



Wellesley College Friends of Horticulture

SPRING 2008 NEWS

Wellesley's Edible Landscape

by Catherine Chu '10

WCBG Summer 2007 interns Catherine Chu '10 and Zhiyi Zhang '08 did a lot of enthusiastic botanical foraging followed by culinary adventures guided by Tricia Diggins, WCBG Senior Gardens Horticulturist, transforming cattail pollen into muffins, violet flowers into jelly, and crabapples into an absolutely delicious pie. They also planted a three-sisters garden behind the greenhouses, with towering corn supporting beans climbing on tendrils and various kinds of squash rambling over the soil surface. Below is the story of their adventures. See page 7 for recipes.

Cattail pollen hunting is not easy. I thought it would be simple enough, when considering the Wellesley College Botanic Gardens and Alumnae Valley's cattail marshes.

Unfortunately, by the time I decided to try my hand at the intriguing sport of cattail pollen hunting, it was late in the cattail pollen season. Most of the cattails had already released their pollen, and I was ill equipped, with one pair of short rubber boots and a makeshift dried cattail hook, to reach those that had not (they had clearly all flocked towards the middle of the pond as a part of a conspiracy). The most renowned of cattail pollen hunters employ boats and fancy hook-contraptions. Ultimately though, I managed to scout out enough usable

cattails (around 20-25) to get a cup of pollen and was rewarded with brilliant yellow cattail pollen biscuits.

"simpler times". And it's getting popular, too! The local/seasonal food movement is definitely the hip and progressive way to

About the food...in general our dishes turned out well, and they were all very exciting as most often we had not tried eating the plants before. Some of the dishes involved more creativity from our side because not all books provided information beyond "this plant is edible."

I am glorifying, of course. But that is not new as surely you have heard glorified phrases of foraging and survival – "living off the wild," for instance. Well, I would not say that during my stint researching wild edible plants on campus this summer I ever considered the Wellesley campus as the "wild." But the basic ideal still holds

true—making use of the gifts that nature provides and getting back to nature and

eat. How can you get any more local than the Wellesley College campus? Gardening counts and I am a fan, but I also would encourage gardeners to give foraging a try – it's fun and adventurous, and the treasure is well worth the expedition.

Even Michael Pollan has something to say on foraging in his book *The Omnivore's Dilemma*. At the time I found that section of the book my least favorite; I didn't relate to his epiphanies while foraging for mushrooms and hunting wild pigs. I thought it quite unlikely that I would be leading my own wild pig chase anytime soon.

I now realize that by using our campus as the focal point (mostly out of convenience), we took a place that we have all explored to some extent and put it in an entirely new light. This was what I enjoyed most about this project – in the same way that the first spark of recognition hit when I learned to identify a birch tree and then actually came across one, realizing that the campus was one huge buffet was also quite exciting.

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ABOVE: Cattails growing at the water's edge in Alumnae Valley behind the Wang Campus Center.



RIGHT: The low tech method used for cattail pollen collection.

Notes from the Director

Spring greetings from Wellesley!

The greenhouses are buzzing with the Environmental Horticulture class once again overflowing with enthusiastic students planting, propagating and experimenting, with upper-level botany students investigating plant ecophysiology and cell biology, with the usual cadre of photographers and other artists, with schoolchildren honing their observational skills as they combine art and science, and with visitors eager for an early taste of spring.

We have started a series of Botany Walks, a weekly list of plants to notice, selected by a staff member or docent. A map leads visitors on a self-guided tour of the plants of the week, each of which has a sign highlighting its special features. It's a bit like a mini Light Show, drawing attention to plants or features that otherwise might pass unnoticed. Some walks have a theme, while others are simply personal favorites or unusual blooms. Starting in April the walks will move outside to the botanic gardens, retreating back to the greenhouses in late fall. Look for the current Botany Walk list in the Visitor Center whenever you come to Wellesley!

Walks in the gardens and greenhouses will become even more informative as we add

to the wonderful plant labels that made their debut last spring in the outdoor gardens. Thanks to a generous grant from the Stanley Smith Horticultural Trust, we will be adding hundreds more of these

reference for decisions on whether to acquire, maintain, or discard a plant, so that such decisions are consistent and informed, and can be justified if challenged. While there had not been a formal policy before, writings of Margaret Ferguson and Harriet Creighton clearly outlined the intent and philosophy behind the development of Wellesley's remarkable botanical resources, with first priority always going to educational value. We attempted to articulate fully that same intent in the context of the current plant collections. The document is currently in review by the college administration, and will be available on the Botanic Gardens website (www.wellesley.edu/WCBG).



Wellesley students playing Celtic music on October 30, 2007 for the Mystical Tree Tour, a nighttime celebration to explore the spiritual side of the magnificent trees in the Alexandra Botanic Garden.

long-lasting labels in the botanic gardens, and introducing them in the permanent collections in the greenhouses.

The plant collections, both indoors and out, received a thorough review of their purpose and history as we worked out Wellesley's first Collections Policy for the Botanic Gardens last fall and winter. A team composed of Kaye Peterman from the Biology Department, Jay Turner from the Environmental Studies Program, Carole Ely, Mary Coyne, Carol Govan and Gail Kahn from the Friends of Horticulture, Bob Cook from the Arnold Arboretum, Gwen Stauffer from the New England Wild Flower Society, John MacDougal from the Missouri Botanical Garden, and our horticultural staff of Tony Antonucci, Tricia Diggins, and David Sommers, critically evaluated and greatly improved the document written by me with substantial help from Tricia.

The Collections Policy guides the development and management of the plant collections, serving as a point of

Another very exciting development is the addition of a Botany Fellow, a postdoctoral position for a botanist who will teach courses such as Ethnobotany and Field Botany, and engage students in research in the Botanic Gardens. We are receiving lots of applications for this attractive position. You'll hear more about this when we announce the first Fellow in mid-spring.

Speaking of spring, we are delighted to have a special highlight in this year's Spring Show in the greenhouses – the Lulu G tulip, named after Wellesley's own Luella Goldberg '58. Mrs. Goldberg chose a striking purple tulip in honor of the purple class of 1958. We love plants with Wellesley connections, and this is a great one! There is sure to be plenty of purple this June as the class of '58 celebrates its 50th reunion.

At our Annual Meeting on June 2, we will celebrate the reopening of the Botany Annex greenhouse—carefully restored to its original beauty—a symbol of the lengthy

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Combating Purple Loosestrife – Using Biological Control

by Emily Estes '10 and Rachel Lewis '10

L*ythrum salicaria*, invasive purple loosestrife was introduced to North America nearly 200 years ago and has since spread throughout the continent. The largest loosestrife populations are found here in New England. Here at Wellesley College, loosestrife has colonized the Science Center Meadows and the Paint Shop Pond Wetlands.

This attractive purple flower destroys natural biodiversity by replacing native species. This disturbance affects entire ecosystems. Animals are driven away from loosestrife-infested areas because the plants that previously provided their food and shelter have been replaced by the invasive. Loosestrife's dense root structure chokes natural waterways, promoting the deposit of silt and degrading water quality.

Biological control is a system of controlling pests by employing the natural predators that feed upon them. In 1992, the USDA approved the use of *Galerucella pusilla* and *G. californiensis* as a biologically based means of controlling purple loosestrife. These beetles keep loosestrife in check in the plant's natural range throughout Europe and Asia. *Galerucella* beetles are specialists, meaning they do not feed upon and damage other (non-target) species. Beetles defoliate plants, thus inhibiting them from photosynthesizing. The resultant weakening and/or death of the loosestrife plants provides an opportunity for native plant species such as sedges, grasses, and cattails to return.

After initial research on purple loosestrife and biological control, our first step was to obtain the necessary permits to purchase and transport our *Galerucella pusilla*, as they are registered controlled substances in the United States. We

obtained approval from the town of Wellesley Conservation Commission and have entered into a cooperative agreement with the Massachusetts Office of Coastal Zone Management (we follow their documentation procedure in exchange for working under their permit).

In early May we went out and dug up about 45 loosestrife root crowns from the Science Center Meadow. These crowns were potted and placed in three kiddie pools that formed artificial wetlands. After growing for about a month our plants were ready to host beetles shipped from a provider in New Jersey. Here, within these mesh net cages, our beetles went through their complete life cycle of 6-8 weeks. Within this period, the beetles fed heavily upon the host plants and reproduced. Their offspring grew from eggs, to larvae, to pupae, to adults. Beetle reproductive rates are incredibly high; 150 beetles may produce as many as 1,500 offspring!

Beetles were released in June, and over the summer we witnessed marked defoliation of loosestrife plants especially in the Science Center Meadow. We were also happy to observe the corresponding increase of biodiversity in the affected areas.

We were fortunate to be able to share our project and learn more about biological control and the conservation of native ecosystems by presenting at a National Arbor Day Foundation Conference in Nebraska last October. We will continue with our project by monitoring the effects of the beetles on loosestrife populations and pursuing annual beetle releases. 🌱



USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 2: 581.



Beetle-raising kiddie pools covered with tents and filled with loosestrife plants between the greenhouse ranges.



Predator beetle munching on loosestrife plant—it's a good thing!

TEAM LOOSESTRIFE

STUDENTS a.k.a. BEETLE WRANGLERS: Emily Estes & Rachel Lewis

TEAM ADVISORS: Marcy Thomas, Patrick Willoughby & Kristina Jones

GREENHOUSE SUPPORTERS: David Sommers, Tony Antonucci & Tricia Diggins

Focus on Succulents: The New Desert House

by Rebecca Hewitt, WCBG Intern

The WCBG Intern position is funded through generous donations to the WCFH Memorial Fund as well as your membership gifts to the Friends of Horticulture. Rebecca 'Becky' Hewitt holds this part-time position for the 2007-2008 academic year, and divides her time between collections work and creating WCBG educational materials, including a curriculum for the children's program 'Plant FBI: Family Naturalists' which is offered this upcoming summer (see page 8.) Recently, she helped the Horticulture Staff reorganize the Desert House collection and is currently writing educational guides for the succulent collection and the butterfly garden.

While still an undergraduate, Becky worked as a research assistant at the Rocky Mountain Biological Lab (RMBL) in Colorado, which is where WCBG Director Kristina Jones does her own research. Since graduation from Middlebury College in 2005 with a Biology and Environmental Studies degree, she has continued to work on projects at the RMBL. Becky has also interned at the Archbold Biological Station in FL, been an environmental educator for the Green Mountain Club in Vermont and a teaching assistant for experiential learning programs in the Canadian Arctic. She returned to New England last September as a part time intern at WCBG. She also holds the position of research assistant in a plant physiology laboratory at nearby Harvard University. We wish Becky well with her grad school studies next year and future endeavors in her plant-focused career.

Succulent and cacti enthusiasts and botanists alike often comment on the extraordinary diversity of Wellesley College Botanic Gardens' succulent collection. Last fall the Horticulture Staff with the help of student research took stock of our succulent collection—reorganizing the collection by geographic origin and revamping the display with new planting troughs.

First, Elisabetta Corradi, Wellesley Class of '08, researched the climate, including amount of precipitation and seasonality of rainfall, for the major arid regions of the earth that host succulents. This information coupled with specific information on the geographic origins of all the species in our succulent collections helped us to develop criteria for planting our succulents in geographically themed planters. Then in November, we transplanted many of our succulents from small pots into the new hypertufa planters—made from a combination of peat moss, perlite, and Portland cement.

Our succulent collection is rich with specimens from two areas of the world which house unusually high concentrations of succulents: South Africa and Mexico. And not only that, but we also have species in our collection from botanical hotspots within both

South Africa and Mexico. In the Desert House, we now have eleven planters highlighting succulents of the Old and New World. This theme is also reflected in the landscape along the south side of the House, where to the right you will see plants from the Old World—mostly from Madagascar and South Africa—and to the left you will see plants

of the New World—mostly specimens from the American Southwest and Mexico.

In their arid habitats, succulents are important for animals,

including humans, serving as sources of food and water as well as refuge. The flowers often have strong scents to attract pollinators, and for some species the flowering event is quite dramatic. Like other types of plants, many succulents have significant economic value beyond food, as sources of dye (especially *Opuntias*), fiber and craft materials (many, including sisal, from *Agaves*), medicinal products (e.g. *Aloe vera*), and liquor (tequila and mescal from *Agave* species). 🏠

We are happy to highlight this fabulous collection in a new and meaningful way—so please come visit and learn more about succulents and the habitats where they grow worldwide!



Succulents

- Succulents are quite diverse, with about 10,000 species. Of these, 15% belong to the cactus family, while others are more closely related to lilies (e.g. *Aloe*) or the dogbane family (*Apocynaceae*).
- With their intriguing shapes and fascinating variety of adaptations to water stress, succulents have been very popular with botanists and plant collectors for centuries.
- At least one family, the *Didiereaceae*, is composed of spiny succulents found exclusively in Madagascar.
- Succulents are found anywhere water resources are limited, ephemeral, or frozen. Adaptations to minimize water loss include waxy skin, fewer or smaller leaves (or none at all!), CAM (crassulacean acid metabolism) photosynthesis, and a hairy or spiny surface to maintain a relatively humid microclimate.
- In addition to water storage in various parts of the plant, succulents often have shallow root systems to absorb available surface moisture quickly.

Welcome to Eileen Sprague

Long before she saw the listing for our open administrative position on the College's Human Resources website, Eileen, a Wellesley resident, was already familiar with the greenhouses.

This knowledge quickly convinced her that working for the Friends would be perfect for her "plunge" back into the

workplace. The Friends search committee unanimously agreed that she had the necessary skills to deal with the kinetic demands of the Friends Office. When offered the job Eileen didn't have to think twice—she accepted on the spot.

Eileen majored in Computer Science at State University of New York at Oswego. Prior to taking time off to raise her two daughters, she worked at Tufts University thoroughly enjoying the academic culture.

Eileen also leads an active volunteer life in many areas of the local community—

garden club, her children's schools and sports organizations, church, and elder services—and understands the motivations and rewards that fuel a successful volunteer organization.

"The greenhouses are a secret paradise," says Friends of Horticulture's new Administrative Assistant, Eileen Sprague. "I love it here."

Organized, enthusiastic, and blessed with a fine sense of humor, Eileen is a quick learner

and a natural problem-solver. In the few months she has been in the office, she has learned her way around campus, mastered the registration database, audited docent training, performed a myriad of other tasks, as well as becoming acquainted with College staff, Friends volunteers, and students.

Among the many talents she brings to the Friends is a knack for making amazing chocolate fudge. "It's no secret recipe," she says, "it's from the Marshmallow Fluff jar—easy to make and always comes out



well." Once a staple holiday gift for her children's teachers, Eileen now makes it for staff and volunteers.

When Eileen talks about her job to family and friends, she always concludes, "I love it. The people are wonderful." Eileen has become an important member of our team. We are so please to have her join us and we are heartened by her enthusiasm for the organization.

Welcome Eileen! 🏡

Indulge yourself
with the healthy
benefits of working
with plants.

Volunteer for
hands-on projects
and learning
opportunities.

Start today using
your thumbs to
GO GREEN !

Go Green—with GREEN THUMBS

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.

The following are some on-going projects. If you have visited the greenhouses or arboretum and have ideas for making the experience more meaningful, please let us know about them.

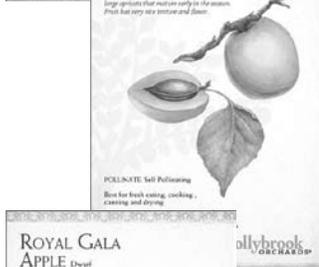
- Maintain the new Education Garden - commit a few hours a week to weeding or watering.
- Rejuvenate and maintain the 'Weed and Thorn' garden.
- Design, plant, and maintain the Medicinal Garden behind the Visitor Center. We have the space and the start but need enthusiastic volunteers to carry the project to completion.
- Help with surveys of the arboretum for invasive plants and to remove them.
- The college is restoring and highlighting an historical annex.
- Develop and help maintain plant displays in the recently restored annex.

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

Illustrating Fruit Tree Tags

A Learning Experience



A unique freelance opportunity was offered last fall to our advanced botanical art students. It came about when Eastern Shore Nursery of Virginia owners' daughter took a botanical illustration class during Wintersession 2007 and told her mother Robin Rinaca about the drawing and painting classes offered by the Friends of Horticulture. Coincidentally, Robin was searching for botanical artists to help re-vamp the plant tag pictures for all of her edible products which include fruit trees and small fruit. Specifically, she wanted new images of apples, peaches, pears, plums, cherries, persimmon, etc. where each variety would need to be accurately represented.

After several discussions, Robin invited Sarah Roche's WCFH Techniques of Botanical Art and Illustration course, to submit works to be juried into her plant tag undertaking. There was no guarantee of use.

If two students decided to research and paint the same plant, only one finished art work could be used. Sarah used this class project as an opportunity to teach the business side of botanical art as well as the techniques involved with painting fruit and fruit plants.

From Robin's long list of edible plants, Sarah's students each picked several varieties. Then they set out to research and study their chosen plants

identifying the characteristics that distinguished them from others of the same species. Over the eight week course, Robin delivered live plants and almost weekly sent shipments of fruit, branches, and foliage as botanical artists prefer to work from live subjects. Excitement grew in the classroom as more and more of the watercolor paintings were completed. In all, twenty-eight fruit trees were illustrated.

During the course there were many thoughtful deliberations on the business side of working as a freelance artist and the importance of protecting one's image rights. Artist agreements were drafted and signed giving Eastern Shore Nursery limited use of the painted images and allowing the artists to retain the originals, which will be on exhibit along with the finished ESN plant tags in the Visitor Center May 1 to June 13, 2008.

Many thanks go to Robin Rinaca of Eastern Shore Nursery, who retained her excellent humor throughout the process including time out for municipal jury duty; and to Sarah Roche, who used her professional teaching skills to make the fruit tree tag endeavor success.

And to our edible plant artists—a special thanks for studying botanical art with the Friends of Horticulture and participating in this fun project! 🏠

*Tag images: Lady Apples by Joan Dalto
Chinese Apricot by Sandy Adams
Royal Gala Apple by Pam Gordon*

Thanks to the Angiosperm Watercolors by Susan Swinand, AWS

During February and March, visitors were awed by the amazingly complex and exciting plant-based art exhibit of work by Susan Swinand, an instructor of traditional watercolor with the Friends of Horticulture and an award-winning member of the American Watercolor Society.

Susan says of her angiosperm inspired work... "As a gardener and person who loves anything to do with the outdoors, I have been looking at the natural world for a long time, but just walking through the greenhouses, there is always something new to discover. The plant world continues to amaze me with its awesome diversity of forms and textures. Actually, our whole world depends on plants. From the smallest bacteria to the vast rain forests, we are all in one complicated, interdependent web of life."

Check out Susan's 'Landscape in Spring' watercolor course on page 8. Beginning Watercolor classes return next fall.



Many thanks to WCFH volunteer Ingrid Carls (left) for working diligently to bring consistently high quality plant-based art to the Visitor Center. Ingrid joined watercolor artist Susan Swinand (right) at the opening reception for the exhibit "Thanks to the Angiosperm."

EDIBLE LANDSCAPE

continued from page 1

I am exaggerating about the buffet. First of all, it is not all-you-can-eat. Harvesting all of that cattail pollen was difficult and time-consuming. Second, this line of thinking could turn anthropocentric, in that constantly thinking “how can I use this” is not often as productive as it sounds – and that is not the point in foraging at all. I would say it is a recognition of everything that nature has to offer, and an indirect rejection of the other local food source – the supermarket and all its standardized offerings. No one ever said that foraging is easy, and that’s the way I like it. It really is amazing, all the memories and recipes that jump out at me as I walk around the campus this semester. As spring comes and I pass by the

cattails, I’ll have my rubber boots ready for a shot at cattail pollen pancakes.

The Edible Campus project was a collaboration with everyone I worked with this past summer. Tricia, of course, was a wealth of knowledge as well as the source of a seemingly endless supply of obscure edible plant recipes. Dave donated his handy Peterson’s Field Guide, and more importantly, his appetite and curiosity that was often greater than my own, an enormous encouragement. Even Tony, whom I had been told would not go near experimental food with a ten-foot pole, tasted the fluorescent yellow biscuits and politely rated them as pleasant surprise.

Kristina and Tricia encouraged us to make a project and poster out of our explorations of the campus and its offerings. Zhiyi, my summer partner who also presented quite

a repertoire of edible plant dishes, was the one who actually first suggested that we try a recipe from the Euell Gibbons classic, *Stalking the Wild Asparagus*. I owe them all many thanks for a lovely summer. 🌱



Zhiyi Zhang '08 (left) and Catherine Chu '10 (right) in front of their “three sisters garden” of corn, beans and squash.

Cathy and Zhiyi’s Edible Landscape Recipes

Sumac-ade Recipe

One of Dave’s favorites

Summarized from Thayer, Samuel. *The Forager’s Harvest: A Guide to Identifying, Harvesting, and Preparing Edible Wild Plants*. Ogema, WI, Forager’s Harvest Press, 2006. pp. 253-259.

To make sumac-ade, put the berry clusters in a large pot or pitcher and cover them with cold water. Mash them up a bit and let sit in the refrigerator or a cool place.

Different times were recommended, from 10 minutes to undetermined. Not having heard of the 10 minute suggestion, I let my sumac-ade sit for 4 hours, and it turned out great.

It is also recommended that the ade is strained through a cheese-cloth to get rid of the hairs and berries. I used

a fine-mesh strainer lined with a few coffee filters, and it worked out. The end result is a pinkish drink, which tastes like a fruity pink lemonade.



Cathy pouring Dave the first cup of sumac-ade

Cattail Pollen Biscuits

Golden, melt-in-your-mouth biscuits, worth every minute of your time and effort in harvesting the cattail pollen.

from <http://www.prodigalgardens.info/cattail%20recipes.htm>

1 cup white flour (whole wheat flour just doesn’t make ‘em light enough!)
1 cup cattail pollen
¼ cup butter
1 Tbsp honey or sugar
3 tsp baking powder
1 tsp salt
¾ cup milk



1. Preheat oven to 450°F.
2. Put flour, cattail pollen, salt and baking powder, and butter in a food processor and run on high until you have a course mixture. (If no food processor, cut with a fork or pastry cutter until mixture resembles fine crumbs.)
3. Add honey or sugar plus the milk and whiz just until the dough forms a lump. Do not overmix!
4. Shape into biscuits and bake on ungreased cookie sheet 10-12 minutes until golden brown.

You can make drop biscuits by increasing the milk to 1 cup and dropping by large spoonfuls until a cookie sheet.

Buttermilk biscuits: Substitute buttermilk for the milk, decrease baking powder to 2 tsp, and add ¼ tsp baking soda.

Programs

All classes are held in the WCBG Visitor Center unless otherwise noted.
 For a complete listing of programs and/or complete course descriptions, visit our website www.wellesley.edu/WCFH.
 For answers to programming questions, call the Friends' Office 781-283-3094.

Four Seasons of Color in The Garden with Ellen Lathi

HOR 08 004

Friday, April 4, 2008: 3:00–4:00 p.m.
 Botanic Gardens' Visitor Center

Presented in cooperation with Arnold Arboretum of Harvard University, New England Wild Flower Society, and Wellesley College Friends of Horticulture

Successful gardens are tapestries of herbaceous plants, vines, trees, and shrubs woven together by the color, structure, and texture of their foliage. Garden enthusiast and plant connoisseur, Ellen Lathi will talk about the use of bold, colorful, and variegated foliage in her four season Needham, Massachusetts garden—a favorite stop on local garden tours—and where flowers are used only as accent rather than the main course.

Members \$12 / Non-members \$15



Designing Mixed Bed Plantings with Scott Scarfone

HOR 08 005

Saturday, April 5, 2008: 9:00 a.m.–4:00 p.m.
 Hunnewell Building, Arnold Arboretum

Presented in cooperation with Arnold Arboretum of Harvard University, Massachusetts Horticultural Society, New England Wild Flower Society, and Wellesley College Friends of Horticulture

This day-long workshop focuses on analyzing the components of an appealing, well-designed mixed bed. Scott will deconstruct the whole to get to the essence of the plan and then, using a building-block technique, he will show the careful orchestration that is required to create a visually interesting garden. Bring your own lunch and beverage.

Members \$90 / Non-members \$108

Walk Through The Hunnewell Pinetum with David Dusenbury

HOR 08 006

Friday, April 25, 2008, 1:30–4:00 p.m.

Enjoy spring as it bursts forth on campus as we walk from the Visitor Center to the shores of Lake Waban where College property borders the Walter Hunnewell Estate. There we meet David Dusenbury, Horticulturist/Superintendent for the property, who will lead us on an approximately 90 minute walking tour of the historic Pinetum, the Italian Garden, and various other features of the property.

Members \$15 / Non-members \$20

Conifers Promise A Year-Round Landscape with Suzanne Mahoney

HOR 08 007

Monday, May 19, 2008, 10:00 a.m.
 Botanic Gardens' Visitor Center

Presented in cooperation with Arnold Arboretum of Harvard University, Garden Club of the Back Bay, Massachusetts Horticultural Society, New England Wild Flower Society, and Wellesley College Friends of Horticulture.

Our New England landscapes and gardens are often bleak and bare from November through April. Susan shows you how use a variety of carefully chosen conifers — especially dwarf and miniature species — to provide color, texture and structure for all seasons.

Members \$12 / Non-members \$15

While on campus, be sure to stop by the new Education Garden to see the dwarf and miniature conifer display. And plan time to wander out into the botanic gardens to view the full-size conifers used in the landscape.

Plant FBI: Botanical Mixed Media with Sarah Roche

CHP 08 203

3 afternoons: 1:00–3:30 p.m.
 April 22– April 24, 2008

Afternoon rambles into the botanic gardens will provide interesting bits of botanical material for kids in grades 4 - 7 to identify and express on paper using graphite and colored pencil, watercolor, and anything else that works. Plant science topics will be determined by the botanical discoveries that the kids incorporate into their art works.

Members \$75 / Non-members \$95

Plant FBI: Family Naturalists

CHP 08 116

4 Saturdays: 9:30 a.m.–12:00 noon
 June 7, 14, 21, 28, 2008

In this busy, high tech world, it's more important than ever to make sure kids get some time for outdoor exploration. In this 4-week course, families learn and discover together in the safe, serene beauty of the Wellesley College Botanic Gardens. A team of educators and naturalists guides your investigations with fun information and questions to answer. As a family, you choose the course of your discovery, based on your interests and your kids' ages. Explore everything from insects to wetlands to weather.

Families should bring a snack to each class. Dress appropriately for going outdoors into the Botanic Gardens, rain or shine. For families with children 5 years and up, accompanied by at least 1 adult. Fee covers registration for one child and one adult partner. Class limit: 8 families
Members \$125 / Non-Members \$150



Landscape in Spring with Susan Swinand

WCC 08 203

7 Wednesdays: 1:00–4:00 p.m.
 May 7, 14, 21, 28; June 4, 11, 18, 2008

In this course for experienced watercolor students, Susan Swinand teaches you how to 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. Benefit from the direct encounter with nature in the ideal setting of the College's Hunnewell Arboretum and Alexandra Botanic Garden.

Members \$175 / Non-Members \$225

Plant Painting For The Petrified with Sarah Roche

BAC 08 010

4 Thursdays: 9:30 a.m.-12:30 p.m.
 May 1, 8, 22, 29, 2008

Get started with your art in a relaxed, supportive atmosphere. Sarah Roche guides you through the elementary stages of illustrating plants. Your observational skills will grow as you experiment with your first line drawings.

Members \$115 / Non-members \$145

**A Centennial of Wellesley's Landscape:
 Celebrating 100 Years of Student Botanical Research at the College**
 Monday, June 2, 2008
 3 p.m. Botany Annex Rededication, 4 p.m. Program
 See back cover for more details.

Check out www.wellesley.edu/WCFH
for additional programs and travel opportunities.

History of Botanical Art Seminar BAC 08 112
with Carol Govan

3 Tuesdays: 9:30-12:30 p.m.
May 27; June 3, 10, 2008

Follow botanical art from its ancient beginnings to modern day through lectures and a private viewing in Wellesley College's Margaret Clapp Library Special Collections.

Members \$90/Non-members \$115

Beginning Botanical Watercolor Skills BAC 08 126
with Sarah Roche

3 Wednesdays: 9:30 a.m.-12:30 p.m.
June 4, 11, 18, 25

Pick up the watercolor brush for the first time or hone your skills to develop the dry-brush watercolor painting skills necessary for accurate representations of botanical forms. Drawing experience required.

Members \$ 150/ Non-members \$ 200

Applied Technology For Artists BAC 08 221
with Regina Gardner Milan

3 Thursdays: 10 a.m.-3:00 p.m.
June 5, 12, 19, 2008

Explore the possibilities technology brings to your artists' toolbox—creating reproduction art, digital portfolios (PDF format), business cards, CD labels, letterhead, greeting cards, fine-art prints, and archiving images. Also learn common technology terms and about scanners, digital cameras, software and printers.

Members \$120/Non-members \$150

WCBG Floregium BAC 08 141
with Sarah Roche and Carol Govan

3 days: Registration 9:30 a.m. first day; Seminar 10:00 a.m.-4:00 p.m.
June 30– July 2, 2008

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 BAC 09 211
with Carol Govan

6 days: Registration 9:30 a.m. first day; Seminar 10:00 a.m.-4:00 p.m.
Tuesdays and Wednesdays: July 8-9, August 12-13, September 9-10

Study natural botanical communities with emphasis on the flora of the New England region. Create accurate illustrations of woody and herbaceous plants families and document the ecological dynamics of plants in their habits and community.

Members \$ 360/ Non-members \$ 450

Second Thursday Studios
with Sarah Roche

1 day: Thursday 10:00 a.m. –3:00 p.m.

Thursday, July 10 BAC 09 085
Thursday, August 14 BAC 09 086
Thursday, September 11 BAC 09 087

Sarah Roche helps you stay focused and working on your botanical art with her monthly studio days. No matter where in the process you need help—defining and developing a composition, preparing layout sketches, rendering color samples—Sarah can assist you as you complete the painting. All levels: previous course with Sarah Roche required.

Each Studio day: *Members \$ 50 / Non-members \$ 65*

Composition by Design
with Susan Fisher

BAC 09 131

3 days: Registration 9:30 a.m. first day; Seminar 10:00 a.m.-4:00 p.m.
July 11 – 13, 2008

Susan Fisher's carefully constructed exercises teach you to place your botanical subject to artistic advantage using the principles of proportion, direction, and flow.

Members \$ 300/Non-members \$ 350

Exploring Light on Form
with Susan Fisher

BAC 09 132

3 days: Registration 9:30 a.m. first day; Seminar 10:00 a.m.-4:00 p.m.
July 15 – 17, 2008

Explore building form and volume into your paintings. Starting with black and white basics and correctly used values and moving on to color fundamentals, discovery exercises are designed to instill in your work a realistic appearance.

Members \$ 300/ Non-members \$ 350

Foundations in a Week
with Sarah Roche

BAC 09 101 A

5 days: Registration 9:30 a.m. first day; Seminar 10:00 a.m.-3:00 p.m.
July 21 – 25, 2008

In this 5-day intensive beginner's course, learn the traditional art and science of botanical drawing and painting. Instructional focus will include observational skills, drawing development, composition, design, and watercolor technique.

Members \$225 / Non-members \$275

The Art of Botanicals: Advanced Dry Brush Techniques
with Linda Funk

BAC 09 250

4 days: Registration 9:30 a.m. first day;
Seminar 10:00 a.m.-4:00 p.m.
July 28 – July 31, 2008

For intermediate & advanced students.

Process, not product is emphasized, as expert botanical artist Linda Funk encourages you to practice the skills and self discipline required to produce drawings combining scientific precision and artistic beauty.

Members \$ 500/ Non-members \$ 600



Anemone coronaria
Watercolour and graphite
© Linda Funk

Attention to Leaves
with Constance Sayas

BAC 09 150

3 days: Registration 9:30 a.m. first day; Seminar 10:00 a.m.-4:00 p.m.
August 5 – 7, 2008

From broad washes to detailed dry brush, use the appropriate watercolor techniques to create a variety of leaf types. Students will accurately create form, handle venation, and depict texture while painting a series of leaf studies. Drawing and watercolor experience required.

Members \$ 350/ Non-members \$ 425

Wellesley College Friends of Horticulture
&
Wellesley College Botanic Gardens

106 Central Street, Wellesley, MA 02481

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www.wellesley.edu/WCFH

Visitor Voices

From the 3rd Annual Greenhouse Light Show

What do sunflowers, pinecones, desert succulents, and pineapples have in common? Fibonacci spirals.

Art, mathematics, and developmental biology came together in an evening open house at the Ferguson Greenhouses last December 12. Visitors discovered gorgeous Fibonacci spirals and other fascinating patterns and striking uses of color in nature as they toured the theatrically lit greenhouses.

Color and pattern activity centers were set up in the WCBG Visitor Center and volunteer docents led tours of the show using LED hand-crank (battery free) flashlights to illuminate special plant features. The Clafin Bakery supplied lots of delicious snacks to give our guests the energy to journey out into the cold night for the trip home.

Members of the College Community and the general public were our guests and represented a wide variety of ages and interests. Here is a sampling of what they wrote about the lightshow experience—

From the Wellesley Students—

“I loved it! I learned more about plants that I’ve known all my life.”

“It does look quite different at night. The plants looked very beautiful in the dark, illuminated by the lights. The activities were also very cute. Overall it was a very relaxing visit, something especially nice before finals.

“The show was great! I had no idea the greenhouses had crickets. My favorite part was the lighted pitcher plants in the water room. P.S.—I love the new cactus room and how the cacti/succulents are displayed by region!”

“I loved the show! The tropical water house was my favorite, and also the desert. Thank you so much! ”

From our adult guests—

“This was wonderful! I loved the math theme, and the bird feeder craft was great!”

“Great idea! Second visit (after 20 years!). Such beauty!”

“Fun activities for kids! Friendly docents!”

“Thank you – fabulous show and I am coming back during day.”

“What a wonderful event. You learn so much when looking at only a few things at a time. A flashlight directs your gaze to a small subject and keeps your attention on the details.”

From our younger visitors—

“I liked the tropical house because it had cool big leaves.”

“I liked the prickly cactus.”

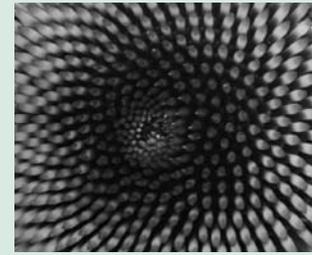
“I liked the pinecone bird feeders. Together, my sister and I made six!”

“The greenhouse is amazing at night! Yummy cookies too!”

“I liked that there were so many plants and that all the people who were there told me all about why plants had certain features.”

Watch for details of Lightshow 2008
in the Fall Newsletter.

About Fibonacci Spirals in Plants



The basic idea is that new botanical units form one by one at the tip of a growing shoot. As the units (primordia) develop and age, they move outward from the center and new ones form at the least crowded spot. That least crowded spot typically is the “golden angle” (approximately 137.5°) away from the previous unit, which distributes them with minimum overlap around the stem, generating spirals and Fibonacci patterns!

The Least Crowded Spot rule results in the most efficient “packing” – in spirals, of course – of leaves on a meristem, seeds on a flower head, scales on a pinecone, and more. It’s an elegant way of maximizing the number of parts, especially reproductive parts, in a given amount of space.

Look closely at a coneflower or other sunflower relative and see if you can pick out the parallel spirals. Look at the base of a pinecone or a pineapple, too! Count the spirals, and chances are very high the number of spirals will be a Fibonacci number: 1, 2, 3, 5, 8, 13, 21, 34...

For a classic look at spirals in nature, see D’Arcy Thompson’s “On Growth and Form.”

And Mira Bernstein of Wellesley College’s Mathematic Department, who helped put together the spirals exhibit at the Light Show, recommends Susan Goldstine’s website: <http://faculty.smcm.edu/sgoldstine/pinecones.html>

Notes from the Director

continued from page 2

and rich history of botany at Wellesley. It was built in 1907 as the first greenhouse on campus designed for student research. To celebrate the occasion, Peter Fergusson, recently retired from the Art Department, will paint a picture of life and landscape at the College when the Botany Annex made its debut.

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

GLASS HOUSE

**Visitor Center Exhibit
April 1 - 30, 2008**

**by members of Gateway Camera
Club Fine Art SIG**

<http://www.gatewaycameraclub.org>

**Elyssa Conley Linda Crews
Dagmar Dankova
David Kahn Alan Kidawski
Joan Weber Elaine Wood**

The grace and fragility of the glasshouse's structure and its living contents are interpreted first through the lens of a digital camera, then through creative manipulation of the resulting images. The beauty to be found in the often-overlooked—in the miniscule and the ephemeral—reinforces our role as caretakers of the plants in the glasshouse, and by extension, our increasingly fragile world.

**ARTIST'S RECEPTION
Saturday, April 5
from 2-4 p.m..**

PROGRAM REGISTRATION and MEMBERSHIP GIFT FORM

Wellesley College Friends of Horticulture

www.wellesley.edu/WCFH email: horticulture@wellesley.edu office: 781-283-3094

Name: _____

Address: _____

email _____

Phone: home _____ Phone: work _____

Cell phone _____ If applicable: Wellesley Class _____

_____ I would like information on volunteering at WCFH.

Section #	Class title	Fee
_____	_____	_____
_____	_____	_____
_____	_____	_____

SEPARATE CHECK FOR PROGRAMS ENCLOSED \$ _____

Make check(s) payable to: Wellesley College Friends of Horticulture

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

MEMBERSHIP IN THE FRIENDS OF HORTICULTURE

(for the academic year July 2007-June 2008)

Benefactor:	\$2500	Sponsor:	\$100
Patron:	\$1000	Member:	\$50
Supporter:	\$500	Young Alum:	\$15
Donor:	\$250		(5 most recent classes)

SEPARATE CHECK FOR MEMBERSHIP ENCLOSED \$ _____
made payable to: Wellesley College Friends of Horticulture.

CANCELLATIONS AND REFUNDS: You may cancel a registration and receive a partial refund by calling the WCFH office at 781-283-3094 ext. 4 at least one week prior to the first class. A cancellation fee (\$5 or 25% of the cost of the course, whichever is greater) will be deducted. Special cancellation policies apply to overnight trips. We regret that no refunds or credits can be given for class cancellations less than one week prior to the start of the class or for classes you have not attended.

Docent Training for the Outside Gardens

A NEW TRAINING CLASS FOR OUR VOLUNTEER DOCENTS

Fridays from 1:00-4:00 p.m. May 16, 23, 30; June 6

We are looking forward to Spring getting into the outdoor gardens for training walks. Instruction will be on the history of our Botanic Gardens, the plants in the collection, and how to design and give tours of the Botanic Gardens for specific visiting groups.

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



WELLESLEY COLLEGE
Friends of Horticulture
Science Center
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ANNUAL MEETING OF THE FRIENDS OF HORTICULTURE



Sketch by Mary Coyne

MONDAY, JUNE 2, 2008

3:00 P.M. **REOPENING OF BOTANY ANNEX**
Reception, WCBG Visitor Center

Celebrate the return of the Botany Annex, a symbol of the lengthy and rich history of botany at Wellesley.

4:00 P.M. **A CENTENNIAL OF
WELLESLEY'S LANDSCAPE:**
Celebrating 100 Years of Student Botanical
Research at the College

with Peter Fergusson, Professor Emeritus
and Kristina Niovi Jones, WCBG Director

How did the College's picturesque landscape shape student life 100 years ago? Peter Fergusson takes us back to those early years and then Kristina Jones follows the development of plant science at Wellesley and the Annex' role in it up to present day.

Free for Members' and College Community / Guest \$5.
Questions? 781-283-3094 / horticulture@wellesley.edu



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