



THE BOTANIC GARDEN
OF SMITH COLLEGE

Botanic Garden News

FALL 2010

The First Ten Years

Michael Marcotrigiano

It's hard to believe I've been director of the Botanic Garden of Smith College for just over ten years. A decade is a good place to stop and look back at what changes have happened and what dreams have been realized. When I started in August of 2000, I had lots of ambition and no gray hair in my beard. The ambition is still there, the hair we won't discuss. Thanks to a talented staff, moving forward has been easier than I imagined. I am indebted to them for joining me in the many projects that benefit the students and the public and give us the respect we share among botanic gardens worldwide.

Although my appointment is split (60% administrative as director and 40% biology faculty member), I work out of a Botanic Garden office and the line between assignments is generally blurred. This has both benefits and drawbacks, but in the long run my direct contact with so many students has allowed me to connect the Botanic Garden to education in ways that might not have been realized had my appointment been solely administrative. I have the privilege of looking out over Paradise Pond from my office, thinking about the wonderful campus and its students. I have the resources and staff to accomplish many things. Discussing in detail the past ten years would fill a book, so I will concentrate on some of the most rewarding accomplishments. The most significant event was the multimillion dollar renovation to the Lyman Plant House and Conservatory. I came on board just in time to meet with architects and planners, learn lots about design and construction, and suggest some features for the building. A great team produced a gorgeous facility that moved us from a quirky, yet charming antique to a modern museum with great potential.

Soon after we moved into the renewed facility we hired our first full-time manager of living collections, Tracy Omar. He was surprised (as was I) that we had no collections policy and few other written policies for that matter. With the aid of Tracy and my staff, I wrote a large policy manual that guides everything from the content of our collections to the usage of our facilities. With the expertise of our second collections manager, Elaine Chittenden (hired in 2005 shortly after Tracy left for employment in Nevada), we have improved the accuracy and detail of our plant records, which are available through a searchable online database (<http://rbg-web2.rbge.org.uk/multisite/multisite3.php>) supported by Royal Botanic Garden Edinburgh in Scotland. Conservatory Manager Rob Nicholson continues to refine and improve the Conservatory plant collection. Plants with lesser educational value have been replaced with rare, unusual, and more interesting species. Rob always finds new ways to improve the Bulb and Mum Shows, which delight tens of



thousands of visitors each year. Our shows are now often linked to themes that build on gallery exhibitions, speakers, and other events. It's not just a show anymore! Rob has added a night course on economic botany, which is supported by the Botanic Garden.

As our collections management improved so did our educational outreach. Our gifted manager of education and outreach, Madelaine Zadik, started planning for better interpretation and use of the collections. We began developing signage that was not only informative but also gorgeous. Our wonderful audio tour system was created in child and adult "flavors." Full-color brochures now include a general brochure that offers an introduction and orientation to the Botanic Garden, a Capen Garden brochure, as well as one focusing on trees in the campus arboretum. The

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Botanic Garden News is published twice a year by the Friends of the Botanic Garden of Smith College.

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Botanic Garden News

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The newsletter may be viewed in full color online:
www.smith.edu/garden/Newsletter/botgarnews.html

Student Updates

Madelaine Zadik

The Botanic Garden is definitely having an impact on Smith students. We offer a variety of botanical opportunities to students in the form of classes, internships, and work-study positions. Through the Curricular Enhancement Program we are reaching those students who might not have found their way here otherwise. The result is that many more students are engaging with and moving into horticultural and horticulturally related fields.

One student who took the horticulture class recently wrote, "I took horticulture with you last year in the spring. As I've been mapping out my major and classes and study abroad in the past couple of weeks, I've been thinking that I would really love to get involved with the Botanic Garden. Horticulture... got me really excited about plants and landscape issues. I think it's safe to say that feeling really excited and passionate about that class is one of the main reasons why I'm choosing Environmental Science and Policy and Landscape Studies as my major and minor..."

After completing an internship at Longwood Gardens this year, Lesley Joplin '09, who was a Smith Botanic Garden summer intern in 2007, received an American Public Gardens Association student scholarship to attend their annual conference in Atlanta in June. She then moved to Iowa to begin her job as director of horticulture at the Iowa Arboretum, with responsibilities that include volunteer coordination, education and outreach, interpretation, and exhibition development.

As a 2008 Botanic Garden summer intern, Laura Putnam '10 worked on a hyperlinked essay about the evolution of the Smith College landscape. After graduation she was an intern at Strawberry Banke in New Hampshire, where she developed a smartphone app that offers a walking video tour. She is now headed for the Peace Corps in Mali.

Landon Newton, a former horticulture student and a 2009 Botanic Garden summer intern, completed an internship as a research assistant for Greenbridge, the community outreach department of Brooklyn Botanic Garden. She assisted in researching, editing, and writing for a new education course, entitled BUG (Brooklyn Urban Gardener), designed for local Brooklyn residents interested in urban gardening. She also wrote *tip sheets* with quick, easy to read information on gardening specifically in Brooklyn. She is now back on campus and will be graduating this coming January.

Although Maria Martinez '08 was a math major at Smith when she worked at our reception desk, she now finds herself immersed in the world of plants. She says, "My work at the Botanic Garden definitely steered me in this direction, and I thank you all for that." As office manager for the Garden Conservancy in their San Francisco office, she supports their preservation projects in the area, including the Historic Gardens of Alcatraz and the Ruth Bancroft Garden, a wonderful cactus and succulent garden located in Walnut Creek. Additionally she helps plan lectures, seminars, and symposia on horticulture, preservation, and design. She is now taking classes in horticulture, volunteers for Friends of the Urban Forest, an organization that works with street trees, tends her own patio container garden, and has become very interested in wild urban edible and medicinal plants. She confesses, "I do consider myself to have gone plant batty. I'm pretty much obsessed." In an effort to get more Smithies into horticulture, Maria encourages any students interested in horticulture and landscape studies to contact her if they would like to learn more about the Garden Conservancy, garden preservation, or how to find a niche in this world for themselves. The Garden Conservancy is interested in having Praxis interns and Maria says that J-term would be a perfect time for students to get some hands-on experience. ☺

Thanks for Being There

Charles B. Redington, Ph.D.

Dr. Charles B. Redington, professor of biology and environmental science at Springfield College, teaches courses in ecology, plant biology, New England flora, general horticulture, plant physiology, and economic botany. He is the author of *Redington Field Guides to Biological Interactions — Plants in Wetlands* and the editor of *Redington Field Guides to Biological Interactions — Animals in Towns and Cities* by Joanna Burger, Ph.D. He has led environmental/biological expeditions to Kenya, Tanzania, and Rwanda as well as expeditions to the Florida Keys. He has also traveled the Amazon River and some of its major tributaries and is currently working in the Amazon Basin to establish an international interdisciplinary environmental education center in Brazil.



I have been bringing my students to the Smith College Botanic Garden, Herbarium, Mortimer Rare Book Room, and Art Museum for nearly forty years. These resources have enriched my teaching immeasurably. In an instant, I am able to whisk my students to such places as a desert, a tropical rain forest, or a temperate biome. As a practical biologist, I like to teach with a take-home lesson, namely, “How can this knowledge be applied to the real world?”

Instead of just talking in a lecture about how desert plants, such as the saguaro cactus, meet the challenge of extremes in light, temperature, low nutrients, and high water loss, we are able to actually observe the living plants and their adaptive strategies in the desert greenhouse biome. The students come to realize that these desert plants have been selected for the very efficient CAM or C₄ photosynthetic process and have genes for tolerating low nutrients, low water, and high light intensity. We are able to observe such things as succulence for water storage and whitish hairs for light reflection as structural adaptations to the desert climate. In viewing the alpine garden biome in the outdoor Rock Garden, we find plants that have adaptations to extreme environmental conditions similar to those of desert plants. It becomes clear that these plants have a treasure chest of genes that may be moved into crop plants allowing them to persist in the face of natural selection pressures accompanying climate change.

Having spent time in the Amazon, naturally I make our way to the Smith College rain forest. Here one can find *Hevea brasiliensis* (rubber tree, originally found only in the Amazon basin), through which I can explain the delicate balance between the human impact of poaching caimans (a crocodile-like

reptile) and the survival of this tree. I am able to explain that the rubber tree, a wetland plant, must complete its life cycle by having the pirarucu, a frugivore fish, ingest its fruits and release the seeds within back into water ready for germination. Piranha prey on many fish in the Amazon River including the pirarucu. With the decline of the caiman, a piranha predator, the piranha population has exploded to such an extent that the pirarucu population has dropped, threatening the very survival of the rubber tree in certain areas of the Amazon basin as well as a fish (the pirarucu) that is an important part of the diet for the indigenous peoples of the area.

My years of association with Dr. John Burk have led to field trips to the Smith College Herbarium. Here, students are introduced to the history and educational role of an herbarium. For example, students question the importance of knowing the habitat and range of a plant and of keeping track of its presence or its extirpation from an area over the years. In addition, the students are able to carry out a “research experience” by employing the tools and techniques used in the identification, collection, and preparation of specimens for preservation. Eventually, I was also led to Rare Book Curator Ruth Mortimer (Smith Class of 1953 and now deceased) and Associate Curator Karen Kukil. In the Mortimer Rare Book Room plants have importance that my students might never have considered. This was another educational opportunity uniquely available at Smith College in association with the Botanic Garden. At the Rare Book Room, we are introduced to the role of

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Photographs by Dr. Joseph Berger

Ecology class learning wetland delineation and wildlife habitat evaluation techniques

Thanks *continued*

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plants in the history and evolution of print, and learn that books about plants (herbals, medicinal and garden treatises) were among the very first books ever printed on paper and inks made from plants. We are also introduced to various printing techniques, rare book preservation, and the art of plant illustration by Smith College graduate Pamela See '73.

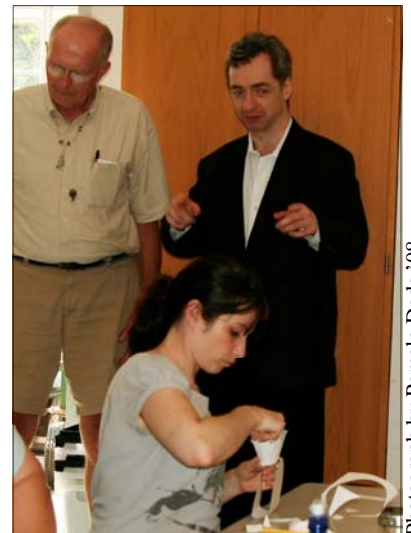
The educational and cultural enhancement through plants does not end there. Dr. Burk pointed me in the direction of the Smith College Art Museum and then Curator of Education Nancy Rich [now working as the Botanic Garden's Curricular Enhancement Consultant]. Here we realize that a link must be established between the scientific and the social to assure a more sustainable world. This can be accomplished in many ways, one of which is to explore visual art as a record of human relationships with plants and the natural world. The students develop looking skills for art of different media and explore how visual art tells us about world travel, exploration, world economy, and trade through plants. We also observe the use of plants as religious, emotional, and political symbols and metaphors in art.

Springfield College is celebrating its 125th — founded in 1885 — it is the birthplace of basketball. I was asked to identify and label the trees on campus. Again, Smith College played a very important part in my work. To this end, Dr.

Burk visited our campus and confirmed my identifications, assuring that our labels would be correct.

In the summer of 2009 I was a part of a teacher training grant through the Massachusetts Science, Math, and Physics Program, which brought secondary school educators to Smith College. I had the good fortune of having seen a display in the Lyman Plant House gallery created by Professor Middlebrook's architecture class (online at www.smith.edu/garden/exhibits/architecture). The display presented the visual-spatial language of flowers as inspiration in design. I thought this might stimulate creative thinking and be a useful classroom activity for the teachers. We arranged a field trip that included a brief lecture and orientation by Professor James Middlebrook, followed by a hands-on design lab. Under his direction, the students/teachers first photographed a flower of their choice from the greenhouses that suggested some kind of a physical structure, say a shelter or bridge; then they made a two-dimensional diagram/sketch of their idea followed by the creation of a three-dimensional paper model. This activity provided an opportunity to gain inspiration from nature—that nature speaks to us and tells us how we might live our lives. The teachers found the experience unusual, interesting, and an opportunity to allow their students some creative latitude. It appealed to many types of intelligence, e.g., spatial, naturalist, kinesthetic, interpersonal, and mathematical.

The resources at Smith College have opened my eyes to “things botanical” seemingly beyond what I might have imagined. This has been a wonderful adjunct to my teaching because I was able to express my philosophical need to represent plants in as many useful ways as I could. Manager of Education Madeline Zadik, Conservatory Manager Rob Nicholson, Tour Coordinator Pamela Dods, and the staff of the Botanic Garden were always helpful in setting up my field trips and introducing me to other options available for our learning experiences. Thanks again for allowing for such wonderful walks through the very diverse world of plants. ☪



Smith Professor James Middlebrook giving instructions for creating an architectural flower model

Photograph by Pamela Dods '08

Chrysanthemum Poetry

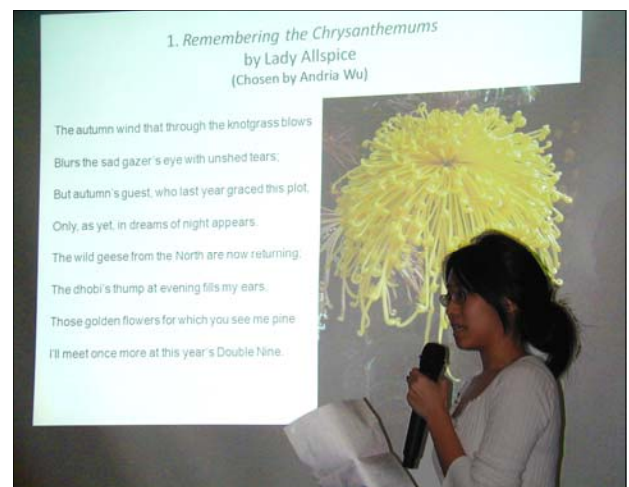
Madeline Zadik

Students in East Asian Languages and Literatures 231, *The Culture of the Lyric in Traditional China: Plants and Poetry*, taught by Sujane Wu, once again selected poems to go with flowers in this year's Fall Chrysanthemum Show. They held a poetry reading in



the Lyman Plant House where each student read her poem and explained its meaning and why she chose the particular mum with which to pair it.

The course also focused on the importance of bamboo, lotus, and peony in Chinese literature. ☪



Andria Jing Wu '12 reading *Remembering the Chrysanthemums*

Photograph by Madeline Zadik

First Ten Years *continued*

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Church Exhibition Gallery has featured an array of educational exhibits, some of which are now touring the country. Madelaine also initiated our Curricular Enhancement Program, which has succeeded in linking the Botanic Garden to courses taught in many departments across campus. We are now engaging students studying engineering, art history, early childhood education, East Asian languages and literature, English, biogeography, architecture, and more. Local school group visits have increased and our dedicated volunteer corps is growing.

In the past our trees were both purchased and grown from seed, but our nursery at Fort Hill was wildly overgrown and disorganized upon my arrival. Usable trees were moved onto campus and in 2002 out came the chain saw. We now have an orderly nursery, where we grow rare and unusual trees for campus. In fact, the first trees selected under my guidance are starting to be placed on campus. Like a proud dad, I have witnessed them grow from little sticks to landscape-worthy trees.



Among young trees in the new Capen nursery.
Photograph by Pamela Dods AC '08

Within a few years our educational offerings were expanding exponentially. As I saw the Botanic Garden becoming more like a museum, I began discussions with Provost Susan Bourque and Dean Charles Staelin to change our reporting line from Physical Plant (now Facilities Management) to an academic entity, which is where it had started in the late nineteenth century. With that in place, we were able to develop a summer garden internship program for Smith students. Previously summer help came in the form of high school students who were less invested in botany and landscape. Part-time Teaching Assistant Gaby Immerman became full-time and now coordinates our wonderful Summer Internship Program, going into its sixth year. These students are crucial in maintaining an increasingly large and complex landscape. They also pursue their own independent projects, many of which have resulted in new educational materials, provided useful data for tree health, collections management, and landscape planning, and contributed to the development of the Botanic Garden in ways we could not have otherwise accomplished. Some of these students are now gainfully employed in the field of public gardens or have gone on to continue their education, influenced in large part by their contact with our staff and our wonderful collections and facilities.

I also realized we were not utilizing Capen Garden to its full potential. It had areas with equipment storage, was difficult to travel through, and had little seating. Funding for a major renovation in 2004 came from endowed funds bequeathed to the Botanic Garden by Elizabeth Spetnagel '28 and Louise Spetnagel '29. We engaged landscape architect and alumna Nancy Denig '68 to both restore and redesign Capen Garden, which now boasts a lovely water fountain, funded by the Friends of the Botanic Garden, an outdoor classroom featuring impressive stone walls, and new educational gardens with clearly labeled plants. While the systematic beds adjacent to the

Lyman Plant House have been wonderful botanical teaching tools for the study of plant evolution and classification, the collections and design at Capen Garden support horticultural and landscape studies.

In the fall of 2001, we dedicated a new garden area in honor of Mary Maples Dunn (Smith President 1985-1995) on the slope that connects Wright Hall to Burton Lawn. Smaller projects followed. Just outside the Palm House, a very deep cold frame was rarely used since it was a bit impractical. I decided to repurpose it as a demonstration garden for cold-hardy cacti and succulents. It is doing great and its plants are of the age where they are flowering — a spring desert in Massachusetts (see page 15).

When the Ada Comstock housing (Conway House) displaced our tree nursery in 2006, I worked with the administration to offset our loss of growing space. We decided to level our outdoor staff's outdated offices at Capen Garden and use the uncovered land for a nursery for very young trees. After a few years those trees are moved to the Fort Hill nursery and are transplanted to their final locations on campus once they have grown large enough. The Capen nursery is irrigated and fenced to keep mammals out (human and otherwise). The headquarters for our landscape staff moved to a quaint building adjacent to the Capen Garden greenhouse.

In 2003, three valued employees retired simultaneously and our numbers shrank. However, one good outcome was that we were allowed to search for our first full-time administrative coordinator and we were lucky enough to find Sheri Lyn Peabody, who is the glue that keeps us together. A couple of key new positions (temporary but hopefully renewable) funded by the Friends are the office assistant/tour coordinator (Pamela Dods, hired in 2008) and special projects coordinator (Polly Ryan). Pamela organizes all tours, but her skills in photography and art are amazing, and she has made numerous contributions to displays, exhibit panels, the web page, and photos for the media. Polly

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First Ten Years *continued*

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was responsible for most aspects of the lovely *Woods of the World* exhibit in the Lyman Plant House and for a huge database of plant images on our webpage. In addition, she researched and implemented a bar code system for plant labels, making inventory and label printing, once major headaches, state of the art. Now, with the cooperation of our collections manager and conservatory manager, our students can do efficient inventories of the Conservatory. I am also excited to announce that we will soon reinstate the landscape manager position, and are in the midst of that search process. The quality of applicants is impressive, another indicator that we are perceived with respect by our colleagues.

Still in progress is the amazing mural on plant evolution that will be installed in the hallway connecting the Church Exhibition Gallery to the Palm House. Conceived by yours truly (one of those “in the shower” moments of awakening) and funded by the Friends of the Botanic Garden, it will chronicle the millions of years of plant evolution and be both a piece of art and an educational tool for teaching plant evolution, systematics, and biodiversity. With additional interpretation it could also assist faculty in geology and other sciences. It is being created by talented muralist Rob Evans working with consulting paleobotanist James Walker of the University of Massachusetts. We also have plans to restore the small Lyman Pond by dredging it and removing surrounding exotic invasive species, replacing them with plants more typical in New England wetlands. Following the pond restoration, we will restructure the systematic beds under the guidance of Jesse Bellemare, who replaced the retired John Burk as systematist and ecologist in the Department of Biological Sciences. We are planning the addition of a few more thematic beds, e.g., one showing convergent evolution.

In addition to keeping up the great relationship with Kew Gardens in London, where each summer two Smith students train in the molecular genetics laboratories, we have been able to send an additional student to study at the Smithsonian in the lab of W. John Kress (who incidentally will

be the opening speaker for the Spring Bulb Show — stay tuned). This internship, made possible through continued generous donations by Dee Bates, usually involves the dreaded trip to some tropical paradise, e.g., Hawaii or the Caribbean, to study bird pollinated flowers or the like. I am so jealous! I had much less glorious summers when I attended college.

From a teaching standpoint, I decided to abandon the long tradition of teaching successive courses in horticulture and instead now teach *Horticulture* one semester and *Landscape Plants and Issues* the next. This was to assist the successful Landscape Studies minor by giving these students the opportunity to use the wealth of the Botanic Garden’s collections to learn about plant materials and their usage by landscape architects and garden designers. I’ve also taken on students to do research under STRIDE and AEMES, two special programs for incoming students. Their projects include developmental work on leaf variegation pattern, tissue culture, documenting an extensive butterfly collection, and interning with the collections manager. I did take a one semester sabbatical (only from my academic responsibilities) and published a paper on leaf development in the *American Journal of Botany*. Without the help of my colleagues in the Department of Biological Sciences, experts on microscopy, this would not have been possible. This collaboration highlights the importance of the connection between the Botanic Garden director and an academic department.

With this long list of accomplishments one would think I would be totally happy. I would be, had nature not been so cruel to the Botanic Garden. In the past ten years (mostly the past few), we have had too many very large trees removed from campus. The Lanning Fountain beech was split by a snow storm, the very important cedar of Lebanon took a direct lightning strike (see page 8), and the oldest oak on campus finally succumbed to its environment after 140 years sitting opposite the Smith Club (now the Smith College Conference Center). There have been other removals and more are eminent. Many are victims of what I call environmental insult, the continuous disturbance of their root systems and soil from construction and renewal of buildings on campus. In a botanic garden director’s dream world, trees trump buildings. But this is not a dream world and the Smith campus, with its 100 plus buildings, is more of a village or neighborhood, not a park, and with that comes issues never seen at arboreta and large parks. By far the biggest challenge the Botanic Garden will have in the future will be to keep the tree collection happy and allow them to reach maturity while we all pass on. Since 2000, over 300 new trees have been placed on campus. I’m sure that many will survive to be giants, and generations of students will sit under them, thrilled that such a rich collection of trees surrounds them. After all, the landscape at Smith is one of the biggest draws for admission. I feel proud knowing that the future of the Smith landscape was influenced by my guidance. In my *NewsSmith* interview, published shortly after I was hired, I was quoted as saying I’d be a guardian for the trees. I continue to be committed to that goal.

Lastly, we have survived the economic downturn well. I want to take the time to thank all of you for your generous donations. It is your gifts, memberships, and the establishment of endowed funds that allow us to keep our educational programs moving forward and to maintain our plant collections at a high level. Hats off to those who love us. ☪



Drawing by Aine Sweetnam '13
Art 163, Drawing I, spring 2010

The Buddha Hand Citron

Rob Nicholson

Fruit rather large size, quite solid, with scarcely any pulp or cells, and divided at the end into five or more long, round lobes, on which account it is called Bushiu-Kan, or Budah-fingered orange. The rind is pale yellow color. The fruit has a most agreeable perfume, and is much esteemed for an ornamental pot culture. The young fruit is made into confectionary, and is esteemed for fragrance.

That bland perfunctory description, from 1888 in *A Treatise on Citrus Culture in California* by Byron Martin Lelong, seems to be the first English description of one of the more remarkable fruits ever selected by humans and one with a long, culturally significant history in southeast Asia.

The first time someone sees a Buddha hand citron, *Citrus medica* var. *sarcodactylis*, the usual response is, “What on Earth is that?” followed by disbelief that such an obviously marine or extraterrestrial form could actually be a member of the citrus family. It has a golden yellow bumpy rind; in fact, the fruit is all rind with little or no pulp. But the distal end erupts into a spray of thick tentacles (or fingers) seemingly frozen in mid-writhe. These can count 18 or more and make the fruit look aquatic, more like a sea anemone than a citrus. It is, as I noted, one of the world’s most enigmatic and bizarre fruits.

Citrus have been grown for thousands of years, and what we now cultivate worldwide is a highly selected and hybridized group of plants derived over thousands of years from a few wild ancestors. Current thinking has *Citrus aurantifolia*, lime, of India, *C. maxima*, the pummelo or shaddock of Malaysia, *C. reticulata*, the Mandarin orange of China, and lastly the citron, *C. medica*, of India, as the major genetic contributors of cultivated citrus, although hybridization, apomixes, and assisted migration by humans has made delineating true wild populations extremely difficult. Dozens of citron selections are now in cultivation, as this plant has long been grown in India and spread to much of Asia by A.D. 1000. It was the first citrus fruit to be transported to Europe. References by Theophrastus (c. 372 – c. 287 B.C.) to what he called *melea medike* are thought to be its first report, with the fruit being used medicinally to treat gout and poisoning. While Lelong’s description using a Japanese name would seem to indicate Japanese origin for the original introduction into the United States, it must be noted that Japan received material from China, where not one, but about a dozen selections of Buddha hand citron (*fo-shou*) are grown, including a variegated one.

Cultivated since the tenth century in southern China, the fruit has been used in a variety of ways: for culinary purposes, medicinally, as a temple offering, as a gift and decoration, and finally as an “air freshener” as it dispenses a lovely aroma. Once mature, the rind gives off a scent described as similar to violets and flowering olive, *Osmanthus*. In an article in *Flavour and Fragrance Journal*, Haruyasu Shiota analyzed the aromatic volatile oils and discovered the aroma is largely due to beta-ionone. One wonders if some perfumers may have snuck the Buddha hand scent into their list of secret ingredients. Currently there are about 5000 acres of Buddha hand citron under cultivation in China, compared to a measly 25 or so in the United States.

The U.S. Department of Agriculture National Clonal Germplasm Repository for Citrus and Dates in Riverside, California, has been a generous supplier of cuttings of citrus to Smith College, and we selected from their extensive holdings. Cuttings of the Buddha hand citron were among the first items we requested. Over the years its growth lagged behind other cuttings that were received at the same time. They all set fruit quite quickly once established, as they were propagated from mature material. Anyone who has ever grown a citrus from seed knows it takes many years before the plant will flower and set fruit. When the Buddha hand finally flowered, any fruit that had begun to set



Human hand and Buddha hand growing in the Show House in July and the fully mature fruit in October

Photographs by Pamela Dods '08

was aborted. One of the golden rules of conservatory management is that when you are ready to give up on a plant and deaccession it (a polite term for turning it onto compost), you should wait at least one more year. Such was the case with the Buddha hand, as it is a gangly, unattractive plant and has to be pruned constantly to give it any kind of form. I was growing tired of the flower and immature fruit drop routine and it was on the short list. But it snuck a few flowers past my attention and I was startled one spring morning to look up and see a green fruit the size of an egg, knobby and wrinkled, beginning to form the hydra-headed fruit, which matured this past October. ☞

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Lightning Strikes Our Cedar of Lebanon

Madelaine Zadik

This summer has been a rough one for trees in the campus arboretum. We worked hard to minimize the impact of the drought using targeted watering, but we were less able to control other effects of bad weather. In May, severe winds tore apart a horsechestnut, *Aesculus hippocastanum*, on the northeast corner of Tyler House as well as causing one of the European lindens, *Tilia × europaea*, in the allée alongside John M. Greene Hall, to break in half. Then, on August 16, 2010, a severe thunderstorm tore through the region, knocking down trees and wires throughout western Massachusetts. We heard a blast and felt the Lyman Plant House shake, only later to discover that lightning had struck one of our more revered trees, the cedar of Lebanon, *Cedrus libani*, in front of Wright Hall.

Construction workers and Charlie Conant, project manager for the renovations of Wright Hall, were inside when lightning hit the tree. A limb was forcefully ejected into the building, damaging the sandstone wall. No one was injured despite the frightening eyewitness accounts. The tree was split and a section of bark blown off. With the crack down the middle, the tree was structurally unsound, mandating immediate removal for safety reasons. It was cut down the next day.

At the very top of the tree there were many female cones, both this year's green cones



Cedar of Lebanon lightning damage

and older cones. The cones generally take two years to fully mature and produce ripe seed. As the branches were taken down, Collections Manager Elaine Chittenden collected cone with the hope of germinating some of the seed and planting the progeny of this tree on campus in the future. We will also be offering seed to other botanic gardens through our *Index Seminum* (the list used for the international seed exchange among botanic gardens and arboreta). Curatorial Intern Jesse Finch '12 extracted lots of seeds from the cones and sowed them on October 21, 2010. Several seedlings have already emerged.



Photographs Madelaine Zadik

Protection from Lightning

John Berryhill

Our ongoing efforts to improve the health, safety, and longevity of the oldest and largest trees in our collection include the installation of cables, radial trenching with an air spade (to reduce soil compaction), pruning, and injecting growth retardant (to keep top growth in balance with roots).

About six months before the tragic loss of our cedar of Lebanon, we saw signs of decline in our tallest tree, a tulip tree, *Liriodendron tulipifera*. A lightning strike seemed the likely cause. We decided that it would be best to install lightning protection systems on trees that are exceptionally tall and of high value. Systems are in place on four trees on campus, the dawn redwood, *Metasequoia glyptostroboides*, west of Neilson Library; the ginkgo, *Ginkgo biloba*, in the Systematics Garden; the American elm, *Ulmus americana*, on Chapin lawn; and the tulip tree south of Tyler House.

Copper cable runs from a rod near the top of the tree to an anchor that ideally is driven ten feet into the ground. In sandy, dry, or rocky soils, the underground cable is often forked into several grounding points. In trees with broad crowns and multiple main leaders, each major leader requires a conducting terminal. Although the cable is attached to the tree at regular intervals, it is designed to divert the lightning strike down through the more conductive cable, avoiding the kind of damage we had on the cedar. Eventually, as the tree grows, the top rod(s) will need raising. As the trunk increases in girth, it may swallow the conducting cable, but the system remains effective as long as the cable stays intact. Some believe it is best to reinstall the cable as it grows.

As we learned with our cedar of Lebanon, lightning strikes can't be predicted. If I'd been asked to list the 50 trees in our collection that were most likely to be hit, it would not have made the list. By taking these preventative steps, we hope our tallest and most valued trees will avoid a similar fate.



Cable running up tulip tree

Photograph by Pamela Dods '08

CEDAR OF LEBANON

Hailing from the mountains of Asia Minor (Lebanon, northwestern Syria, central Turkey), the species was first introduced to America during colonial times. Our specimen was planted at Smith on April 16, 1955, when it was 15 inches tall. It was moved to Wright Hall in 1981. After especially cold winters it sometimes showed signs of winter damage to the needles. In the fall, male cones on the lower branches would release clouds of powdery yellow pollen, while female cones formed on upper branches. Cited in religion and mythology, this tree is said to be the embodiment of history, and to cut one down signifies the end of history itself. It was the only example of this species on campus (although we have one in our nursery).

More pictures are online at:

www.smith.edu/garden/update/8-17-10.html

Jurassic Ark

Rob Nicholson

Abby Hird, a Putnam Fellow at the Arnold Arboretum, recently undertook a study to assess the success (or failure) of a species conservation program — a program in which the Smith College Botanic Garden played an integral part. Any rescue of endangered species is multiyear or even multigenerational in scope, so as people move on in their careers or retire, a review can provide important data as to how things could be done better and instigate new methods for future projects.

The plant in question is a rare gymnosperm, *Torreya taxifolia* or stinking cedar, which is endemic to the slopes of the Chattahoochee and Flint Rivers in the Florida panhandle and also nips across the border into Georgia. It is a very small genus of trees with six species known — in North America *T. californica* is found in north and central California and *T. taxifolia* in Florida and Georgia. The genus has a very long history of life on the planet, with fossil remains in Europe dating from the mid-Jurassic (170 million years ago, give or take a few hundred thousand).

My activities with the stinking cedar began when I was employed at the Arnold Arboretum and did systematic collecting of rare and endangered woody species in the wild, collections that were cosponsored by the Center for Plant Conservation.

The *Torreya* in Florida were given a high priority as the populations had been in serious decline since the 1950s, possibly due to an introduced fungal pathogen. All mature trees had succumbed, and few if any seeds were being produced — an ecological death knell. In 1989, along with Mark Schwartz, a Nature Conservancy ecologist, I collected 2,622 cuttings from the 166 remaining specimens that we could find and brought these back to the Arnold Arboretum for propagation and eventual distribution. As Mark had long worked in the ravines and had mapped where the few remaining specimens were, we had a fairly thorough collection of remaining genotypes. Collection information was distributed with the rooted cuttings, including latitude and longitude so that if in the future an attempt is made to restock the natural range with material vegetatively propagated in botanic gardens, the same genetic material could be returned close to its original source.

From the 166 clones that were collected, about 1700 rooted cuttings were produced and as my final act before coming to work for the Smith College Botanic Garden, I mailed these off to a nine institutions which had agreed to try to maintain captive populations of plants (the Arnold kept 163).

My interest in the species continued at Smith and we began to collaborate with Ron Determann at the Atlanta Botanical Garden who had had, by far, the most success in maintaining and growing the material received from the Arnold Arboretum. His plants were flourishing under his astute horticultural skills, and by 1997 had even begun to set seeds. In 1997 he mailed us another set of cuttings and working with Smith students Kim Taylor '97, Sarah McMullen '97, Bibiana Garcia-Bailo '00, and Heather Peckham '97 we were able to produce nearly 2000 cuttings of documented provenance, which were mailed to a number of institutions but primarily back to the Atlanta Botanical Garden for distribution to other gardens and preserves in Georgia. From this second wave of cuttings we also sent material to the New York Botanical Garden and the United States National Arboretum. One set jetted across the pond to the Royal Botanic Garden Edinburgh, replacing an original set which had perished during shipping. So the Smith Botanic Garden Lyman Conservatory functioned as a short-term ark, ushering in the rare plants, putting them through a cycle of propagation, and then releasing them into the world.

The review by Ms. Hird details wide variance in



Photograph by Guy Anglin

Torreya taxifolia, courtesy of USDA Forest Service
See www.fs.fed.us/wildflowers/rareplants/profiles/tep/torreya_taxifolia

success between institutions, with floods ravaging one set (very Old Testament) while others flourished. What was clear to me was that horticultural expertise and institutional commitment played a big role in ex situ success. Her extensive survey showed 988 extant specimens representing 150 genotypes, all with documentation. Since we developed an easy to follow propagation protocol (see www.smith.edu/garden/Academics/stinkcedar1.html), this number can be expanded exponentially at any time. As these captive plants mature, they will begin to set seed and this allows another avenue of rapid propagation. This work with *Torreya*, involving dozens of individuals and multiple institutions, is probably the most extensive rescue program ever undertaken for a native woody plant species. Its long-term success is due in no small part to the efforts undertaken at the Smith College Botanic Garden. Unless global warming intervenes, we won't be able to grow the tender *Torreya* here in Northampton, but we can look with some pride as specimens elsewhere in Europe and North America flourish, grow, and set seed, continuing the survival of a genus with an ancient lineage.

This project has probably ensured the survival of the species as wild stands are diminishing even faster than had been previously predicted. It seems that for now its survival will be ex situ, in gardens outside the native range. That the Smith College Botanic Garden, in collaboration with other botanical institutions, had an instrumental role in the continued survival of this beautiful and enigmatic conifer is testimony to the value of college botanic gardens in world conservation efforts. ☞



Torreya rooted cuttings

Photograph by Rob Nicholson

Smith Goes Wild

Gaby Immerman

It's been a fruitful year for the nascent partnership between Smith College and the New England Wildflower Society (NEWFS). These two venerable old Massachusetts institutions (NEWFS, founded in 1900, is the oldest plant conservation association in the United States) have recently collaborated on an array of valuable projects to promote and preserve native flora on Smith property.

Building on identification and mapping work completed this summer by Botanic Garden interns Brittany Innis '13 and Angela Oliverio '12, NEWFS was contracted to guide and implement eradication efforts targeting invasive species along the Mill River as it crosses the Smith College campus. In October, NEWFS' Vegetation Management Coordinator Ted Elliman led a group of NEWFS interns and Smith students in a day of cutting and treating Japanese knotweed (*Polygonum cuspidatum*). Students from the horticulture, landscape studies classes as well as the Environmental Science & Policy, and CEEDS (Center for Ecological and Environmental Design and Sustainability) programs all lent a hand. Four more "pulls" are scheduled for 2011. Students in the fall 2010 landscape studies studio are producing designs for the installation of native species to restore the impacted areas.

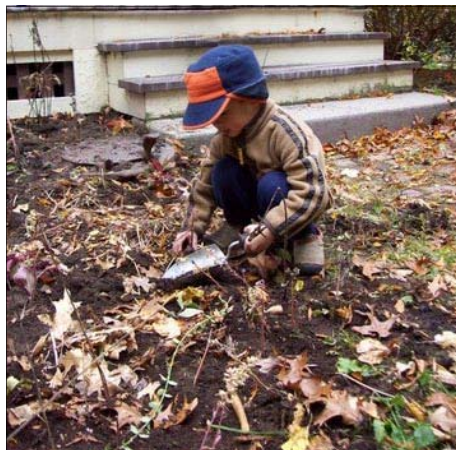
Inspired by a class project of first



Photograph by Maureen Litwin

Campus School planting project

You can also see a video of the butterfly garden planting online at: www.smith.edu/news/2010-11/camcam-butterflygarden-028.php.



Sunnyside preschooler

Photograph by Marianna Branche

graders at the Smith College Campus School, I worked with area schoolchildren to install butterfly habitat gardens on their grounds. NEWFS' propagation nursery, Nasami Farm in Whately, graciously provided donations of "butterfly kits" to the Campus School, the Sunnyside and Fort Hill preschools on Smith's campus, Bridge Street Elementary School in Northampton, and the Hill Institute in Florence. These donations totalled well over 300 plants, including *Asclepias* (butterfly weed), *Aster*, *Liatris* (blazing star), *Penstemon* (beardtongue), *Monarda* (bee balm), and *Lindera* (spicebush) species.

Nasami Farm was also the source of plants for two other new gardens on campus. This fall, the new Smith Community Garden, located between Northrup and Lamont Houses on Prospect Street, installed native woody edible species including *Amelanchier* (serviceberry), *Comptonia* (sweet fern), *Gaultheria* (wintergreen), *Gaylussacia* (huckleberry), and *Vaccinium* (blueberry). Many of these species are also represented in the new edible native landscape at Smith's Fort Hill preschool.

OR



Japanese knotweed removal along the Mill River

Photograph by Gaby Immerman

Finding the Creative Spirit

Lenora Walter '11

Cary MacRae McDaniel '69 Intern

Lenora Walter, class of 2011, is the educational intern at the Botanic Garden this year. She is an Italian Studies major and an English Literature minor. Last summer, she used her Praxis stipend to work with the volunteer and education coordinators at the Conservatory of Flowers in Golden Gate Park, San Francisco, and enjoyed working in a conservatory so much that she decided to do it at Smith too! She will return to San Francisco after graduation and hopes to continue working with plants and education in some capacity.

Landscape architect and artist W. Gary Smith specializes in botanical gardens, public art installations, and private gardens, often utilizing local ecological and cultural themes to create meaningful projects rooted in their location. His new book, *From Art to Landscape: Unleashing Creativity in Garden Design*, explores the tools and perspectives artists employ to create deeper connections with the landscape, which go beyond aestheticism to enrich garden design.

Smith's sketches and artistic renderings of a few of his past and present projects are currently on display in the Church Gallery at the Lyman Plant House — *Art to Landscape/Landscape to Art*. His lecture marked the official opening of the Fall Chrysanthemum Show and the opening of the gallery show.

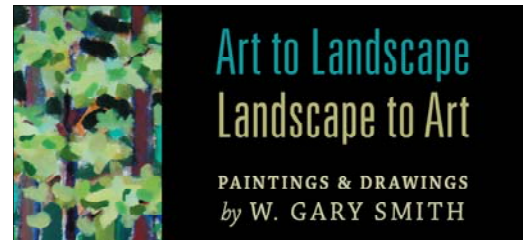
As the educational intern at the Botanic Garden I had an insider's perspective on the exhibition and lecture. From viewing W. Gary Smith's artwork and reading his book in preparation for putting up the exhibition, I had the impression that he was whimsical in the crystals-and-meditation sense. After meeting him and spending a few hours with him I discovered that yeah, he is whimsical, but in the most sincere, grounded way possible.

I had the privilege of attending a student lunchtime discussion with Smith prior to his lecture. Some of the first questions asked of him were about his early inspirations and what led him to the profession. He cited a transformative experience he had had with a grove of beech trees as a boy, calling it an impressive encounter with some tree spirits. I am a strong believer in the magic of trees and immediately sensed a kindred spirit.

During the lunchtime talk he pointed out that his publisher wanted to title the book "Unleashing the Creative Process," which he rebelled against because part of the book's essential message is that there is no "the creative process"—creativity manifests differently for every individual. And all different types of creativity can inspire beautiful gardens: Smith has worked with storytellers, sculptors, muralists, and stone-workers in his projects. These collaborations with local artists also ensure an authentic connection to the project site.

Smith believes in the human potential for spiritual connection with the natural world. In both the introduction of his lecture and of his book, Smith recalled a "numinous moment, a time when you are filled with awe in the presence of something beyond your own abilities." To Smith, gardens are

(Continued on page 12)



Smith at Smith

Madelaine Zadik

At the 2010 American Public Gardens Association annual conference W. Gary Smith gave an insightful presentation on patterns and how he uses that visual vocabulary in garden design. I talked to him about speaking at Smith College and, as serendipity would have it, his book was coming out this fall.

What I did not know at the time was what an incredible artist he is. Fortunately, I was able to persuade Gary to show his artwork in our gallery in conjunction with his lecture for the opening of the Fall Chrysanthemum Show. This is the first time he is showing his prints in a public exhibition of this kind. There is a lovely element of fantasy and whimsy in the paintings, but what really draws one into the work are the bright colors and color combinations. In the show, visitors see how Smith weaves together drawings, paintings, and sculptural installations with landscape design and how he creates artistic connections with the landscape.

Educationally, it is a unique exhibit in that it demonstrates how sketching and painting are an essential part of Smith's process of landscape design. It shows the interplay that exists between his work on paper and his work in the landscape. A display of Smith's sketches and drawings, created while he was working on Peirce's Woods at Longwood Gardens, shed light on his creative process.

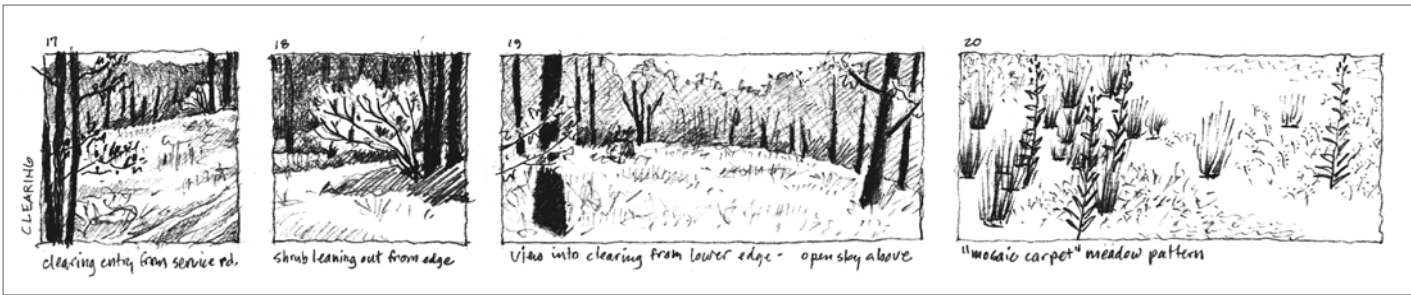
More of W. Gary Smith's work is online at wgarysmith.com. Also, be sure to check out his book, *From Art to Landscape: Unleashing Creativity in Garden Design*, which I highly recommend. The show is on view at the Lyman Plant House through January 2011. ☞

Every work of art begins from the self. Whether it's a painting, a piece of music, a dance performance, a sculptural installation, or a garden, all creative work begins with a spark of interest, a magical moment of delight.

W. Gary Smith

from *From Art to Landscape: Unleashing Creativity in Garden Design*

Finding the Creative Spirit *continued*



W. Gary Smith's first impression sketches of the Southern Highlands Reserve site in western North Carolina, taken from his book, *From Art to Landscape: Unleashing Creativity in Garden Design*, published by Timber Press.

(Continued from page 11)

about the potential for this magical transcendent moment; they are about joy. This is reflected in his meticulous research and effort to understand the history, culture, and sense of place of a garden before beginning a project; a successful design must be strongly rooted in its surroundings. For example, he spent a week touring gardens and natural habitats in Florida before beginning designs for the Naples Botanical Garden.

Smith's lecture outlined his personal creative process and supplied the audience with a set of tools — a “visual vocabulary”— to catalyze creativity and artistic perception of the world. He simplified natural patterns into eight categories: scattered, mosaic, naturalistic drift, serpentine, spiral, radial, dendritic, and fractured. The scattered pattern is “one element repeated in apparently random order across a level field”; a mosaic pattern is similar but involves more than one organism. A naturalistic drift pattern is a type of scattered pattern as well but “there will be more elements nearest to the source,

and fewer and fewer as distance from the source increases.” This pattern, for obvious reasons, is often manifested in collections of plants whose seeds are dispersed by birds. Each pattern was accompanied by several photographic examples. The serpentine pattern was illustrated with a photo of a snake in Smith's driveway and an aerial of part of the Mississippi. Both the snake and the river follow the same curvature, demonstrating that these patterns are found at different scales throughout the natural world. Pictures of tree bark and dried mud accompanied the fractured pattern. Smith's explanation of the dendritic pattern (which essentially means branching or treelike) was by far the most charming: he pointed out that many of our corporal systems mirror this dendritic pattern and that this perhaps contributes to our spiritual connection to trees. Again, since I am mildly obsessed with trees and the immense power and wisdom they seem to possess, I thought that this was an especially interesting point.

Smith further discussed his creative process, explaining the deconstructive process of sketching a scene over and over again in more simplified terms until he felt that he had reached an understanding of the stylistic elements. He also discussed the process of localization in creating unique, enjoyable gardens. For his work at the Enchanted Woods, the children's garden at Winterthur in Delaware, he studied the history of fairies and magical symbols intensely and allowed their stories to influence his designs. Smith's lecture was an enjoyable balance of information and personal anecdote and he was a lively, engaging speaker.

Smith is a designer and an artist; he perceives the world with the attitude of a creator. On our walk around campus he stopped and looked out across Paradise Pond to the mountains and said, “If I was going to paint this scene, I would paint those mountains dark purple,” and then we continued on our way. ☞

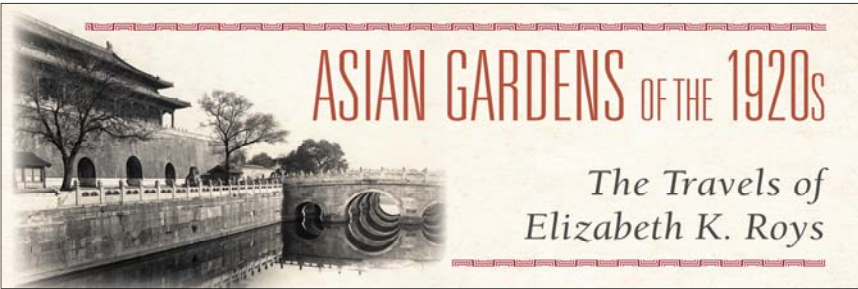


W. Gary Smith's original design for what became the Carpinus Walk at Peirce's Woods at Longwood Gardens called for verticals of white birch, *Betula papyrifera*, as illustrated in *From Art to Landscape: Unleashing Creativity in Garden Design*

News in Brief

Our Traveling Exhibitions

Our exhibits are once again on the move. Depending on where you live, you may have the opportunity to see one of them closer to home. *Plant Adaptation Up Close: A Biological and Artistic Interpretation* will be on display at the University of Northern Iowa Museums in Cedar Falls, Iowa, February 14 – May 14, 2011 (www.uni.edu/museum/exhibits).



Asian Gardens of the 1920s: The Travels of Elizabeth K. Roys will be traveling to Vancouver to the Asian Centre at the University of British Columbia, which is adjacent to the Nitobe Memorial Garden. The exhibition will take place from April to June of 2011, a collaborative effort between the UBC Botanical Garden, Arts, Library, and Herbarium. They are thrilled to be able to showcase this exhibition. We are now looking for other venues on the West Coast that may wish to display this exhibit and save on shipping costs. ☞

Reading the Earth



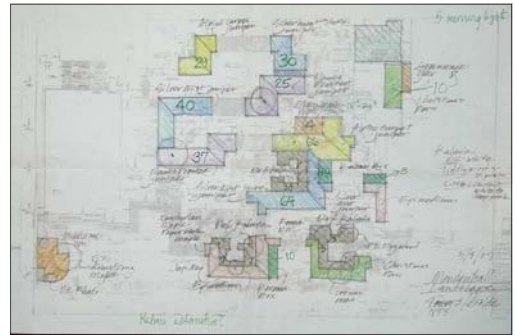
Photograph by Sharon Seelig

Field trip along the Mill River with botanist Elizabeth Farnsworth

Professor Sharon Seelig's first-year seminar, *Reading the Earth* (one of the courses supported by the Botanic Garden's Curricular Enhancement program) focused on natural observation, as students explored the Smith campus and elsewhere in the Connecticut River Valley. As part of the course, students kept journals of their observations. Students in the class came from California, Nebraska, Connecticut, the District of

Columbia, Massachusetts, and New Jersey. Sometimes alone and sometimes together, they struck out across the Smith College campus and explored the woods and hills of western Massachusetts, making thrice-weekly journal entries of what they saw, from the warm days of late summer to the snows of early December. They compiled a group journal with entries chosen from among the best submitted by members of the group, representing the range of places they visited and the variety of interests and styles of observation. Photographs were taken by Gabriela Acosta, Katy Butler, Phoebe Camilletti, Emily Fuller, and Sharon Seelig. The journal is online at

www.smith.edu/garden/Academics/fys158-journal.pdf. ☞



Plan for Mendenhall Courtyard

Mendenhall Courtyard

This past summer a new landscape was established at the courtyard of the Mendenhall Center for the Performing Arts. Towers|Golde landscape architects created a design that would be appropriate for the building's age and architecture. Summer interns at the Botanic Garden worked with Garden staff on the installation. With the cooperation of Facilities Management, an irrigation system was installed, which was particularly timely considering the long summer drought we had. The planting consists largely of geometric patterns of junipers of different textures, height, and color and should demand less water and be attractive year-round. ☞

Burying the Fig Tree

The fig tree, *Ficus carica*, is native to western Asia. It grows well in subtropical and warm regions. It is not winter hardy in this area, being a Zone 6 or 7 plant, but can be overwintered if it is wrapped up and buried in a trench, where temperatures do not get as low and fluctuations in temperature are minimized. We do this with our fig at Capen Garden and we also have one growing in the Asia section of the Cool Temperate House at Lyman. ☞



John Berryhill burying the fig tree at Capen Garden

Photographs by Pamela Dods '08

My Summer at the Herbarium

Ariana Albano '11

The Smith College Herbarium is a vital resource, holding over 60,000 pressed plant specimens spanning more than 150 years of botanical research. The specimens document numerous research projects carried out and published by Smith College faculty and students, both graduate and undergraduate. The collection, which includes specimens from as early as the 1860s to today, has been a valuable resource for faculty teaching systematics and ecology as well as ecologists and botanists seeking primary source documentation for the presence or range of plant species in the region. It also serves as an important tool for understanding how our local flora has changed over time. I first learned of Smith's herbarium from Professor John Burk's plant systematics class, where we studied specimens of common local flora and used them to practice our identification skills. I was immediately interested in learning more about the collection, and I was surprised that a resource so rich in history was not well known on the Smith campus. For these reasons, during my summer internship at the Botanic Garden in 2009, I chose to pursue an independent research project that would take a deeper look into the history of the herbarium, its connection to students, and its potential role in current conservation efforts.

Hoping to help statewide efforts to research and conserve the region's native flora, I spent my summer documenting the rare and endangered plants housed in Smith's herbarium. This part of my project was closely tied with the Natural Heritage & Endangered Species Program (NHESP), which is responsible for the conservation and protection of hundreds of species that are not hunted, fished, trapped, or commercially harvested in the state of Massachusetts. I began my search for rare species in our collection by consulting their list of 259 endangered, threatened, or special concern plant species. I was surprised to find 45 of these 259 species in our very own herbarium. It was most

In 2009, Ariana Albano, a biology major with a concentration in the plant sciences, participated in the Botanic Garden's Summer Internship Program. This past summer she worked in Professor Carolyn Wetzel's plant physiology laboratory. Ariana particularly enjoys the study of medicinal plants and hopes to pursue graduate studies in this field.

interesting to read collectors' notes on the specimen labels and see where and when plants were collected and what their habitats were like. If a researcher were to travel to one of these collection locations today, would the rare species still be present?

I sent the information I gathered from the 45 herbarium specimens to a state botanist for NHESP, who entered it into the program's database. The researchers

at NHESP will use the information from our herbarium for their conservation efforts. Many publications have relied on rare and endangered species data from the Smith College Herbarium. The NHESP's use of the collection is evidence of the role Smith's herbarium plays currently and historically in the conservation of Massachusetts rare and endangered flora.

Most large herbaria maintain an up-to-date list of authors and organizations that utilize the collection for research or publication. Though Smith's herbarium has been an indispensable resource to students conducting ecological or biological research, such documentation does not exist. Utilizing the "institutional memory" of people such as Professor John Burk, I reviewed literature and compiled an annotated bibliography of students, undergraduate and graduate, who have referenced the herbarium in theses, special studies, and dissertations. This includes students who used the herbarium for

taxonomic research or identification of species, and any students who contributed specimens to the collection. A number of student publications referred to the conservation of species from NHESP's list of rare and endangered plants. The bibliography is now part of the herbarium and available as a reference. It truly shows the role our nonliving collection has played over the years for students.

My favorite part of the summer project was collecting ten rare cultivated species from New England Wildflower Society's Garden in the Woods to add to the holdings of the herbarium: *Hypericum ascyron* (Clusiaceae), *Desmodium humifusum* (Fabaceae), *Senna hebecarpa* (Fabaceae), *Equisetum scirpoides* (Equisetaceae), *Ageratina aromatica* (Asteraceae), *Doellingeria infirma* (Asteraceae), *Liatrix scariosa* (Asteraceae), *Opuntia humifusa* (Cactaceae), *Symphotrichum concolor* (Asteraceae), and *Sisyrinchium mucronatum* (Iridaceae). These species heretofore had not been represented in Smith's herbarium, thus contributing to the number of rare plants in our collection. I also collected two plants at the Hawley Bog to serve as voucher specimens for the Index Seminum: *Kalmia polifolia* (Ericaceae), *Carex folliculata* (Cyperaceae). (See the article on the Hawley Bog in the spring 2010 issue of *Botanic Garden News*, page 13). I created my own herbarium specimens, joining the long list of scholars and plant enthusiasts who have contributed to the Smith collection. ☺



Ariana with her mounted specimen of *Ageratina aromatica*. Photograph by Pamela Dods '08

Learn more about the herbarium online:

<http://web.me.com/jbellema/Smith/Herbarium.html>

Xerophyte Garden

Madelaine Zadik

In 2006 the Botanic Garden began creating a new outdoor garden area on the south side of the Lyman Conservatory, designed to complement our indoor collection of cacti and succulents. The area was prepared by students in the first year of our summer internship program. It was planted in 2007 by Jeff Rankin, the assistant curator and gardener for alpine and herbaceous gardens. The plants have taken off and the area is filling in nicely. This past spring it was awash with flowers.



The garden features cold-hardy xerophytes — plants adapted to dry environments. Their survival outdoors depends on proper siting. The planting bed was lined with a deep layer of gravel to provide adequate drainage for these plants, which is especially important to their surviving the winter.

Most of the species planted are native to Mexico, western North America, and southwestern United States, with a few from Europe. ☞



Photographs by Pamela Dods '08, Madelaine Zadik, and Polly Ryan-Lane

Mourning Elliot Offner

Madelaine Zadik

Elliot Melville Offner, Andrew W. Mellon Professor Emeritus in the Humanities and Printer Emeritus to the College passed away peacefully at the age of 79 on Friday, October 15, 2010 at his home with his beloved wife Rosemary at his side, after a long battle with cancer.

Offner taught at Smith from 1960 until his retirement in 2004. Although best known as a sculptor, he was also recognized for the variety of his artistic outlets, including bookmaking, painting, graphic art, and photography. He received numerous honors during his long and distinguished career, and his work is found in many private and public collections.

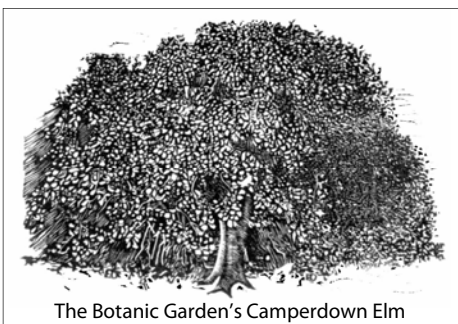
What many people may not know about Professor Offner is that he was also a strong supporter of the Botanic Garden. In 2008, to honor Rosemary Offner's 55th Smith College reunion, he worked with the Botanic Garden to create a display of his original woodblock carving, and a print made from it, of our Camperdown elm, *Ulmus glabra* 'Camperdownii' also known as *Ulmus x vegeta* 'Camperdownii.' This stately tree, located next to the Rock Garden, is over 100 years old.



Photographs by Pamela Dods '08

Elliot Offner's bronze sculpture *Great Blue Heron*, 1987, graces the pond adjacent to the Lyman Plant House. A black scarf anonymously placed on the sculpture reflects the deep sorrow felt by the Smith College community on learning of the artist's death.

One day a few years ago Elliot Offner and I were standing by the Lyman pond when a great blue heron alighted on the heron sculpture. It was a very special moment and a smile of pure delight filled the artist's face. ☞



The Botanic Garden's Camperdown Elm

Elliot Offner created this woodblock print of a sheltering tree for the Hampshire County Interfaith Shelter. Note cards are sold by the Friends of Hampshire County Homeless with all proceeds going to the shelter.

To purchase cards contact:
Anne Benedict — abene@comcast.net

Donors

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, 2009, through June 30, 2010.**

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In memory of Grail S. Hanford '54

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