



Connecting to Plants

Four Student Projects in the Botanic Gardens

Four students of diverse backgrounds and interests — Joy Ding '09, Christine Kang '10, Johanna Lake '09, and Laura Stevens '11 — signed up for “Plant Projects” independent study with Kristina Jones for the fall semester. After discussing the Botanic Gardens’ mission to increase scientific and environmental literacy, each student came up with her own project toward that end. They worked out specific goals and audiences for each one and met weekly to brainstorm and critique each other’s projects. The products are fabulously creative and will have a lasting impact. Here the students describe their own projects and experiences.

The Story of a Favorite Spot

by Laura Stevens '11

My initial interests and objectives for taking the class were to be able to casually identify some of the plant species commonly found in New England. With the aid of Kristina’s and my classmates’ suggestions, my fact-based plant identification project turned into a medium that could be enjoyed and added to by others.

I began thinking about the bench area by Paramecium Pond where I often found myself and other students and campus visitors lounging during weekend afternoons. After some time spent on



Spring vista looking across Paramecium Pond from bench

the bench, my eyes were drawn to six surrounding trees. The sky was blue and I started snapping pictures of the trees, their bark, and branches. What types of trees were these? Most of them were without visible signage. What is the story of this place? I knew the stream feeding Paramecium Pond was manmade, but when and how? Why is this pond named after a microorganism anyway?

After that day, the “My Favorite Spot” project grew from a desire to give a history of the pond as well as names, pictures, and other facts about the trees to bench sitters without creating signage that would take away from the simple beauty of

the landscape. More brainstorming and discussions with my classmates led to the creation of a small notebook with names, information, and photos of the trees that could be housed in a weatherproof box on the side of the bench; better yet, a notebook that could also be an interactive record of visitors’ reactions and reflection. In the coming months, the notebook will make it out to the bench, where visitors can begin to jot down reflections and memories they share with the spot. The notebook has many free pages left, and I hope this will keep the comments coming for years to come.

Love Fruits? Love Their Plants Too!

by Christine Kang '10

Personally, I had never thought about where my fruits came from because all I cared about was consuming them. By ignoring fruit origins, we are ignoring

Student projects continued on page 11

Fruits of Their Labors

On December 10, 2008, the Wellesley College Botanic Gardens hosted its fourth annual light show. Held during reading period this popular nighttime event with special lighting used Christine Kang’s *Love Fruits? Love Their Plants Too!* project as a theme. (Look up and see “Love Fruits” there in column 3.)

Visitors were invited to see the plants that bear the fruit and find out on what kinds of pollinators they depend, get the latest on the bee crisis and find out what individuals can do to support pollinators – both locally and globally, and of course, sample the fruits, which happen to include chocolate and coffee. The Visitor Center displayed Christine’s “cool facts” signs and a gorgeous fruit spread offered tastes of everything from dragon fruit to lychees to papayas – a big hit with kids and adults alike.



Notes from the Director – Spring 2009

Greetings from a snowy winter wonderland!

We had a long and lovely fall foliage season, with good fruit production on most trees and shrubs, except for a notable absence of acorns. Temperatures dropped below zero in January, which may help control pests such as the hemlock wooly adelgid, but also could be a problem for some of our less cold-hardy specimens such as the *Franklinia* tree, which had bloomed nicely in early fall. The butterfly garden buzzed with bees as well as butterflies visiting the prolific asters, coneflowers, *Vernonias*, black- and brown-eyed Susans, and goldenrods this fall. Now in the adjacent dwarf conifer garden, only the tallest of the miniatures are visible, poking out of a thick blanket of snow.



Wellesley student studying in the WCBG Butterfly Garden.

In the fall we held a Botanic Gardens Research Symposium, brief talks showcasing the broad range of research projects and ideas, with a goal of inspiring students to participate. We had a nice mix of faculty and student presenters—

see the bottom of page 3. The Friends of Horticulture provided dinner afterward so that we would have time for questions and conversation, and we knew the event was a success when students started asking about projects they would like to do. Originally designed to introduce Alden and Katie Griffith into the community as potential research mentors, the symposium turned into a great opportunity to learn about each other's interests and foster collaboration. We look forward to doing it again next year, with an even broader roster of participants.

Our two big outreach events of fall the semester – Mystical Tree Tour and the Greenhouse Light Show – sparked a lot of interest and came off great, thanks in large part to Friends of Horticulture support and volunteer efforts. It is so rewarding for Tony, Tricia, Dave, Gail, Eileen and I to have our efforts to reach out to students and the community multiplied by enthusiastic Friends!

Mystical Trees had an East Asian theme this year, and students and faculty from East Asian Studies helped us learn about special trees and customs in Chinese, Japanese and Korean cultures. In addition to the ten highlighted trees with the attendant “tree spirits” telling their lore, there was a beautiful ceremony in which people wrapped personal messages of peace or remembrance around candles which were then lit and set afloat in Paramecium Pond. Campus Buddhist advisor JiHyang Sunim led meditation and awareness exercises among the Sawara Cypresses on the knoll. There was hot tea for cold hands near the end of the tour in the “wedding area” of the arboretum, along with an invitation to pause and engage in the Japanese practice of shinrin yoku or “forest breathing” near the Sugi tree,

also known as Japanese Cedar. Guiding people through the specially lit botanic gardens at night has enabled some truly magical experiences.

The greenhouses, of course, are always magical at night, and this year's Greenhouse Light Show was a great experience. The goal was to make the connection between fruits and the plants and pollinators that produce them. Tons of visitors tasted samples and then visited the dragon fruit, prickly pear, fig, persimmon, lychee, papaya, chocolate, coffee, carob, pineapple, avocado, strawberry, date palm, pomegranate, and banana plants. Each had colorful signs describing “cool facts” by Christine Kang '10, and a flip sign with a photo of the flower and a challenge to guess its pollinator, with the pollinator answer given underneath. These remained up after the show to be enjoyed by daytime visitors and participants in Greenhouse Kids Time events.

My personal adventure of the fall was taking my first art class since elementary school, Jeanne Kunze's Observational Drawing, one of the many botanical art and illustration courses offered by the Friends of Horticulture. I was inspired by the nature journals of Carol Govan and her students, but didn't have the foggiest idea of how to draw anything beyond a stick figure, and didn't know what to expect. It still amazes me that in a five week course meeting one morning a week, I not only learned how to be a better observer but also acquired enough basic techniques to begin to capture a three-dimensional plant on paper! OK, it has to be a fairly simple one and I'm not quick about it, but it's such a thrill to be able to draw a leaf and later still recognize what kind it is. Many of the students in the class were back for their second or third iteration, saying they learned more each time. The teachers are fabulous and these classes really are a great bridge between art and science, quite an asset to the botanic gardens.

Enjoy the spring renewal, and I hope to see you at Wellesley soon!

Kristina Niovi Jones, Director
Wellesley College Botanic Gardens
kjones@wellesley.edu 781-283-3027



Lithops, commonly called living stones, blooms in Annex display last October

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See What Plants Are ... All About !

All About is a new series of explorations with a multi-faceted approach combining science, close observation and art. Each independent session focuses on a particular feature or type of plant. We'll look at the reasons why plants develop as they do, and spend time exploring their life cycles and habitats. This multi-age educational experience designed to appeal to all ages from tots to grandparents is an interactive, informal way to become familiar with botanical concepts through many learning pathways.

All children must be accompanied by an adult.

However, even without a child to bring along, adults are encouraged to come and spend an engaging afternoon immersed in the natural world of the Botanic Gardens!

**FREE, pre-registration by prior Friday at noon is required.
Call 781-283-3094 or email horticulture@wellesley.edu**

Bring a sketchbook or journal, a pencil, and a snack to each class.

Dress appropriately for going outdoors into the Botanic Gardens.



All about Flowers!

Sunday, May 17, 1:30 – 4:00 p.m.

Do you think you know what a flower looks like? Some of the flowers here at the Wellesley College Botanic Gardens may surprise you! We'll follow in the footsteps of children's author Ruth Heller and discover the reason for a flower. Learning about a plant's strategy for making seeds helps us understand its flower: everything from shape to color to the location of its reproductive structures serves this basic purpose. We'll pull apart some flowers to identify their parts, and end our session with a colorful flower planting project.

All about Trees!

Sunday, June 14, 1:30 – 4:00 p.m.

Trees are our biggest plants. How do they get so tall? We'll explore their bark, twigs and leaves, and talk about their strategies for surviving our cold winters. We'll learn the names and identifying features of some common backyard trees. Looking at the various forest patches and specimen plantings in the botanic gardens will give us insights into the variety of growth forms, even within a single species. We'll make bark rubbings and see how they might be used in tree identification. Maybe we'll even hug a tree!

All about Pollination!

Sunday, July 19, 1:30 – 4:00 p.m.

Whether it's by means of wind, insects, or animals, flowering plants rely on pollination to produce seeds. The Butterfly Garden at the Wellesley College Botanic Gardens is a great place to observe pollinators in action. We'll start by talking about what insect behaviors we might see, and then we'll spend some time doing what scientists do – looking thoughtfully and carefully. We'll record and compare our observations. Our session will end with a tasting of what those butterflies and bees are after – a nectar reward!

Botanic Gardens Research Symposium—Fall 2008—Presenters

- Dan Brabander (Geosciences and Environmental Studies) and his students Emily Estes '10 and Megan Carter-Thomas '10 presented a current update of Dan's long-term project "Getting the Lead Out: Biogeochemistry and Urban Agriculture at The Food Project".
- Ted Ducas (Physics) showed photos he had taken of ultraviolet patterns in flowers and talked a little about pigments in flowers and how they can be investigated.
- Laura Cox '10 presented the project she did in the greenhouses as a sophomore participant in the Bell South Mentoring in the Sciences program: "Purple Loosestrife – What Does Your Lawn Have to Do with It?"
- Alden Griffith (Botany Fellow) drew on his graduate research to present "Ecological Insights from Biological Invasions" and several ideas for student projects along these lines
- Nick Rodenhouse (Biology and Environmental Studies) gave his perspective from long-term studies of bird populations: "An Ornithologist Offers Research Ideas in Plant Ecology – Everything is Connected".
- Erich Fox Tree (Anthropology), who had illustrated a session of his course "Cultures and Peoples of Mesoamerica" by conducting it in the three sisters garden behind the greenhouses, spoke on "Growing Political-Ecologists in A Garden: Anthropological Insights".
- Katie Griffith (Visiting Scholar) presented her work on "The Ecology of A Patchy Parasitic Plant," including some neat observations about how parasitic plants "forage" for appropriate hosts.
- Courtney Streett '09 presented her research project (previously profiled in earlier newsletter) "Connecting Soil Nutrients and Plant Pests in the Greenhouse".
- Jeff Hughes (Biology) talked about his interest in soil food webs and some preliminary investigations he and students in his Conservation Biology course had made.
- Kristina Niovi Jones presented work by Jing Cao '08 on the green roof experiment, along with opportunities for future projects in the roof garden and more broadly in the botanic gardens.

Sheet Mulching the Botanic Gardens: Putting the Soil Food Web to Work

by Tricia Diggins, WCBG Senior Gardens Horticulturist

In the Botanic Gardens we are re-thinking lawns. Already we are converting most turf areas to less frequently mowed meadows. Lawns can be managed in an environmentally friendly way and the need for open spaces for playing or other gatherings means lawns have a place in the landscape. But converting lawn to meadow, forest or food growing does much more for the environment by increasing diversity in local plants, animals and the soil food web. In late 2008 after a long summer spent pulling invasive plants, we switched gears and started a program of sheet mulching, an important tool for improving the soil and in transitioning to more sustainable landscaping than large expanses of lawn. Our aim is to recreate a forest floor soil food web high in beneficial fungi or mycorrhizae.

So far we have mulched one large area under a black walnut and a hickory and created several tree circles under younger trees. Some Wellesley students are also sheet mulching to convert an overgrown ornamental garden behind the greenhouses to a vegetable garden.

Using three layers of mulch makes this process initially labor and material intensive—one reason it has taken so long to switch from our previous practice of using one layer of wood chips around trees in tree circles. Another reason is that to be effective around mature trees the mulched area should be large enough to cover a decent percentage of the root system. Large mulched areas will change the look of the Botanic Gardens, which have largely been a “tree lawn” with trees emerging from lawn or meadow. Large traditionally mulched areas are also a maintenance concern since tree circles have needed a lot of weeding and we do not use herbicides other than for poison ivy.

The method we have adopted is to first put a layer of wet cardboard on the

ground where the grass or weeds have been cut short. The cardboard acts as the initial weed barrier to kill the turf and as it decays it will help feed the fungi in the soil. I had heard that cardboard potentially contained toxic glues and was reluctant to use it on a large scale. But any concerns seem to be limited to cardboard from Asia. Given the amount of available cardboard at the College, there is the added benefit of using a resource generally regarded as waste to be trucked out for disposal or recycling.

Mycorrhizae work with trees to increase water and nutrient uptake through the roots in return for carbohydrates manufactured by the tree through photosynthesis.

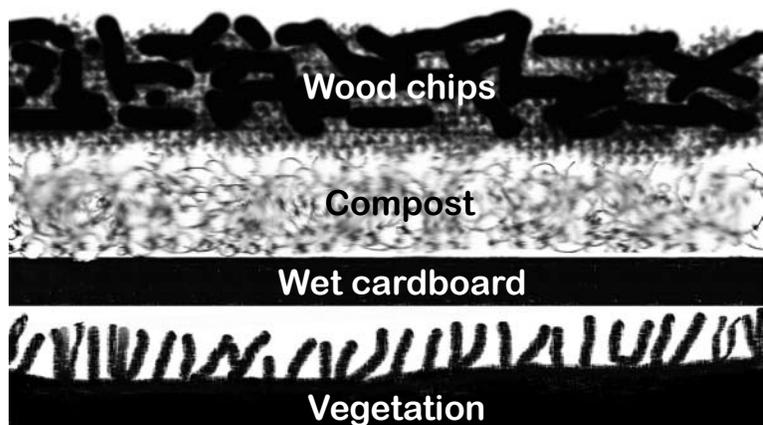
Next we add a layer of an inch or two of compost that has soil food web test results demonstrating a high fungal to bacteria ratio. While we currently buy the compost, it is not out of the realm of possibility that the college could someday generate the quality of compost we would like. The compost layer adds organic matter to feed the existing food web as well as hopefully adding some of the organisms themselves. Compost made from carbon rich fungi food such as wood chips or shredded oak leaves is desirable around trees. Compost made with a

nitrogen source like manure mixed with a carbon source would be appropriate for non-woody plants like vegetables or perennials.

Lastly we are adding a layer of wood chips, the less composted the better. This layer provides more organic matter, additional weed protection (weed seeds will not germinate as easily in raw wood chips) and an aesthetic finish. Generated from the work of the campus arborists or outside tree companies, the wood chips are also free and readily available.

Once the area is sheet mulched, maintenance should mainly be making sure colonies of weeds do not get established and adding wood chips to the bed as needed (or as time permits).

To be ultimately sustainable all material used in mulching should be generated onsite, but creating a healthy soil must be a first priority. Looking forward to spring 2009, we will continue the sheet mulching program to foster a healthy soil food web in the Botanic Gardens by making conditions favorable for increased biological activity in the soil while suppressing weeds so that mulching does not become more maintenance intensive than mowing grass. The increased biological activity in the soil will slowly improve soil compaction, make nutrients available to plants and possibly help our mature trees live longer.



Sheet mulching is also a great way for home owners to decrease the area of lawns in favor of garden beds and tree circles, creating a more ecologically diverse landscape. I have adopted sheet mulching in my home garden in a big way as a method to improve soil and plant health and to kill or suppress unwanted plants.

My father has long had a copy of Ruth Stout's *Gardening without Work*. Ruth Stout was an advocate of using many layers of mulch, or lasagna gardening, to improve soils and save work by not digging or tilling. To most gardeners establishing a new garden bed or the yearly planting of a vegetable garden involves rototilling or turning the soil with a fork. Solarizing the soils with black or clear plastic to kill weeds is also considered an option but it can take up to a season and the results are inconsistent.

To create a new garden bed I used to turn the turf over with a fork and allow it to decompose but I was always pulling the grass that didn't get buried enough and the soil was not improved until I haphazardly incorporated compost. Now I put down cardboard, compost I make at home, and a top layer of straw. This gets rid of the turf and the bed can be planted fairly soon (within a month during the growing season if the cardboard stays wet). Best of all the soil food web stays intact and the mulch feeds it. Rototilling (and digging to some extent) breaks up the soil food web which then cannot do the jobs of helping plants take up water and nutrients and of suppressing weeds, insects and diseases. The continual disturbance of the soil food web by tilling creates an early successional stage ecology which is most conducive to growing annual weeds and requires more input of nutrients and more pest control

There are more details about sheet mulching materials and methods which I could add but there is much information available in books and on the internet. 🌱

A Few Caveats

- As advised with traditional mulching methods, keep mulch pulled away from the root collar area of a tree. Trees with mulch right at the trunk are more likely to develop girdling roots that can partially grow around or into the trunk, strangling the tree and making it more likely to break off in a storm.
- Recommendations on the depth of mulch to create beds vary and can be somewhat arbitrary, but when mulching young trees and even middle-aged trees it is important to limit the mulch depth to 2-4" with no mulch within 4-6" of the trunk. Young trees will send roots into the mulching material rather than the soil if the mulch is too deep, leading to an overabundance of surface roots that are subject to faster drying out and less stability in wind.
- Mulch also sometimes attracts the wrong kind of diversity in the form of rodents, slugs and snails. I have not had a problem that was worsened by mulch but it is always good to protect the bark of young trees with a rodent guard, especially in the winter.
- Sheet mulching to get rid of lawn is successful any time of year but perennial weeds like poke weed are more difficult. I have not had direct experience with this but I would put down several layers of cardboard instead of one. Dave Jacke, the author of *Edible Forest Gardens* says mulch in the spring, never the fall, to get rid of tougher weeds.



Green Thumbs volunteers Nancy Webb (left) and Nancy Dillon (right) helping to cut short vegetation in the former "weed and thorn garden" between greenhouses and Science Center prior to sheet mulching in preparation for the student vegetable garden.

Use your thumbs to go ... GREEN

Green Thumbs is a hands-on gardener volunteer group that gathers on a regular basis to work on specific projects at the Wellesley College Botanical Gardens—in the greenhouse or the arboretum. Sign up with friends or come and make new friends while choosing an existing project or suggesting a new project, receiving training and guidance from the professional staff, and then accepting responsibility (as a group or an individual) for continuing or completing the project independently.

Call or email immediately if you have an interest in this hands-on volunteer corps at the Wellesley College Botanical Garden—

Sonja Hicks, Green Thumbs Coordinator
781-283-3094 horticulture@wellesley.edu

My Summer Internship at New York Botanical Gardens

by Laura Craig-Comin '09

New York Botanical Gardens awarded a summer 2008 internship to Laura Craig-Comin and WCFH Memorial Gift Fund grants helped support her during her stay in the Big Apple. Below Laura shares her experiences and impressions with you. Finishing her Wellesley studies last December, Laura has found employment with a landscape design and construction firm in western Massachusetts, and she also plans to pursue graduate studies.

My parents' home, where I lived for eighteen years before coming to college, had a yew next to the front porch for many years. And yet, when I went to work at the New York Botanical Gardens as an intern last summer, I was completely baffled whenever anyone would mention the problems with *Taxus* (the botanical name for yews). This was most likely a combination of spider mites and kinks in the irrigation system. Suddenly I began to notice the spindly webs of the mites and differentiate them from simple cobwebs. Then I started noticing when one plant or another would have more browned and curling needles than usual. It was like learning how to see.

Almost everything at the Gardens was both familiar and simultaneously strange, new and exciting. Not only did I learn and become accustomed to Latin botanical names in casual conversation, but I also learned about tree identification, fungi, compost tea, soil biology and food webs, tree climbing (amazing views included), integrated pest management, and maintenance of forest facilities and invasive species.

Most of the daily work, however, involved what I called weeding the forest. As the forest management intern, I would remove invasive species and keep the trails clear of plants and branches. There are native opportunistic plants which will take over disturbed areas just as rapidly and aggressively as the invasives that I pulled out. But, especially since this was a Botanical Garden with an advertised Native Forest, I wasn't going to worry. None of these "weeds" were in any way like normal garden weeds. Most of the plants I removed were trees

ranging from tiny seedlings to saplings ten feet tall. I removed three Norway Maples (*Acer platanoides*) with trunks as wide as both of my hands together with nothing but a grub axe and a hand saw; Devil's Walking Stick (*Aralia elata*) which grows with long, sharp thorns all along its compound leaves and completely covering its large woody stem; Tree of Heaven (*Ailanthus altissima*) which smells like peanut butter when you pull the seedlings; and the Amur cork tree (*Phellodendron amurense*) which smells like citrus when you break the leaves and whose seedlings could usually be pulled up by the handful because the trees seed like there's no tomorrow.

I also removed what felt like miles of vines including Bittersweet (*Celastrus orbiculatus*), Porcelain Berry (*Ampelopsis brevipedunculata*), Japanese honeysuckle (*Lonicera japonica*) and, on a couple of occasions, poison ivy—not invasive, but a pest when it grows into paths or over railings. In an urban forest there's poison ivy almost everywhere. I must have gotten a spot of it every week!

I would take my breaks sitting on top of a ridge of Manhattan schist, which is a major feature of the Forest. And if I needed a snack, there were raspberries, low-bush blueberries or blackberries throughout the area. It's better than hopping over to 7-Eleven.

Whenever I wasn't weeding, I was learning and experiencing some amazing things. The Gardens have let a number of places go back to their natural states. One garden released back to nature is now the Wetland Trail with signs and information, forming an almost invaluable resource to show and teach visitors about the environment and why these ecosystems are



Acer platanoides
Norway Maples
by Carolyn Payzant

important. One day, I hope the Native Forest area is as healthy and informative as the Wetland Trail.

The entire summer experience

was an exercise in understanding how I want to work with nature and how nature works with humanity. One of the gardeners told me about her trip to Switzerland where people who own houses with outdoor space are required to mitigate their carbon footprint by having a plant or two outside. She said that every window sill, balcony, and patio had a small garden cascading over railings and peeking out at the world. I tried to imagine New York City that way, and the image made me smile and feel hopeful.

My goals are to continue helping plants and the systems they grow in to be healthier and richer, and to integrate the human experience back into nature. I want to climb trees, feel dirt between my fingers, find adventure and always keep learning.

This experience will stay with me throughout my career and my life, and I am eternally grateful to the Friends of Horticulture for helping to make this possible. I will use my newfound knowledge and enthusiasm to help out the Wellesley community and all of the communities I will be a part of in the future. 🌱



Ampelopsis brevipedunculata
Porcelain Berry
by Lucy Sur



Celastrus orbiculatus
Bittersweet
by Nancy Savage



ON THE ROAD with the Friends of Horticulture Coast of Maine and Seacoast of New Hampshire Thursday, June 25, 2009

7:45 a.m. — meet in Gray Lot to form carpools

6:45 p.m. — expected return to Gray Lot

Contact the office with details if you plan your own carpool and travel plans.

Join us as we daytrip from the College to visit private and public gardens of note.

Braveboat Harbor Farm in York, Maine, is the home of Cynthia and Calvin Hosmer. These gardens around the stone Georgian-style house were started in 1950. There are many features on this three-acre site surrounded by hayfields which rise from the rockbound coast. We will visit a formal front garden, a vegetable garden, an orchard, a woodland garden, and collections of hostas, lilacs and magnolias. This bit of paradise was featured in last summer's issue of "La Vie Claire" and has been the subject of a "Down East" article, "Earth On Her Hands," a PBS series "Cultivating Life" feature about lilies, and numerous other venues. Braveboat Harbor Farm has been a participant in the Garden Conservancy's Open Gardens Day for the past eight years.

The lovely home of Vance and Anne Mitchell Morgan '57 on Gerrish Island in Kittery Point will be our setting for lunch. The garden, largely designed and created by them, overlooks a tidal inlet and features a rock garden, perennial beds, a fountain garden and a wonderful shady woodland garden. Colorful containers on the deck show off choice plants. The Morgans moved to Maine when Anne retired from her position as Executive Secretary of the Wellesley College Alumnae Association.

Fuller Gardens in North Hampton, New Hampshire, is a turn-of-the-century estate Garden established by then-Governor of Massachusetts Alvan T. Fuller to please his wife, Viola, who loved flowers and especially roses. Always open to the public, today Fuller Gardens is known primarily for its extensive collection of roses. Garden Director Jamie Colen will give us a short talk about the roses and other features of the Gardens. We'll stop at the nearby home of Anne Sinnott Moore '56 for refreshments before heading back to Wellesley.

TVL 09 100: Members \$48 / Non-Members \$60

WCFH Memorial Gift Fund

Stories such as the one on page 6 by Laura Craig-Comin highlight how well used and appreciated are gifts given in the memory of some wonderful folks who found pleasure in many facets of Wellesley College including its Greenhouses and Botanic Gardens. If you would like to remember a special friend and enrich the lives and learning of Wellesley College students in their study of plant science and related topics, please consider a donation to the WCFH Memorial Gift Fund.

Contributions may be sent to
the Friends Office:

Wellesley College Friends of Horticulture
106 Central Street
Wellesley, MA 02481-8203

Please make your check payable to
"WCFH Memorial Gift Fund"

Remembering Dorothy

In last fall's newsletter, we announced the passing of Dorothy Dudley Thorndike DS '75, a volunteer of long standing at Friends of Horticulture. Dorothy touched many lives, and her friends and family have given generously to WCFH in her memory. We are deeply grateful for this outpouring of support, which is a tribute to Dorothy's passion, learning, and unique character. We are currently working with her husband John to craft a living and lasting memorial to Dorothy that will benefit the Wellesley College students, community, and the many visitors to the Wellesley College Botanic Gardens. Further donations to this project are greatly appreciated and may be sent in Dorothy's name to Friends of Horticulture office. We look forward to acquainting you with the details of the memorial when they are finalized.



Programs

- All classes are held in the WCBG Visitor Center unless otherwise noted.
- Materials Lists may be found on our website on the Courses page.
- For more information on the programs and courses, visit www.wellesley.edu/WCFH or contact WCFH at 781-283-3094 to be sent the 2008-2009 Program Brochure.
- During the academic year when the College is in session, parking on campus is restricted. Use of the Davis Parking Garage or carpooling from off-campus is strongly encouraged.

Designing Women: Beatrix Farrand and Ellen Shipman

10:00 a.m. coffee; 10:30 a.m. program Monday, March 23
Wellesley College Science Center HOR 09 070

Garden historian **Judith Tankard** will explore the careers of Beatrix Farrand and Ellen Shipman, two of America's most influential garden designers of the early twentieth century. Judith will highlight visible examples of their work today, including some lesser-known gardens recently restored and opened to the public. Book sale and author signing following program.

Members \$15 / Non-Members \$18

50 Favorite Plants with Tracy DiSabato-Aust

Thurs, April 2, 7:00 p.m. – 8:30 p.m. WLS 09 020
Newton South High School, 140 Brandeis Rd, Newton, MA

Tracy DiSabato-Aust has taught thousands of readers how to design and maintain their gardens. Her first book, *The Well-Tended Perennial Garden*, is widely considered the “bible” for perennial maintenance. Now with *50 Favorite Plants for High-Impact Gardens*, Tracy presents 50 show-stopping plants that are easy to grow. Each has passed Tracy's test for toughness, beauty, and durability, chosen after years of studying how to make beautiful outdoor spaces with a minimum of maintenance. Tracy's books will be available for purchase and signing.

Members and Non-Members \$15



Techniques of Botanical Drawing and Painting

8 Thurs: 9:30 a.m. – 12:30 p.m.
April 9, 16; May 7, 14, 21, 28; June 4, 11 BAC 09 202

Sarah Roche helps hone your botanical drawing technique and expand your knowledge of the watercolor painting skills necessary to create an accurate representation of botanical forms.

Members \$225 / Non-Members \$275

Color Mixing for Artists with Susan Fisher BAC 09 113

4 days: 9:30 a.m. – 2:30 p.m. Tues, April 21 – Friday, April 24

Color mixing guru **Susan Fisher** teaches an easy system for combining colors consistently to achieve the broadest possible spectrum for any “wet” medium including watercolor, gouache, acrylics, oils, inks, alkyds or egg tempura. All are welcome, with no prerequisites. Daily homework assignments will be given.

Members \$325/ Non-Members \$390

Textures: A Foundations Studio Focus BAC 09 103

4 Tues: 9:30 a.m. – 12:30 p.m. May 5, 12, 19, 26

Explore and experience watercolor techniques to produce a wide range of texture found on botanical surfaces. **Sarah Roche** adds tips and tools to your artist toolbox and inspires you to face more challenging botanical subjects.

Members \$125 / Non-Members \$160

Landscape in Spring WCC 09 203

7 Wed: 1:00 p.m. – 4:00 p.m. May 6, 13, 20, 27; June 3, 10, 17

Solve those awkward problems of painting on location: direction of natural light and cast shadows, elements of atmospheric and linear perspective, simplifying to suggest complex masses, and modeling form with light and color. In this intermediate and advanced level watercolor course with **Susan Swinand** benefit from the direct encounter with nature in the ideal setting of the College's Hunnewell Arboretum and Alexandra Botanic Garden.

Members \$200 / Non-Members \$250

Plant Painting for the Petrified BAC 09 010

4 Wed: 9:30 a.m. – 12:30 p.m. May 6, 13, 20, 27

Sarah Roche guides you through the elementary stages of illustrating plants. Your observational skills grow as you experiment with your first line drawings. Explore composition and color choices as you enjoy the process of creating botanical art.

Members \$125 / Non-Members \$150

Scientific Botanical Illustration: Begonias BAC 09 213

4 Fri: 9:30 a.m. – 3:00 p.m. May 22 29; June 12, 26

Under the guidance of **Jeanne Kunze**, illustrate live begonias with their wide range of plant habit, varied leaf shapes, flowers and textures. Jeanne will also show you how to use dried specimens for illustration including methods of making these samples look fresh and alive. Pen and ink skills required.

Members \$250 / Non-Members \$300

Beginning Botanical Watercolor Skills BAC 09 126

4 Wed: 9:30 a.m. – 12:30 p.m. June 3, 10, 17, 24

Sarah Roche introduces you to watercolor paints and beginning botanical watercolor skills. In this relaxed, informative seminar, you will work to develop the dry-brush watercolor painting skills. Drawing experience required.

Members \$150 / Non-Members \$200

Field Sketching in the Botanic Gardens BAC 09 030

3 Tues: 9:30 a.m. – 12:00 noon June 9, 16, 23

Learn the rewarding skill of field sketching in the Botanic Gardens with **Carol Govan**. By making sketches – not formal drawings – increase your understanding of trees and learn to focus on features useful in identifying even unlabeled specimens. No previous experience necessary except a love of plants.

Members \$60 / Non-Members \$75

WCBG Floregium BAC 09 141

3 days: 9:30 a.m. – 3:00 p.m. Mon, June 29 – Wed, July 1

Go outside with Carol and Sarah to observe botany in action in Wellesley College's meadows, and then record what you see with pencil sketches and dry brush watercolor techniques.

Members \$225 / Non-Members \$275

New England Flora 2009

BAC 10 211

6 days: 10:00 a.m. – 4:00 p.m.

Thurs, June 25;

Tues, July 14 and Wed, July 15;

Tues, August 18, and Wed, August 19;

Tues, Sept. 15

Carol Govan helps you expand your creative botanical art and illustration skills through the close study of natural plant communities and their seasonal changes.

See page 10. Between class meetings, study independently and create accurate illustrations documenting a local habitat.

Members \$360 / Non-Members \$450



Pen & Ink I for Botanical Rendering

BAC 10 143

3 days: 9:30 a.m. – 3:30 p.m.

Tues, July 7 – Thurs, July 9

Carol Ann Morley introduces the traditional illustrator's Crowquille pen — methods of inking a drawing from start to finish including how to hold the pen; technical exercises for building an ink vocabulary; creating texture and tone using stipple and cross-hatch; and care of equipment. Drawing skill advised.

Members \$250/Non-Members \$300

Tonal Drawing Fundamentals

BAC 10 133

3 days: 9:30 a.m. – 3:30 p.m.

Fri, July 10 – Sun, July 12

Carol Ann Morley focuses this course on discerning tonal values, constructing the tonal scale, applying graphite pencil techniques and surface textures. Learn how to make botanical studies that have clarity, balance and visual depth. All students welcome.

Members \$250/Non-Members \$300

Luscious Leaves

BAC 10 150

5 mornings: 9:30 a.m. – 12:30 p.m. Mon, July 20 – Fri, July 24

Start with basic leaf botany and color mixing for **Sarah Roche's** favorite leaf colors. Then step up your dry brush watercolor skills and watch as luscious leaves come alive on your hot pressed paper. Advanced beginner drawing and watercolor skills required.

Members \$225/Non-Members \$275

Summer Bouquet Techniques

BAC 10 241

5 mornings: 9:30 a.m. – 12:30 p.m. Mon, July 27 – Fri, July 31

Elements such as branches, berries and more, add interest and dimension to your compositions. **Sarah Roche** teaches you dry brush watercolor techniques for accurate layering of composition elements. Advanced drawing and watercolor skills required.

Members \$225/Non-Members \$275

Foundations in a Week

BAC 10 101 A

5 days: 9:30 a.m. – 2:30 p.m. Mon, August 3 – Fri, August 7

In this 5-day intensive course learn to realistically render botanical forms in pencil and watercolor under the guidance of **Sarah Roche**, professional botanical illustrator. Sarah will introduce the traditional art and science of botanical drawing and painting. Instructional focus will include observational skills, drawing development, composition, design, and watercolor technique through demonstrations and tutorials.

Members \$250 / Non-Members \$300

Fern Morphology — Beyond the Fronds

BAC 10 245

3 days: 9:30 a.m. – 3:30 p.m.

Tues, Sept 1 – Thurs: Sept 3

Spend three days in the lab and outside in the Arboretum with award-winning illustrator and artist **Dick Rauh** looking at and drawing these quietly attractive plants. Learn to appreciate the variety of forms and the subtlety of color and texture that characterize the pteridophytes. Learn the fern life cycle, dissections, diagnostic characters and vocabulary. Be able to identify the important native genera. With Dick's guidance, compose these elements: a drawing of a frond or habit, details of pinna form, sori and scales to come up with a scientific illustration that you will render in graphite or pen and ink. Dick shares how ferns have been rendered in the course of the history of botanical illustration.

Members \$250 / Non-Members \$300

NEW SERIES!

Celebrate the arrival of spring!

Botanizing Together: Signs of Spring

BAC 09 044

3 Sat, 9:30 a.m. – 12:30 p.m.

April 11, 18, 25

Observe plants and their associates (insects, butterflies, mushrooms) and nature journal with **Carol Govan**. We will have a short introductory review of vegetative parts and reproductive cycles so that we can identify any interesting plant parts and decide where the plant is in its growth cycle (if there's a flower, where is the fruit going to form?). We'll take special note of any other growth patterns and discuss how these might help this plant compete and reproduce. Some easy drawing conventions will be covered as well as some practice with different coloring media. Attempting to draw your subject helps you remember it no matter what the drawing look like. It's the process, not the product.

No previous experience necessary except a love of plants.

Bring sketchbook, plastic eraser, kneaded eraser, hard and soft pencils (2H and 2B) or whatever you have, and hand lens. The Arboretum can be damp under foot in early spring. Please dress appropriate for the weather.

Members \$75 / Non-Members \$95

PLANT FBI *is back!*

Plant FBI: Field Agents

CHP 10 121

4 mornings: 9:30 a.m.– 12:00 noon Mon, June 29– Thur, July 2

Kids will have the opportunity to explore twenty-two acres of WCBG with observations, science experiments, and nature journaling during this half-day course. The Alexandra Botanic Garden and Hunnewell Arboretum at Wellesley College contain many sorts of habitats and special hidden places. What grows and lives in Paramecium Pond or in the meadow? How do the plants and animals interact? We'll discover many ways to think about this special space: as an ecosystem, a designed landscape, a place with a unique history, and a personal place for play and reflection.

For children in grades 3-5. Bring a sketchbook or journal, a pencil, and a snack to each class. Dress appropriately for going outdoors into the Botanic Gardens, rain or shine.

Members \$100 / Non-Members \$125



Bonding with a Native Plant

by Carol Govan, New England Flora Instructor

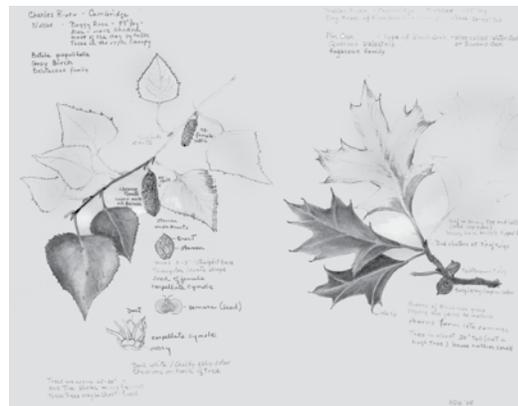
One of the final courses at the Wellesley College Botanic Gardens for WCFH's Certificate in Botanical Art and Illustration is "New England Flora." The curriculum is designed to give students insight into the work of a field scientist understanding the characteristics of local habitats and identifying plants in that habitat. Using drawing as a tool to become familiar with plant morphology and to help identify plants, students also picked one native plant to find tropical relatives in the greenhouses. Sound complicated? It was. It was even hard to explain. Luckily there were six all-day sessions spread out in July, August, and September.

Our first day started inside at the microscopes dissecting various plants. After a presentation defining common New England habitats, students explored several wet and dry habitats in the 22 acres of Wellesley College's Hunnewell Arboretum. They responsibly gathered plants (those that could be cut without destroying a population) to take back inside to draw. Heavy summer rains produced many fungi that caught the interest of one student (and inspired the rest of us too). Another student focused on lichens. There were also many critters on the plants—we all got interested in those. Back in the classroom the students used several field guides to identify plants, fungi, and critters.

On our second day after a presentation on plant families they researched family members of one of their collected native plants. Then students went off for a month to find a habitat near their home they liked (so they would be willing to visit it a lot) and start sketching plants (and anything else that interested them) in that habitat. They were instructed to bring—either in photos or drawing or if ethical to collect, the actual plant material—what they couldn't identify to class.

The following month on class day three, we went to the same habitats in the Arboretum and found many more interesting things to observe. It's amazing what's there to see in the same place if you go back again and again during the seasons. Then students shared what they had done in their own local habitats. We were all thrilled at the sketchbooks filled with sketches, ink drawings, watercolors, taped plants, photographs, rubbings, descriptions, questions, all kinds of things. They even brought dead insects to draw.

The next day we traveled to New England Wild Flower Society's Garden in the Woods, a living museum in nearby Framingham with many native habitats including the edge of a pond and a bog. Sketching several plants at each habitat, they really found out the difference



*New England Flora 2008 course work
by Barbara DeGregorio*

between a drawing and a field sketch. All advanced drawers, these students were quite uncomfortable drawing outside quickly where they couldn't control conditions: light, time, bugs, and a teacher nagging them to go faster, etc. For the afternoon they could choose a potted native plant to draw inside where everyone relaxed and enjoyed themselves under more controlled conditions.

For our final two days at Wellesley, students went down to those same habitats. The goal was to diagram a habitat with layers and illustrate ten herbaceous and woody plants from different layers all in forty-five minutes. General grumbling took place, but by this time they knew what was important for identification. The sketches were wonderful, informative, and the students even enjoyed themselves. Our last assignment was inside the Ferguson Greenhouses finding relatives of the special plant each student had bonded with from their own local habitat.

The work produced for this course was incredible. Students obviously immersed themselves into their habitats to identify everything they could find in summer and fall. They look forward to winter to see the dormant structure and next spring to see what will emerge. Kristina Niovi Jones, Director of the Wellesley College Botanic Gardens, was so impressed to see this direct connection between art and science she enrolled in a beginning observational drawing course. 

Docent Training for the Outside Gardens

A new training class for our volunteer docents will be starting on Monday mornings in May. Instruction will be on the history of the Wellesley College Botanic Gardens, the plants in the collection, and how to design and give tours of the Botanic Gardens for specific visiting groups.

Sign up today!

For more details on volunteer opportunities, please contact the Friends Office for a volunteer application at 781-283-3094 x 4 or email horticulture@wellesley.edu.

Connecting to Plants

Continued from page 1

an important role nature has in our food supply. Intrigued by what kinds of plants grew the fruits I enjoyed, fruits and their plants became the focus of my project.

Using the database of plants in the Wellesley College greenhouse, I selected those with fruits and made a preliminary list of plants that I managed to narrow down to fifteen plants based on fruit availability, frequency, method of consumption, and level of exoticness. It was fascinating to see the different ways fruits grew on trees, especially where on the plant they grew.

This project helps me to fully appreciate how special fruits are and, in turn, how special their plants are as well. The connections between fruits and their plants, humans and fruits, and humans and nature, are all very important connections that we should cherish and remember.

Connecting Poem to Place

by Johanna Lake '09

Staring at the willow tree on the bank of Paramecium Pond on my way to class one day, inspiration struck as to how my independent project could inspire visitors to the Gardens. I thought, not for the first time, of the powerful connection between literature and nature. What better way to draw people out of their dorm rooms, and in from their walks or runs along the paths than a poem?

I connected selected poems of Robert Frost to areas within the Botanic Gardens. Frost's work is simple, profound, and most importantly for this project, accessible to members of many different audiences. I pictured children running among the apple trees on Saturday mornings reading bits of "Unharvested" out loud to their parents, students on their way to classes stopping by Paramecium Pond to read "A Winter Eden", and hoped that anyone walking by the woodland pond might stop and take a moment to listen to their surroundings after reading "The Sound of the Trees."

I hope this new interpretation of the beauty of the Gardens and the Arboretum

Name: _____
 Address: _____
 email: _____
 Home phone: _____ Work phone: _____
 Cell phone: _____ If applicable, Wellesley Class: _____
 _____ I would like information on volunteering at WCFH.

MEMBERSHIP GIFT for the academic year July 2008-June 2009

To join the Friends of Horticulture by making a gift on-line using a credit card, please follow the instructions on the Membership page of our website.

- Benefactor: \$2500
- Patron: \$1000
- Supporter: \$500
- Donor: \$250
- Sponsor: \$100
- Member: \$50
- Young Alum: \$15

SEPARATE CHECK FOR MEMBERSHIP ENCLOSED \$ _____
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PROGRAM REGISTRATION

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Mail to: Wellesley College Friends of Horticulture, 106 Central Street, Wellesley, MA 02481-8203

Program registrations subject to WCFH registration and cancellation policy; for details contact WCFH office 781-283-3094 or see www.wellesley.edu/WCFH and click on Courses.

will attract new visitors as well as inspire people to make more connections in their own lives between the things which interest and inspire them most.

Vertical Wall Garden

by Joy Ding '09

It all started when I was thinking of decorating my room. No joke. I thought about painting a mural on my wall and dismissed the idea. Then, I thought about buying artificial trees and stringing them with lights. Finally, in the middle of Googling (a favorite default activity of Wellesley students), I came upon the idea of vertical plant walls. The next day, I noticed a posting by Kristina Jones for an independent study in the greenhouses – surely not a coincidence!

Vertical plant walls were first invented by Patrick LeBlanc, a French botanist. In his youth, he did botanical research in the Thai rainforests, and became inspired by plants that grow without using soil as a structural substrate. He balances plants of different colors, textures, and patterns, drawing on his extensive botanical knowledge.

Seeing the beauty of his plant walls, I wanted to make my own. My vertical plant wall is hung on a framework of plastic tubing. Like Leblanc, I cut slits in the first layer of fabric and put the plant roots through, between the two layers of fabric. Then, I sewed up the slit with needle and thread so that the plant was snugly placed in the fabric. I loved taking time in the greenhouses, feeling soil in my hands, and watching my plants grow taller every day. 🌱

The Mission of the Wellesley College Botanic Gardens is two-fold:

- to increase participation in science by engaging people with a diverse array of outstanding botanical resources for teaching, research, and exploration, and
- to promote scientific and environmental literacy in the college and broader communities, using aesthetic appeal and dynamic programming to stimulate interest in the natural world.



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**25th ANNUAL MEETING
 OF THE FRIENDS OF HORTICULTURE**

Growing Botany

with Alden Griffith
 Botany Fellow, Wellesley College

Monday, June 8

3:00 p.m. – Reception in the Garden
 4:00 p.m. – Science Center Lecture

On campus there is a strong and growing interest in plants emerging from many perspectives and backgrounds. Luckily, helping things grow happens to be our specialty!

Alden fills us in about what’s happening in the classroom and the Botanic Gardens plus new exciting opportunities for students and citizen-scientists.



In celebration of our 25th year, WCFH is updating our bylaws—mostly in the introductory section about purpose/goals and how we pursue those goals. If you are unable to attend the annual meeting and wish a copy of the revised bylaws, please contact us after the annual meeting.

All About – a new series of explorations for all ages See page 3
Green Thumbs Volunteers See page 5
ON THE ROAD with the Friends of Horticulture..... See page 7
Docent Training for the Outside Gardens See page 10