Champion Trees at Smith

Trees have many qualities that have drawn humans to them. Their beauty and appearance can inspire, the resources they yield have fueled human population growth and development, and they have provided countless ways for curious academics as well as nonprofessionals to explore the natural world. What we often think of first, however, is their size. Giant old trees may serve as a living metaphor for all the positive qualities we associate with strength and age. It’s easy to imagine that they possess some elusive wisdom or to marvel at how a unique set of DNA has interacted with a unique climate history and patch of soil to produce a living fingerprint of time. Big trees grab our attention and force us to contemplate the history they have witnessed.

Here in New England, our land use history of extensive forest cutting has unfortunately left us with a small and scattered collection of exceptionally old and large trees. It’s worth noting, though, that some of our oldest trees are quite small. Some of our higher mountain summits have old growth forests that appear to passing hikers as unremarkable shrubs. It’s hard to imagine that the Northeast was once graced with white pines that exceeded two hundred feet in height or that elms, chestnuts, and oaks with trunk diameters of ten feet or more could be found. Today’s giants are smaller and far rarer, but can still take our breath away.

Most tree lovers have a mental list of some of the largest trees they have seen. However, some enthusiasts in the past century turned seeking big trees into a serious hobby and developed exacting protocols for measuring them, enabling all to agree on which ones are in fact the biggest. The standard system now used involves the three obvious components of a tree’s size: the height, the girth of the trunk, and the canopy spread. The points indicating a tree’s size are calculated by adding the following numbers: height in feet, circumference of its trunk at four and a half feet from the ground in inches, and one-quarter of its average crown spread in feet (an average of the diameter at its widest and narrowest). A tree might score a high point total even if one of the three measurements is only moderately high but the other two are exceptional. Trees with the highest point total are considered the size champion of their species.

We are very fortunate to have one of Massachusetts’ most enthusiastic and accomplished big tree measurers, Bob Leverett, on the Smith College Tree Committee. His work in this area dates back decades, and he is a cofounder of American Forests’ national cadre of expert tree measurers. American Forests is one of the nation’s oldest forest conservation and restoration organizations, dating back to 1875. In the 1940s they adopted the current tree measuring system from one developed by a forester in Maryland, and they began compiling a list of the nation’s champion trees. Bob has measured many of the largest trees in our Campus Arboretum and found that four are state champions (of the 31 on the Massachusetts state list), and we have one runner up as well. We are hoping a fifth can be added soon if our European linden, *Tilia × europaea*, qualifies for the list. Bob is confident that our linden on the west side of Neilson Library is the
Friends Advisory Committee

Five relatively recent alumnae have joined the Friends of the Botanic Garden Advisory Committee: Betsy Anderson ’04, landscape architect at the National Park Service, Pacific Region; Syretha Brooks ’08, horticulturist at Coastal Maine Botanical Gardens; Alex Julius ’09, associate director of educational goods and services at the International Society of Arboriculture (ISA) in Champaign, Illinois; Jacqueline Maasch ’16, research and development technician at PathoQuest (an Institut Pasteur spin-out) in Paris, France; and Rachel Rock-Blake ’09, currently working toward her MBA, but previously the assistant curator of outdoor gardens at the New York Botanical Garden. Additionally, we were delighted to add our first parent of an alumna to the committee, Ratnamala Kapur of Delhi, India, mother of Shabnam Kapur ’16 (see update below).

Alumnae Updates

Jenna Zukswert ’13 (biological sciences and environmental science and policy major) completed a master of science degree in forestry at the University of British Columbia in Vancouver in May 2016, for which she worked with Cindy Prescott in the Belowground Ecosystem Group on an investigation of relationships between leaf and litter traits and litter decomposition in 12 native trees species. She is now nearly a year into a two-year Living Collections Fellowship at the Arnold Arboretum, helping transition their landscape management plan to a digital system. As part of this fellowship, she traveled in the southeastern United States collecting seed for their Campaign for the Living Collections. This summer, she plans to work on soil health projects in the arboretum landscape. Working as a STRIDE scholar at Smith’s Botanic Garden was Jenna’s first experience in public horticulture. In her current position, Jenna is enjoying being able to apply skills she developed during her Smith years, while working here and in the labs of Jesse Bellemare and Amy Rhodes.

After graduating, Shabnam Kapur ’16 took a job in India working for Pradip Krishen, a botanist who believes strongly in planting native flora. She worked on two projects involving converting degraded land into forest by “re-wilding” using native plants. These projects were based in the state of Rajasthan (where the Thar Desert is located), one in a site that was composed of stabilized sand dunes and the other in a very rocky area. The native plants of both areas are unique and perfectly adapted to those habitats. It was a real pleasure for Shabnam to see how they flourished once they were placed in these areas that were previously barren. They required no additional watering once they were established. The ephemeral grasses present in the Thar Desert bloomed briefly but had a long-lasting effect, leaving behind golden stalks. Currently, Shabnam is working for an urban farming startup called Khetify (kheti means agriculture in Hindi), to help households grow their own food on their terraces and balconies. With a grant from the UN–Habitat Urban Youth Fund, they are running workshops in 25 schools across New Delhi to educate children about where vegetables come from and how they grow. Many city children are disconnected from how their food is grown, believing it just comes from the grocery stores. Khetify is also experimenting with hydroponics and indoor farming techniques to deal with the space crisis in urban areas and to provide healthier produce, since most vegetables in New Delhi markets are grown using heavy pesticides and toxic water.
Having completed 10 months in the job of Interim Director of the Botanic Garden, I have learned a good deal about both the internal operations of the Botanic Garden and how what we do fits into the activities and functions of the campus as a whole. The volume of our visitations (40,000 to 60,000 per year) was one of my first discoveries/realizations. The Fall Chrysanthemum Show and the Spring Bulb Show are the most obvious attractions, but the number of visitors throughout the year is also considerable. Also, our squad of volunteers (50–70) is absolutely essential to our ability to provide a quality experience for all of these visitors, especially on the weekends. Collectively, this creates a partnership involving our professional staff, volunteers, and other units of the College, such as Campus Police.

The Lyman Conservatory, renovated in 2003, is quite a wondrous facility. Down in the basement one can observe a maze of pipes, conduits, and controls that make sure water (heated or not) is supplied to all the places it is needed. There is even a backup furnace in case the College’s steam heating lines break down. Control panels linked to computers ensure that proper temperatures, humidity levels, and air circulation are maintained in all of the dozen or so greenhouses. Although the renovation in 2003 was an extensive one, there are still portions of the infrastructure that date back to the 1890s, when the original campus greenhouse was built. In the words of Rob Nicholson, Lyman is “an elegant machine for growing plants.” This fact is on display, almost every day, for anyone who wants to observe the wonder of it all.

I have also gained a much deeper appreciation for the campus arboretum as a result of my work this year. As I mentioned in the Fall 2016 issue of Botanic Garden News, John Berryhill and I have been involved in numerous meetings to make sure campus trees receive maximum protection during the Neilson Library renovation project. From the beginning there has been a consensus that the most important trees on campus, such as the dawn redwood and the European linden, behind the library, and the large oaks in front of the library, will be protected. We updated the Botanic Garden “Tree Protection Plan,” a four-page document that lays out the specific steps that will be taken to provide such protection, and all the contractors and subcontractors working on the project will know that they are responsible for following these instructions when working on campus. I have been impressed by how genuine and far-reaching the tree protection ethos is among the College’s Office of Facilities Management, the outside landscape architects, and the construction contractors. To be sure, trees will be lost, but I am convinced that the losses will be minimized because of the foresight of those involved in the planning and operations of this project, and through the diligence of the Botanic Garden staff as the project unfolds.

To follow up on another important project I mentioned in our last newsletter, namely the search for a new, more permanent, director for the Botanic Garden, I am pleased to announce that Dr. Tim Johnson, who is currently head of preservation at the Seed Savers Exchange in Decorah, Iowa, has been hired and will begin work here on June 26, 2017. Tim is an accomplished plant scientist who is the author of numerous publications and has received grants from the U.S. Fish and Wildlife Service and several other organizations. His career has been dedicated to conservation, and he brings both a wealth of experience and a new set of ideas and perspectives to his role as the leader of Smith’s Botanic Garden. His career was inspired in part by a visit he made to the Marjorie McNeely Conservatory at Como Park in St. Paul when he was in college, where plants he observed led him to comment, “I could feel their stories, touch them, smell them. … The idea that I could work in a place that helps to tell those stories — especially a place like Smith, with its strong commitment to women’s education — is an amazing opportunity.” Look for Tim to reach out to other units on campus to undertake collaborative projects that will advance Smith’s new Strategic Plan, as well as work tirelessly to maintain and improve the living collections of the Botanic Garden.

I’m pleased to report that plans are in place for a restored Japanese Garden on the hillside along Paradise Pond below the President’s house. The tea house that once stood in the center of the garden will not be replaced, but a rustic bench will invite visitors to pause for scenic views and contemplation. The design will draw on plants already growing in the area, but some removal will be necessary to expose stone formations that were part of the original concept and recount the life of Buddha. New plantings will feature moss. We hope to complete this project this summer.

I’ll conclude by revisiting the theme of my first newsletter piece, offering my sincere thanks to the entire Botanic Garden staff for putting up with my ignorance of most things botanic, and demonstrating through their work how and why our indoor and outdoor collections are of such high quality and serve to attract so many students, faculty, staff, and community visitors every year.

Stay tuned for a full introduction to our new director in the Fall 2017 Botanic Garden News, when you will hear directly from Tim.
here is an ailment, quite contagious and self-reinforcing, which can afflict those prone to a particular type of botanical collecting. It involves neither prints nor books, but living plants. *Orchis in Sanguineum*, Orchids in the Blood, is usually diagnosed as a highly refined respect of beauty coupled with an obsessive collecting impulsiveness. It can infect people suddenly, with their first glimpse of an orchid, or may take years to finally infiltrate a person’s psyche, to the point where all other plants are excluded from consideration. Those afflicted band together in self-help groups, otherwise known as orchid societies, where they display their plants, discuss the minutiae of cultivation, and reinforce each other’s collecting manias. It is a worldwide phenomenon.

In the final stage of my horticultural career, I have finally succumbed and admit cheerfully we can never have too many orchids at the Smith College Botanic Garden. If I had to do it all again, I would be an orchid biologist, studying orchids exclusively. With 20,000 species and thousands of artificial hybrids, the orchid family is a deep and unending well of stunning beauty, boggling diversity, ecological wonders, replete with a colorful history of wild collecting and cultivation.

Our orchid conservatories have benefitted in the past from past collectors, particularly Wilford Neptune, Joan Throckmorton ’53, and Pamela Dupont Copeland, who have passed their collections along when they could no longer care for them.

In 2016 we were contacted by Lucybell Roessiger of Castine, Maine, with an astounding offer. She was offering us a portion of her late husband Denis’ orchid collection. This was probably the finest orchid collection in private hands in New England and at one point numbered 3500 specimens. She related that she had given the orchid curator at the Smithsonian Institution, Tom Mirenda, first dibs on it and the Smithsonian rented a climate-controlled semitruck, trundled up to Maine, and selected a mere 2000 specimens. Sigh…

Would we like to be second in line? We of course said yes and after a number of emails making arrangements, I drove to Maine, along with my counterpart from the University of Connecticut, Clint Morse. After spending the night in Camden, we continued along Route 1, then down the east coast of Penobscot Bay. We drove off, as directed, into the woods, and finally got to make Lucybell’s acquaintance after so many emails. As her corgis herded us around, we were escorted into the greenhouses. It didn’t seem as though 2000 plants had been removed; the three houses were still stuffed with hundreds of orchids. Lucybell was a retired librarian, and her level of organization made the selection and documentation of what we were packing a surprisingly rapid process.

I was concentrating on species orchids, those that are like what is found in the wild, rather than artificial hybrids created by human hands. There was a full range of sizes from huge vandas with cascading roots to tiny epiphytic bulbophyllums and masdevallias. The Smithsonian had left some large packing boxes behind and we set to work filling them and carrying them to our rented truck. Both Clint and I, who run conservatories with large and established collections, had to be judicious in our selections as we had limited space to fill back home. By early afternoon, I had crated 200 orchids for the Smith Botanic Garden, the majority being taxa we had never grown before. That Denis’ collection was being transported to another scientific institution, where students and scholars might use the plants as research tools someday, clearly made Lucybell happy. We left Maine, not only with plants, but with a new friendship.

Denis Roessiger clearly had *Orchis in Sanguineum* and his passionate love and curiosity about this exceptional plant family gave him and his family many years of joy and wonder. That the Roessigers were so kind as to donate this legacy collection to Smith College is a tremendous addition, bringing even more quality to our diverse holdings. Every time one of the orchids from Maine shows me its bloom for the first time, I smile, remembering a very good day, collecting tropical orchids in the woods of Maine.
In the 1950s, Pompeian scholar and professor of ancient history at the University of Maryland Dr. Wilhelmina Jashemski (1910–2007) visited Pompeii not knowing that her interest in Roman gardens would become her life’s work. In 1961, she became the first non-Italian to launch excavations at Pompeii. For the next 22 years, she directed archaeological investigations at Pompeii, Boscoreale, and Oplontis, researching the archaeological evidence of gardens and horticulture in the ancient cities. As a result of her pioneering work, Professor Jashemski is credited with establishing the field of garden archaeology. Her findings from the excavations led to more accurate reconstructions as well as a better understanding of the city’s prominent use of gardens and the role plants played in people’s lives prior to the sudden eruption of Mount Vesuvius in AD 79.

Her summers of excavating and research resulted in the publication of many works, including The Gardens of Pompeii: Herculaneum and the Villas Destroyed by Vesuvius, Volume 1 (1979) and Volume 2 (1993); A Pompeian Herbal: Ancient and Modern Medicinal Plants (1999), on which this exhibit is based; and, with co-editor and longtime colleague Frederick Meyer, then director of the National Arboretum herbarium, The Natural History of Pompeii (2002).

Our exhibit of the Plants of Pompeii complements the Smith College Museum of Art exhibit, Leisure and Luxury in the Age of Nero: The Villas of Oplontis near Pompeii, which is on view through August 13, 2017. The Botanic Garden’s Plant exhibit, located in the Church Exhibition Gallery, features spectacularly detailed portraits of medicinal plants that were used in ancient Pompeii. The drawings were created by the botanical illustrators Lillian Nicholson Meyer and Victoria I. First exhibited at Smith in the Art Department in 2007 for one of the Botanic Garden’s curricular enhancement classes (Art History 285—Great Cities: Pompeii, taught by Barbara Kellum), this artwork is now displayed as part of a larger exhibit about medicinal plants of Pompeii.

In the late first century BCE, the introduction of an aqueduct supplied Pompeii with water largely reserved for the atrium, domestic bath, and the garden. Fountains and pools soon became the focal point in many garden layouts. New opportunities for plantings opened up the ability to cultivate plants with greater needs for water. For example, lemons, *Citrus limon*, an Asian native, is believed to have been imported and grown in the Vesuvian area prior to AD 79, as revealed by excavations that exposed paintings of lemon trees and by carbonized lemon tree roots that were found at Oplontis.

At the heart and center of many Pompeian homes was an area dedicated to plant cultivation. These private home gardens provided light, air, a place to relax, worship, and even play. Jashemski’s excavations provided evidence that Pompeians cherished their gardens. Elaborate designs included fountains, and sculptures inspired by Greek and Roman architecture, while more modest houses (Continued on page 6)
had smaller inner gardens, some as simple as a garden walk or green terrace. In addition to these spaces being enchanting places for leisure and relaxation, gardens were also practical. Gardens included cypress, laurel, or fig, as well as plants used for the kitchen such as rosemary, thyme, and saffron. Larger areas of land were also used for commercial or industrial purposes.

Pompeiians utilized plants for nourishment, shelter, aesthetics, as well as to meet curative needs. For example, fennel and figs were cultivated to treat ailments such as problematic digestion and tetanus. Often these plants were consumed by steeping them in wine. Persian walnuts were used to treat everything from hearing loss to headache, tapeworms, and dysentery. Additionally walnuts were used as a dye for wool and hair. Displayed in this exhibit is a preserved specimen of Persian walnut (collected in 1923) loaned to the Botanic Garden by the Smith College Herbarium. Today, almost 2,000 years later, modern Pompeians are still using many plants featured in the exhibit, and for many of the same ailments.

Whether formal and extravagant or small and simple, gardens were not confined exclusively to the wealthy. During her excavations, Jashemski found 450 gardens in approximately three-fourths of Pompeii that was excavated. The excavations tell us the gardens differed in size, design, function, and diversity. Displayed in this exhibit is one of Victoria I’s house reconstructions—a small model of a formal garden from the House of the Golden Bracelet. The garden follows a simple geometric design with slightly raised beds and features elegantly detailed representations of fountains, wall frescos, and floor mosaics. Victoria I’s artist statement explains how she began creating drawings and 3-D models of ancient Roman dwellings with Bettina Bergmann of Mount Holyoke College, how she met Jashemski, and ultimately got involved in creating the plant portraits. Victoria I also created the model of Oplontis on view at the Smith College Museum of Art in their exhibition.

Studying gardens is especially valuable because they reveal important aspects of ancient life and how each household used plants and their outdoor space. This is still true today. When one encounters gardens in modern homes they are certainly representative of, and as unique as, the people who live in them. Some households plant to eat. Others plant to display artistic expression. Others plant to protect (such as planting wind breaks) or to provide privacy. It is through discovering, identifying, and reconstructing that scientists, historians, and archaeologists can understand the natural history of Pompeii.

Learning about how both ancient and modern Pompeians used medicinal plants has greatly contributed to my understanding of the important role plants played and the resources they provide us. Through months of preparing for the exhibit, I have spent many hours researching, reading texts, reaching out to professors, working with the Botanic Garden staff and the Friends of the Botanic Garden, and connecting with the one-and-only Victoria I. Though I have questioned my ability to contribute to this project countless times, especially when I had to research the geologic processes of the eruption of Mount Vesuvius, the guidance and support I have received from the Botanic Garden’s staff, and especially my supervisor Madelaine Zadik, pushed me to continue to share, write, and learn about Pompeii and its history of gardens and plant use. I have fallen in love with this project and I am grateful to have been given the opportunity to contribute to this exhibit’s creation.

Plants of Pompeii: Ancient & Modern Medicinal Plants, will be on view in the Church Exhibition Gallery at the Lyman Plant House through December 15, 2017.
Smith horticulture students have been hybridizing chrysanthemums for over a hundred years now. Everyone enjoys the tradition, including the visitors to the Fall Chrysanthemum show, whose votes determine the winning mum. You can check out all the past student-bred mum hybrid winners dating back to 1920 in our online Chrysanthemum Hall of Fame on our website.

An orange mum with a yellow center hybridized by Lizzy Pendlebury ’18

Mum Winner

Horticulture student Elizabeth “Lizzy” Pendlebury, class of 2018, produced the chrysanthemum hybrid that won the most votes in last fall’s Chrysanthemum Show. Lizzy has been a fixture at the Botanic Garden since she first arrived at Smith. She was a faithful and hardworking volunteer in the Lyman Conservatory throughout her first two years at Smith. She spent the summer of 2015, as a summer Conservatory Intern, supported by the Gayle E. Maloney Garden Endowed Internship Fund. It was while taking the fall 2015 horticulture class that Lizzy developed her mum hybrid. Seed resulting from her cross was collected, germinated, and grown on to flowering for display in the 2016 Fall Chrysanthemum Show.
On April 5, the Music in the Noon Hour Concert, sponsored by Smith’s Music Department, featured a special tribute to some of our remarkable trees. The Campus Tree Committee worked with Monica Jakuc Leverett, professor emerita of music, to bring this special event to the Smith community. Monica’s husband, champion tree expert Bob Leverett, serves on the committee and brought the idea to the group.

The program included the world premiere of a new song written for Smith’s dawn redwood, *Metasequoia glyptostroboides*, a specimen west of Neilson Library. It was grown from seed collected in China in the 1940s. At that time, the species was discovered growing in the wild when it had long been thought to be extinct. Words were written by Lee Ann Dalton with music by Gregory W. Brown. Monica performed on piano and soprano Mary Hubbell, a performance instructor at Smith, sang the piece.

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**Madelaine Zadik**

**By Lee Ann Dalton**

Who are you, laying claim to the forest, telling the world I don’t exist? Who are you to call me your discovery, rescued from the wilderness?

I have always lived in the seeds you clutch so hard your palms still bear the scars — I have always lived in the seeds you covet, the power to place me anywhere you want.

You planted me outside your doors, the libraries of books you wrote about me — You planted me outside your doors, the mansions you call your crowning glory.

You planted me outside your doors, your museums where you keep my kind — You planted me outside your doors, your houses of worship, blind leading blind.

You used me as a decoration for lands I used to call my own. Divided and conquered, you kept me lonely, afraid I might reap what you have sown.

But I will break through your foundations — I will bring life to your hallowed halls. The doors will open for all of us — We’ll push through your floors, break down your walls, and I will show you with my own hands there is a heaven full of stars — my branches touch them every night I will lift you up, broken as you are — I will show you that the chains you made, the rods and bolted beams of steel only hold you down and keep you numb to all you refuse to feel

and you will finally know who made you, understand where we all belong — You will bear witness to what saves you, say my name, and rise to the glory of the dawn.

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Poet Lee Ann Dalton, pianist Monica Jakuc Leverett, soprano Mary Hubbell, and composer Gregory W. Brown.

Also included in the program were the following pieces:

- Aria from *Xerxes* “Ombra mai fu” by George Frideric Handel — to honor the London plane tree (*Platanus × acerifolia*) next to the Art Museum
- Excerpts from *Winterreise* “Der Lindenbaum” (Wilhelm Müller) by Franz Schubert — to honor the European linden (*Tilia × europaea*) behind Neilson Library
- The birch tree and the spruce, from *Tree Pieces*, Op. 75 by Jean Sibelius — to honor the river birch (*Betula nigra*) next to Hubbard House and the Norway spruce (*Picea abies*) next to Hubbard House
- “Ein Fichtenbaum” (Heinrich Heine) by Kaeza Fearn — to honor the white pine (*Pinus strobus*) on the corner of Sabin-Reed Hall
- “Loveliest of Trees” (A. E. Housman) by John Duke — to honor the three flowering cherries (*Prunus ‘Kwanzan’*) on Burton Lawn
- “Trees” (Joyce Kilmer) by Oscar Rasbach — to honor the Campus Arboretum

For links to a video of the concert and our tree handout, see: smith.edu/garden/event/smith’s-special-trees-a-musical-tribute
Champions continued

(Continued from page 1)

state champion of this species.

Our largest champion at Smith is also one of our best known and most admired trees. The dawn redwood, Metasequoia glyptostroboides, also on the west side of Neilson (next to the European linden), has a massive trunk that has to be seen up close to be truly appreciated. Trunk circumference usually has the most influence over a tree’s point total, which keeps this tree’s score high despite its less impressive crown spread. Its journey to become our largest champion is an unlikely one considering its history. Grown from seed collected in China in 1947, shortly after the scientific community was made aware that the species was not extinct as previously thought, it was planted near Burton Hall in 1952. When the Clark Science Center was expanded in 1964, the tree, by then fifty feet tall, needed to be moved. It was relocated across the lawn to its current site, which undoubtedly stunted its growth for many years. One can only imagine how much higher its point total of 328.55 would be had it spent its whole life in its current location. We are pleased that it is in very good health and our expectation is that this tree has a bright future, despite threats posed by the major construction planned for Neilson. Its current circumference is 214.8 inches, its height is 100.5 feet, and crown spread is 53 feet.

Almost equal in size is our champion Jersey elm, Ulmus minor ‘Sarniensis,’ often listed by the older synonym U. carpinifolia. With the urban-condition toughness that elms are famous for, this tree has reached an impressive height despite being tightly wedged between the south side of Washburn House and Dickinson parking lot. Passersby are always drawn to the distinct and obvious bulging ring near its base where the tree was grafted to rootstock in its infancy. The cultivar has an unusually narrow form. The tree’s circumference is 213.6 inches, its height is 101 feet, and its crown spread is 55 feet, for a point total of 328.35 (just 0.2 points less than the dawn redwood!).

The next largest of our champions is the northermost of the two London plane trees, Platanus × acerifolia, west of the Brown Fine Arts Center (the smaller one is actually the runner up!). These two seem to have fared well despite root zone disturbance from a total renovation of Hillyer Hall and the Art Museum in the early 2000s. The beauty of the chalky white bark and its immense canopy rival anything inside the museum. Its circumference is 181.2 inches, its height is 103.1 feet, and its crown spread is 107 feet, for a point total of 311.05.

The smallest of our champions to make the state list is the large ginkgo, Ginkgo biloba, in the center of our Systematics Garden alongside the Lyman Conservatory. This tree probably has the most root-friendly growing space and history of all our champions, although the construction of Sabin-Reed probably provided some challenges it did not appreciate. Its circumference is 200.4 inches, its height is 82.5 feet, and its crown spread is 68.6 feet, for a point total of 300.

Bob Leverett’s work measuring trees at Smith College drew our attention to some unaccessioned trees on our property that, although they don’t make the top of the list, are worthy of honorable mention. Near our tree nursery off Lyman Road in Northampton, there is a former riverbank area that is home to around a dozen tulip trees, Liriodendron tulipifera, that are over 100 feet tall and an equally impressive sugar maple, Acer saccharum, and swamp white oak, Quercus bicolor.

Perhaps Bob’s most exciting discovery is a 144.5 foot tall white pine, Pinus strobus, near the Mill River. Despite being around 30 feet shorter than the tallest pine in the state, it is the tallest tree of any species in the Massachusetts portion of the Connecticut River valley.

We are quite proud to be so well represented on the list of Massachusetts champion trees and are excited that additions are possible. Mr. Leverett is currently working with us to measure our largest trees and perhaps add a few new entries to the list of champions.

To learn more about Massachusetts state champion trees and shrubs or obtain a form to nominate a new tree, see the official state champion list: mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/big-trees.html.

The list of national champions is on the American Forests website: americanforests.org/explore-forests/americas-biggest-trees/champion-trees-national-register, where you can also see how many points the western giants have. This list only includes natives and naturalized species, so we are not able to nominate any of our champions for an even higher honor.
This year’s “superbloom” in the California desert has been all over the news. What everyone is so excited about is the explosion of spring wildflowers that far exceeds what is seen in an average year. Reports from the Anza-Borrego Desert State Park in southeastern California are that there has not been this intensity of spring blooming since 2005. Other locations have reported the most spectacular display in more than two decades. Contributing factors to the increased flowering include an unusually rainy fall and winter that brought California’s long-standing drought to an end, and a cold winter that kept the moisture in the ground.

Every year, the desert typically springs to life with ephemeral blossoms produced by short-lived annuals. These plants have adapted to harsh desert conditions by producing seeds that are able to remain dormant during the unfavorable months, only sprouting when water is readily available. However, they have to be quick to complete their life cycles in the short window of favorable growing conditions. The plants must germinate, grow, flower, and, with the help of a variety of pollinators, produce new seeds that will enable them to survive through the next period of brutally hot, dry weather. It is a very special time when what is normally a barren landscape is awash with bright colors, especially since it is all so fleeting. Many rushed to see the superbloom, and you can find thousands of images online.

Wonderfully, there is another kind of desert bloom happening in Mesa, Arizona. I was recently visiting the Phoenix area and had the opportunity to explore Mesa. When I first heard about the Rose Garden at Mesa Community College, I have to admit my first thought was, “A rose garden in Arizona! Really?” Nevertheless, I was quite pleasantly surprised when I arrived in Mesa and viewed this three-acre garden on the grounds of Mesa Community College. The garden was established in 1997 and has grown over the last 20 years to become largest public rose garden in the Desert Southwest. Even more amazing is the fact that the garden is maintained by community volunteers as well as volunteers from the Mesa-East Valley Rose Society. It all began with a group of rosarians from the rose society who established a partnership with the college. They planted roses donated by local nurseries on the north side of the college campus. From there the garden has grown bit by bit to over 10,000 rose bushes. I also discovered that over half of the roses produced by the U.S. nursery industry are grown just west of Phoenix. With the dry climate, there is little problem with black spot, a fungal disease that can be very damaging in our area, nor are Japanese beetles an issue.

The garden was designed by LeRoy Brady, a landscape architect with the Arizona Department of Transportation. The design is informal, with curvilinear walkways, rounded freeform beds, and lots of shady places to sit (a very important feature in any Arizona garden). The Rose Garden also features trial beds and demonstration gardens of the All American Rose Selections and for International Rose Trials. One section of the garden, added in 2004, is the Veterans Rose Garden, filled with roses with patriotic names. While I was touring the garden, there was a reception being held for members of the U.S. Department of Defense.

The volunteer workforce clearly is an extremely dedicated group. I heard about a pruning day organized in February in collaboration with the city of Mesa, which attracted over 200 volunteers who showed up for two hours of serious pruning. The regular “deadheaders” remove spent blooms, a never-ending job when there are so many plants. I can only image how much weeding is required for a garden of this size. The garden curator selects new additions each year. One can also stroll through the garden and listen to an audio tour that tells about the different sections of the garden and the particular rose cultivars they feature. The Rose Garden’s website (rosegarden.mesacc.edu) is also worth a visit. It is filled with valuable information about how to grow roses in Arizona.

As with the natural desert blooms, water is crucial to this cultivated garden. So the question is, how do you water a rose garden in Arizona? The college has a very interesting flood irrigation system, where water is let in from canals and fills up the area around the rose beds. They also use that method for some of the lawn areas on the campus. It takes a day for the water to percolate down. A good portion of the garden is irrigated with this system, and for the rest they use drip irrigation. The beds are flooded every two weeks for most of the year, and every week during the heat of the summer.

The garden is truly lovely. Although I am not usually a rose enthusiast, the garden totally won me over. It is well designed, the roses are spectacular, the fragrance wonderful, and the space is a great refuge in the Arizona climate. The volunteers do an amazing job taking care of it.

If you ever find yourself in the Phoenix area (the roses have two peak blooming times: in April and May and again in October and November), take a little detour to Mesa and smell the roses.
The Happy Chace ’28 Garden

The Happy Chace ’28 Garden is nearing completion! The waning days of last autumn were spent feverishly installing plants that prefer a fall planting, including the hedges of boxwood bordering all the planting beds as well as masses of tulips to enliven the garden this spring. The German iris collection, generously donated by Smith’s President Kathleen McCartney and her husband Bill Hagen, was returned to its home at the east entrance to the garden, after a stint in a temporary perennial bed well away from the chaos that was the Happy Chace Garden of last summer. Progress was not idled by winter either. Capen greenhouse (the Botanic Garden’s production greenhouse adjacent to Capen Garden, which is not open to the public) is bursting with annual and perennial herbs that were started from seeds and cuttings over the winter. These, as well as many specialty herbs from various nurseries, will be planted out in mid-May to complete the garden.

The new herb garden design and implementation represents some major improvements over the previous design. Now, not only can visitors stroll the fragrant paths and become immersed within the garden, but they can also view the garden from above. For this reason, the garden is designed as a parterre, with its hedged, geometrically laid-out beds, ideally viewed from the upper level. Also, during the construction, special attention was paid to the drainage and soil characteristics of the new planting beds. Although all the beds are well drained, some contain excessively well drained gritty soil, especially to the liking of that group of plants we so associate with herb gardens: the Mediterranean herbs including thyme, lavender, rosemary, and sage.

One of the appealing characteristics of the previous garden design was its likeness to traditional medieval herb gardens and the impressive diversity of herbs represented in them. Medieval herb gardens were to a very large extent utilitarian. Virtues of wild plants were discovered, and then the plants were brought into the garden to be readily available when needed. These virtues tend to fall into one of three categories: medicinal herbs, culinary herbs, and herbs with a household use. Medicinal herbs were used to treat any malady from scratches and burns to mental illness and flatulence. Culinary herbs, the group today’s herb gardeners are most familiar with, were most often used to flavor dishes and make teas. Much less well known to modern herb gardeners is the vast group of herbs devoted to various household uses. These include plants used for fragrance, be it distilled into essential oils or employed as strewing herbs — scattered over floors to be stepped upon, releasing their fragrance and making early, unsanitary dwellings bearable. Certain herbs served as dyes for coloring foods and fabrics, while other herbs were used to stuff pillows and mattresses. Some herbs were used in the process of carding wool (as is the case of fuller’s teasel or Dipsacus sativus). There were herbs to repel insects and others to attract lovers. One could safely say that if there was a need, there seemed to be an herb designated to meet that need.

The intense dependence on plants led to the medieval herb garden’s complicated web, interlacing medicine, mysticism, superstition, religion, witchcraft, and folklore. This complex jumble of beliefs is readily apparent in the doctrine of signatures, a philosophy of the Middle Ages whereby herbs were used to treat maladies of a body part based on the plant’s physical resemblance to that body part. This association was deemed a divine hint as to what herb would treat a given ailment. After all, why would these plants be put on Earth, if not to be of some assistance to people? It made perfect sense in context of the thinking of the day, and it certainly provided some guidance to the daunting and often dangerous task of matching medicine to maladies.

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Preemptive Moves

With the ground breaking for the library renovation approaching, we have undertaken a major project this spring to dig and redistribute plants that will be impacted by the construction. Surplus plants will be donated to the community, including to the annual Northampton SOS (Support Our Schools) Plant Sale. On April 7, the first shrub digging took place, a team effort by the whole Botanic Garden staff, including our conservatory gardeners in addition to the outdoor gardening staff, plus work-study students. The horticulture class also pitched in to help with the salvage for their last class of the semester, potting up over 200 hostas and epidemicium to be reused as ground covers elsewhere on campus. Incoming Summer Intern Lucy DeBolt ’20 will focus on “Neilson Impacts” for her independent project. Lucy will be tracking transplants and removals in our database and coordinating salvage and replanting efforts. She will also help with making adjustments to the Horticulture classes to account for the major changes to the outdoor teaching collection.

Chief Arborist John Berryhill has been planning how best to protect and prepare trees from what will be a stressful situation. Some trees were given a growth regulator that has been shown to stimulate fine root growth closer to the tree as well as inhibit elongation of new branches. The outer canopies of larger trees were carefully reduced with small pruning cuts to stimulate growth in the inner portions of the trees and to minimize snow and wind loads on major limbs. A second round of pruning will be done in a year or two, bolstering tree health and safety as the trees recover from any stresses to which they were subjected. We used an air spade (a tool that excavates with air pressure) to create a trench bisecting the lawn between the library and the red oak allee and carefully pruned roots that were found. Fencing will create a “do not enter” area for the protection of tree root zones, and a special irrigation system will be set up.
As a sophomore, I transferred to Smith College from Pratt Institute, in Brooklyn, New York. Part of my decision to even apply to Smith came from the fact that Smith both had a conservatory and was an arboretum, which impressed me greatly during my campus visit. Having been involved with horticulture from the age of sixteen (through a summer gardening job), I knew I wanted plants to be part of my education, something I had keenly felt lacking from my previous institution. What I didn’t know was that my time spent working with Chief Arborist John Berryhill and in the Lyman Conservatory would lead me directly into a career in public horticulture, with Conservatory Manager Rob Nicholson’s recommendation helping me secure my first “adult” job of Horticulturist at Wave Hill in New York City. I have since returned to my native Maine as a horticulturist at Coastal Maine Botanical Gardens in Boothbay, Maine.

This March marks the beginning of my third year at Coastal Maine Botanical Gardens (or CMBG as it is colloquially known), and sees the continuation of some big growth in this small-town garden. Before I get into those changes, let me give some background as to the amazing story of our gardens. Unlike most major botanical gardens, CMBG was not founded through an institution (such as a college like Smith or Harvard with the Arnold Arboretum), nor through the estate of a great person or family (such as Chanticleer or Longwood Gardens), and is not supported regularly through public (state or city) funding, such as Wave Hill in New York City. Instead, CMBG was the brainchild of a small group of like-minded individuals who lived in mid-coast Maine and felt the presence of a public garden was greatly lacking, not just in Maine but in northern New England. What began as conversations and meetings in 1991, solidified when they acquired 128 acres in 1996. What made this acquisition particularly amazing was the fact that ten founders and early members used their own homes as collateral in order to purchase the land. These were not Rockefellers or DuPonts, but average citizens with a dream and a faith that still amaze me to this day. Since then, many individuals and foundations have donated money and awarded CMBG grants to continue to build and grow.

More land was acquired, primarily through a large donation of abutting property and most recently a parcel of just under 25 acres with shoreline directly on Knickerbocker and Little Knickerbocker Lakes, bringing the current total acreage to 295. A large majority of that land remains untouched, with over 200 acres being conserved land, used for education and research only. CMBG’s landscape is very diverse, as the initial founders intended, containing tidal saltwater property, salt marshes, streams, bogs, ponds, vernal pools, swamps, and lakefront along with a significant amount of forested acreage. This includes the longest saltwater frontage of any garden in the United States. The frontage is on the tidal, brackish Back River, which is connected to the Sheepscot River, which in turn flows into the ocean a few miles to the south. The saltwater shoreline is a little under a mile long at 4,800 feet.

The official opening of the Gardens was in 2007, but construction of some of the original garden areas began in the early 2000s. In 2001, Ernie Egan, who was CMBG’s first president, donated some 60

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This past year saw 114,000 during our regular season (mid-April through October) and another almost 75,000 during our month-long Gardens Aglow holiday lights show, making the total for 2016 over 188,000, WAY more than our facilities were built to accommodate! In addition to the desperate need for more bathrooms, parking, tables in the café, etc., was a hope to become a year-round destination by eventually adding conservatories and groomed winter trails for walking and snowshoeing. Furthermore, the master plan includes better growing and propagation facilities so that we can grow more of our own plants on site, research facilities including a tissue culture lab, better education facilities to assist with our growing education programs, and, of course, more outdoor gardens plus a conservatory. The implementation of this master plan began this January with a better entrance road, a new Visitor Center (the old one will be converted fully to dining and food services), and more/better parking being the priorities.

As someone whose prior public garden experience included only established institutions (exciting in their own ways), it’s thrilling to be working at a place that is so young and so actively growing. This year we celebrate our tenth year of being open to the public, and we’re already looking ahead to the changes to come in the next ten. If you’ve never been, I hope you can visit soon. It’s truly amazing what has been accomplished in such a short time. And, if you have had the pleasure, come back. Not only does CMBG change constantly as the plants change, but you too can watch us grow as a garden. Visit mainegardens.org anytime and say Syretha sent you!

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Some Words & Sketches from Thoreau

On Friday April 28, Richard Higgins gave an Arbor Day talk about Henry David Thoreau’s deep connections to trees. Here are some excerpts from the lecture, featuring some entries from Thoreau’s journal. You can find much more in Higgins’ recent book, *Thoreau and the Language of Trees*, published in April 2017 by the University of California Press.

At Pratt’s, the stupendous, boughy, branching elm, like vast thunderbolts stereotyped upon the sky, heaven defying, sending back dark vegetable bolts, as if flowing back in the channel of the lightning.

*Journal, January 4, 1853*

Dance in the Community (DAN 267), taught by Marilyn M. Sylla, focuses a diverse group of dancers on the purpose of empowering audiences and enhancing their lives through dance and music. Our dances are all student choreographed and taught, and are inspired by the backgrounds and interests of those who create them. Before we learn each dance, we first explore a bit about the origins of the type of dance we will be performing. The first half of the semester consisted of teaching and learning these dances, and the second half of the semester we brought them into the community where we engaged with audiences of all different abilities and ages, through an interactive element in our choreographed pieces. We performed in various venues: Loomis Village retirement community, a veterans home, the Campus School, Armbrook Village senior community, as a flash mob in downtown Northampton, an RFK Children’s Action Corps girls treatment program, and the Botanic Garden.

*A video of the event is available on our Facebook page and our YouTube channel. Links to both are on our website.*
You are invited to join
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- A complimentary copy of Celebrating a Century: The Botanic Garden of Smith College, by C. John Burk
- Botanic Garden News, our newsletter, and a calendar of events, twice a year
- Members-only hours at the Bulb and Chrysanthemum Shows — 9:00 to 10:00 am daily
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