



Silva

The Arnold Arboretum
of Harvard University

2020-21 FALL | WINTER MAGAZINE



The ARNOLD
ARBORETUM
of HARVARD UNIVERSITY

Visit our Landscape Safely THIS FALL AND WINTER

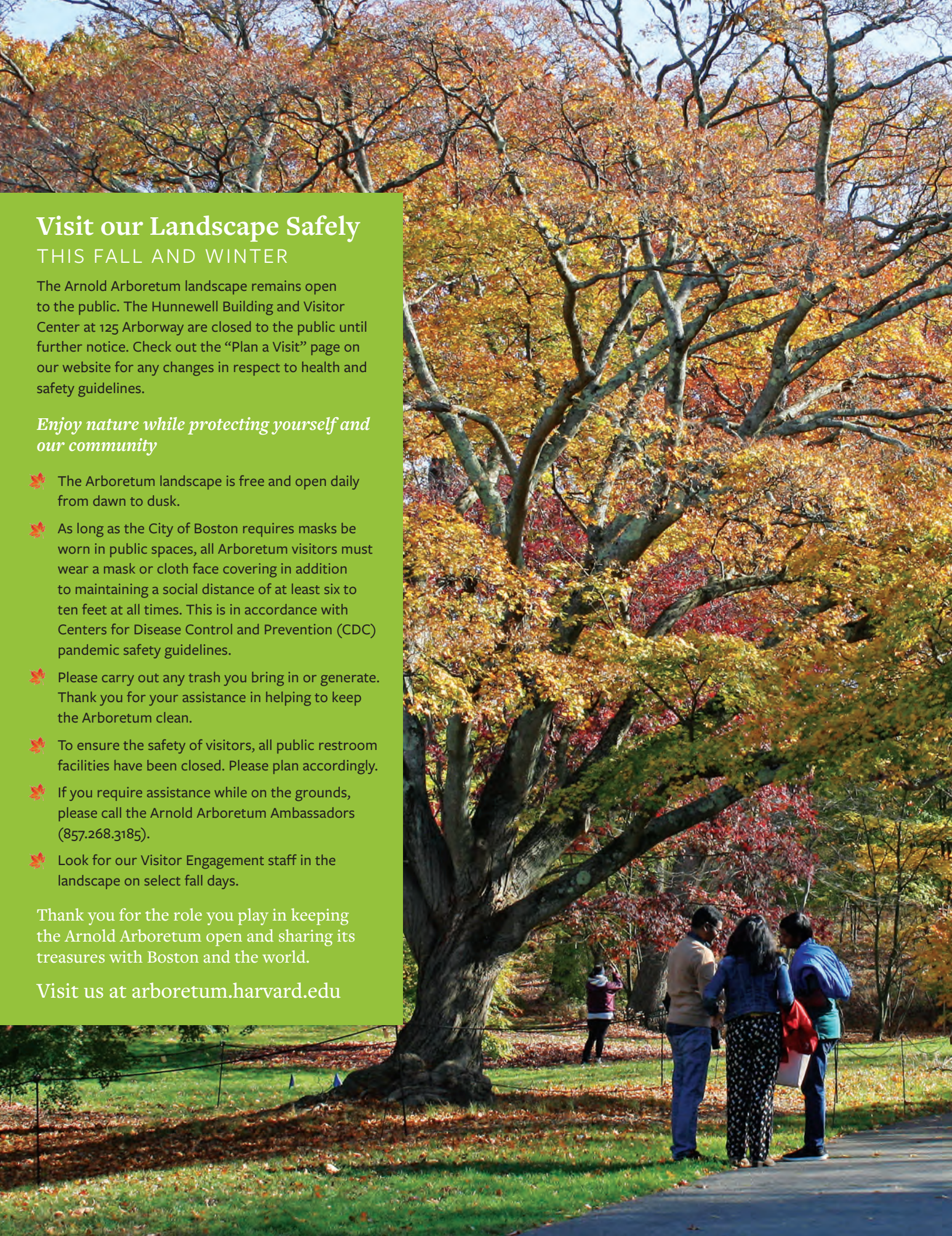
The Arnold Arboretum landscape remains open to the public. The Hunnewell Building and Visitor Center at 125 Arborway are closed to the public until further notice. Check out the “Plan a Visit” page on our website for any changes in respect to health and safety guidelines.

Enjoy nature while protecting yourself and our community

- 🍁 The Arboretum landscape is free and open daily from dawn to dusk.
- 🍁 As long as the City of Boston requires masks be worn in public spaces, all Arboretum visitors must wear a mask or cloth face covering in addition to maintaining a social distance of at least six to ten feet at all times. This is in accordance with Centers for Disease Control and Prevention (CDC) pandemic safety guidelines.
- 🍁 Please carry out any trash you bring in or generate. Thank you for your assistance in helping to keep the Arboretum clean.
- 🍁 To ensure the safety of visitors, all public restroom facilities have been closed. Please plan accordingly.
- 🍁 If you require assistance while on the grounds, please call the Arnold Arboretum Ambassadors (857.268.3185).
- 🍁 Look for our Visitor Engagement staff in the landscape on select fall days.

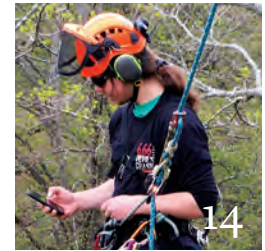
Thank you for the role you play in keeping the Arnold Arboretum open and sharing its treasures with Boston and the world.

Visit us at arboretum.harvard.edu



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The Arnold Arboretum of Harvard University

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On the Cover

Red maple (*Acer rubrum* 12554°C)
by Erik Gehring. Photo of painted maple (*Acer mono* 5358*A) and visitors on opposite page by Jon Hetman.

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FROM THE DIRECTOR




Kathleen Doohier

Brisk Stroll by Bruce Wilson. Read about our Urban Ponds virtual exhibition on page 11, and view the exhibition on our website.



Bruce Wilson



Despite all the difficulty and heartbreak of the past six months, the Arnold Arboretum endures and remains as strong and vital as ever. While museums and gardens around the globe were closing—some, with sadness, permanently—our landscape remained open under new guidelines to keep our community connected to the Arboretum and to the essential value and restorative power of nature. Though the COVID-19 pandemic closed our classrooms, canceled our in-person learning programs, and suspended visitor interactions with staff and volunteers, it has not stopped us in any way from working to enhance both our plant collections and your continuing engagement with them.

This issue of *Silva* illuminates some of the many ways that our staff has, rather heroically, championed our values and mission in the face of 2020's significant challenges. Rather than putting our important expeditionary work on hold, we prioritized local collecting this summer to enrich our meadow habitats and the new solar field at Weld Hill. Our crew, working masked and with distance, seemingly performed the impossible in providing exceptional, coordinated care to our landscape and plants—work made seamless via new technology that links our horticulture staff to each other and to each of our 16,000 plants. Though our labs at Weld Hill closed in March, they reopened this summer, and we are thrilled to welcome plant biologist and ecologist Ben Taylor as our newest Harvard faculty member. And just as much of the world began to rely increasingly on digital interaction, the Arboretum launched a new and improved website to increase the accessibility and richness of your online visits. These and more highlights await you in these pages, and in the Stories tab on our website.

As fall progresses into winter, I hope you'll discover and embrace the Arnold Arboretum that you need in this moment.

Maybe you'll take a walk through the conifers or maples and hear stories of our plants shared on our *Expeditions* App. You might tune-in to a virtual Tree Mob with one of our scientists, view an online exhibit by a local artist, or bring your kids or grandkids to explore nature at a Wonder Spot in our landscape. In these highly unsettling times, rest assured that all of us at the Arnold Arboretum are doubling down on our mission to enhance the human condition by bringing people and plants together in one of Frederick Law Olmsted's greatest landscape designs. 🌸

—William (Ned) Friedman,
Director of the Arnold Arboretum &
Arnold Professor of Organismic and Evolutionary Biology, Harvard University

Pollinator Power



The solar field at the Weld Hill Research Facility. In 2019, staff sowed a cover crop of partridge pea (*Chamaecrista fasciculata*) to prevent erosion and reduce weed competition at the site. This native plant also provided abundant nectar and pollen for pollinators.

Andrew Gapinski

Local expeditions source meadow plants for the Weld Hill Solar Array

by Brendan Keegan, Arboretum Horticulturist

During a typical autumn, Arboretum staff fan out across the country and around the world on collecting expeditions. We meet up with regional and international partners, often searching for threatened and scientifically important species to add to our diverse collection. Of course, this year has been far from typical. With travels to distant localities on hold due to the pandemic, our plant explorers prioritized local collaborations and collecting from the valuable ecosystems within our own backyard.

By timely coincidence, this reorientation aligned with our plans for landscaping the new solar array at the Weld Hill Research and Education Building. Installed in 2019, the array is the largest and most advanced on Harvard property, capable of providing approximately 30 percent of the facility's power needs. In addition, the array is specifically engineered to accommodate a diverse, native pollinator meadow around, between, and beneath the panels. This provides us with an exciting opportunity to showcase both the potential of sustainable energy production as well as important plants for pollinators in our local ecosystems.

Maximizing the right conditions for native plants and their pollinators required us to rethink the solar array's design. Custom specifications from the Arboretum directed engineering decisions for panel height, spacing, and angle, allowing for greater plant diversity below. For example, our array provides at least four feet between the bottom edge of each panel and the ground as well as eight feet between each of the five panel rows. The increased height will allow us to introduce much taller plants than could exist in a typical solar array, while the spacing provides plenty of growing room and increased sunlight over the course of the day.

Our staff took advantage of this unique structural design when crafting our ideal planting list. For inspiration, we observed plant compositions in local habitats and gained advice from native plant and meadow installation experts. We also utilized pollinator planting resources from the Xerces Society and UMass Amherst, among others. Our final list includes a mix of native grasses, graminoids (grass-like plants), ferns, forbs (more showy-flowered, broadleaf species), and low-growing shrubs. Among the dozens of herbaceous species are likely familiar faces, including little bluestem (*Schizachyrium scoparium*), butterfly milkweed (*Asclepias tuberosa*), sweet goldenrod (*Solidago odora*), common mountain mint (*Pycnanthemum virginianum*), and blue wood-aster (*Symphotrichum cordifolium*). Shrubs include meadowsweet (*Spiraea alba*), sheep laurel (*Kalmia angustifolia*), sweetfern (*Comptonia peregrina*) and more.

Although purchasing seed and plants from nurseries is an option, wild collecting emphasizes the institutional importance of cultivating plants from known provenance. Knowing exactly where each plant came from also increases the scientific merit of the collection for future research. Sourcing seed locally may also help preserve genes from regional populations, rather than introducing plants grown hundreds of miles away and from completely different environments.

Local collecting also enhances our relationship with local organizations. Collecting wild seed required crafting novel collaborations with the Trustees of Reservation, the Massachusetts Audubon Society, and the Hale Reservation, among others. Our staff gained a great deal of knowledge while scouting and collecting on their beautiful properties, and gave

With travels to distant localities on hold due to the pandemic, our plant explorers prioritized local collaborations and collecting from the valuable ecosystems within our own backyard.

back to our collecting partners with copies of the notes we take at each location. This information can prove useful for evaluating and monitoring these ecosystems over time.

Despite collecting in a very familiar region (in some cases less than a half hour from the Arboretum), our trips continue to yield surprising insights. For example, staff initially assumed that large fields and remote meadows located well away from the city would yield most of our target species. However, urban, disturbed, regularly managed power line corridors



Power line corridors provide valuable habitat for a diversity of plants and animals, like this area of Moose Hill Wildlife Sanctuary, held by the Massachusetts Audubon Society.

Horticulturists Brendan Keegan and Colin McCallum-Cook clean seed from little blue stem (*Schizachryium scoparium*) last winter. Tucked inside channels in the upper portion of the stem and leaves, the seeds typically disperse by wind with the help of their fluffy “parachute” bracts. Here, Brendan and Colin pursue the time-consuming process of releasing the seeds with fine-toothed combs.



proved far more diverse and ecologically valuable. The regular brush-cutting in these landscapes eliminates competition from trees and tall woody shrubs, while the disturbed soils and full sun encourages early successional grassland species. This phenomenon is well studied and research indicates that power line corridors may serve as wildlife havens in New England. They harbor a diversity of plants, which in turn provide unique habitats for all manner of insects, birds, and mammals.

Finding our target species thriving locally heartened us and provided a sense of the ecological community these plants might support amid our solar array. For example, sun loving sweet goldenrod (*Solidago odora*) is abundant at many locations we visited. In addition to the masses of bumblebees, flies, and wasps that flock to its flowers, this species also supports tiny specialized solitary bees in the genera *Andrena*, *Perdita*, *Pseudopanurgas*, and *Colletes*. Wild yellow indigo (*Baptisia tinctoria*), a common sight in the power corridors, is a host plant for many butterflies and moths, including frosted elfin (*Callophrys irus*), which is listed as a special conservation concern in Massachusetts. Flat-topped aster (*Doellingeria umbellatus*) provides forage for both the specialist bee *Andrena erythonii* and is also a host plant for Harris’ checkerspot (*Chlosyne harrisii*), a state butterfly species of concern.

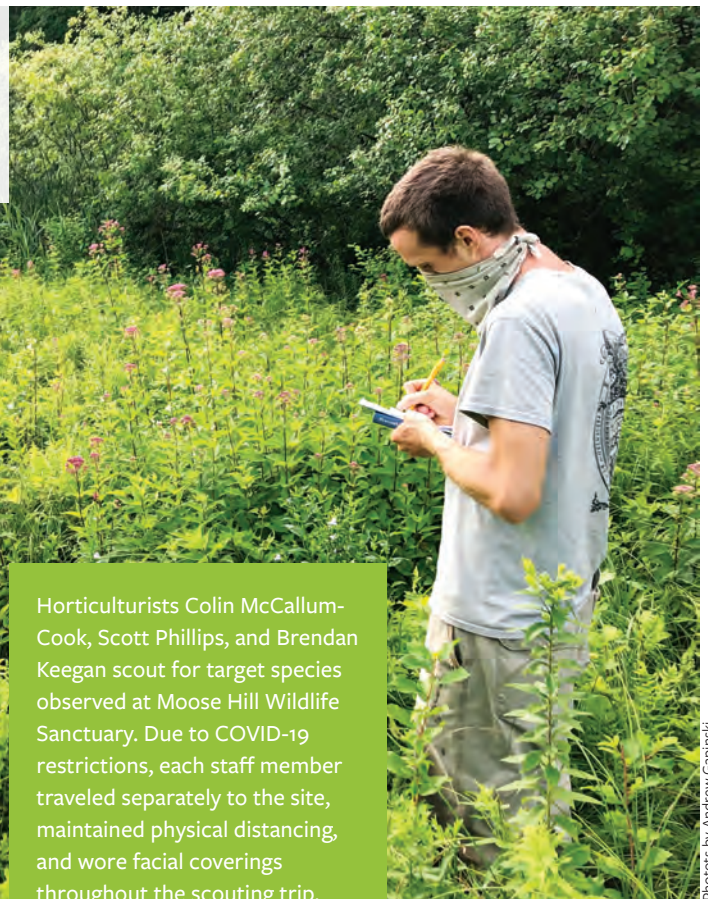
The plants we selected to thrive in the shadier conditions beneath the panels will offer value to pollinators as well. *Asclepias exaltata* (poke milkweed), a relatively uncommon

woodland dwelling milkweed, will provide summer forage as well as host sites for monarch butterflies. Wood aster (*Eurybia divaricata*) and heart-leaved aster (*Symphotrichum cordifolium*) will provide much needed fall forage for pollinators. The beautiful wreath goldenrod (*Solidago caesia*) will complement its full sun companions with dazzling golden spires which attract late season bumblebees.

Although some may argue that a meadow beneath a solar array is hardly a natural habitat, we hope this project highlights the harmony that can exist between nature and our modern world. As the power corridors’ diverse plant communities illustrate, technological improvements also offer unforeseen opportunities for actively managing and enhancing landscapes for plants and wildlife. Over the course of the next few seasons, we hope the solar pollinator meadow will thrive as an example of how sustainable energy and environmental enhancement can lead to better outcomes for all. 🍁



Horticulturists Colin McCallum-Cook, Scott Phillips, and Brendan Keegan scout for target species observed at Moose Hill Wildlife Sanctuary. Due to COVID-19 restrictions, each staff member traveled separately to the site, maintained physical distancing, and wore facial coverings throughout the scouting trip.



A PLACE FOR REDISCOVERY

The Arnold Arboretum introduces a new online presence

by Danny Schissler, Associate Project Manager

As of this summer, visitors from around the world have a new way of exploring the Arboretum's living collections, history, and legacy of discovery from their homes—from our newly designed website.

In July, the Arboretum launched our new site, nearly two years in the making. A collaborative effort between Arboretum staff and Upstatement—a Boston based design firm who pioneered responsive web design working with clients such as MIT, the *Boston Globe*, and WBUR—the project aimed to reimagine how we engage and inspire diverse audiences both near and far.

With the widespread emergence of mobile technology and internet access, an ever-increasing number of virtual visitors turn to the web not just to plan visits to museums and cultural institutions, but to explore their rich collections as well. In 2019, over 250,000 unique visitors from 200 countries—comprising neighbors, plant lovers, researchers, educators, horticulture professionals, and more—visited the Arboretum website. The COVID-19 pandemic has only intensified the need for accessible, intuitive websites that connect the public with the many objects and organisms safeguarded by these organizations.

As a museum of living objects, the Arboretum stewards more than 16,000 accessioned plants, each with its own unique provenance and origin story. Creating a dynamic platform to tell these stories—and reveal the history of the nearly 150-year-old institution and the treasured Olmsted-designed landscape it inhabits—became major goals in our redesign initiative. Furthermore, the redesign team sought to simplify and beautify the site, improve navigation and accessibility, and integrate the many tools and digital resources the Arboretum has developed and made freely available to researchers, plant professionals, and the public.

The result is a website truly unique among botanical gardens and arboreta. Front and center are our plants and our stories. New digital features, such as Plant Biographies, Walks, and Collections, are curated by Arboretum professionals and offer rich ways to experience the Arboretum's living collections from desktop computers or mobile devices. On these pages, readers will discover extensive background information on our plants, drawn from our archival collections, historical and contemporary photographs, and herbarium records.

Beyond exciting new features that explore the breadth and impact of the Arboretum and its mission, visitors will find a range of enhancements aimed at vastly improving their online experience. Simplified navigation and site architecture make browsing and exploring a pleasure and bring plant imagery and text to the forefront. An improved search tool helps users discover content intuitively, while targeted sections for researchers and educators better connect our diverse and global website audiences with the resources on which they depend.

In the wake of our July launch, Arboretum staff and collaborators continue to augment features we offer you and the world. Over the coming months, visitors will find a variety of stories revealing the beauty and complexity of the Arboretum, its accessioned plants and beloved landscape. Alongside other recent digital initiatives—including the *Expeditions* mobile app, Google Arts and Culture page, and Wonder Spots program—our new website offers fresh, multi-faceted views into our living collection for audiences around the world, no matter their background and level of plant knowledge. Stop by to explore on your own—many new and compelling discoveries await you. 🍁

Visit our new website to explore new pathways of discovery, such as (left to right) Walks, Stories, and Plant Biographies.



Ben Taylor pauses during field work sampling the roots and nodules of nitrogen-fixing trees at La Selva Biological Station in Costa Rica.



THE FOREST BENEATH THE SOIL

An Interview with Benton Taylor, Assistant Professor of Organismic and Evolutionary Biology and Faculty Fellow of the Arnold Arboretum

with Jon Hetman, Associate Director of External Relations

This fall, we welcome Benton Taylor as a new assistant professor of organismic and evolutionary biology at Harvard University and Faculty Fellow of the Arnold Arboretum. Ben's research focuses on how plants respond to and influence their environments, particularly in view of climate change. While the Taylor Lab primarily focuses on plants at the ecosystem scale, his investigations also require viewing plants at individual and community scales to gain a better understanding of the role that plants play in global processes. We talked to Ben to learn more about his background in science, his focus on nitrogen-fixing plants and their ecology, and how his studies may soon involve visits to active volcanos.

Q | How did you become interested in studying plants and how plant communities are responding to climate change?

A | My interest in biology started as a kid in rural Tennessee, where I spent a lot of time in the woods. Growing up in those surroundings, I developed a strong love for nature and desire to understand it—along with a strong allergic reaction to poison ivy! But even that couldn't keep me out of the forest. Originally I wanted to study the bears at Smoky Mountains National Park, but as I went through school and began graduate studies, this interest honed down to the study of plant and animal interactions. So while conceptually I was working with animals, I soon realized that plants really run the world! Animals live or die based on what happens with plants, so that was a turning point in favor of botany.

After my master's, I took a job as an assistant in a lab at the College of Charleston working on experiments to simulate the effects of elevated carbon dioxide (CO₂) levels on forests. In particular, this research looked at root dynamics and understanding how trees get more nitrogen to fuel their responses to increasing CO₂. So my curiosity moved from high on the food chain—bears—to the basement of the trophic pyramid, the nutrients that plants take up from the soil. Just as learning how plants dictate animal life had driven me to study plants, the realization that nutrients control plant life led me to ecosystem ecology and biogeochemistry. If you really want to understand how the world works, understanding carbon, nitrogen, and phosphorus cycling really lie at the core of those questions.

At this point I tend to think of myself as a tropical ecologist. I certainly do projects in the temperate zone and I plan on doing more now that I'm at the Arboretum, but most of my work takes place in the tropical forests of Central and South America. These forests have a huge impact on the global carbon cycle, so they are a perfect place to study the interactions between forests and climate change.

Q | What interested you about tropical forests, and how do they support your research aims?

A | The only way to describe a tropical forest is biology on steroids. The incredible levels of diversity, productivity, and plant growth create constant, intense biotic interactions that are almost overwhelming. It just gets you really excited about biology in general, and that got me hooked on tropical forests.

I think the basic, fundamental differences in tropical and temperate forests shaped, pretty dramatically, both where I tend to work and the questions that interest me. And certainly, my "scientific" love for tropical forests is related to the out-sized effect their productivity has on global carbon, nutrient, and water cycles. They have a much larger impact on these global systems than the amount of area that they comprise. Old growth forests in New England are effectually non-existent, and that's true pretty much across the East Coast. So I feel like one of the main things that excites me about work in tropical forests is that there is still enough that is untouched and that we can still work to preserve.

Q | Your work in tropical forests largely considers the availability and role of nitrogen. What are nitrogen-fixing plants, and how do they function in an ecosystem?

A | Nitrogen fixers include the legume family (Fabaceae) with taxa such as clover, soybeans, alfalfa, lupins, and peanuts. Bacteria living inside the nodules on their roots convert atmospheric nitrogen—which is effectively limitless—into biologically-available nitrogen that the plants can use. When the tree drops its leaves, that usable nitrogen goes into the soil, gets churned up by microbes, and can be taken up by neighboring plants. This suggests that nitrogen fixers should be good for the growth of a forest. In fact, nitrogen fixers tend



Ben Scott

Ben weighing soils for nutrient analyses in a makeshift biogeochemistry lab in the rainforest understory.

If you really want to understand how the world works, understanding carbon, nitrogen, and phosphorus cycling really lie at the core of those questions.

to come early into a disturbed site, and they are associated with the rapid regrowth of forests after clear cutting.

With this in mind, you would expect that trees near nitrogen fixers should grow more rapidly than those that are not near nitrogen fixers, and that a forest that has a lot of nitrogen fixers should grow relatively quickly. But actually we don't find that to be true, and in the plots where I work in Costa Rica, they actually had a negative effect on forest growth. So we're breaking down this notion that nitrogen fixers are superchargers for an ecosystem. And to be honest, it doesn't line up with our understanding of Darwinian natural selection that a tree would fix all this extra nitrogen to help competing trees that might overtop it.

Q | What are the some of the projects related to this area of interest that you are currently pursuing?

A | Much of my research focuses on what is controlling how much nitrogen these plants fix and the effect their nitrogen cycling has on the surrounding forest. What controls nitrogen fixation is really critical, because it's the primary input of nitrogen into a forest ecosystem. Intuition suggests that nitrogen fixers should have a strong competitive advantage when soil nitrogen is scarce (because nitrogen fixers can supplement their nitrogen needs by fixing nitrogen from the atmosphere). Yet, nitrogen fixers often don't appear to have the strong competitive advantage in nitrogen-limited habitats that we think they should, and they often don't end up relieving nitrogen limitation for other plants in forests. So something must be driving the process besides the scarcity of nitrogen in the soil, and that could be light availability, water availability, or any number of different things. Understanding those factors is an important piece of my work. And the effects that nitrogen fixers have on the forests they inhabit represents the flip side to their ecological relationship, which I also find fascinating.

Another chunk of my work is very closely related but looks at how forests respond to carbon dioxide. At present there is a huge push in climate change research to try to understand how forests are going to react to an atmosphere that is at five or six hundred parts per million carbon dioxide (currently we stand at nearly 410 parts per million). Since plants photosynthesize using CO₂, we expect that forests will grow larger as CO₂ in the atmosphere increases—what we call the CO₂ fertilization effect. Unfortunately, we think there may be a ceiling on that effect due to limits on soil resources, primarily nitrogen which plays an essential role in photosynthesis. So a lot of my work is looking at how forests respond to extra CO₂ and how they change their root strategies or their symbiotic strategies underground to get more of the nitrogen they need to grow.

Q | You recently received a Star-Friedman Research Grant at Harvard. Could you describe the work that this award will fund?

A | Much of the research into the long-term effect of elevated carbon levels on forests has been conducted in the temperate zone where CO₂ fumigation experiments allow us to simulate conditions predicted 100 years from now. Those experiments are logistically impossible in tropical forests. The Star-Friedman Grant will fund a project I'm working on with collaborators at NASA's Jet Propulsion Lab to study environments around active volcanoes in Costa Rica. Cracks in the bedrock around these volcanoes release high levels of carbon dioxide naturally into the surrounding forest. So the grant will allow us to develop these volcanic sites as natural CO₂ enrichment experiments, where we can look at these forests that have been exposed to extra carbon dioxide for hundreds of years, and do so in the tropics where the effects could be much more dramatic and consequential. 🌸

THE Virtue of GOING Virtual



Online Tree Mobs bring learning in the landscape to the community

by Pam Thompson,
Manager of Adult Education

It would be an understatement to say that COVID-19 interrupted the Arnold Arboretum’s educational programming for the public—my focus at the institution for 29 years. I had just finished enlisting a raft of speakers, scheduled a semester’s worth of classes and lectures, and plugged these events into our online registration system when word came to shut down our offices. At the end of the day on Friday, March 13, I cleared my desk, packed up my orchids and begonias, and loaded everything I might need in the next few months into my car. Like many of us, I had no concept at the time of working remotely for six or seven months, or even longer.



Clockwise from top right: Tiffany Enzenbacher demonstrates how to propagate plants from softwood cuttings, using four different examples and taking us into the mist house to see stuck cuttings; Birder Karla Noboa looks away from the camera, catching sight of bird species other than tree swallows, during her presentation in Kent Field; Matt Kamm, a biologist educator with Zoo New England’s Grassroots Wildlife Conservation, shows the plastron, or underbelly, of a painted turtle captured in Dawson Pond as part of an urban turtle census; and Arborist A.J. Tataronis describes lightning protection, recording himself from high in the limbs of our signature dawn redwood (*Metasequoia glyptostroboides*).

I remember discussing with Adi Shafir, our public programs assistant, about whether we should cancel all of our March and early April programs. By the end of March, it was clear that our entire April line-up could not go forward. Through all this, our public programs team remained ever hopeful that at least some of the wonderful programs we had planned for May and early summer could still run. By late April, as more than a month in quarantine had already passed, it was clear that we would need to switch entirely to remote learning, a difficult but necessary move.

We wondered what work life would be like without input from our audience and without daily contact with our Public Programs teammates. As well, we wondered what we could offer our constituents, volunteers, visitors, and supporters who contribute the human essence of the Arnold Arboretum. How could we share our best asset—our plant collections and landscape—through remote learning?

This began conversations to offer our popular Tree Mobs™ in a new way. Originally designed as brief, intimate gatherings of learners with an expert in our landscape, the Mobs would now need to go virtual. But how? The answer required some intense and fast-paced self-training on the webinar platform Zoom, along with acquiring the right equipment to capture our expert speakers “live from the landscape.”

Our first virtual Tree Mob featured birder Karla Noboa speaking about tree swallows and efforts to monitor their nests at the Arboretum. With Arboretum Seasonal Gardner Dylan Barrett-Smith capturing the footage on his mobile phone after a brief practice run, we went live with Karla from Kent Field in our conifer collection. Although this first attempt was not without its rookie challenges, we succeeded in several ways that

turned our remote capabilities into real assets. We were able to capture images inside the nest box, showing participants the nest and clutch of eggs within, a close-up view that would have been impossible in person. The live “on-the-spot” aspect of the speaker in the field not only provided the same immediacy with the subject as in-person mobs, it also allowed for the wonderfully unique moments that occur when an expert makes off-the-cuff observations in nature.

Immediately after the tree swallow program, participants shared how much they enjoyed the opportunity and thanked us for resuming Tree Mobs.

Surprisingly, given the remote format, many expressed that they felt as though they had actually been in the Arboretum—a real treat for many who had rarely left their homes in weeks.

I knew we had hit on something incredibly powerful, if not highly professional: we provided an authentic and enriching experience that deepened and broadened a connection to the Arnold Arboretum—really the underlying value of our in-person programming. We provided something beyond outreach and education—perhaps a bit of solace, a sense of belonging, and a reminder that, as humans, we are predisposed

to engage both with nature and with one another.

This is just a sample of what we’ve learned online—direct from the Arboretum landscape—together. As we continue to offer virtual Tree Mobs over the coming months (check our website for upcoming events and our YouTube channel for past Mobs), we are thinking ahead to the time when we can safely resume some forms of on-site learning. Until then, I will appreciate your remote presence at Tree Mobs and other educational programs as I continue to keep connected with our community from a kitchen counter in Rhode Island. 🍁

As we continue to offer virtual Tree Mobs over the coming months (check our website for upcoming events and our YouTube channel for past Mobs), we are thinking ahead to the time when we can safely resume some forms of on-site learning.



Find Your **Wonder Spot** at the Arboretum. Look for signs in our landscape, and location-specific information and activities for families on our website, to dig deeper into nature and biodiversity both in our landscape and beyond. See the story on page 20.

EVERY PLANT AT OUR

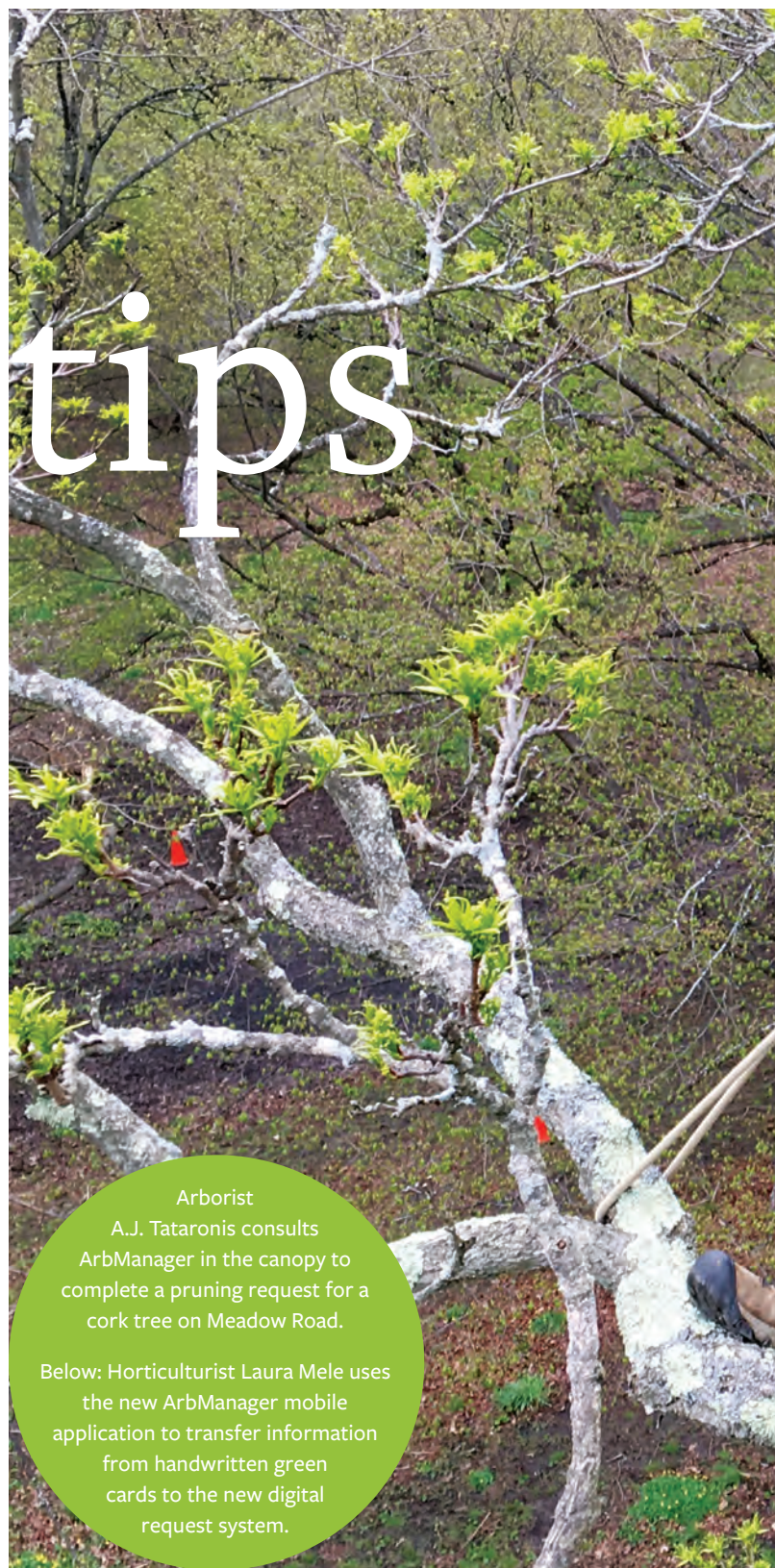
Finger tips

*New technologies connect our staff
with the plants they steward*

by Jared Rubinstein, Living Collections Fellow

As we face the mounting threats of climate change—from new invasive pests and diseases to increased droughts and more extreme weather events—horticultural care at the Arnold Arboretum must adapt to address new challenges as they arrive. In response, the Arboretum has adopted an adaptive management perspective—we observe, study, and monitor our living collections with an eye towards continuous adjustment and improvement of their care. As an Arboretum Living Collections Fellow, I've spent the last two years translating this perspective into a suite of tools called the Landscape Management System (LMS) that integrate adaptive management into our day-to-day work through new mobile applications, websites, updated mapping information, and more.

Working with a team of horticulturists, curatorial staff, and IT developers, we set out to build a new mobile application called ArbManager, which transforms how our staff communicates and shares information about horticultural issues in our living collections. Using ArbManager, staff members can report and communicate about plant care needs like pruning, pest control, mulching, etc. using a smartphone or other mobile device. Historically, communication around these issues had been tracked on paper cards, known due to their color as *green cards*, but passing around cards led to delays, lost information, and difficulty in interpreting the many different opinions recorded by the staff. ArbManager makes this communication instantaneous and streamlines decision making among the multiple staff members who need to be involved in key horticultural decisions.



Arborist

A.J. Tataronis consults ArbManager in the canopy to complete a pruning request for a cork tree on Meadow Road.

Below: Horticulturist Laura Mele uses the new ArbManager mobile application to transfer information from handwritten green cards to the new digital request system.

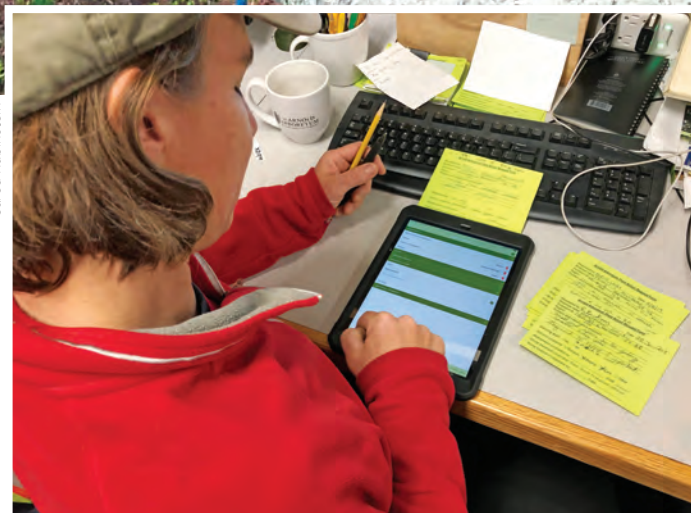
The new ArbManager digital green cards include photographs, GPS coordinates, and standardized language to describe plant care issues along with new map interfaces and the ability to report phenological observations like fall color or budbreak. Perhaps most importantly, each time a staff member enters information into ArbManager, those data are automatically transferred to BG-BASE, the Arboretum's plant records database. This new linkage

Using ArbManager, staff members can report and communicate about plant care needs like pruning, pest control, mulching, etc. using a smartphone or other mobile device.



15

Ben Kirby



Jared Rubinstein

represents a major technological achievement in connecting the Arboretum's various databases and allows ArbManager data to be preserved (like all of our plant records), forever. These snapshots in time—what diseases are most prevalent in a particular area, or which species seem most prone to winter damage—give us a vast new set of data we can use to adapt our practices and ensure the longevity of the collection.

While the COVID-19 pandemic sent many staff members home, Head Operator Jed Romanowiz remained to prepare the Arboretum's irrigation systems for spring. Here he uses ArbManager to communicate with other horticulturists on site and at home regarding irrigation in the Leventritt Shrub and Vine Garden.



Jared Rubinstein

Next, to further improve communication and centralize access to key horticultural information, our team developed a new website, known as the ArbDashboard, that gives the horticulture staff instant access to the vast trove of plant health reports, maps, current and historical management plans, and even *Arnoldia* and *Silva* articles that pertain to the management of the collection.

Using the ArbDashboard, staff members can visualize key plant information, infrastructure, and natural features on the digital map, read about and update the maintenance requirements for each of the Arboretum's 91 horticultural management zones, track plant health issues or scouting efforts, and download key articles or reports—all from one central website. Through this improved accessibility and transparency, the ArbDashboard provides the staff with all the background information they need to make the best horticultural decisions in the landscape and ensures the highest quality of care for our plants.

By improving communication about landscape issues with ArbManager and bringing previously disparate information together in one place with the ArbDashboard, we believe the Landscape Management System will help us transform our horticultural practices at the Arboretum to meet the challenges of the 21st century. Using these new tools, guided by an adaptive management framework, a horticulturist can report

a pest infestation in the landscape, managers can assemble all the pertinent background information they need, and together they can develop a solution—all within minutes.

As one of the country's first public arboreta, the Arnold Arboretum has long shared its methods and successes with other public gardens around the world. With the development of the LMS, we see a wonderful opportunity to encourage other institutions to adopt similar types of adaptive management systems and to share some our technological advancements. Head of Horticulture Andrew Gapinski and I described the project to the public garden community through a presentation to the 2020 virtual American Public Garden Association conference in June; the surge of enthusiasm we received afterwards only encouraged us to continue working hard not just for the Arnold, but for the entire public garden community.

ArbManager and the ArbDashboard are just the first components of the LMS—currently, our committee is focused on how to bring some of these adaptive management principles to the Dana Greenhouses, where the plant production department oversees the movement of thousands of plants—from mist houses and greenhouse benches to the outdoor nurseries and finally into the landscape of the Arboretum—and collects vital data along the way. Our project is far from over and, like the collection we seek to maintain, will always be changing to address the current climate. 🌸

Urban Ponds

Essential Ecosystems for the Enjoyment and Discovery of Nature

Photographs by Bruce Wilson

An interview with Bruce Wilson, Photographer

by Sheryl L. White, Coordinator of Visitor Engagement and Exhibitions

BrUCE Wilson's virtual photography exhibition—Urban Ponds: Essential Ecosystems for the Enjoyment and Discovery of Nature—reveals the Arnold Arboretum's ponds as environments teeming with life and human activity. Showcasing the reflective and life-giving qualities of water, Wilson's images convey his range and sensibility as a photographer through diverse approaches to composition, nuance of light and shadow, and vibrant color. Learn more in this conversation with the artist and view the exhibition on our website.

Talk about photographing water, what intrigues you, and are there any special considerations when trying to capture the image of water with a camera?

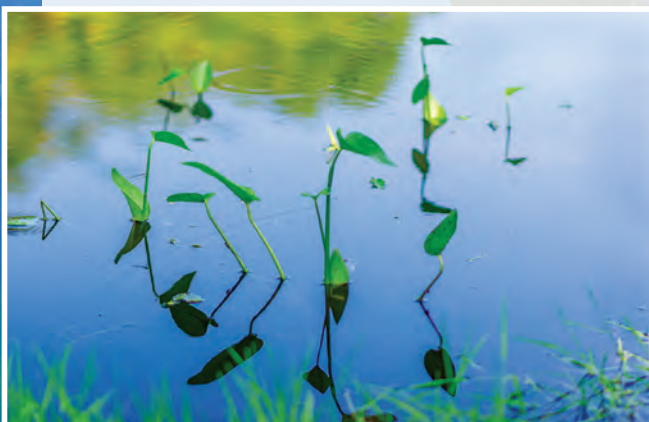
Water intrigues me because I can capture the surface, maybe beneath the surface, and a reflection off of the surface. I can photograph a reflected sky in such a way that makes it difficult to distinguish water from sky. As for special considerations, one is the large tonal range. It is a challenge to not overexpose the bright features or underexpose the dark features.

What is important to you in bringing in the human element, how does that inform your viewpoint and your message?

The human element is, for me, vital. The Arboretum a place to exercise, to meditate, to relax, to socialize, to play, to learn, and most importantly to experience nature. I wanted to show how much visitors enjoyed the ponds. Children in particular caught my attention—photographing children discovering nature is exhilarating. As for my message, I want to interest people in this wonderful place and encourage them to visit and enjoy it.

Your work in this show offers a mix of images with visitors interacting with the ponds, and others that capture pure nature. How did you decide the final composition of the show?

I sought a balance of photographs across the different seasons, with and without people, and some with buildings showing in the reflection. I wanted viewers to know that these ponds are close to an urban setting and that the Arboretum is a type of oasis. The flora also interested me, and I wanted to capture it in an interesting way. I also wanted to capture it in perhaps a playful way—as I tried to do with the *A Family Stroll* photograph (left), where the plants look like they are out for a walk. I was continually struck by how often people stopped to gaze at the ponds or look for fish or turtles. They momentarily forgot themselves. There really is something mesmerizing about water, and I hope that this exhibition conveys that. 🌸



Bruce Wilson

Read the full interview, and view this continuing virtual exhibition, on our website.



Jeffrey Blackwell

Speaking of Trees

Expeditions app and Gathering Historias project spotlight language accessibility

by Amy Heuer, Visitor Engagement Fellow

As a community resource in the heart of Boston, the Arnold Arboretum strives to make our landscape and our programming more accessible to people across Boston's diverse population. Part of this is recognizing that language can either create barriers or build bridges in making the Arboretum a welcoming and enriching place for all. In 2020, the Arboretum launched two significant Spanish-language initiatives—an audio-illustration project that shares the voices of Boston's Latinx communities, and a multi-language mobile app of the Arboretum and its spectacular plants.

Available for exploration on our redesigned website, *Gathering Historias* is a multi-disciplinary project highlighting plant and nature stories from across Boston's Hispanic

communities. Created by Steven Salido Fisher, a master's degree candidate at Harvard Divinity School, *Gathering Historias* collects personal reminiscences about nature including some about the Arboretum itself. Working with the Arboretum's Public Programs staff, Fisher developed *Gathering Historias* to better understand how the outdoors fits into the social and spiritual lives of Boston's Spanish-speaking communities.

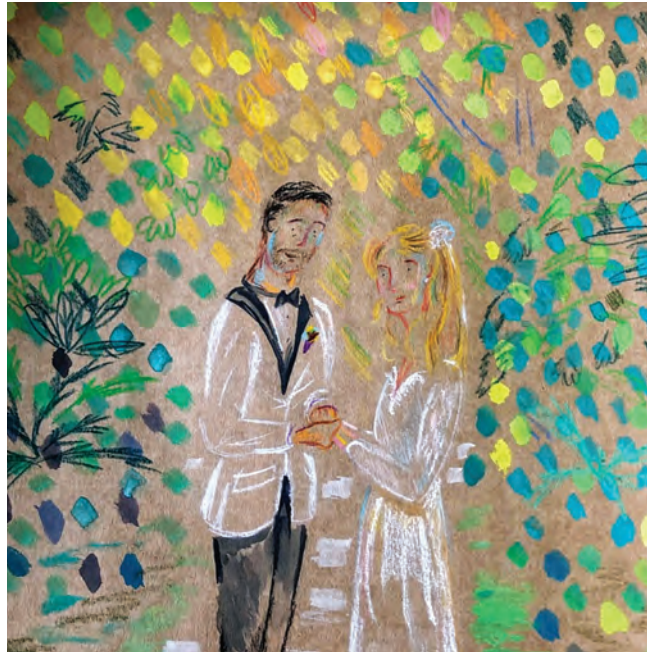
"Our stories from Latinx communities often go untold when it comes to outdoor recreation, environmentalism, and nature," Fisher says. "For many of us, going outside means finding a sanctuary during life's challenges or simply having another place to be with our families. Sometimes it's part of our livelihoods. It's a sacred act to pass on memories of the places that have shaped us."

Fisher conducted his interviews for the project in Boston's Latinx communities—including those neighboring the Arboretum landscape in Jamaica Plain and Roslindale—collecting stories about moments in nature both routine and profound. Raised in Mexico City and Chicago, Fisher is fluent in Spanish. It was important to him to conduct the interviews in Spanish or English, based on the preference of the interviewee. “I wanted participants to feel at home when they told their own story,” he says, “Sometimes that means telling it in Spanish. Sometimes in English. Sometimes it’s both. It was my hope that this would invite everyone’s personality to truly come through in the voice and allow listeners to more authentically relate to the recorded stories.”

Fisher created hand-drawn illustrations based on the stories to accompany his recordings. The resulting collection of sounds and images forms a rich patchwork of memory and reflection.

The interworking of narrative audio and evocative imagery also provide a powerful way to explore and learn through the Arboretum’s new mobile app, *Expeditions*, which debuted online and in our landscape in June. The app and its website component feature stories and photos from across the Arboretum’s 281-acre landscape and its nearly 150-year history.

Above all, the Arboretum created the app to highlight the diverse range of experiences and ways people connect with plants and nature at the Arboretum. We wanted to show that anyone—whether you’re an evolutionary biologist, a lifelong horticulturist, or a jogger simply



Fisher created hand-drawn illustrations based on the stories to accompany his recordings. The resulting collection of sounds and images forms a rich patchwork of memory and reflection.



Illustrations by Steven Salido Fisher

passing through—can develop a deep connection to nature, and to the Arboretum both as a unique outdoor space and as a major research institution.

This expansive thinking about the Arboretum and its place in the community extended to making the app’s content more accessible. The app can be downloaded in English, Spanish, and Simplified Chinese/Mandarin. The Arboretum worked with Elizabeth Antonellis, a community engagement specialist and freelance translator, to translate *Expeditions* into Spanish. The Arboretum’s choice to translate all 65,000 words of the app’s content into two additional languages, Antonellis says, is not typical. “Not many institutions take the time to do what the Arboretum has done. The multilingual *Expeditions* app is a testament to the Arboretum’s commitment to enhancing the visitor’s experience. This app is a beautiful example of an organization responding to a community’s needs.”

“The Arboretum was founded with a mission of open access and education,” says Kate Stonefoot, manager of visitor engagement at the Arboretum. “We are continually re-assessing our offerings to ensure that they connect with existing and new audiences. The Arboretum is free and open to all, and as such, is common ground. Spearheading projects that serve all of our visitors is crucial.”

With *Gathering Historias* and *Expeditions* leading the way on the digital front, the Arboretum aims to bring the wonder and essential nature of our trees to more eyes, ears, and hearts. 🌻

Going Online & Getting Outside

Everyday Nature Tasks and Wonder Spots bring our nature programs home

by Kate Stonefoot, Manager of Visitor Engagement; Ana Maria Caballero, Nature Education Specialist; and Nancy Sableski, Manager of Children's Education

When the pandemic forced the cancellation of our Field Studies Experiences for elementary school students, Nature Education Specialist Ana Maria Caballero knew that children and their families would need ways to learn from the Arboretum and create some emotional distance from the anxieties of the new normal. How could our closely-connected community of students, teachers, and parents stay physically active, engaged outside and away from their screens? Certainly nature could still provide the space for peace and wonder amidst the challenges and uncertainties of the moment.

In answer, Caballero created Everyday Nature Tasks, a daily calendar of simple-to-execute, open-ended activities appropriate to all ages with opportunities for deeper learning that children can continue on their own. Tasks focus on a particular topic (color, wind, dogwoods, earthworms, leaf margins) and offer children ways to interact with nature, make careful observations, and record their observations in a journal—ways of science emphasized in our Field Study Experience programs. “Everyday Nature Tasks are meant to allow children to engage with the natural world on a daily



Jeffrey Blackwell



Jon Hetman



Suzanne Wrozak

basis,” Caballero says. “Activities hone their observational skills and inspire wonder, curiosity, and appreciation of living things. Learning is secondary to the joy and agency of being outdoors,

noticing simple phenomenon, and sharing moments of discovery with others.”

With the immediate success of Everyday Nature Tasks and the strong desire to reconnect with visitors in the Arboretum landscape, the idea for Arnold Arboretum Wonder Spots arose. A collaboration between educators in our Children's Education and Visitor Engagement staffs, these location-specific opportunities are designed to make self-exploration of the Arboretum landscape and its plant collections easy, fun, and enlightening.

Each Wonder Spot, mapped in the Explore at Home section of our website, starts with a question: “Have you ever wondered...?” The topic at hand, usually related to plants and seasonal phenomena, links to an actual location in the Arboretum landscape. Summer Wonder Spots asked visitors to observe pollinators, leaves, bark, rotting logs, and meadow life as they traveled through our landscape. Participants can actively follow along with the program, or serendipitously discover a Wonder Spot sign on a walk. Given our switch to providing virtual experiences in 2020, all our Wonder Spots can also be enjoyed from the comfort of home, and a Dig Deeper section provides additional resources to continue exploring online.

Everyday Nature Tasks and Wonder Spots have proven to be powerful antidotes to the circumstances of the times. While some of the changes we've undergone this year are temporary, others are certainly here to stay. The Arboretum will continue to seek new and innovative methods of public engagement to share nature, our Olmstedian landscape, and our awe-inspiring collection of woody plants. Even more importantly, we hope to sustain the curiosity and wonder of all who seek the renewal of nature. 🌸

t was all set in motion on August 15, 2012.

During field inventory of accessioned plants in the Explorers Garden on Bussey Hill, Plant Records Manager Kyle Port and Stephanie Stuber, our curatorial fellow at the time, observed the Arnold Arboretum's signature Korean littleleaf boxwood (*Buxus sinica* var. *insularis*, accession 11323*D) in decline: "major deadwood; major lace bug damage." This field check note was unfortunately not unique to this broad-leaf evergreen shrub. Previous comments reported a similar

Francisco, but I expect to be in Boston about the same time as the above cases. The living plants will follow by a later ship as it is too cold this season for them to cross America."

Wilson noted his great esteem for Korean littleleaf boxwood in the 1931 book *If I Were to Make a Garden*. "If this variety fulfills expectations, it should prove a boon to those who hunger for box edging in regions too cool for the well-being of the European type (*B. sempervirens*). I count this boxwood one of the most useful plant introductions I was privileged to make in Korea. It came to the Arnold Arboretum

Cloning a Centenarian

Preserving and renewing important plant lineages at the Dana Greenhouses

by Tiffany Enzenbacher, Manager of Plant Production

sad story. The 1997 April Fool's Day Blizzard inflicted damage, and Horticulturist Scott Grimshaw noted ten years later that the plant had not only failed to rebound but was continuing its downward trajectory: "steadily declining, mite damage, much dieback." Shortly after Port and Stuber's assessment in 2012, Keeper of the Living Collections Michael Dosmann submitted a request for it to be cloned to safeguard against anything equally disastrous befalling the original. Why should this particular plant be repropagated?

This specific Korean littleleaf boxwood happens to be the Arboretum's oldest living specimen of the plant, collected by renowned plant explorer Ernest Henry Wilson during his ambitious 1917-1919 Expedition to Eastern Asia. Wilson left for the Ryukyu Islands of Japan in January 2017, exploring the flora in Japan for several months, travelling onward to Korea and Japan, and repeating visits to each before returning to Boston March 1919. Together with his family, Wilson yielded over 3,000 collections of living plant material and more than 600 photographs during the expedition.

Wilson wrote to director Charles Sprague Sargent at the completion of the two year voyage detailing the shipment process for the bounty, "There are nineteen cases in all—five plates and fourteen herbarium...The Atsuta Maru sails direct to Seattle and will be there before I reach San

in 1918, and so far has never suffered any winter injury." As Wilson stated, Korean littleleaf boxwood is well regarded for its exceptional cold hardiness. The cultivars 'Nana' and 'Wintergreen' in particular, as well as the straight species, are highly desired in the landscape industry. Plants range from 1.5 to 7 feet tall, with an upright, loose habit and subtly arching branches. Glossy evergreen foliage makes it the ideal selection for hedges and shrub borders. It differs from the more ubiquitous common boxwood (*B. sempervirens*) by its significantly smaller elliptic (oval) leaves and from *B. microphylla* in its slightly pubescent branches.

Wilson also remarked that this small shrub "propagates with the greatest ease," a lucky break for former plant propagator Jack Alexander III who received the clone request from Dosmann in 2012. Alexander harvested 30 stem cuttings on July 31, 2014 and again the following year on June 16, just to be certain that the Arboretum had a suitable number of duplicates of this VIP (very important plant). Coincidentally in both attempts, seven of the thirty cuttings successfully sent out adventitious roots and were subsequently transplanted into containers of potting soil. Plants have been dutifully nurtured at the Dana Greenhouses, and presently, one plant remains from the 2014 attempt (the other six were offered to collaborating public gardens). This

Close-up on the foliage of *Buxus sinica* var. *insularis* 11323*D.

Tiffany Enzenbacher

This specific Korean littleleaf boxwood happens to be the Arboretum's oldest living specimen of the plant, collected by renowned plant explorer Ernest Henry Wilson during the ambitious 1917-1919 Expedition to Eastern Asia.

individual along with the seven plants resulting from the 2015 effort will be placed in their permanent locations in our landscape next spring. Sean Halloran, our current plant propagator, has marked Dosmann's 2012 request as complete, and this crucial centenarian lineage is now fully secure.

Until sites in the Arboretum landscape are selected for these new clones, the original introduction of Korean littleleaf boxwood to the West can still be viewed along Chinese Path in the Explorer's Garden. In fact, over one hundred years later, nearly 40 of Wilson's 1917-1919 acquisitions are flourishing in the landscape. Royal azalea (*Rhododendron*

schlippenbachii 13432*MASS) and Japanese stewartia (*Stewartia pseudocamellia* 11440*A and *B), both collected in the Republic of Korea, are growing near their native compatriot Korean littleleaf boxwood in the Explorer's Garden. If you fancy a stroll near the Ponds, Japanese yellowwood (*Cladrastis platycarpa* 10928*A) is located in the Legume

Collection, and *Malus spontanea* (10796*A) also hailing from Japan is on State Lab Slope, equidistant from Dawson Pond and Forest Hills Gate. No visit to Peters Hill is complete without stopping to see the *M. spontanea* (10796-2*A) anomaly. This crabapple is a 1920 clone of the aforementioned specimen, growing almost completely horizontally (theories include hurricanes and stolen vehicles pushed down the Hill) but with its top growing vertically.

Korean littleleaf boxwood is not the only shrub that Halloran and others on our staff are replicating—more than 200 extraordinary plants are currently in the queue. The *Campaign for the Living Collections*, our ten-year plant exploration and collection initiative, is on track to add nearly 400 new taxa primarily through wild-collected seed. Equally important is ensuring that our historical lineages are protected and preserved for study and enjoyment long into the future. As the Arboretum nears its sesquicentennial, a steady stream of clones tied to our long history of exploration and introduction will transition to our landscape, giving new life and adding new chapters to our most storied plants. 🌸

Left: *Buxus sinica* var. *insularis* clones 240-2014 and 110-2015
Right: Propagator Sean Halloran checks their progress.



Photos by Tiffany Enzenbacher

THE Nature OF Shakespeare

Actors' Shakespeare Project share sonnets and scenes from the Arboretum landscape by Sheryl L. White, Coordinator of Visitor Engagement and Exhibitions

On one perfect day in late summer, a small troop of actors, a director, and videographer traveled through the Arboretum's landscape—south to north, Peters Hill to the Maple Collection—to film selections from the works of William Shakespeare in seven different locations. The fruit of their work, incorporating scenes and sonnets with a focus on the natural world, marks the third collaboration between Actors' Shakespeare Project and the Arnold Arboretum. *The Nature of Shakespeare* was presented in two parts, each live-streamed via virtual platforms, with experts from the Arboretum illuminating each specific natural area featured.

The Nature of Shakespeare emerges as a virtual event that underscores the timeless connections between humans and their environment. Overviews of the collections and stories of where the scenes are located meld with the sensibility of language and nature in Shakespeare's work.

"Shakespeare uses nature often as the setting of the main action of his dramas," explains ASP Artistic Director Chris

Edwards of the collaboration with the Arboretum. "More often he uses nature as a metaphor for the lives people live in society as they deal with love, betrayal, passion, sickness, and political intrigue." With themes that resonate deeply with our times, the collaboration offers another unique way to showcase the landscapes of the Arnold Arboretum and celebrate its many roles in the life of our community.

View both parts of *The Nature of Shakespeare* on our website (Watch With Us) or on our YouTube channel. 🍁

Actors' Shakespeare Project films scenes for *The Nature of Shakespeare* in the Bonsai & Penjing Pavilion (top) with videographer Austin de Besche and actor Jade Guerra, and on Hemlock Hill (below) with de Besche, director Chris Edwards, and actor Omar Robinson.



Sheryl White



Jon Hetman



Jeffrey Blackwell

MAKE THE MOST OF YOUR Membership

Whether you are near or far, wonderful perks are offered to members of the *Friends of the Arnold Arboretum*. We are grateful for your philanthropic support and involvement in our community! We hope you enjoy reading each new issue of *Arnoldia*, our quarterly magazine of plant science, horticulture, ecology, and history. *Arnoldia* is offered to all members in digital format and you may request a copy by emailing membership@arnarb.harvard.edu. Members at the Contributing level and above may opt to receive a print subscription.

In addition to our regular online events, be on the lookout for invitations to special members-only programs, such as our recent *Behind the Scenery* collaboration with the Actors' Shakespeare Project and our annual Director's Lecture Series.

Members also have access to discounts at a number of participating nurseries and garden centers that can be found on our website. We welcome your suggestions for adding new businesses to our list.

The Arnold Arboretum is a long-time participant of the American Horticultural Society's reciprocal gardens program that offers free or discounted admission at participating North American gardens and arboreta. Peruse the list of gardens via our membership page and use your membership card when visiting.

To learn more about the benefits of membership, please visit arboretum.harvard.edu/support/membership/ or contact us at membership@arnarb.harvard.edu

SNEAK PEEK: 2021 Arbor Day Seedling

Each spring, the Arnold Arboretum offers a plant to members through our Arbor Day Seedling Program, part of our historical tradition of sharing exceptional woody plants with our community and a way of giving our thanks. This spring we are pleased to offer *Fothergilla x intermedia* 'Alice' LEGEND OF THE FALL to members at the Sustaining level (\$100) and above. This deciduous shrub is a lovely and versatile addition to any garden with its fragrant, white blooms in spring and vibrant autumn foliage.

Eligible members will receive an invitation to participate in February. To confirm or upgrade your membership, please contact Wendy Krauss, Membership Manager at the email address above or call 617.384.5766.



Find Inspiration in Trees and Nature

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to the well-being and care of our magnificent landscape and living collections and sustains our programs in science, horticulture, and education. Enhance the experience of the Arboretum by taking advantage of our numerous membership and public program offerings. View benefits and events on our website arboretum.harvard.edu; for membership questions, please contact 617.384.5766 or membership@arnarb.harvard.edu



Two Friends in Songpan

by Ernest Henry Wilson

by Lisa E. Pearson,
Head of Library and Archives

During his plant collecting expeditions to Asia in the early 20th century, famed Arboretum plant explorer Ernest Henry Wilson kept a daily diary of his activities in the field. He was a keen observer of the people he met, the places he visited, and the many plants he both collected and photographed. His diary entries often reference and illuminate specific plants and photographs he captured, as happened one day in Songpan, Sichuan Province, China (formerly transliterated Sungpan). As is often the case, Wilson's thoughts as recorded in his diary provide all we need to bring an image like this to life.

It was August 1910, and Wilson had returned to Songpan after an absence of six years. He had visited twice before, in 1903 and 1904, on a trip for the Veitch Nursery Company of his native England. As he had on his 1907-09 expedition to China for the Arboretum, Wilson was equipped with a top-of-the-line camera that created negatives on large format glass plates. On August 25, 1910, he captured a series of views of the town from the surrounding hills and images of other points of interest. That evening, Wilson was visited by a local Tibetan man whom he had met on a previous trip to Songpan, who had brought a

friend along to meet Wilson. They asked to be photographed, and Wilson accepted.

The photograph he created that day is a deeply touching and respectful portrait of friends. Both men face the camera with self-assurance. They are relaxed and the taller man has turned slightly towards his friend, inclining his head. His hand is on his friend's back, perhaps as an encouragement to approach the photographer. A slight twinkle in his eye has been captured for the ages. Without the record of the meeting in Wilson's field diary, we would never know the backstory to this beautiful image.

For over a century the Arnold Arboretum has carefully preserved and stewarded Wilson's diaries, photographs, and other materials related to his global expeditions in the Archives of the Arnold Arboretum. Many of his handwritten documents—including the 1910 diary recounting his visit to Songpan and the creation of this photograph—are currently being transcribed digitally with crowd-sourcing assistance coordinated through the web tool FromThePage. Visit the Arboretum website for more about this project, including how you and others around the world can help us illuminate these important pieces of our botanical history.

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Exhibiting now and in coming months...online

The Art of Wood VI

Woodturners at the Arnold Arboretum:
Massachusetts South Shore Woodturners

Ongoing

If Winter Comes...

The Promise of Each Year in the
Paintings of Anthony Apesos

October 29, 2020–February 7, 2021

Over Time:

The Impact of Change Through Art
in the Arboretum's Landscape
Watercolors and Monoprints by Ginny Zanger

February 12–April 25, 2021

Top: Cherry Boat by Joe Centorino

Middle: Shadows on Dawson Pond (detail) by Anthony Apesos

Bottom: Pastiche Diptych by Ginny Zanger



The ARNOLD
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