Maize has been one of the most significant crops in many cultures for thousands of years. It is the largest production crop in the world and plays a major role in U.S. agriculture and food production. The Botanic Garden is delighted to be showcasing this versatile crop in the Church Exhibition Gallery at the Lyman Plant House. *Maize: Mysteries of an Ancient Grain* was produced by the Museum of the Earth in Ithaca, New York, and was funded by the National Science Foundation.

What is maize? Why is it important? How has it changed? The answers to these questions are presented as well as some of the newest discoveries in modern science. Come and learn about genetic research to better understand corn evolution and the various roles of scientists in studying the corn crop.

This ancient grain was one of the many organisms that evolutionary scientist Charles Darwin examined. During his travels to South America, Darwin recognized the tremendous variation in maize and its long history of intentional breeding. In regard to domestication, Darwin stated in 1868,

> Although man does not cause variability and cannot even prevent it, he can select, preserve, and accumulate the variations given to him by the hand of nature almost in any way which he chooses; and thus he can certainly produce a great result.

*From The Variation of Animals and Plants Under Domestication*

The exhibition explores how scientists utilize genetics to select agriculturally useful mutations for increased disease resistance, healthier and larger plants, and to maintain genetic diversity. The natural diversity within a species can provide a plant with a buffer against changes in its environment, providing the plant with the flexibility to adapt. In extreme situations, such as drought or disease epidemics, diversity can be essential for the survival of the population. Scientists are using conventional and molecular plant breeding to combat world health issues, such as vitamin A deficiency, a major health problem for millions of people in the developing world.

An online teacher guide to the exhibition, *The Teacher Friendly Guide to the Evolution of Maize*, is available at maize.teacherfriendlyguide.org. It provides background information, ideas to support existing curricula, and links to resources.

The exhibit will be on view through December 15. Don't miss this opportunity to explore plant domestication in action through history and science.
We Are Now an Accredited Arboretum

Madelaine Zadik

In July of this year, the Botanic Garden of Smith College was awarded a Level III Accreditation by the ArbNet Arboretum Accreditation Program. ArbNet, the interactive community of arboreta, is sponsored and coordinated by the Morton Arboretum in Lisle, Illinois, in cooperation with the American Public Gardens Association and Botanic Gardens Conservation International.

The Morton Arboretum established the Morton Register of Arboreta and a basic system of arboretum accreditation to foster the establishment and professionalism of arboreta; to identify arboreta capable of participating or collaborating in certain scientific, collections, or conservation activity; and to advance the planting, study, and conservation of trees to improve the world. By achieving standards of professional practices deemed important for arboreta and botanic gardens, the Botanic Garden of Smith College is now recognized as an accredited arboretum in the Morton Register. Our director Michael Marcotrigiano commented on the recognition,

We are indebted to the Morton Arboretum for providing an accreditation system for arboreta. Achieving Level III acknowledges the Garden’s long-term commitment to botanical science and the landscape, and recognizes the work we have done over the past century in building one of the finest plant collections in New England.

More information is available at www.arbnet.org.
**Campus Landscape Projects**

Michael Marcotrigiano

Over the last several months, the campus has been a hotbed of activity, with many changes in the landscape and gardens. Building renovation projects and infrastructure repairs seem to be a source of never-ending upheaval for us. Sometimes, however, these are opportunities for us to make much needed changes. Here is a report on some of the latest activity.

After Lyman Pond, the little pond adjacent to the Conservatory, was dredged and all non-native species around the water removed, the area was replanted with native wetland species. A path leading to a viewing rock was added, a turtle basking rock was put in place, and native aquatics were added. Although the plantings are young, they already look remarkable and aquatic life is returning.

The Systematics Garden is now a blank canvas. Everything but turf is gone. In June, we had a successful plant sale to distribute species not suited for the new design, which will feature nondomesticated plants arranged according to the latest information on the evolutionary relationships of plants (see the article by Jenna Zukswert '13, *Evolving Plants, Evolving Systems, Evolving Gardens*, on page 3 of the Fall 2011 newsletter). A design is in place thanks to the efforts of our staff and several talented Smith undergraduates. Plants will be installed in the spring with signage to follow.

During the dredging of Lyman Pond we had to make access through the Ruth Brown Richardson (Class of 1913) Perennial Border Garden. A few sections of fence were removed, as were many plants. Thanks to the generosity of the Smith Class of 1958, the perennial border has been restored with many new and interesting plants including a nearly black daylily and one with a faded blue halo in the center.

Other projects this year included a redesign of Dewey Hall after its major renovation and a remake of the curb planting in front of the Art Museum. The harsh street conditions were unkind to the original plants. The new design features industrial concrete, cylindrical planters that contain graceful ornamental grasses and a ground cover of juniper, which will tolerate the dry salty conditions. Surrounding the stairs are ‘Neon Flash’ spirea.

Next summer a major installation in the Cutter and Ziskind Courtyard will be undertaken. Designed by the firm Ground (Shauna Gillies-Smith, principal), it will be a period piece, appropriate for the buildings, with intricate paving and plenty of social space. The design accommodates the increased flow of traffic into the dining area as students from other houses who will be eating in Cutter/Ziskind will be able to enter without passing through the common areas of the student residents.

---

**Legend**

- **Beds**
- **Actual**
- **Higher Taxa**
- **Basal Eudicots**
- **Campanulids**
- **Carophyllales**
- **Fabids**
- **Lamids**
- **Magnoliids**
- **Malvids**
- **Monophylotes**
- **Monocots**
- **Saxifragales**
- **PseudoPatha**

New Systematics Garden design, drawn by Summer Intern Katharine Wilson '15

Replanted section of the Ruth Brown Richardson (Class of 1913) Perennial Border, this fall
A new president, Kathleen McCartney, has taken the helm at Smith College, and we were delighted when, at the staff picnic in July, she commented on how wonderful it was to have such a beautiful campus that was also a botanic garden and arboretum.

At the Botanic Garden we also have had some recent personnel shifting. Longtime Capen Gardener Manuel Santos retired, two months shy of 31 years at the Botanic Garden. He certainly saw many changes during that time. Manny started at Smith in July 1982 as Gardener/Spare Truck Driver in the Botanic Garden. In 1989 he became Capen Gardener and Truck Driver, and he held that position until he retired on May 3, 2013. On his last day, family, friends, and co-workers gathered for a retirement party at Capen Garden to honor Manny for his many years of dedicated service and a job well done. The Botanic Garden staff wished Manny well with some departing gifts, complete with a money tree and golden egg.

The Capen Gardener position was filled by Monica Messer, who transferred to us from the grounds division of Facilities Management. She has worked at Smith as a groundskeeper for the last four years and holds a B.S. in Entomology from UMass. Monica originally took the job with Facilities with the hope of one day being able to work at the Botanic Garden. Her patience finally paid off. We are delighted by Monica’s enthusiasm for the garden and feel lucky to have her join our staff. She said that her favorite parts of Capen Garden are the rose arbor and perennial border along the sides.

Chief Gardener Tracey A. P. Culver transferred to a position in Facilities Management after 26 years at the Botanic Garden. She began as a Laborer and then spent 12 years as Pruner/Propagator, followed by 5 years as President’s Residence Gardener and 9 years as Chief Gardener. Nathan Saxe moved into the Chief Gardener position. Nate had originally started at the Botanic Garden in 2000 as the Woodland/Wildflower Gardener and switched to Greenhouse Assistant in 2003. He is quite happy to be outdoors again. He has a B.S. in Horticulture from the University of Connecticut and came to Smith from Mount Auburn Cemetery, where he had been the Horticulturist/Arborist.

That leaves one greenhouse position open. We are currently conducting a search to fill that position. Many highly qualified candidates applied, so we know that we will find the right person for the job. By the time you are reading this, we should have hired someone.
In Memoriam: Mary Laprade

Mary Helen (Hodge) Laprade, Lecturer Emerita in Biological Sciences, died in Northampton on August 18 at the age of 84. Born in Oakland, California, and educated in the California public schools, she came East in the late 1940s to complete an A.B. degree at Wilson College in Chambersburg, Pennsylvania, and graduated summa cum laude in 1951 with highest honors in biology. A year later, she completed an A.M. degree at Radcliffe College in Cambridge, Massachusetts, and in 1958 received a Ph.D. from Radcliffe, receiving an award for the most original doctoral thesis of that year. Her dissertation was a study of regeneration in the land crab, Gecarcinus lateralis, and she continued to study the land crab and other invertebrates throughout her long academic career. While a graduate student, she served as an instructor in biology at Simmons College and then as a teaching fellow in biology at Radcliffe. In 1958, she was appointed as assistant professor in what was then the Zoology Department at Smith College. She and her husband Ken, a lawyer, established themselves in Easthampton, and in 1960 she took time off from academia to care for their two children, Elizabeth and Charles.

In 1964, she returned to what would soon become the Department of Biological Sciences here at Smith, teaching both Invertebrate Zoology and Vertebrate Zoology as well as participating in our ever-changing offerings in Introductory Biology. A decade later, she accepted an appointment as director of the Clark Science Center, a position she filled with quiet distinction until 1989. Thinking back on her success as an administrator, I believe one of her great strengths was that she knew whom to talk to in the College community and, more importantly, she knew how to talk with them.

She then returned to teaching, specializing in an Invertebrate Zoology course from which emerged several students who went on to become prominent in the field. She also took on a new teaching assignment to participate in the department’s Biogeography course, an interdisciplinary offering. At that time in the class, I discussed the plants; Mary discussed the animals, and she quickly developed a delightful series of lectures, expounding on the complex lives of creatures ranging from flightless birds and Australian mammals down through the locust swarms that still plague Africa.

In her retirement, her energies undiminished, Mary began a new career as a volunteer for the Smith College Botanic Garden, working with classes at various levels as well as the general public. To prepare herself for these responsibilities, she audited courses in botany, including their associated field trips. Using her teaching skills to full effect, she regularly led tours of the Lyman Plant House, including expeditions through the greenhouses that focused on the biogeographic aspects of our plant collections.

My last conversations with Mary involved assistance she gave to our younger son Nicholas, who maintains a blog that deals with climate change and global affairs. Nicholas needed information that would help explain how the recent strife associated with the Arab Spring was somehow related to outbreaks of locusts in northern Africa. I advised him to write to Mary, whom he had known since childhood, about this. He did so, and via email she patiently led him through the complexities of the locust life cycle and the ways that neglect of effective control at certain stages could lead to famine in the region.

She possessed to the end a clear intelligence, an understated wit, and a sense of obligation to her family, the College, her colleagues, and to science. She was one of those persons whom one relied on and assumed would go on forever. She leaves her husband of many years, her two children, and two grandchildren. She will be greatly missed.

C. John Burk
Elsie Damon Simonds Professor Emeritus of Biological Sciences

Some thoughts about Mary Laprade

Mary was so humble. She often thanked us for the opportunity to be a part of our volunteer group. While the Botanic Garden gets its share of compliments, we now realize that a significant number came from Mary. She could turn my day around by saying something like, “It’s so great what you do here,” or “Whoever thought of that — it’s such a wonderful and interesting way to teach us about plants.” We are thankful that in retirement Mary chose to help us. She impacted so many lives with her teaching and did so with a gentle style.

Michael Marcotrigiano, Botanic Garden Director

I remember Mary very fondly. When I would arrive for our monthly volunteer meetings, I always looked for her at the back of the room. We would sit and chat about what we had been doing since our last meeting. Mary was a lovely, elegant woman whose loss, I’m certain, is deeply felt by many in our Smith community.

Terry Barton ’63, Botanic Garden Volunteer

Mary’s daughter Elizabeth shared the touching story of the struggle with T-cell lymphoma on her blog: www.elizabethlaprade.com/loving-life/love-like
The Asteraceae is an extremely large and widespread plant family, having a worldwide distribution and containing over 20,000 species. Everyone is very familiar with such garden ornamentals as marigolds, zinnias, asters, coneflowers, dahlia, and calendula. Edibles in this family include sunflowers, chamomile, lettuce, chicory, artichoke, and stevia.

The Asteraceae also includes numerous species used medicinally, including echinacea, yarrow, artemesia, tansy, and feverfew, plus the familiar garden weeds dandelion, thistle, and goldenrod.

The distinguishing feature of this family is how individual flowers are clustered together in an inflorescence called a head, giving the appearance of a single flower growing atop a stem. The head is made up of many small flowers (also called florets). Most often the head has two types of florets. The ray flowers, with conspicuous straplike petals (fused together and looking like a single petal), surround the disk flowers, small tubelike flowers that are clustered together, making a disk shape in the center of the head. Daisies, gerberas, sunflowers, and cosmos are classic examples, and let’s not forget chrysanthemums!

A few years ago, we began using themed plantings in the beds in front of the Lyman Plant House. We thought this location was a perfect opportunity for us to further our educational efforts while still providing an aesthetically pleasing display. In fact, we hoped the ornamental planting would get people’s attention, that they would enjoy the beauty of the garden and could learn something at the same time. Last summer we featured plants of the Solanaceae or nightshade family, and this year we showcased a selection of plants from the Asteraceae, also commonly known as the aster, daisy, sunflower, or composite family.

Many of you who have visited the Lyman Plant House in recent years know that we offer a wonderful audio tour of the conservatory. Members of the Friends of the Botanic Garden can borrow an audio “wand” for free at our reception desk. The tour has stops designed for both adults and kids, although it’s fun for everyone to listen to either.

Modern technology now enables us to make the tour available to anyone with a smart phone, through QR codes (QR stands for quick response). These are two-dimensional bar codes that when scanned with your smart phone take you to webpages that play the audio files on your phone (you will need to download a free QR code reader app). Last year one of our interns, Brittany Innis ’13, worked on turning our audio files into a format that works on the internet, and she created all the QR codes to make the system work.

By the way, you will also see two-dimensional bar codes on our plant labels in the greenhouses. These provide information on the plants’ accession numbers, and we use them to inventory our collection. They do not provide visitors with any information, however.

Take out your phone now and try out a sampling of the tour. Use the QR codes below to listen to some of the audio tour wherever you are! Be sure to check out the full tour on your next visit.
Disjunct, Distinguished, Disturbed; Magnolia virginiana in Massachusetts

Rob Nicholson

Oct. the 20th. The Beaver tree is to be met with in several parts of Pensylvania [sic] and New Jersey, in a poor swampy soil, or on wet meadows. Dr. Linnaeus calls it Magnolia glauca. Both the Swedes and English call it Beaver tree, because the root of this tree is the dainty of beaver, which are caught by its means, however the Swedes sometimes gave it a different name, and the English as improperly called it Swamp Sassafras and White Laurel. The trees of this kind drop their leaves early in autumn, though some of the young trees kept them all the winter. I have seldom found the beaver tree north of Pensylvania, where it begins to flower about the end of May. The scent of its blossoms is excellent, for by it you can discover within three quarters of an English mile, whether these little trees stand in the neighborhood, provided the wind be not against it. For the whole air is filled with this sweet and pleasant scent. It is beyond description agreeable to travel in the woods about that time, especially towards night.

Peter Kalm, Travels into North America. 1748

How many towns in Massachusetts are named for a tree? One might suggest Orange (no, named for William, Prince of Orange), or Holyoke (sorry, named for Elizur Holyoke) or Oak Bluffs (really, a place). Only one village comes to mind that is truly named for a tree, and yet, how many residents of Massachusetts could even name it? Very few, which attests to both the smallness of place and the rarity of the tree that bears the name. Magnolia, Massachusetts, is home to what is possibly the rarest tree in New England, Magnolia virginiana, the sweetbay magnolia. Only one small and dwindling population exists in the six New England states, located in a bowl of swampy habitat on a Trustees of Reservations property called Ravenswood Park.

Rarity is a relative concept, especially with organisms. If one is ranking plants by categories of rarity and “endangeredness,” then a global perspective is needed. Magnolia virginiana is a classic example, as in New England it is rare as a bird of paradise but in the southern states, as common as crows.

In fact, this species’ range has outlier populations (disjunct populations is the ecological term) at both the northern and southern ends. The closest populations to the Massachusetts one are in Long Island and Delaware. Then the species gets quite common as you head south. But another large and interesting gap appears between Florida and Cuba. In 2006, two stands of a new magnolia were found in western Cuba. These were described as a new subspecies, M. virginiana subsp. ovoidae, but later genetic analysis showed them not to be distinct enough from M. virginiana to merit a subspecies designation. While it seems odd that the Massachusetts stand of magnolia escaped the attention of the botanically inclined for almost 200 years, odder still is the fact that the southernmost stand was not found by those inclined to catalog plants during the five centuries of colonization and settlement in Cuba.

The genus Magnolia is in the plant family Magnoliaceae, which consists of over 200 woody tree and shrub species worldwide. It is considered among the basal angiosperms, those families of flowering plants that were early to evolve. The fossil record first shows magnolia-like plants appearing about 100 million years ago. That is not to say of course that the Massachusetts stand has been in place that long. As recently as fifteen thousand years ago the area where the stand is currently growing was covered in glacial ice, hardly conducive to a tree more accustomed to southern climes. What is curious is how little spread there has been from this small population over time; in a word, none.

The small stand was first brought to the attention of botanists by Jacob Bigelow in 1814, as mentioned in his book Plants of Boston. Henry David Thoreau, an avid explorer of nature, visited the stand in 1858 and penned,/
The summer Botanic Garden interns on their collecting trip in Magnolia. From the left: Christopher Copeland (UMass) Becky Szal '16 (Hampshire), Kady Wilson '15, Emily DiPadova '16, Erika McCarthy '16, Noemi Collazo '16, and Rob Nicholson

propagate them with the idea that we would plant some area of the campus with the resulting trees, an ex situ (off site) population that might serve as insurance for the native population. With the help of Russ Hopping, an ecologist for the Trustees of Reservations, we secured a collection permit from Massachusetts State Botanist Bryan Connolly and trundled by van to Cape Ann on a sunny summer day. Russ met us at the parking lot and warned us that the two inch rainfall the day before would make for a wet traverse of the swamp (this was the understatement of the day). After a short walk through the oak/pine forest we started downhill and came to the deer fence. Russ opened it and forward we went, trying to hop between dry spots until the futility of staying dry sunk in and we just slogged on. Each tree, regardless of size, was tagged with a numbered label and cuttings were cropped based on what the tree could healthily surrender, then bagged and tagged. The swamp was dense with foliage and spotting the trees, even to Russ, was a challenge. But we collected 67 cuttings off 15 genetically different trees and returned with them for the three hour drive to the Smith College Botanic Garden. Summer Intern (and current Curatorial Intern) Emily DiPadova ’16 really enjoyed the collecting excursion. She said, "I hadn’t realized that any magnolias grew this far north in the wild, and it was an adventure to see them. The magnolias were smaller than I expected and we could clearly see the damage the deer population had done to them. Although the swamp was mosquito and tick infested, it was a wonderful experience to be able to participate in this collecting trip.”

The next day the interns processed the collected material: making cuttings, treating the bases with a rooting hormone, and placing them on our misting bench. Two months later the final results were 42 rooted cuttings from 15 genotypes. These two flats of cuttings make ours the most genetically diverse ex situ collection of what is probably the rarest native tree in Massachusetts, possibly New England. As we grow these out we can clone more plants and offer sets to other New England botanic gardens or back to the Trustees for restocking. We hope to establish living ex situ populations at Smith, perhaps near the river or in the ravine below the President’s Residence. Deer, of course, remain the joker in the deck. More and more deer are being seen in Northampton—could we be setting ourselves up for failure? But as the wise woman Coco Chanel once said, “Success is most often achieved by those who don’t know that failure is inevitable.”

References


The potato figures into the diet of more than a billion people in over one hundred nations. Yet many of the varieties housed at the International Potato Center in Lima, Peru (CIP), would hardly be recognizable to anyone but the Andean farmers who cultivate them. There, at the world’s largest in vitro (in an artificial environment) plant genebank, thousands of cultivars and wild potato relatives are preserved for posterity. As a globally significant crop, the potato makes an ideal candidate for genetic conservation; at the same time, its unique place in both traditional and industrial food systems adds important economic and human dimensions to this undertaking. For this reason, CIP is a “research-for-development” institution, dedicated not only to conservation, genetics research, and breeding, but also to promoting the livelihoods of smallholder farmers around the world.

The cultivated potato, *Solanum tuberosum*, is a tuber-bearing plant native to the Andean region of South America. Though its precise pathway of domestication remains a matter of debate, *S. tuberosum* appears to have emerged from genetically and morphologically diverse landraces, distributed from western Venezuela to southern Chile. Despite containing bitter compounds, these landraces were attractive to ancient Andeans for their productivity, ability to thrive in poor soils, and tolerance of extreme climate conditions. Archaeological evidence suggests that people were consuming wild potatoes thirteen thousand years ago, and cultivated varieties by eight thousand years ago. Over 4,300 varieties of domesticated potato are now known to exist, the majority of which are grown only in the Andes.

Along with wheat, rice, and corn, the potato represents one of the world’s four most valuable crops, which together account for half the caloric intake of the United States. Furthermore, potato production remains integral to many traditional livelihood systems, including the local Andean economies, for which it generates more added value and employment than any other staple. Yet, as Karl Zimmerer observes, a single Andean potato field “exceeds [in diversity] nine-tenths of the potato crop of the entire United States.” Using the potato as an example, this observation raises important questions in terms of both food security and biodiversity conservation. What risks are inherent to the monocultures favored by modern large-scale agriculture? What are the benefits of conserving crop diversity? Furthermore, what purposes can gene

(Continued on page 10)
Potatoes continued

Television advertisements for Lays Andinas present the heritage of indigenous potato farming as a source of Peruvian national pride.

(Continued from page 9)

banks like CIP serve beyond acting as warehouses for genetic material?

The United Nations’ Food and Agriculture Organization estimates that 75% of agricultural biodiversity has been lost since 1900.5 This is but one of many side effects that industrial agriculture creates in exchange for efficiency. But when an entire food system is built on a relatively narrow genetic base, it runs the risk of toppling over. As large swaths of land are tightly packed with genetically similar plants, crops are left uniformly vulnerable to threats; this, along with complex economic and political factors, underlies such catastrophes as the infamous Irish Potato Famine. Decimation of the entire potato crop was caused by reliance on one or two cultivars. That reduction in genetic diversity made every plant susceptible to the potato blight. Crop diversity can mitigate the impact of threats to food security, such as the blight that ravaged Ireland’s potato fields. And so, protecting agricultural biodiversity is not simply an act of nostalgia for the heirloom (though the flavors, textures, colors, and forms of heritage crops are widely extolled). It is also an insurance policy, an investment in a secure future.

Gene banks safeguard not only specific cultivars and wild relatives, but also the beneficial traits these may offer to the development of improved varieties. In this way, institutions like CIP create genetic wellsprings from which to select for higher yields; greater nutritive values; drought, flood, salt, and extreme temperature tolerance; and disease and pest resistance. In the face of pressures like global warming and population growth, genetic resource conservation ensures our ability to breed crops that meet the needs of a rapidly changing world. For all these reasons, CIP stores potato seeds, shoots, and plantlets and breeds improved varieties. Additionally, CIP maintains a field gene bank in the Peruvian Andes, where tubers are propagated annually; an herbarium collection of 25,000 root and tuber specimens; DNA samples of more than 2,400 specimens; and in situ conservation projects, which provide potato material to small-scale farmers. Despite its name, CIP deals not only with the potato, but also with the sweet potato and lesser known Andean roots and tubers. Projects extend beyond South America to regions where poverty coincides with root and tuber production, such as lowland Asia and sub-Saharan Africa.

Recognizing that smallholder farmers still feed about 70% of the world population5—and that a great many of these farmers are women—CIP works to increase “food security, well-being, and gender equity” by addressing hunger, poverty, and environmental degradation. Tackling the economic and human development possibilities of conservation research necessitates a multidisciplinary approach. CIP therefore enlists the expertise not only of biologists, but also that of anthropologists, sociologists, agroeconomists, statisticians, nutritionists, and medical doctors. CIP also helps smallholders seek new market opportunities and negotiate business agreements. In 2008, for example, PepsiCo partnered with CIP and other Peruvian nonprofits to create Lay’s Andinas, a chip product made from potatoes grown by highland farmers.4

The loss of agricultural biodiversity is a complex problem that cannot be solved by cutting-edge technology alone. Institutions like CIP demonstrate how this global issue can be approached holistically, by employing strategies that serve the interests of science, the global food economy, and farm families alike. Just as the world’s gene banks are making strides in the realm of ecological conservation, their contributions to economic development and food security are proving and will continue to prove invaluable to future generations.

Notes
Ask most tourists about what attracts them to Massachusetts, and you're likely to hear references to colonial history, Plymouth Rock, the Freedom Trail, whale watching, and Tanglewood. But how about public gardens?

Massachusetts boasts some of the oldest and most beautiful gardens in the country. The cool temperate climate is highly favorable to a wide variety of plants of ornamental and economic value, many indigenous to the state or region. Botanic gardens, which display these plants with their proper scientific names, have long been a treasured resource for residents of the Commonwealth, who look to public gardens as a source of beauty and inspiration as well as information on how to create and maintain their own gardens.

The Smith Botanic Garden joined forces with nine other botanic gardens across the state to make it easier for tourists to discover us. With the support of the Massachusetts Office of Travel and Tourism, and several regional tourist councils, we created a new website, called Mass Botanic Gardens, that provides descriptions, photos, and directions to each of these horticultural gems.

The gardens themselves are as unique as the different niches they occupy. Some charge admission, some are free, but all provide a special glimpse into the varied and dynamic world of Massachusetts horticulture. In the western part of the state, in addition to the Smith College Botanic Garden, the Berkshire Botanical Garden presents meticulously groomed grounds, greenhouses, and special events. In Worcester County, Tower Hill Botanic Garden offers year-round beauty with two greenhouses and several distinctive outdoor gardens. East of Route 495, five gardens showcase native plants, annual trial gardens, mature specimen trees and shrubs, and much more. These include New England Wild Flower Society’s Garden in the Woods with its collection of plants native to New England and a certified Trillium collection; Wellesley College Botanic Gardens, which includes a dwarf conifer garden and an Edible Ecosystem Teaching Garden; the Massachusetts Horticultural Society’s Gardens at Elm Bank, a historic estate by the Charles River with formal gardens; Mount Auburn Cemetery, dating to 1831, the nation’s first example of a garden cemetery and an essential stop for birdwatchers; and the Arnold Arboretum of Harvard University, a historic landscape designed by Frederick Law Olmsted (as is the Smith campus) to showcase trees and shrubs from around the world. You will find public gardens on Cape Cod and the Islands: Heritage Museums and Gardens, in Sandwich, which includes a gorgeous rhododendron collection and a children’s outdoor discovery area, and the Polly Hill Arboretum on Martha’s Vineyard, which holds an extensive collection of woody plants, many not hardy elsewhere in the state.

For tourists and Massachusetts residents alike, a reawakening is at hand. Although the Commonwealth doesn’t have the moniker “Garden State” or “Emerald Gem,” it is no less a prime destination for natural beauty, manipulated by human hands through the art and science of growing plants in managed environments. Discover Massachusetts’ garden gems at massbotanicgardens.org, and visit a public garden today!
Local Data/Global Impact:
Smith plant collections survey data used to help other botanic gardens and the world

Elaine Chittenden

The stunning Lyman Plant House and Conservatory and grounds of the Botanic Garden of Smith College are just the tip of the iceberg compared to what happens behind the scenes, particularly regarding collections management. The currency of collections are plant records. Unlike accessions in an art museum, plants may be grown from seed, propagated and shared, or have their seed collected and offered in the international seed exchange or used for research, among other things. All staff and students responsible for curation contribute to the accuracy of the database records and consequently the accuracy of the information we share with the world. We have for some time shared plant records data on the web through a site supported by the Royal Botanic Garden, Edinburgh (see http://rbg-web2.rbge.org.uk/multisite/multisite3.php). In 2010 we began uploading our data to the web site of Botanic Gardens Conservation International (BGCI).

As part of the international botanic garden community, we are often asked to participate in a variety of surveys, as our data may be quite valuable to other institutions. Some surveys are sent to us by graduate students researching their projects, and others are from gardens or organizations working on particular issues or taxa. Here is a sampling of surveys in which we have recently participated. The surveys were completed by myself and/or Rob Nicholson, conservatory manager.

Garden Search Survey
This survey was designed to help BGCI improve services for contributors to their online public databases—Garden Search and Plant Search. See www.bgci.org/plant_search.php and www.bgci.org/garden_search.php.

Benchmarking Assessment of the Family Orchidaceae
Smithsonian Gardens. 2013.
In preparation for the submission of an application to the North American Plant Collections Consortium (NAPCC)—a network of botanical gardens and arboreta working to coordinate a continent-wide approach to plant germplasm preservation, and to promote high standards of plant collections management—this survey compared collection holdings from public gardens across the continent to determine the strengths and gaps in the Smithsonian Gardens Orchid Collection. The survey, which looked at collection statistics and species represented, database records, nomenclature sources, and growing conditions, was sent to twenty institutions with significant orchid collections.

ArcGIS Public Garden Data Model Survey
Alliance for Public Garden GIS. 2013.
This survey asked users to evaluate the framework being created to help public gardens develop their own geographic information systems (GIS) for managing plant collections data and visually presenting it. The Botanic Garden is working towards implementing the use of this data model in the future.

Orchid Collections: Best Practices
Graduate Student, Longwood Graduate Program in Public Horticulture, University of Delaware. 2013.
This survey focused on gardens with orchid collections. The results will be used for research purposes to identify needs and best practices for these institutions.

Ex situ Collections of Endangered Conifers
BGCI. 2013.
Comprehensive survey designed to identify which Endangered and Critically Endangered conifers are currently held in ex situ (outside their natural habitat) collections, what is known about their cultivation and what related conservation activities are currently taking place. Information gathered for each conifer in the collection included provenance, i.e., if it was from a known wild source or of horticultural/unknown origin, the number of individual plants, and whether the collection was part of a restoration or reintroduction program. The goal was to identify gaps and opportunities in order to develop a prioritized plan for the long-term integrated conservation of the most threatened conifers.

(Continued on page 13)
Surveys continued

(Continued from page 12)

Plant Nomenclature and Taxonomy
This survey was administered by the herbarium curator and field botanist from
the Royal Botanical Gardens, Burlington, Ontario, Canada, to find out what
types of information gardens include on plant labels. It queried how important
we ranked using the most current botanical nomenclature and whether we have a
taxonomist on-site to assist with nomenclature, what references we use, and if
we have interest in training opportunities and communication venues.

Convention on Biological Diversity (CBD) and New Plant Health Importation Regulations
This baseline survey focused on gathering information about how public
gardens are adhering to and incorporating the CBD, and in particular its
provisions on access to genetic resources and benefit-sharing, into living plant
collections policies and practices. Additionally, it measured awareness of a new
U.S. plant health importation regulatory category. It queried whether Smith is
involved in plant conservation, whether we obtain proper permits, and whether
we have plant material agreements. Results are available at

Assessing Global Support for Integrated Conservation of Magnolia ashei
Graduate student, Longwood Graduate Program in Public Horticulture,
University of Delaware, in collaboration BGCI and Magnolia Society
International. 2012.
This research focused on how botanic gardens are contributing to integrated
conservation efforts for Magnolia ashei (synonyms include M. macrophylla var.
ashei and M. macrophylla subsp. ashei), a species restricted to scattered sites on
the Florida Panhandle and whose conservation status is currently listed as
imperiled by NatureServe. The aim of this survey was to collect baseline data to
better inform future integrated plant conservation efforts within the botanical
community.

Investigating the Effects of Climate Change on Cultivated Trees
This survey of 52 different species of trees was to ascertain which gardens are
growing them and how well they grow at various locations. This research was
designed to help with the management of the tree collection at the Chicago
Botanic Garden and to aid in the development of an adaptive planting list for the
city of Chicago. Furthermore, the data will be made available to the public to
assist cities and municipalities across the country in addressing the effects of
climate change on landscape tree plantings. Funding for the project was
provided by the Institute of Museum and Library Services.

International Sentinel Plant Network Survey
BGCI and the U.S. Forest Service. 2011.
This survey asked about the presence of plant pests (including invasive species)
and pathogens in order to determine their range and to serve as an early warning
system to help predict and prevent the incursion of new plant pests.

Tree and Shrub Label Attachment Techniques
This survey investigated the effects of identification label ties on the branches of
trees and shrubs, in an effort to identify techniques that avoid damage to plants.

Ex Situ Zelkova Collections
BGCI and the Botanic Garden of the University of Fribourg. 2010.
This survey queried botanic gardens around the world to determine which species of
Zelkova (a deciduous tree related to elms) were in cultivation and to inform the
development of a global action plan for the conservation of threatened Zelkova species.
The recommendations would look at how to strengthen existing ex situ collections,
establish new collections, carry out genetic analysis of collections of wild populations,
implement restoration and reintroduction activities, involve local communities and
organizations in conservation activities, and develop public awareness programs. The
results of the survey can be found at www.bgci.org/files/survey-zelkova.pdf.

Assisted Colonization: Torreya taxifolia
Graduate student, Environmental and Forest Biology, State University of New York,
Syracuse. 2011.
Assessment of the relative need, suitability
and cost–benefit of assisted colonization of Torreya.
Assisted colonization is also
known as assisted migration—helping plant
and animal species colonize new habitats
when driven out of their historical habitats
due to rapid environmental change.

Torreya taxifolia, stinking cedar
[published as Tumion taxifolium].
Illustration from Charles Sprague Sargent,
The Silva of North America. 1898. 10: t. 512.
In 1999 two student residences on the Smith campus, Hopkins A and Hopkins B, were taken down for a variety of reasons. They were two of three Hopkins houses that Smith purchased in 1920 with the goal of making every student a campus resident. Located on the north side of the Lyman Plant House complex, Hopkins A and B had the best view of campus, overlooking the greenhouses, gardens, and Paradise Pond. The basements faced out onto the parking lot just above the greenhouses and had been used by the Botanic Garden as a storage area for many years. According to Maryjane Beach (administrative assistant 1978–2003), the department did a lot of pot washing there and William Campbell (college horticulturist 1937–1971) had told her that his office was in one of the basements at some point before being located at the Lyman Plant House.

When it was announced that the buildings would be torn down, Conservatory Manager Rob Nicholson, who was interim director at the time, knew that much material was in storage in the basements, and he realized that we needed to rescue any valuable items. In addition to an ancient label-making machine, lots of laboratory glassware, pots, and other paraphernalia, he discovered a pile of old botanical wall charts that dated back to the time of William Francis Ganong, professor of botany and the Botanic Garden’s first director (1894 to 1932).

William Francis Ganong was an internationally acclaimed botanist who was at the forefront of teaching botany in this country. He developed a variety of apparatus for plant physiology experiments and wrote several textbooks: *The Teaching Botanist, A Laboratory Manual for Plant Physiology, The Living Plant,* and *A Textbook of Botany for Colleges.* He acquired the botanical wall charts to help students in their study of plant anatomy and taxonomy. The charts that he purchased were created by scientists specifically for classroom use and were of German origin.

According to John Burk (professor of biological sciences 1961–2007), the wall charts were dispersed in various places, including the Herbarium in Burton Hall. In 1967, when construction of the Clark Science Center began with the addition of Sabin-Reed to the back of Burton and the demolition of a lecture hall that used to be there, the charts (or at least some of them) made their way to storage in Hopkins. We did find additional charts in various locations in Sabin-Reed and Burton halls. We knew the charts were valuable, but many were not in great condition and we didn’t quite know what to do with them. Research revealed that the charts are most valuable when they are bound as a complete set. We have 84 of them (not a full set) and they are pretty large (about three by four feet). Restoration would be extremely expensive, and then what would we do with them? They resided at the Lyman Plant House for a while, and in 2006 we had them all photographed at high resolution. The 84 charts are now securely housed in the Herbarium prep room in Sabin-Reed Hall under the care of Jesse Bellemare (assistant

(Continued on page 15)
professor of biological sciences and caretaker of the Herbarium).

Botanical wall charts were common pedagogical tools in the late nineteenth and early twentieth centuries. They likely originated in 1820s Germany, when school became compulsory and new developments in printing made mass production possible and large-scale prints much more economical. Attitudes toward education were changing, and classrooms filled with large numbers of students necessitated strong visual aids. At first the charts were used in primary schools, but then expanded for use in higher education. Often the charts were accompanied by textbooks, allowing for less text printed on the charts themselves. It is quite evident that the artists strived for as much detail and accuracy as possible, which was important since the charts were replacing natural objects in the classroom. Clearly, artistry was also important, a perfect example of the melding of art and science. Germany became a leader in production of wall charts (Wandtafeln). Their popularity peaked from 1870 to 1920, and they were sold in large quantities throughout Europe and America. The prints were produced by lithography. The original posters were printed on linen or on canvas backed paper.

The 84 charts in the Smith College collection were printed by three different publishers in Germany: J. F. Schreiber in Esslingen (5), Wiegandt, Hempel & Parey in Berlin (5), and Paul Parey publishing in Berlin (74). They were created by several different artists. We have 17 charts by Carl Ignaz Leopold Kny (1841–1916), a professor of plant physiology at the University of Berlin. He produced a total of 120 charts between 1874 and 1911, some published by Wiegandt, Hempel & Parey others by Paul Parey. Five of our charts were created by the husband and wife team of Arnold and Carolina Dodel-Port. Arnold Dodel-Port (1843–1908) was a professor of botany at the University of Zurich and was a correspondent of Charles Darwin. Between 1878 and 1883 the Dodel-Port team produced the Botanical Atlas, consisting of 42 charts published by J. F. Schreiber. We have one chart by German botanist Albert Bernhard Frank (1839–1900), professor at the University of Leipzig and later at the Royal College of Agriculture in Berlin who coined the term mycorrhizae, and Alexander Tschirch (1856–1939), professor of pharmacy and pharmacognosy at the University of Bern. Between 1889 and 1894 they created 60 charts in the series Pflanzenphysiologische Wandtafeln (Plant Physiology Wall charts), published by Paul Parey. The greatest number in our collection, 61 of them, were created by Albert Peter (1853–1937), professor of botany in Göttingen.

References:

Now, a hundred or so years after William F. Ganong purchased the charts (we don’t know the exact dates), the images are once again gracing the walls where students study plants. We framed prints made from the photographs of the originals (a bit reduced in size) and hung them in the relatively new classroom (added in our last renovation completed in 2003) used for the horticulture classes. Tradition and history have always had a place at Smith College, and as President Seelye imagined the Botanic Garden to be of aesthetic as well as educational value, so are these historic wall charts.
The Botanic Garden of Smith College is grateful to our supporters who help make our work possible. We wish to express our sincerest thanks to the following contributors who have given so generously in the last fiscal year, from July 1, 2012, through June 30, 2013.

Donors

Memorial Gifts

In memory of
Celia Schopick Benney 1932
Judith Jacobson
In memory of
Evelyn Ohman Betts ’41
Nancy Betts
Roland Betts
Alison Betts DeWitt
In memory of Helen Brown
Holly C. Brown
In memory of
Margaret Lunt Bulfinch 1903
Susan B. Ritter
In memory of William Campbell
Jane Ross Moore
Edith A. Sisson
In memory of Helene Cantarella
Margaret Groesbeck &
Arthur Apostolou
In memory of
Ruth Pierson Churchill 1919
Martha Wood Subber
In memory of Lee Potter Clark
Judith A. Greene
In memory of Lyn Judge Corbett ’74
Barbara E. Judge
Barbara Judge Townsend
Nancy Judge Wood
In memory of
Helen Hadgman Craig 1913
Margaret De Mott
In memory of
Winifred Hart Davis ’45
Elizabeth Petit Kneller
In memory of
Edith Donahoe Dinneen 1927
Edith N. Dinneen
In memory of Dorothy Lilly Fowell
1924 & Eunice Lilly 1919
Elvin M. Fowell
In memory of
Marjorie Wellman Freeman 1916
& Fentress Kerlin Park
E. Hope Freeman Hadner
In memory of
Ora Gillies Gerhard 1937
Caroline Riggs
In memory of Luc Gillem
Sharon Seelig
In memory of
Roselle Hoffmaster ’98
James & Kathleen Hoffmaster
Annette Zaytoun & Rick Reynolds
In memory of Fannie Hughes
Leonora M. Paglia

Memorial Gifts continued

In memory of
Allen & Nan King
Maribeth Klobuchar
In memory of Sandra H. Krasner ’57
Margaret Boonstra
Lina Holschuch Coffey
Judith Lissauer Cromwell
Judith S. Denison
Betty Gaines Ewing
Valerie Groeneveld
Florence M. Kelly
Esther Coons Laventhol
Marilyn J. Martin
Pauline Applebaum Stark
Marianne Torrens Tompkins
Anne Weaver
Ann Wood
In memory of Ronald Macdonald
Jennifer Heath
In memory of
Betsy Peck McCarthy ’61
Anne Carter Zadig
In memory of
Victoria Flournoy McCarthy ’75
Megan Adamson
In memory of Mary Melrose ’71 &
Sandra O’Leary ’71
Janet B. Wallstein
In memory of Mary Mensel 1918
Estelle Rosen
In memory of
Constance Morrow Morgan ’35
Elisabeth Morgan Pendleton
In memory of Nancy Morris
Laura L. Zaytoun
In memory of Erin E. O’Neill 2011
Rita Botzenhardt
Philip & Elizabeth Clift
Jessie Dasson
Myron E. Dasson
Monica Duval
Sharon Manzer
India Meissel
Catherine O’Neil
Jerry O’Neil
Kolbe O’Neil
Patricia O’Neil & Luther Robinson
Sue O’Neil
Thomas & Kim O’Neil
In memory of Janet Ballou Orton
Patricia Spring Dube
In memory of Philip Reid
Richard Munson
Constance A. Parks
In memory of Marion Rhodes
Eugene G. Rhodes
In memory of
Jeanne Hampton Shearer ’66
Anna Craig Hogan
In memory of Elizabeth Sheppard ’81
Anne Bolanis Standid
In memory of
Evelyn Van Dyk Townsend 1936
Warren Ferris

Honorial Gifts

In honor of Lesli Ann Ageaouli ’93
Alfred & Margaret Rosa
In honor of Teresa Barton ’63
Alison Taylor
In honor of Maryjane Beach
Cathy Ann Longinotti
In honor of Kim Bierwert
Jennifer Beachell
In honor of the
Class of 1958 – 55th Reunion
Smith College Class of 1958
In honor of the
Class of 1988 – 25th Reunion
Smith College Class of 1988
In honor of Victoria Fort 2007
Priscilla Carter Fort
In honor of Jay Girard
Rosemary Smith
In honor of Richard Munson
Judy L. Shindel
In honor of
Dr. James Niederman &
Miriam Camp Niederman ’48
Nancy V. Ahern
In honor of
Katharine Richardson 2010
Godfrey Bakuli
In honor of
Ann Scroggie Robinson ’22,
Ann Robinson Joyce ’52 &
Ann Joyce Delano ’79
Ann Joyce Delano
In honor of Elizabeth A. Rosa ’93
Alfred & Margaret Rosa
In honor of Anna Ward
Evangeline Heiliger
In honor of
Emily Churchill Wood 1946
Martha Wood Subber

Muriel Kohn Pokross ’34 Fellowship in Botanical & Horticultural Studies
Joan Pokross Curhan
Donna K. Donaghy
Deborah Wolfe Lievens

Cary MacRae McDaniel ’69 Internship Fund
Ann Coulter Wiss
Catherine J. Wiss
Barbara Burgess Wolfe

Mary Mattison van Schaik ’31 Fund
William Fleming & Ann Colangelo

Botanic Garden Internships Fund
Deanna Bates
Alison Arbor Jones

Mildred Milliken Kuhn Class of 1944 Fund
Margaret Kuhn Moore

Bequests
Margaret Guyton Stout

Marcia Schofield ’65 Conservatory Maintenance Fund
Marcia Schofield
Donors (continued) Many thanks to the many anonymous donors and all those who placed their contributions in the donations box.

Foundation, Corporate, and Organization Donors

B & H Company
BF Foundation
C.L. Frank & Company
Hawksglen Foundation
Keough Fund
E.C. Mason Fund
Rust Family Foundation
Tilia Foundation
Triple T Foundation

Matching Gifts

Babson Capital Management
Bank of America
Boeing Gift Matching Program
Ernst and Young Foundation
Gartner
GE Foundation
Mass Mutual Financial Group
New York Life Foundation
Raytheon Matching Gifts for Education Program
Walt Disney Foundation

Smith College Clubs and Classes

Smith College Class of 1958
Smith College Class of 1988
Smith College Club of Belmont

Gift-in-Kind Donations

Susan Cohen
Elaine Reall

Members of the Friends of the Botanic Garden

Champions

Deanna Bates
Ann Joyce Delano
Alison Betts DeWitt
Donna K. Donaghy
Alison Corning Jones
Mrs. Jack B. Joyce
Jane Spivy Keough
Elisabeth C. Mason
Lynden B. Miller
Marcia Schofield

Patrons

Roland W. Betts
Anne B. Brown
Philip and Elizabeth Clift
Myron E. Dadson
Edith N. Dinneen
Monica Duval
E. Hope Freeman Hudner
Mr. William B. Hurd, Jr.
Cornelia Hahn Oberlander
Thomas and Kim O’Neil
Marcia Zweig

Sustainers

Nancy V. Ahern
Shavaun T. Bennett
Linda B. Brummer
Jessie Dadson
H. Gay Flood
Christopher L. Frank
Joan Haseltine

Sustainers continued

Barbara E. Judge
Deborah Wolfe Lievens
Stephanie B. Mudick
Pamela Niner
Elizabeth Rajam
Nancy Ross
Karen Russo
Randi L. Rust
Rita Seplowitz Saltz
Sarah Chase Shaw
Barbara P. Stern
Nancy R. Turner
Heather Walsh
Elisabeth Wolf
Bob and Barbara Wolfe

Contributors

Lesli Ann Agcaoili
Joe Ambessi
Jacqueline D. Anderson
Lisa Baird
Kathleen K. Balun
Barbara S. Barry
Susan B. Bassin
Sarah E. Bellrichard
Nancy Bissell
Joseph and Barbara B. Blumenthal
Andrea Bonn
Nancy and Scott Bradbury
Kathrin Brown
John and Lale Burk
Jane H. Carroll
Judith Carroll
Niecey A. Chambers
Carol T. Christ
Susan Cohen
Eileen Conder
Dr. Jennifer Connolly
Paula V. Cortes
Janice Randell Covert
Hilary H. Creighton
Deborah H. Cushman
Mary S. Dangremont
Margaret Flanders Darby
Donna M. De Sousa
Susan V. Donovan
Nancy R. Duck
Elizabeth Dunton Levine
Christina J. Eldridge
Ruth Swetland Eppig
Judith R. Fergin
Bernice Fierman
Thomas and Wendy Fieleit
Dan and Ruth Flournoy
Patricia G. Foulkrodt
Florence Bryan Fowlkes
Catherine Durbin Gordon
Martha A. Gray
Anne B. Haley
Nicole P. Hepburn
Ann W. Hilliard

Contributors continued

Mary Schimmering Hinds
Alma Hix
Anna Craig Hogan
Lynne Hoxie
Catherine W. Jenkins
Susan John
Belinda Kaye
Katherine Kingsley
Martha McKinley Kissick
Dr. Irwin and Sue S. Klau
Josefa M. Kolodziezyk
Betsy M. Lawrence
Jennifer E. Levy
Mary Liz Lewis
Dr. Patricia D. Mail
Martha E. Martin
Eileen Marum
Mary Mattis McLean
Janice Oresman
Marcia L. Osborn
Alison Overseth
Mary Damiano Pinney
Dwight and Connie Pogue
Susan D. Proctor
Mrs. Stephen E. Puckette II
Suzanne Quaintance
Cathleen D. Riley
Robin A. Rinaca and Nicholas J. Covatta, Jr.
Drs. Katherine and Stephen Rostand
Mary Thompson
Lee Traub
Sandra L. Tullius
Anne B. Vernon
Phebe Wallace
Kalle G. Weeks
Ms. C. Ann Rowland Welsh
Norine P. White
Patricia C. Williams
Marsha Wiseheart
Kathryn D. Wood
Dorothy M. Woodcock
Stephanie B. Woodson
Jennifer Chin Yen
### Individual & Household Members (continued)

<table>
<thead>
<tr>
<th>Individual &amp; Household Members</th>
<th>Individual &amp; Household Members (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pamela Acheson</td>
<td>Ellen S. Eddy</td>
</tr>
<tr>
<td>Andy Adams</td>
<td>Mary Eddy</td>
</tr>
<tr>
<td>Jeanne Ammon</td>
<td>Donna Eden</td>
</tr>
<tr>
<td>Shadée M. Ardalan</td>
<td>Courtney Ek</td>
</tr>
<tr>
<td>Ann D. Arthur</td>
<td>Arline Boyer Epstein</td>
</tr>
<tr>
<td>Patricia A. Atkins</td>
<td>Donna Eteson Kishibay, DMD</td>
</tr>
<tr>
<td>Deborah J. Baker</td>
<td>Mollie C. Fair</td>
</tr>
<tr>
<td>Pamela Scavotto Barber</td>
<td>Margaret J. Ferguson</td>
</tr>
<tr>
<td>Christine Barsby</td>
<td>Louisa Ferree</td>
</tr>
<tr>
<td>Linda Ward Beech</td>
<td>Linda S. Fidnick</td>
</tr>
<tr>
<td>Lynne F. Bennett</td>
<td>Heather Finan</td>
</tr>
<tr>
<td>Justine E. Bertram</td>
<td>Bernard J. Fine</td>
</tr>
<tr>
<td>Mary Ellen Birkett</td>
<td>Gretchen Fiordalice</td>
</tr>
<tr>
<td>Susanne Blair</td>
<td>Natalie W. Fisher</td>
</tr>
<tr>
<td>Paul and Sheree Bloomberg</td>
<td>Maureen Flannery</td>
</tr>
<tr>
<td>Jean G. Bodine</td>
<td>April Hoxie Foley</td>
</tr>
<tr>
<td>Ann Bodkhe</td>
<td>Joanne Foster</td>
</tr>
<tr>
<td>Sarah Murdock Bolster</td>
<td>Molly Rulon-Miller Fowler</td>
</tr>
<tr>
<td>Ann B. Borelli</td>
<td>Charlotte M. Friese</td>
</tr>
<tr>
<td>Lee Sullivan Born</td>
<td>Patricia A. Gazillo</td>
</tr>
<tr>
<td>Carolyn E. Brewer</td>
<td>Dale Claire Gibb</td>
</tr>
<tr>
<td>Evelyn G. Brown</td>
<td>Michele Girard</td>
</tr>
<tr>
<td>Nancy B. Bryant</td>
<td>Penina Glazer</td>
</tr>
<tr>
<td>Deborah D. Bump</td>
<td>Eileen G. Gold</td>
</tr>
<tr>
<td>Kate Bunker-Neto</td>
<td>Gayle Golden</td>
</tr>
<tr>
<td>Esta S. Busi</td>
<td>Nancy Goldstein</td>
</tr>
<tr>
<td>Elinor K. Butt</td>
<td>Susan P. Goodall</td>
</tr>
<tr>
<td>Anne G. Cann</td>
<td>Jessica L. Greiner</td>
</tr>
<tr>
<td>Caroline Carbaugh</td>
<td>Judith A. Gronim</td>
</tr>
<tr>
<td>Kathleen Carr</td>
<td>Isabel C. Gutierrez</td>
</tr>
<tr>
<td>Barbara J. Case</td>
<td>H. Jane Gwyn</td>
</tr>
<tr>
<td>Madeline Catania</td>
<td>Katherine T. Hall</td>
</tr>
<tr>
<td>Mr. Addison S. Cate</td>
<td>Kristin Halloran</td>
</tr>
<tr>
<td>Helen T. ChapPELL</td>
<td>Mary E. Harvey</td>
</tr>
<tr>
<td>Miss Bootie Charon</td>
<td>Lois Hatch</td>
</tr>
<tr>
<td>Clara-Mae L. Chittum</td>
<td>Helen H. Heinrich</td>
</tr>
<tr>
<td>Larri L. Cochran</td>
<td>Brenda S. Helleberg</td>
</tr>
<tr>
<td>Martha L. Conforti</td>
<td>Camille Adams Helmskii</td>
</tr>
<tr>
<td>Alethea Cono</td>
<td>Ann M. Hennessy</td>
</tr>
<tr>
<td>Bettie Minette Cooper</td>
<td>Joan A. Hershey</td>
</tr>
<tr>
<td>Joan E. Corbett</td>
<td>Marian L. Herz</td>
</tr>
<tr>
<td>Mary Creese</td>
<td>Ingrid H. Hetfield</td>
</tr>
<tr>
<td>Christine A. Currylo</td>
<td>Jean Hiersteiner</td>
</tr>
<tr>
<td>Linda J. Cysz</td>
<td>Eileen Hodge</td>
</tr>
<tr>
<td>Jo Ann W. Davidson</td>
<td>Marjorie M. Holland</td>
</tr>
<tr>
<td>Sarah de Besche</td>
<td>Deborah Hollingworth</td>
</tr>
<tr>
<td>Nancy S. DeFeyes</td>
<td>Nicholas Horton and Julia Riseman</td>
</tr>
<tr>
<td>Paula Deitz</td>
<td>Karen Howat</td>
</tr>
<tr>
<td>David and Jean Dempsey</td>
<td>Diane R. Hummelbrunner</td>
</tr>
<tr>
<td>Katherine Weiss Di Sabito</td>
<td>Marcia J. Hunkins</td>
</tr>
<tr>
<td>Deborah Diemond</td>
<td>Marcia Hylan</td>
</tr>
<tr>
<td>Eileen Donelan</td>
<td>Christina C. Jackson</td>
</tr>
<tr>
<td>Donald Donihue</td>
<td>Linda M. Jaegers</td>
</tr>
<tr>
<td>Karen Dorrhamer-Fadden</td>
<td>Linda Kramer Jennifer</td>
</tr>
<tr>
<td>Brian and Marlene Doyle</td>
<td>Mrs. Christopher P. Jones</td>
</tr>
<tr>
<td>Martha C. Drake</td>
<td>Joanne Jordan</td>
</tr>
<tr>
<td>Barbara Drollette</td>
<td>Karen S. Kaplan</td>
</tr>
<tr>
<td>Brent Durbin and Regine Spector</td>
<td>Georgia Karapanos</td>
</tr>
<tr>
<td>Anne M. Dzuzinski</td>
<td>Jeanette Kelley</td>
</tr>
<tr>
<td>Jan Dziadzio</td>
<td>Caroline D. Kellogg</td>
</tr>
<tr>
<td>Barbra L. Eaton</td>
<td>Elaine R. Kersten</td>
</tr>
<tr>
<td>Lucy C. King</td>
<td>Elizabeth H. Kinney</td>
</tr>
<tr>
<td>Elizabeth H. Kinney</td>
<td>Gillian B. Kohler</td>
</tr>
<tr>
<td>Gillian B. Kohler</td>
<td>Victoria Kohler</td>
</tr>
<tr>
<td>Victoria Kohler</td>
<td>Linda Kopf</td>
</tr>
<tr>
<td>Sandra M. Kosta</td>
<td>Geraldine Kraus</td>
</tr>
<tr>
<td>Geraldine Kraus</td>
<td>Wanda Kryss</td>
</tr>
<tr>
<td>Mrs. Robert A. La Macchia</td>
<td>Norman &amp; Valerie Lafleur</td>
</tr>
<tr>
<td>Norman &amp; Valerie Lafleur</td>
<td>Carolyn Lattinville</td>
</tr>
<tr>
<td>Marian D. Lauterbach</td>
<td>Valerie Lavender</td>
</tr>
<tr>
<td>Jaroslaw and Alla Leshko</td>
<td>Elizabeth Lewis</td>
</tr>
<tr>
<td>Elizabeth Lewis</td>
<td>Cheryl Winter Lewy</td>
</tr>
<tr>
<td>Steven Lorenz &amp; Ginny Newton</td>
<td>Michele K. Lindsay</td>
</tr>
<tr>
<td>Ann Lundy</td>
<td>Tinka Lunt</td>
</tr>
<tr>
<td>Tinka Lunt</td>
<td>Ann E. Lynch</td>
</tr>
<tr>
<td>Susette Lyons</td>
<td>Lindsay V. Mack</td>
</tr>
<tr>
<td>Lindsay V. Mack</td>
<td>Ruth D. MacNaught</td>
</tr>
<tr>
<td>Diana S. MacVeagh</td>
<td>Harriet Mahoney</td>
</tr>
<tr>
<td>Harriet Mahoney</td>
<td>Jane Malarky</td>
</tr>
<tr>
<td>Barbara B. Mann</td>
<td>Daryl L. Mark</td>
</tr>
<tr>
<td>Daryl L. Mark</td>
<td>Dwight C. McClure</td>
</tr>
<tr>
<td>Brenda R. McGovern</td>
<td>Brende R. McGovern</td>
</tr>
<tr>
<td>Donna L. Meehan</td>
<td>Carol and Craig Melin</td>
</tr>
<tr>
<td>Carol and Craig Melin</td>
<td>Paul and Ellen Mintzer</td>
</tr>
<tr>
<td>Lisa A. Moline</td>
<td>August M. Molnar</td>
</tr>
<tr>
<td>August M. Molnar</td>
<td>Brad M. Moreau and Peter L. Sygnator</td>
</tr>
<tr>
<td>Anna L. Morrison</td>
<td>Mrs. N. and George J. Morrison</td>
</tr>
<tr>
<td>Mirla N. and George J. Morrison</td>
<td>Neil Morrison</td>
</tr>
<tr>
<td>Neil Morrison</td>
<td>Mrs. W. W. Morton, Jr.</td>
</tr>
<tr>
<td>Sheldon Mossberg</td>
<td>Nancy B. Mott</td>
</tr>
<tr>
<td>Janice Moulton</td>
<td>Joanne Moyler</td>
</tr>
<tr>
<td>Joanne Moyler</td>
<td>Susan H. Munger</td>
</tr>
<tr>
<td>Katherine S. Naughten</td>
<td>Sarah R. Newbury</td>
</tr>
<tr>
<td>Sarah R. Newbury</td>
<td>Nancy A. Nicholson</td>
</tr>
<tr>
<td>Roland Normand</td>
<td>Kathleen P. O'Brien</td>
</tr>
<tr>
<td>Kathleen P. O'Brien</td>
<td>Mr. John D. O'Brien</td>
</tr>
<tr>
<td>Mr. John D. O'Brien</td>
<td>Elise W. Olson</td>
</tr>
<tr>
<td>Elise W. Olson</td>
<td>Saul M. Olyan</td>
</tr>
<tr>
<td>Barbara F. Ostberg</td>
<td>Ruth W. Pardoe</td>
</tr>
<tr>
<td>Ruth W. Pardoe</td>
<td>Dr. Elsa P. Pauley</td>
</tr>
<tr>
<td>Dr. Elsa P. Pauley</td>
<td>Elizabeth B. Payton</td>
</tr>
<tr>
<td>Elizabeth B. Payton</td>
<td>Leila P. Peck</td>
</tr>
<tr>
<td>Leila P. Peck</td>
<td>Sherry J. Peck</td>
</tr>
<tr>
<td>Frances K. Pekala</td>
<td>Harriet F. Phillips</td>
</tr>
<tr>
<td>Harriet F. Phillips</td>
<td>Katherine Picher</td>
</tr>
<tr>
<td>Harriet M. Pfehn</td>
<td>Debbie Poitras</td>
</tr>
<tr>
<td>Arlene H. Pollack</td>
<td>Susan H. Pollack, M.D.</td>
</tr>
<tr>
<td>Susan H. Pollack, M.D.</td>
<td>James B. Ricci and Margaret E. McCarthy</td>
</tr>
<tr>
<td>Patrick C. Riggs</td>
<td>Alice Robbins</td>
</tr>
<tr>
<td>Jenna J. Roberts</td>
<td>Dr. Susanne F. Roberts</td>
</tr>
<tr>
<td>Dr. Susanne F. Roberts</td>
<td>Diantha C. Robinson</td>
</tr>
<tr>
<td>Katharine H. Robinson</td>
<td>Mariap and John Robison</td>
</tr>
<tr>
<td>Karen M. Rohan</td>
<td>David B. Rundle and Catherine M. Huntley</td>
</tr>
<tr>
<td>Virginia A. Sharpe</td>
<td>Cynthia L. Rup</td>
</tr>
<tr>
<td>William Sheehan and Katherine</td>
<td>Jean B. Russo</td>
</tr>
<tr>
<td>Robertson</td>
<td>Beverly H. Ryburn</td>
</tr>
<tr>
<td>Elizabeth Salsedo</td>
<td>Yoelene Schaefer</td>
</tr>
<tr>
<td>Dr. Talia Schenkel</td>
<td>Peter Schlessinger and Ms. Forest</td>
</tr>
<tr>
<td>Dr. Joan E. Schuman</td>
<td>Diana F. Seacord</td>
</tr>
<tr>
<td>Kathryn Service</td>
<td>Carole P. R. Settle</td>
</tr>
<tr>
<td>Virginia A. Sharpe</td>
<td>Smith College Club of Belmont</td>
</tr>
<tr>
<td>William Sheehan and Katherine</td>
<td>Jane L. Smith</td>
</tr>
<tr>
<td>Robertson</td>
<td>Linda Fisher Smith</td>
</tr>
<tr>
<td>Robin B. Silva</td>
<td>Karen A. Smith</td>
</tr>
<tr>
<td>Gabrielle H. Silver</td>
<td>D. Rebecca Snow</td>
</tr>
<tr>
<td>Faith S. Simmons</td>
<td>Sarah Sousa</td>
</tr>
<tr>
<td>Rebecca Sinos</td>
<td>Elizabeth Baird  Soyster</td>
</tr>
<tr>
<td>Smith College Club of Belmont</td>
<td>Jayne Spielman and Stephen Baumgarten</td>
</tr>
<tr>
<td>Jane L. Smith</td>
<td>Sandra-Leigh Sprecker</td>
</tr>
<tr>
<td>Linda Fisher Smith</td>
<td>Susan J. Steenstrup</td>
</tr>
<tr>
<td>Karen A. Smith</td>
<td>Priscilla L. Strain</td>
</tr>
<tr>
<td>Marie Robinson Strauss</td>
<td>Kristina L. Streeter</td>
</tr>
<tr>
<td>Kristina L. Streed</td>
<td>(Continued on page 19)</td>
</tr>
</tbody>
</table>
**Donors (continued)**

**Members of the Friends of the Botanic Garden continued**

**INDIVIDUAL & HOUSEHOLD MEMBERS continued**

Lucille Anderson Streeter  
Kingsley Sullivan  
David Adam Suzenski  
Audrey Tanner  
Edith K. Templin  
Abigail Thomsen  
Pamela P. Tisza  
Lucy K. Tittmann  
Susan Todd  
Ann M. Turnberg  
Marta B. van Dam  
Deborah S. Vernon  
Beverley Von Kries  
Dr. Gregory and  
Mrs. Susan Von Mering  
Bruce and Jennifer Wade  
Anne V. V. Webb  
Mrs. Willard T. Weeks  
Diane Welch  
Karen A. Wendell  
Jennifer Werner  
Polly White  
Carolyn Whiting  
Joan Wick-Pelletier  
Margaret P. Williams  
Staunton Williams, Jr.  
Carol W. Wilner  
Lisa Wilsher  
Eleanor S. Winston  
Carol Wirtschafter  
Tad and Michele Witowski  
Molly Duff Woehrlin  
Anne Harding Woodworth  
Rosalyn S. Zakheim  
Ann S. Zartler  
Robin Zitter  
Shoshana Zonderman

**STUDENT MEMBERS & RECENT ALUMNAE**

Lois Bangiolo  
Taylor Beall  
Rachel C. Besserman  
Julie Bomba  
Danielle E. Ferry  
Lesley Joplin  
Julia Nims  
Barrett Phillips  
Walker Powell  
Rachel Rock-Blake  
Mary Elisabeth Speller  
Rowan Van Ness  
Jamie Williams

**OTHER DONATIONS**

Ann Atwood Biggs  
Liza Cabot-Case  
Miriam Cady  
Elizabeth Anne Delman  
Louisa T. Dugan  
Stephanie Larkin Frost  
Kathleen Gabel  
Anne G. Galli  
Mary Lee A. Grisanti  
Gail Solomon Hecht, M.D.  
Frances S. Heyburn  
Barbara Hou

**MEMORIAL & HONORIAL BENCH OPPORTUNITIES**

Until recently there had been a waiting list for new benches on campus, mainly because the Landscape Master Plan bench locations were all filled. However, renovation projects and new construction now allow us to offer some prime locations for new benches. Now is your chance to honor someone or your class with a bench on the Smith campus.

The arrival of the new Health and Wellness Center on Belmont Avenue in close proximity to Scott Gymnasium and the Olin Fitness Center will offer several opportunities for honorial and memorial benches. Construction is to begin in early November and the new building should be completed by the start of the 2014 academic year. The benches planned will be in small social clusters. Other opportunities are at Neilson Library, Hillyer Hall courtyard, and Dewey Hall entrance. For details on cost and policies, please see www.smith.edu/garden/Giving/memorialbench.html.

**Volunteers**

Once again we wish to thank our dedicated volunteers. Their generous donations of time and energy allow the Botanic Garden of Smith College to offer enhanced visitor services, including guided tours. The following people donated 1400 hours of their time over the past year.

Elizabeth Adams  
Hazel Adophson  
Jeanne Ammon  
Terry Barton  
Mary Jane Beach  
Janet Bissell  
Diane Bowman  
Mary Ellen Casey  
Marti Catuogno  
Susan Cooper  
Hope Crolius  
Anne Deggendorf  
Donald Donihue  
Laura DuPont  
Lee Edwards  
Lisa Ferree  
Isabel Field  
Leslie Fisette  
Dan Fitzgerald  
Ashley France  
Sarah Freedberg  
Gail Gaustad  
Barbara Gelling  
Sue Gerstle  
Frances S. Heyburn  
Elizabeth G. Johnson  
Lidaa L. Johnson  
Patricia Gilman  
Donna Gochinski  
Linda Golash  
Norman Halpern  
Mina Harrison  
Eileen Hodge  
Carol Jachym  
Carol Jolly  
Edie King  
Anne Marie Konieczny  
Kathy Kroll  
Marilyn Levine  
Diane Moll  
Barbara O’Donnell  
Carol Jolly  
Carol Jolly  
Edie King  
Anne Marie Konieczny  
Kathy Kroll  
Marilyn Levine  
Diane Moll  
Barbara O’Donnell  
Carol Jolly  
Carol Jolly  
Edie King  
Anne Marie Konieczny  
Kathy Kroll  
Marilyn Levine  
Diane Moll  
Barbara O’Donnell  
Carol Jolly  
Carol Jolly  
Edie King  
Anne Marie Konieczny  
Kathy Kroll  
Marilyn Levine  
Diane Moll  
Barbara O’Donnell  
Carol Jolly  
Carol Jolly  
Edie King  
Anne Marie Konieczny  
Kathy Kroll  
Marilyn Levine  
Diane Moll  
Barbara O’Donnell

We are currently recruiting new volunteers, who will participate in three days of intensive training in January 2014. Volunteers work on a number of projects, but most needed are those interested in leading greenhouse and garden tours as well as staffing our reception area. Please contact us (413-585-2742 or garden@smith.edu) if you are interested in volunteering. Information and applications are also online: www.smith.edu/garden/volunteer-application.pdf
You are invited to join
The Friends of the Botanic Garden of Smith College

ALL MEMBERS RECEIVE
- A complimentary copy of Celebrating a Century: The Botanic Garden of Smith College, by C. John Burk
- Botanic Garden News, our newsletter and calendar of events, twice a year
- Members-only hours at the Bulb and Chrysanthemum Shows — 9:00 to 10:00 am daily
  Show dates: Spring Bulb Show: March 1 – March 16, 2014, Fall Chrysanthemum Show: November 1 – November 16, 2014
- Free admission and discounts at over 200 other gardens around the country
- A 10% discount on Botanic Garden merchandise
- Free audio tours of the Lyman Conservatory
- Invitations to show previews and receptions

Contributors and above receive: A screensaver with images of the Botanic Garden and our collections

☐ YES, I WANT TO BECOME A FRIEND OF THE BOTANIC GARDEN OF SMITH COLLEGE!

Membership Categories
☐ Champion $2000+
☐ Patron $1000
☐ Sustainer $500
☐ Contributor $150
☐ Household/Family $75
☐ Individual $50
☐ Student/Recent Alum $20

graduated in the past 5 years

Enclosed is my check payable to Smith College in the amount of $...

Send to: FRIENDS OF THE BOTANIC GARDEN
SMITH COLLEGE DEVELOPMENT OFFICE
P.O. Box 340029, Boston, MA 02241-0429

Name: ____________________________
Class Year (alumnae): ____________
Address: _________________________
City, State, Zip: ____________
E-mail: ___________________________

Or you may join or renew online with a credit card at www.smith.edu/friends

All contributions are tax-deductible and count toward your Smith College class gift (if you are an alumna).