel and desirable characteristics. Come see how nineteenth century horticulture played a central role in laying the foundations for the discovery of evolution through natural selection. Professor Ned Friedman will also argue that modern botanical gardens can and should become a leading force for the promotion of evolutionary thinking by highlighting the very kinds of mutations observed and described by Darwin as well as new examples of monstrosities and mutants that continue to be found in the Arboretum' and other living collections around the world.

**China, Biodiversity, and the Global Environment**

*Peter H. Raven, PhD, President Emeritus, Missouri Botanical Garden*

**Monday, March 23 7:00–8:30pm [Hunnewell Building]**

China boasts not only the largest percentage of the world's population but also one of Earth's richest, most diverse floras. Yet its economic rise and associated environmental degradation has put this biodiversity at risk. Add in climate change and it is a recipe for disaster. As a leading advocate for the conservation of biodiversity and one of the co-editors of *The Flora of China*, Peter Raven is uniquely qualified to assess these issues and their consequences on the global environment. In this talk, he will consider what it means for humanity to lose thousands of species to extinction, many before they are known or described by scientists. He'll present his thoughts on reversing environmental degradation in China and around the globe and what is required to move all people toward an ethic of conservation and securing sustainability.

**The Oldest Living Things in the World**

*Rachel Sussman, Photographer*

**Monday, March 2 7:00–8:30pm [Hunnewell Building]**

Since 2004 Rachel Sussman has been researching, working with biologists, and traveling the world to photograph the oldest continuously living organisms. Her work spans disciplines, continents, and millennia: it is part art and part science, has an innate environmentalism, and is underscored by an existential incursion into Deep Time. Her original index of millennia-old organisms has never before been created in the arts or sciences. Enjoy her awe-inspiring photographs and hear what it means to bear witness to organisms that perhaps precede human history and that may survive well into future generations. Her book, *The Oldest Living Things in the World*, will be available for purchase and signing.

**Environmental Lawlessness**

*Richard Lazarus, Howard and Katherine Aibel Professor of Law, Harvard University*

**Monday, April 20 7:00–8:30pm [Hunnewell Building]**

What happens when laws and regulations don't keep pace with changes in technology, science, and society? Come learn the history and circumstances behind the country's current but outdated environmental laws, how the original scope and intentions of these laws may no longer match the scope of the problems we face today, and the lawmakers challenges we now face as we seek to address the mounting environmental risks posed by deepwater drilling, natural gas fracking, and climate change. Richard Lazarus will speak of lessons learned from the Gulf oil spill disaster and how new regulations in line with current technologies are needed to better protect the environment as we tap our natural resources.

Director's Lecture Series events are free, but registration is required; Arboretum members have prioritized registration through December 15. Register online at my.arboretum.harvard.edu or call 617.384.5277.
From the Director

I truly love sharing the company of plants. Whether exploring the astounding beauty and complexity of their component structures under a microscope or admiring their full forms and seasonal characteristics in the Arboretum landscape, plants add so much to my own life and quite literally make the planet we share a habitable environment. The art and practice of horticulture—the cultivation and care of plants and gardens—has been much on my mind lately, particularly as I select plantings for my own yard just a stone’s throw from the Arboretum landscape. Now many of the trees and shrubs I’ll admire and tend to in my spare time—including paperbark maple (Acer griseum), Arnold Promise witch hazel (Hamamelis × intermedia ‘Arnold Promise’), and Rock peony (Paeonia rockii)—are plants either introduced to horticulture through Arnold Arboretum plant explorations or developed by Arboretum hybridizers like William Henry Judd, Donald Wyman, and our current propagator and lilac expert, Jack Alexander. Our historical mission to explore and promote plants that are hardy to the Boston area continues today with new resonance, as climate change is already having an impact on the types of plants that can and will survive here.

In this issue of Silva, you’ll learn some of the ways that horticulture is being advanced and celebrated at the Arnold Arboretum. You’ll meet Ling Guo, a curator at Beijing Botanical Garden, who visited our collections, herbarium, and archives over the spring to research the cultivated diversity of the genus Malus—our apples and crabapples. We spotlight these fruiting favorites of ornamental horticulture this October in our next Collections Up Close event, and in these pages Arnoldia editor Nancy Rose whets your appetite by sharing some of the diversity of fruits and foliage in the apple family. Also, on the scientific front, you’ll meet one of Harvard’s new assistant professors of organismic and evolutionary biology on staff at the Arboretum—Robin Hopkins—who’s work with Phlox and its pollinator aspires to unlock some of the secrets of hybridization and speciation, important knowledge as horticulturists develop new cultivated varieties bred to withstand the brunt of the many environmental changes to come.

This fall and winter, spend some quality time observing the plants in your life, whether they grow in your yard or neighborhood or in the Arboretum’s world-class collections in Jamaica Plain and Roslindale. Take a class to learn propagation or plant care skills, or attend a Tree Mob™ to expand the palette of trees you love and know by name. And please join us at our Members’ Plant Giveaway on September 20 to share some of our storied plants, along with the wisdom and know-how of our talented horticulture staff. Together, let’s cultivate our curiosity.

—William (Ned) Friedman, Director of the Arnold Arboretum & Arnold Professor of Organismic and Evolutionary Biology
The Mother of Crabapples

Autumn Spotlight on the Peters Hill Malus Collection

Nancy Rose, Editor of Arnoldia

Crabapples (*Malus* spp.) are best known for their extravagant spring displays of white, pink, and rosy red flowers. Arboretum visitors who climb to the top of Peters Hill around mid-May are rewarded with the sight of the *Malus* collection—numbering some 440 plants—in glorious bloom. But while the blossoms are certainly beautiful, they’re not especially long lasting: the floral show on a given tree typically lasts a week—less if heavy rain or strong winds hit.

Though perhaps less appreciated, the fall display in the *Malus* collection is equally worthy and a lot longer lasting. By early October many of the trees are loaded with yellow, orange, red, or purple fruit. Some fruits change color as they mature and soften; tea crabapple (*M. hupehensis*), for example, changes from bright yellow to cider orange. Fruit persistence varies among individual crabapples, but the colorful display typically lasts at least a month, and up to five or six months for some. The Arboretum introduction ‘Donald Wyman’—one of the very best cultivars for colorful, persistent fruit—often has some of its bright red fruit still hanging on when the tree begins to bloom in the spring.

Malus fruits come in a range of shapes and sizes. Most are essentially round, though looking for subtle differences (perhaps more oval, or conical) can be useful for identification. One unusual species in the collection, *M. kanskuenis f. calva*, has ribbed fruits that look like tiny pumpkins. Crabapples grown for ornamental use usually have fruits smaller than 1 inch in diameter, and many of the best crabapple cultivars for landscaping have fruit ranging from ¼- to ½-inch in diameter. When they drop from the tree these smaller sized fruit don’t cause a litter problem (a complaint often leveled at larger-fruited crabapples). They don’t always make it to the ground, though, since the bite-sized fruit are favored by birds such as robins and cedar waxwings who eagerly gobble up the crop during fall migrations.

In addition to the impressive fruit display, you may also see at least a little fall foliage color in the *Malus* collection. Crabapples aren’t usually noted for this trait, but a few species and cultivars often do develop some nice autumnal tints. Look for red, orange, or purple tones on the leaves of *Malus tschonoskii*, *M. spontanea*, *M. ‘Prairifire’*, and *M. ‘Purple Prince’*, among others. A combination of fruit and foliage color can be especially attractive, as with the rich purple foliage and bright yellow fruits of tea crabapple (*M. hupehensis*). This species and *M. sargentii* are among the plants propagated from the living collections that will be available at the Members’ Plant Giveaway on September 20.

Apple or Crabapple?

Apples and crabapples are all in the genus *Malus*. In horticultural terms, *Malus* trees with fruit larger than two inches in diameter are classified as apples, while those with smaller fruits are called crabapples. This split serves primarily to differentiate *Malus* grown for direct eating (apples) from those grown primarily for ornamental traits (crabapples). There are exceptions, of course; a number of crabapples like ‘Chestnut’ and ‘Whitney’ have delicious fruits—just shy of two inches wide—that are perfect for fresh eating.
Some Highlights of the *Malus* Collection at the Arnold Arboretum

This fall, explore the beauty and diversity of apples and crabapples in the collections of the Arnold Arboretum.

Clockwise, from upper left: Named for the Arboretum’s horticulturist from 1935 to 1970, *Malus* ‘Donald Wyman’ features bright red, persistent fruits which provide months of visual appeal; Sargent crabapple (*M. sargentii*), named for Arboretum Founding Director Charles Sprague Sargent, bears small, bright red fruits that often persist into winter; *M. ‘Henry Kohankie’* displays yellow and orange fall foliage along with fairly large (1¼-inch diameter) red fruits; fruits of *M. hupehensis*, the tea crabapple, turn from yellow to cider orange as they soften and are then eagerly consumed by birds; *M. ‘Golden Hornet’* is an English cultivar that bears a profusion of red-blushed golden fruits.

Collections Up Close: Considering Crabapples

Sunday, October 19 from 1:00–3:00pm

See page 14 for event details

*Visit us online arboretum.harvard.edu*
The Evolving Traits of Attraction

An Interview with Robin Hopkins, Assistant Professor of OEB

With Jon Hetman, Director of External Relations and Communications

Take a stroll through the Arboretum during the growing season and you may come to appreciate the diversity of form, color, and fragrance represented by the flowers you encounter. In a similar vein, you also may be struck by the many types of pollinators you see, from moths and butterflies to flies and bees and even hummingbirds. Through natural selection, plants have evolved traits and floral structures that favor interactions with specific pollinators, which in turn have evolved to reinforce these symbiotic relationships. Studying these associations from a number of evolutionary and genetic perspectives is Robin Hopkins, PhD, Assistant Professor of Organismic and Evolutionary Biology (OEB), and one of three Harvard faculty—along with Director William (Ned) Friedman and Assistant Professor of OEB Elizabeth Wolkovich—holding joint appointments with the Arnold Arboretum.

As an undergraduate in biology at Brown University, Robin studied adaptation and diversity across natural ranges in plants, topics that ignited her interest in the dynamic interplay between plant populations and the environments they inhabit. Her specialization on these issues developed further during her graduate studies at Duke University, where her PhD work centered on how plant species form—from investigating the traits that are important in distinguishing individual species to revealing the factors that keep different species from hybridizing. Her published findings in this arena have received much favorable attention, and her research is credited with being the first to use a natural system to identify the genetic basis of reinforcement—the process by which natural selection increases reproductive isolation. Since her arrival as a faculty researcher at the Arboretum in January, Robin has pursued a growing focus on the role that natural selection plays in causing diverging plant populations to become distinct species, through field experiments, molecular studies, population genetic analyses, and pollinator behavior trials.

Q. How did you become interested in plants and the science of speciation?

A. I was raised in rural Vermont and began gardening with my Mom before I could walk, so I suppose that I’ve always loved plants and flowers. From a very young age I was also drawn to science, and for a long time I resisted the idea of becoming a plant biologist because I was worried that I would love plants less if I had to work with them every day! Happily, I came around to realizing that it is possible to love what you do. My interests as a researcher grew directly out of the laboratory experiences that engaged me as an undergraduate at Brown and subsequently in my PhD studies at Duke. While many aspects of plants sparked my interest, it was the question of how plant species form—what traits are important in distinguishing individual species, and the factors that keep different species from reproducing with each other—that I kept returning to again and again. This area of study led directly to my interest in how morphological or formal characteristics of flowers—like color, shape, and scent—can manipulate the behavior of the pollinators that facilitate plant reproduction.
Q. What about this area of study captured your imagination?
A. The direction of my work in science has always been aimed at understanding biodiversity. One of the big unknowns that has daunted evolutionary biologists is how individual species form. So the questions I’m pursuing are important because it’s only when species lose the ability to reproduce with other species that they begin to evolve very distinct differences. It’s the barriers between species that help us to understand the remarkable diversity we see around us, so I am incredibly fascinated by studying the traits that contribute to that process. Since these questions revolve around reproduction, much of it comes down to the flowers—the pollinators they attract, the means flowers employ to attract those pollinators, and when they do so.

Q. Your studies focus primarily on Phlox, a perennial woodland and prairie flower. Why this model system for your research?
A. One of the things that really interests me about this work is delving into the genetic basis of these traits; mutations cause trait differences and natural selection works to either favor or disfavor those differences from being passed on. For this type of work, it’s advantageous to use an annual, herbaceous species that is short-lived and easy to grow and manipulate. Phlox has been extensively studied for over 50 years, so there’s a great deal of literature available on many aspects of its ecology and evolutionary history. This body of work provides background and perspective to my own research. My current investigations focus on flower color, and Phlox exhibits interesting differences in flower color that are involved in this process of species formation. When I was at Duke, I did field work in Texas where there are native populations of Phlox, and I continued this research there as a Post Doc.

Q. Talk about your work studying flower color and speciation—what are some of the highlights of this research for you?
A. I’m deeply interested in the process of reinforcement—the idea that if two species mate with each other and their offspring are either sterile or maladapted in some way, then selection can favor those traits that prevent hybridization from occurring at all. In Phlox, we have two species, Phlox cuspidata and P. drummondii, that tend to hybridize where they grow together, and their offspring are largely sterile. One of the species—P. drummondii—has evolved a change in flower color, and this change appears to drastically decrease instances of hybridization with P. cuspidata. With less hybridization, the two species can coexist in the same environment and have stable populations. So much of my work before I came to the Arboretum centered on finding the genetic basis for this color difference. From there, it becomes a question of how the flower color change stops hybridization. So I did many field experiments watching the behavior of Phlox pollinators, which are butterflies. What I found is that the butterflies typically visit flowers that are the same color, so if the flowers of two species are different colors, individual pollinators don’t tend to move between them. Essentially, this is how a selective change in flower color can alter hybridization rates. So my future work will look into this pollinator movement in greater depth, particularly how and why the butterflies show this behavior, how plant adaptation affects this behavior, and if there are other plant traits beyond color differences involved.

Q. You point out that these species tend to hybridize despite the selective forces acting against reproduction. Are the limits of reinforcement another way of looking at speciation?
A. Absolutely. An inherent aspect of reinforcement is that two species are actually hybridizing with each other, which allows for some genes to cross over that genetic barrier

Assistant Professor Robin Hopkins observes flowering specimens of Phlox drummondii in the Weld Hill Research Building’s greenhouses.

Fall/Winter 2014–2015
Belonging to the rose family (Rosaceae), crabapples (Malus spp.) are among the most ornamental small trees in the temperate zone. With their beautiful, abundant flowers in spring and colorful fruits in fall, crabapples symbolize everything good in Chinese painting, poetry, and the gardens arts. With so much to recommend them, it is not surprising that crabapples have become one of the most popular garden trees in the temperate world.

As a curator at the Beijing Botanical Garden, I oversee a collection of seventy-eight different kinds (taxa) of ornamental crabapples. Comprising both species and cultivated varieties of Malus, the collection has been studied closely as a project at the Garden for 24 years. The trees’ formal characteristics, cold hardiness, drought and flood tolerance, and resistance to pests and diseases have been investigated extensively. Through this research, we developed a system for evaluation, databased our documentation, and gathered molecular data to elucidate genetic relationships among the species and cultivars. However, with thousands of cultivars in Malus, creating a comprehensive database of the genus is no small task.

This year, Beijing Botanical Garden was selected as the International Cultivar Registration Authority for Malus, and I am serving as the official registrar. As such, I’m compiling a comprehensive checklist of known taxa to improve the cataloging database of their names and individual characteristics. Part of this work involves gathering more information on cultivars old and new, and so field work is required to observe and document these plants. I knew the first place I should visit in this task would be the Arnold Arboretum—thanks to E. H. Wilson and other pioneering plant explorers, the Arboretum’s living collections, library and archives, and herbaria resources on Malus are among the world’s best.

As noted hybridizer Father John Fiala once said, “No horticultural institution did as much for introducing and discovering new species, varieties, or special clones (of Malus) as did the Arnold Arboretum.” Plants were collected in the wild by Arboretum explorers like Wilson and Charles Sprague Sargent, were studied and hybridized by Arboretum scientists like Karl Sax, and promoted and popularized by Arboretum horticulturists like Donald Wyman. As a recipient of the Jewett Prize—an Arnold Arboretum award for research focused on the biology of flowers or fruits—I was able to work as a visiting scientist in its incomparable collection of crabapples, numbering some 450 plants and including over 100 cultivars. During my three months in the collections, I studied plants in the landscape as well as the vouchers in the cultivated herbarium, researched curatorial records, read many articles on Malus in the pages of Arnoldia, and studied the names and taxonomy of cultivars in the Arnold Arboretum library and archives. In addition to compiling extensive written documentation, I also took many photos of Arboretum crabapples, and captured images of the flowering branches of over 100 taxa of crabapples by using a flatbed scanner. With these new data and documentation in hand, I and others at the Beijing Botanical Garden have a far better understanding of the genus and can put the information to good use in our own collection and in our service as registrar.

Many Chinese trees like dawn redwood (Metasequoia glyptostroboides), seven-son flower (Heptacodium miconioides), and paperbark maple (Acer griseum) became horticultural favorites through the Arboretum’s efforts. For me, this is especially true of the crabapples that transform Peters Hill each spring and fall. As I continue my journey around the world as the international registrar for crabapples, the Arboretum’s collection will continue to be an important source of information and inspiration for me.
Of Catkins and Pseudocones
A Closer Look at the Alnus Collection

Joyce Chery, 2013-14 Curatorial Fellow

Among the many fascinating and ornamental plants growing across the Arboretum landscape, it may be easy at first glance to overlook the alders (Alnus spp.). During the growing season, these inconspicuous plants blend into the landscape, while showier plants like magnolias and azaleas command our attention. However, as winter nears and leaves drop, alders come into their own as a collections highlight, contrasting the bare canopy with peculiar pine-like pseudocones and dangling catkins of tiny immature flowers. As the 2013 Curatorial Fellow, I closely studied this intriguing plant group, conducting a comprehensive review of the health, collections value, nomenclature, and potential for expansion of the Alnus collection at the Arboretum.

Once mistakenly thought to be related to cone-bearing gymnosperms, alders are actually members of the birch family (Betulaceae), comprising about 30 species distributed mostly in temperate or boreal forests of the Northern Hemisphere. Generally speaking, Alnus diversity includes trees that attain a height of up to 100 feet to shrubs that thrive in wetland habitats. Perhaps the most interesting aspect of their ecology is their symbiotic relationship with the bacteria Frankia alni, which fixes nitrogen for the plant in exchange for photosynthates. This microbial association allows alders to populate nutrient-deficient soils—as a pioneer species, alders help to improve soil fertility, beginning a chain of ecological succession.

The Arboretum’s collection of alders consists of 59 individuals representing wild-collected and cultivated plants from Asia, North America, and Europe. The Arboretum mimics the natural habitat of alders by planting the bulk of the collection in wet areas of the landscape, primarily the meadow area near the Arborway Gate. Due to my interest in the classification of organisms, I chose to focus my efforts on verification of the entire collection. Plant by plant, I carefully examined their formal qualities to confirm their identity, using scientific descriptions from a variety of resources including floras, plant monographs, and scientific papers. My tentative winter verifications were followed up after leaves emerged and flowers bloomed in spring. I visited each plant frequently to detect the presence of pests and diseases, recorded measurements such as height and stem diameter, and made note of other observations. The Arboretum’s Cultivated Herbarium also served as one of the most important resources in my review, providing snapshots into the past of accessioned plants.

Curatorial reviews of this nature are critical to reveal the strengths and potential for growth in the living and preserved collections. The observations recorded during this review, such as phenology (life history events like leafing out and flowering), are useful for further scientific study. The strength of the Arboretum’s Alnus collection lies in the detailed documentation associated with each individual plant accession and the biological diversity of species represented in the group as a whole. This seven-month review gave me a very intimate experience with this collection. I observed all life stages from the leaves senescing in the fall to the grand opening of the male catkins and finally to the development of fruits. Witnessing these remarkable life stages with a scientific lens certainly fed my botanical ambitions. As I leave this fellowship at the Arboretum to pursue a PhD in integrative biology at the University of California, Berkeley, I am grateful for the resources and experiences gained at the Arnold Arboretum that have encouraged my interest in biodiversity and opened my eyes to this remarkable genus of plants.

Curatorial Fellow Joyce Chery field checks a Manchurian alder (Alnus hirsuta, #71-92*A) in the meadow near the Arborway Gate.

Curatorial Fellow Joyce Chery field checks a Manchurian alder (Alnus hirsuta, #71-92*A) in the meadow near the Arborway Gate.
Teaching with Trees

Celebrating 30 Years of Field Study Programs for Children

Nancy Sableski, Manager of Children’s Education

With an inviting, naturalistic landscape and diverse collections of plants collected from around the globe, the Arnold Arboretum is an outdoor classroom for learning. Since 1984, the Field Study Experiences have helped primary school classrooms engage directly with the natural world in the safety and beauty of the Arboretum landscape. Tens of thousands of students have visited to participate in these programs over the years, providing Arboretum educators with valuable data for the development of new and innovative ways to connect kids and science. This fall, we celebrate thirty years of sharing the Arboretum as a unique and enriching outdoor classroom for young learners.

The evolution of school programs at the Arnold Arboretum began in 1982, when Boston Public Schools appealed to local museums and universities to help advance science education in the primary grades. In response, Arboretum educators developed the Field Study Experiences to offer primary school students the experience of being explorers and scientists themselves through fun, hands-on lessons in botany, natural history, and ecology. Activities like observing, measuring, recording, and drawing all contribute to the larger objective of introducing the scientific method, while integrating other skills and disciplines like reading, math, writing, and the arts. Originally targeting students in grades 3-6, the programs were designed around seasonal studies of flowers and seed dispersal, investigations of indigenous peoples and their use of native plants in our area, and tales of the plant explorers who brought novel species from around the world to the Arboretum for study and appreciation.

From the beginning, the Arboretum placed a strong value on making the Field Study Experiences available to students from urban schools. This principle was championed in 1996 when Henry and Edith (Nod) Meyer established an endowment to fund primary school learning at the Arboretum, the Nature Study Fund for Urban Children. Over the past decade, this support has enabled the Arboretum to deepen its engagement with Boston Public Schools, from initiating classroom visits by Arboretum educators at a neighborhood partner school to creating new programs in our landscape for fifth graders to complement their study of ecosystems.

In recent years, the Arboretum has continued to expand its reach by bringing Boston preschool children from Roslindale and Hyde Park to the Arboretum for Field Studies of their own. The partnership with Head Start, now in its tenth year, facilitates spring and summer explorations for preschoolers that focus on the ponds, meadows, and woodland areas of the Arboretum. With the creation of additional programs for primary school students in the first and second grades over the past three years, we now offer a continuum of learning experiences for children from preschool through the fifth grade.
The broad scope and ongoing enhancement of children’s education at the Arboretum has been made possible in large part by the contributions and commitment of a dedicated corps of Field Studies volunteers. Coming from a diversity of backgrounds, our volunteer guides absorb many domains of learning through their training and experience in the program—how to leverage the collections and landscape, how to engage and manage groups of children, and how to teach in flexible ways that resonate with all ages and abilities. Their accumulated experiences and valuable insights are essential evaluative tools that have yielded significant improvements to all of the programs.

The Evolving Traits of Attraction, from page 5

between species. So the genetic piece of my research looks at these plants’ genomes to see which genes are passing over that species boundary, and if we can find evidence of past hybridization and determine how that has affected their evolution. In this case, we know hybridization was detrimental enough that traits evolved to slow or stop this process for these two species. However, we also see examples of Phlox species where hybridization appears to have been a good thing, including some examples in the Midwest where adaptive traits moved across that species barrier and resulted in increased fitness. Much of my future work will be directed at understanding both the good and the bad of hybridization.

Q. Selection of favorable traits plays an important role in horticulture—much of what we’re talking about is applicable to this aspect of the Arnold Arboretum.

A. Yes, horticulture relies heavily on hybridization to create new cultivars with desirable traits, from more abundant flowers or tastier fruits to more expansive hardiness ranges or greater pest tolerance. We depend on hybridization for most of what we eat. Corn for example is a crop that is only available in hybrid form. We count on “hybrid vigor”—the idea that crossing very different organisms can create particularly robust offspring. However, while hybridization can create diversity, it can also hurt diversity, particularly if the offspring produced are sterile so that populations in general dwindle, or if fertile offspring end up out-competing or restricting the ranges of the parent species. This is why we often don’t see closely related species occurring in the same geographic area, because the costs associated with interbreeding are too high to sustain cohabitation. Being at the Arboretum is really exciting because we do see so much hybridization and artificial selection for diversification occurring in horticulture, and it’s interesting to think about all the potential variation that is possible. Why does some of it happen naturally and sometimes not? It’s amazing to see so much diversity in one place. So much of our thinking about diversity is scattered around the globe. Some species don’t grow naturally anywhere near their closest relatives. So with the Arboretum and its diverse collections, we can actually see species that are closely related growing side by side in a common garden. This gives us the opportunity to compare them, to think about their similarities and differences and how and why they evolved that way. I think that’s a really exciting environment to experience every day.

Q. How do you think your research complements the Arboretum’s mission as a public institution?

A. The Arboretum is an oasis for all kinds of biological diversity in the middle of a large city. If you watch in spring as trees leaf out and begin to bloom, the explosion in the numbers and types of birds in our landscape is incredible, especially relative to areas only a few blocks away. That’s something worth thinking about—without the diversity of plants that the Arboretum displays we wouldn’t have these other diverse communities of insects, birds, and other wildlife that depend on them. The diversity of plants and the organisms that pollinate them is critical to maintaining healthy environments, so from an ecological perspective there is so much we can share here to raise awareness about how these things fit together to make a healthy planet. This is particularly important now, as we see more and more plants becoming endangered in their native habitats, as well as threats to pollinators like honeybees and butterflies through pesticides, disease, and compromised habitats.
ADULT EDUCATION OPPORTUNITIES

The Arnold Arboretum offers a variety of learning opportunities for adults. Below is a partial list of our fall/winter classes and lectures followed by descriptions of featured programs. To view all programs by month, visit our online registration system, my.arboretum.harvard.edu. For additional assistance, call Pamela Thompson at 617.384.5277.

Schedule of Selected Classes and Lectures

September
15 Charismatic Megaflora: What Do Old Trees Look Like?
22 Urban Greening for Urban Birds
23+ Introduction to Botany
30 Preserving Forests in New England—Insights from Japan and Europe

October
7 Ecologies in Flux: What is the Role of Exotic Plants in Urban and Suburban Ecosystems?
16 The Origins and Legacy of the Catskill Forest Preserve
19 Making the Cut: Basic Felling Techniques
20 America’s Founding Fruit: The Cranberry in a New Environment
25+ Propagating Trees and Shrubs from Cuttings and Seeds

November
6 American Canopy: Trees, Forests, and the Making of a Nation
18 Protecting the Ash Tree: Wabanaki Diplomacy and Sustainability Science in Maine

December
3 Arthur Shurtleff: From Boston to Colonial Williamsburg
6 Introduction to Winter Tree Identification
9 The Bee: A Natural History
15 Climate Change and Plant Conservation

January
12 Mutants in our Midst: Darwin, Horticulture, and Evolution
31 Pruning in Winter

February
7 Grafting Techniques for Ornamental Trees
28 Pruning Shrubs

March
2 The Oldest Living Things in the World
21 Planning and Creating a Compact Orchard
23 China, Population, and the Global Environment

April
11 Growing Plants from Seeds
20 Environmental Lawlessness

Key to Symbols and Abbreviations

Indicates a multisession class

DG
Arnold Arboretum, Dana Greenhouses, 1050 Centre Street, Boston
HB
Arnold Arboretum, Hunnewell Building, 125 Arborway, Boston
HMNH
HMNH Geological Lecture Hall, 24 Oxford Street, Cambridge
Huh
Harvard University Herbaria, 22 Divinity Avenue, Cambridge
PHG
Peters Hill Gate, Bussey Street, Roslindale
WH
Weld Hill Research Building, 1300 Centre Street, Roslindale

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Charismatic Megaflora: What do Old Trees Look Like?
Neil Pederson, PhD, Ecologist, Harvard Forest, Harvard University
Mon Sep 15 6:30–8:00pm [HB]
For Neil Pederson, a tree that would capture his attention as a younger person is very different from the charismatic specimen that wows him today. What has changed? His understanding of age and the dimensions of time and space as they apply to trees. Neil Pederson will share how his assumptions were dashed (more than once) and what he has learned while searching for the oldest trees to obtain the longest possible tree-ring based records of environmental history.
Fee $5 member, $10 nonmember

Urban Greening for Urban Birds
Paige Warren, PhD, Associate Professor, Department of Environmental Conservation, UMASS, Amherst
Mon Sep 22 7:00–8:30pm [HB]
Paige Warren has recently analyzed 150 years of documented changes in the bird communities of Cambridge and examined a variety of Boston’s green spaces to determine ways to improve and increase habitat for year-round as well as migratory birds and other city-dwelling animals. She will speak about her research, done locally and around the country, to understand processes generating and maintaining biological diversity in a world that is becoming increasingly dominated by humans.
Fee $5 member, $10 nonmember

Preserving Forests in New England Insights from Japan and Europe
Robert A. Askins, PhD, Professor of Biology, Connecticut College
Tue Sep 30 7:00–8:30pm [HB]
The biological diversity of New England’s deciduous forests is threatened by habitat fragmentation, increasing homogeneity of the vegetation, and the loss of top predators. The future of deciduous forests will be shaped by climate change and the introduction of insects and pathogens that decimate particular species of trees. Professor Robert Askins will present a talk on the major threats to our local forests and new insights for their protection from studies of remarkably similar forests in East Asia and Europe. His book, Saving the World’s Deciduous Forests, will be available for purchase and signing.
Fee $5 member, $10 nonmember

Introduction to Botany
K. N. Gandhi, Botanist, Harvard University Herbaria
8 Tuesdays, Sep 23, 30, Oct 7, 14, 21, 28, Nov 4, 18 6:30–8:30pm [HUH]
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

Program Highlights
Full list of classes available at my.arboretum.harvard.edu

Ecologies in Flux—The Role of Exotic Plants in Urban and Suburban Ecosystems
A panel discussion with Peter Del Tredici, Senior Research Scientist, Arnold Arboretum; John Silander, Director, Invasive Plant Atlas of New England (IPANE); and Bryan Connolly, Former State Botanist, Massachusetts Natural Heritage Endangered Species Program
Tue Oct 7 7:00–8:30pm [Hunnewell Building]
Most people live in environments that have been drastically altered by humans. While we are well aware of the built structures (houses, roads, stores) in our communities, we are less aware of the organisms that co-inhabit the surrounding landscapes. In this dialogue, three prominent botanists will discuss the ecological impacts of exotic plants in both urban and suburban communities. The panelists will present different viewpoints on the various roles that plants play in these altered ecosystems and how human values and aesthetics influence biodiversity. Panel discussion moderated by Arboretum Director William (Ned) Friedman.
Fee Free member, $10 nonmember
classes

Propagating Trees and Shrubs from Cuttings and Seeds
Jack Alexander, Plant Propagator, Arnold Arboretum
Sat Oct 25 and Nov 15 9:00am–4:00pm [DG]
Join Arboretum propagator Jack Alexander to learn basic information and techniques for propagating most woody plants.
Fee $180 member, $230 nonmember

American Canopy: Trees, Forests, and the Making of a Nation
Eric Rutkow, Doctoral Candidate in History, Yale University
Thu Nov 6 7:00–8:30pm [HB]
Eric Rutkow digs into American history to show how trees were essential to the early years of the republic and indivisible from the country’s rise as both an empire and a civilization. He will share stories in which trees—as symbols of liberty, community, and civilization—are perhaps the loudest silent figures in America’s complicated history. Early presidents, conservationists, politicians, and politics resurface alongside the trees and forests that supported independence and fueled this country’s westward expansion. Eric’s book, American Canopy: Trees, Forests, and the Making of a Nation, will be available for purchase and signing.
Fee $5 member, $10 nonmember

Protecting the Ash Tree: Wabanaki Diplomacy and Sustainability Science in Maine
Darren Ranco, PhD, Associate Professor of Anthropology and Coordinator of Native American Research, University of Maine
Tue Nov 18 6:00pm–7:00pm [H MNH]
Brown ash (Fraxinus nigra) trees sustain the ancestral basket-making traditions of the Wabanaki people of Maine and play a key role in their creation myths. These trees are now threatened by the emerald ash borer, a beetle that has already killed millions of ash trees in the eastern US. Wabanaki tribes have joined forces with foresters, university researchers, and landowners to develop and deploy actions aimed at preventing an invasion by this insect. Darren Ranco discusses how the stakeholders involved in this interdisciplinary effort are making use of sustainability science and drawing from Wabanaki forms of diplomacy to influence state and federal responses to the emerald ash borer, and prevent the demise of the ash trees that are so central to Wabanaki culture.
Fee Free; free event parking at the 52 Oxford Street Garage
Offered in collaboration with the Harvard Museums of Science and Culture

The Origins and Legacy of the Catskill Forest Preserve
Paul K. Barten, PhD, Professor, UMASS, Amherst
Thu Oct 16 7:00–8:30pm [HB]
The Catskill Forest Preserve was established in 1885 and protected as “wild forest, forever” with an 1894 amendment to New York’s Constitution. An early success for the fledgling conservation movement, this action opened a new era in which the damage to forest ecosystems by tanbark peelers, “cut and run” loggers, and market hunters could no longer be reconciled with “the greatest good of the greatest number in the long run” and a thriving tourism industry. Paul K. Barten will conclude with some thoughts on where we appear to be as a nation on the forest preservation—conservation—utilization spectrum in the twenty-first century.
Fee $5 member, $10 nonmember

Making the Cut: Basic Felling Techniques
John DelRosso, Head Arborist, Arnold Arboretum
Sun Oct 19 9:00am–12:30pm [PHG]
‘Make the cut’ with Arboretum Head Arborist John DelRosso in this practical workshop. John will quickly review basic chainsaw operation and safety. He will then demonstrate sawing techniques and guide you in felling and cutting using practice logs in the Arboretum’s wood recycling area. Find details and requirements online.
Fee $45 member, $55 nonmember

America’s Founding Fruit: The Cranberry in a New Environment
Susan Playfair, Author and Naturalist
Mon Oct 20 7:00–8:00pm [HB]
The cranberry, Vaccinium macrocarpa, is one of only three cultivated fruits native to North America. For centuries the cranberry has provided critical sustenance for humans, on land, at sea, and in times of war. Today, it is a powerful tool in the fight against various forms of cancer. Susan Playfair interviewed scientists, growers, geneticists, and more to weave together the history and culture of the cranberry and assess the future of this North American resource. America’s Founding Fruit will be available for purchase and signing.
Fee Free for members, $15 nonmember

course. Required text: Botany for Gardeners by Brian Capon.
Fee $225 member, $270 nonmember
Offered with the New England Wild Flower Society
Arthur Shurcliff: From Boston to Colonial Williamsburg
Elizabeth Hope Cushing, PhD, Landscape Historian
Wed Dec 3 6:00pm lecture; reception follows [HB]
In 1928, the landscape architect and preservationist Arthur A. Shurcliff (1870–1957) began what became one of the most important examples of the American Colonial Revival landscape—Colonial Williamsburg. But before this, Shurcliff honed his skills in Boston. Opening his own practice in 1904, he designed recreational spaces that Bostonians still enjoy today, including significant aspects of the Franklin Park Zoo and the Charles River Esplanade. Historian Elizabeth Hope Cushing will speak of Shurcliff’s early work in Boston and how this led to Colonial Williamsburg, his largest and most significant contribution to American landscape architecture.
Fee $5 member, $10 nonmember

The Bee: A Natural History
Noah Wilson-Rich, PhD, Founder and Chief Scientific Officer, The Best Bees Company
Tue Dec 9 7:00–8:30pm [HB]
Bees pollinate many of the crops that we rely on to survive. They are crucial to the reproduction and diversity of flowering plants, and their economic contributions measure in the tens of billions of dollars each year. Yet bees are dying at an alarming rate, threatening food supplies and ecosystems around the world. Noah Wilson-Rich will speak about the human–bee relationship through time; explain a bit about bee evolution, ecology, and physiology; and share his holistic approach to bee health and how you can help bee populations. His book, The Bee: A Natural History, will be available for sale and signing.
Fee $5 member, $10 nonmember

Climate Change and Plant Conservation: Is Managed Relocation an Option?
Jesse Bellamare, PhD, Assistant Professor, Department of Biological Sciences, Smith College
Mon Dec 15 7:00–8:30pm [HB]
Due to climate change, plant species with small geographic ranges may be at especially high risk of extinction. Intentionally translocating threatened species to new regions as conditions deteriorate within their native ranges may be an option of last resort to avoid extinctions. Jesse Bellemare will speak about his research to better understand how the distribution and diversity of these rare species is related to climate change, both past and future.
Fee $5 member, $10 nonmember

Pruning in Winter
Jen Kettell, Horticultural Technologist, Arnold Arboretum
Sat Jan 31 9:00am–noon [HB]
Jen Kettell will explain the reasons for pruning and what to consider when pruning dormant trees, shrubs, and vines.
Fee $35 member, $48 nonmember

Grafting Techniques for Ornamental Trees
Jack Alexander, Plant Propagator, Arnold Arboretum
Sat Feb 7 9:00am–4:00pm (Snow date: Feb. 21) [DG]
Grafting is the technique of joining parts of plants in such a manner that they unite and continue their growth as one plant. You will learn methods of grafting and practice making graft unions, with deciduous and evergreen trees and shrubs.
Fee $90 member, $120 nonmember

Planning and Creating a Compact Orchard
Staff, Wakefield Estate
Sat Mar 21 9:00am–1:00pm [DG]
Become a backyard orchardist and grow your own fruit! Even with a small yard, you can enjoy fruit from your own trees with minimal effort and cost. This step-by-step workshop will teach you all you need to know to plan and create a compact orchard for years of enjoyment. Participants will spend part of the workshop outside in the orchard for a pruning demonstration, so dress accordingly.
Fee $20
Offered with the Mary M. B. Wakefield Charitable Trust

Growing Plants from Seeds
Jack Alexander, Plant Propagator, Arnold Arboretum
Sat Apr 11 9:00am–11:00am [Wakefield Estate]
From annuals and perennials to trees and shrubs, success in propagating plants from seeds can be achieved if you understand what triggers germination. Expert propagator Jack Alexander will share techniques for starting various types of plants—annuals (including vegetables), trees, and shrubs—from seeds. This workshop is for beginners and those who have been frustrated in past attempts to transform seed to seedling. Students will leave class with a selection of seeds raring to grow. Aftercare will be necessary.
Fee $50 member, $65 nonmember

See all classes and register online at:
my.arboretum.harvard.edu
Visit the Arboretum

Visitor Services

The Hunnewell Building near the Arborway Gate is open for restroom access and business guests:

- **April through October**: weekdays, 9:00am to 5:00pm; weekends, 10:00am to 5:00pm
- **November through March**: weekdays, 9:00am to 4:00pm; weekends, Noon to 4:00pm

The Visitor Center in the Hunnewell Building is open:

- **April through October**: 10:00am to 5:00pm
- **November through March**: Noon to 4:00pm

Closed Wednesdays and holidays

**Telephone**: 617.384.5209

Services available in the Visitor Center include:

- Personal assistance to enrich your visit
- Membership Information
- Maps and postcards
- Changing exhibits from the Arnold Arboretum Archives
- Seasonal art exhibitions
- Activities for children and families
- Lost and found: for inquiries, call 617.384.5209
- Arnold Arboretum Horticultural Library, open Monday through Friday, 10:00am to 3:45pm.
  For more information, call 617.522.1086, or email hortlib@arnarb.harvard.edu

Visitor Parking & Driving Permits

Street parking is available along the Arboretum’s perimeter. Individuals with special needs may request a driving permit at the Visitor Center, weekdays only (closed Wednesday), from noon to 3:00pm. Please call 617.384.5209.

Landscape Explorations

Foster a sense of wonder for nature in your child while exploring nature, science, and trees at the Arboretum. Here are some ways to dig deeper. See our website for details.

Collections Up Close: Considering Crabapples

**Sunday, October 19; 1:00–3:00pm**

Collections Up Close events offer great ways to explore special plant collections at the Arboretum. The crabapple (*Malus* spp.) collection has long been recognized for its importance to the horticultural and scientific worlds. Because of the Arboretum’s many introductions and broad distribution of both cultivars and previously undiscovered *Malus* species from wild origin, it was hailed by famed hybridizer Father John L. Fiala as the “Mother Arboretum” for flowering crabapples. The collection remains popular with visitors, especially during spring bloom and fall fruit display. Join us in the crabapple collection on Peters Hill to enjoy a beautiful fall day among this historic collection. Festivities include a tour of the collection at 1:15pm by our curatorial staff focusing on Arboretum-bred hybrid introductions, and information about pruning techniques and timing. No registration needed. **Free!**

Family Walks

**September 14, 28 and October 12, 26; 11:00am–noon**

This fall, discover the Arboretum on guided walks especially for families. Each walk will highlight fascinating plants and natural phenomena while developing observational skills in children. One adult can bring a maximum of three children; suitable for children ages 4–12. Meet your guide, Sarah Atherton, at the Visitor Center. No registration needed. **Free!**

Fun and Discovery on the Go

Join the Explorer’s Club! Borrow a Discovery Pack from the Visitor Center with tools and activities for hands-on exploration with children. No registration needed. **Free!**
Art Exhibitions in the Visitor Center

**Artists in the Arboretum**
*A Juried Exhibit in Conjunction with Jamaica Plain Open Studios*

September 18–October 19, 2014

**Reception:** Thursday, September 18, 6:00–8:00pm  
**JPOS weekend:** Saturday and Sunday, September 20 and 21, 10:00am–5:00pm

Local artists will exhibit works inspired by the Arboretum as part of Jamaica Plain Open Studios, the premiere annual arts event in one of Boston’s most vibrant and diverse neighborhoods. For more event information, and to preview works by participating artists, visit www.jpopenstudios.com.

**The Invented Landscape**  
Paintings by Nancy Sableski

February 21–May 29, 2015

**Reception:** TBA

Nancy Sableski has been painting in the Arboretum since 1988. Paintings in this show depict invented landscapes created in the studio by recombining ephemeral snapshots of the Arboretum landscape on canvas.

**Small Worlds:**  
*Through A Small Glass Window*

October 25, 2014–February 3, 2015

**Opening Reception:** Saturday, October 25  
1:00–3:30pm

Josh Falk’s ongoing macro-photo series highlights the intricate beauty of plants and nature. Images are captured with the intent of not only showcasing the subtleties of what we often take for granted in nature, but to also create new abstract landscapes through manipulation of depth of focus and segmentation of the larger picture. As if the photos themselves and their glass-like finish are windows into a brief moment of time, Falk invites the viewer to look out—or perhaps in—to a new and reimagined world of nature and its complex beauty.

Exhibitions are displayed in the Hunnewell Building Lecture Hall, which is occasionally reserved for meetings and classes. Call 617.384.5209 for exhibition availability; see page 14 for Visitor Center hours.
Other Order
A Mobile Sound Walk Through Bussey Brook Meadow

**PUBLIC LAUNCH EVENT**

Join us for an introduction to an exciting new interpretive experience for visitors

Other Order, a sound walk set in the spontaneous landscape of Bussey Brook Meadow, was created by media artist Teri Rueb and inspired by the work of Dr. Peter Del Tredici. Designed as a GPS-enhanced application, Other Order may be downloaded to your mobile device to access a blend of recorded conversations and natural sounds drawn from the meadow itself. Sensing your movement and location in the landscape, the application plays back a blend of recorded interviews and natural sounds that illuminate specific points of interest. With the voice of Peter and others, the sound walk includes narratives revealing the meadow’s history, the plants and animals that live there, and the many ways that people interact with this “urban wild.” Visit the Arboretum website for more information and links to download the application in advance of your visit. Explore the spontaneous side of the Arnold Arboretum this fall!

**Saturday, October 18, 2014**

1:00–3:00PM

at Bussey Brook Meadow

Street parking available on Bussey Street

Free Tours

Free landscape tours are available each Saturday and Sunday, ending November 2. Please visit our website for details on the focus of each tour, starting times, and locations. All tours last approximately 90 minutes, are geared toward adults, and are free of charge unless otherwise noted. Our tours are for individuals, not organized groups. However, private group tours are available upon request. For more information and the complete schedule of tours and descriptions, visit us online at my.arboretum.harvard.edu or call 617.384.5209.

Theme Tours

Theme tours delve into a specific subject or area of the collection. Registration is not required; meet at Hunnewell Building unless otherwise indicated.

- **Calling All Birders!**
  Bob Mayer, Arboretum Docent
  Two Saturdays: Sep 27, [Arborway Gate] and Oct 4 [Peters Hill Gate], 8:00–9:30am

- **From Seed to Tree**
  Tiffany Enzenbacher, Supervisor of Plant Production
  Three Tuesdays: Sep 2, Oct 7, Nov 4, 1:00–1:45pm [Dana Greenhouses]

- **Fall into Health**
  Rhoda Kubrick, Arboretum Docent
  Two Sundays, Oct 19, Nov 16, 10:00–11:30am

- **Winter Wellness Walks**
  Arboretum Docents
  Four Sundays: Dec 14, Jan 11, Feb 8, Mar 8, 1:00–1:45pm
Members' Plant Giveaway

at the Arnold Arboretum
Saturday, September 20, 10:00am–noon

The Members' Plant Giveaway is an annual fall event celebrating the Arboretum’s tradition of sharing woody plants hardy in our region—and it serves as a gesture of gratitude for our members’ support. Each year we look forward to hosting this interactive event that advances our mission and provides an opportunity to learn first-hand about plants and their care from our expert staff and volunteers.

The event will be held on Saturday, September 20 from 10:00am to noon in the Arboretum landscape and is open to current members (expiration date of September 30, 2014 or later) at all levels. Event schedule, directions, and parking instructions are mailed to members prior to the event, along with a plant brochure, admission ticket and coupon for free plant(s). Information and directions may also be found on our website.

A number of this year’s Giveaway offerings were propagated at the Arboretum from seed or cuttings, either wild-collected on expedition or sourced directly from our renowned living collections. We hope you will join us at this year’s Plant Giveaway to receive one or more of these unique, Arboretum-grown plants, to learn more about woody plant cultivation and care, and enjoy the beauty of the Arboretum’s autumn landscape.

This is a rain or shine event. Light refreshments will be available and our friendly, knowledgeable staff and volunteers will be on hand to answer your questions. For those interested in exploring the grounds, members may choose to visit mature specimens of the Plant Giveaway offerings in the Arboretum collection.

In addition to the Giveaway selections there will also be a special Bonus Plant Drawing for some select plants from the Arboretum greenhouses.

If you are not a member, you may join on the day of the event to attend and receive the free plant benefit. If you are unable to attend on the day of the event, you may send a friend or family member along with your admission ticket and free plant coupon to choose your free plant(s). If you have any questions, or would like to join the Friends of the Arnold Arboretum, please contact membership coordinator Wendy Krauss at membership@arnarb.harvard.edu or call 617.384.5766.

Members Make a Difference

Your support keeps us growing! Members of the Friends of the Arnold Arboretum provide essential support for the care of our landscape and living collections, research initiatives, education programs for adults, children, as well as professionals. Your annual membership contribution and involvement provides the foundation of all of this important work.

We hope you enjoy your Arboretum membership and the experiences it offers. Share your enthusiasm and help support the Arboretum’s mission by giving a gift membership to a family member or friend. To learn more, please contact the membership office at 617.384.5766 or membership@arnarb.harvard.edu, or visit our website at arboretum.harvard.edu/get-involved/membership.
Rhus coriaria

Jordan Wood, 2014-15 Curatorial Fellow

From the introduction of Cedar of Lebanon a century ago to recent experiments cultivating acorns of wild-collected southern live oak, the Arnold Arboretum has long served as a testing ground for plants of questionable hardiness in Boston. Sicilian sumac (Rhus coriaria), a native of the mild Mediterranean climates of Southern Europe and Western Asia, is not ideally suited to a region with average winter temperatures approaching 20°F and persistently humid summer months. Nonetheless, in 2008 the Arboretum acquired nearly 100 seeds of this species from the Jerusalem Botanical Gardens’ Index Seminum (an index of seed for distribution) in an effort to expand its horticultural limits.

Three plants from this seed lot were planted at the Arboretum in 2011, and two plants (332-2008*A & *B) persevered through harsh Boston winters. One of these grows near the maple collection on Meadow Road, near its hardier eastern Asian and eastern North America relatives Rhus chinensis, R. typhina, and R. aromatica. Sicilian sumac resembles several other Rhus species, such as our native staghorn sumac (R. typhina) with its suckering shrub or small tree habit, pinnately compound leaves, and dense flowering panicles. Sicilian Sumac offers an equally brilliant autumn foliage display of deep maroon and dense panicles of crimson-red fruits, the latter of particular culinary importance in their native range as a main component of the popular spice mixture, Za’atar.

Although mature fruits have not yet been documented on Arboretum specimens, I am excited by their potential occurrence due to my own connection to the source of this acquisition. Prior to my Arboretum appointment as Curatorial Fellow, I spent six months as a visiting scholar at the Jerusalem Botanical Gardens. There I made numerous visits to the neighborhood of Ein Karem—the collection site for this accession—where a horticulturist from The Hebrew University encouraged me to taste the mature fruits of R. coriaria. Like Jamaica Plain, Ein Karem is a lush-green retreat outside the energetic city-center of Jerusalem, though its landscape is dominated by ancient limestone terraces dotted with olive (Olea europaea) and almond (Prunus dulcis) trees. Sicilian sumac offers a remarkable botanical connection bridging the Old World and New.