



Wellesley College Friends of Horticulture

SPRING 2006 NEWS

Margaret C. Ferguson

by Christina Dillenbeck Wood '83
Photographs courtesy of Wellesley College Archives

On October 18, 1946, the Trustees of Wellesley College unanimously voted to name the greenhouses attached to Sage Hall in honor of Professor Margaret C. Ferguson, who dedicated her professional life to teaching at Wellesley. As the second person to head the Botany Department, she saw it into the twentieth century and shaped it into one of the preeminent college botany departments in the country. She also lobbied for and oversaw the construction of the world-class greenhouse complex that serves both the college and the wider community today.

Margaret Ferguson's career as a teacher began early. In 1863 she was born into a farming family in Orleans, New York and relinquished the family trade at the age of fourteen to become a teacher. She must have excelled, because by the age of twenty-four, she became a school principal in Shortsville, New York.

Miss Ferguson first came to Wellesley as a participant in a "special student" program in 1888 at age twenty-five. Wellesley's founder, Henry Fowle Durant, established this non-degree program for young teachers to study their chosen fields in depth and to develop their teaching skills. She stayed for three years studying botany and chemistry. When she left, it was to become the head of the science department at Harcourt Place Seminary in Gambier, Ohio.

After two years in Ohio Miss Ferguson was invited to return to Wellesley as an instructor in botany. In 1896, feeling that her health was failing, she left Wellesley again, first to travel, and then to pursue graduate studies at Cornell University. Her goal at Cornell, she later said, was to learn how the information in textbooks got there. During the four years she spent in Ithaca, she completed an in-depth study of the life history of a species of native pine, *Pinus strobus*, and was awarded a B.S. in 1899 and a Ph.D. in 1901. Her advisor at Cornell wrote that she had "completed a larger amount of research work, and of a higher character, than any other candidate under my direction in the past." Her exhaustive research on *Pinus strobus* was trailblazing. She was the first scientist, male or female, to study in such depth the life cycle of an American pine. The expanded paper she produced from her Ph.D. was published by the Washington Academy of Sciences in 1904 and received broad attention and acclaim.

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THE ALL-COLLEGE WAR FARM

During World War I, President Wilson called on the nation to aid the war effort by increasing food production. Wellesley's answer was the "All College War Farm," twenty acres of land along Weston Road that was to be farmed primarily under the direction of the Botany Department. Work began in the spring of 1918, and, as Margaret Ferguson's detailed report to the Trustees of the College later made clear, it was an almost overwhelming endeavor.

During the season that it operated, approximately 600 student volunteers were involved in the project. "Word was sent out to the students," Miss Ferguson wrote, "that this was our 'gas attack' and they must not fail. Their response was superb." The land given over to the project had to be cultivated and enriched prior to planting. It was quite a challenge, especially since the soil, as Miss Ferguson pointed out in her report, had "never in the history of the college been in a fair state of productiveness." Manure was spread, and twenty tons of lime were hand broadcast by the student volunteers. The day assigned for the work threatened rain, and because the lime could not get wet, the job required a marathon effort to complete.

By the fall semester, so many ears of corn, beans, tomatoes and potatoes had been harvested that the students and their advisors could not process it all. They were reduced to selling locally as much as they could and carting the rest in to Boston to be disposed of at bargain prices. Miss

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Notes from the Director

Greetings from the depths of winter! At the time of these notes (mid-January), I am just returning to Wellesley from a trip to San Francisco. California has had so much rain in early winter that already the spring flowering has begun. Thinking as an ecologist, I wonder whether the insects and other organisms that depend on those plants adjust their timing according to the same cues that

the plants use, or whether the wacky weather conditions are throwing off ecological interactions such as pollination and herbivory...

Botanic gardens are assuming a central role in efforts to understand the ecological consequences of climate change, as they bring together plants from many areas in a kind of common garden experiment. For example, San Francisco's Strybing Arboretum has a focus on Mediterranean-type climates (cool wet winters and warm dry summers), with plants from such places as Chile, South Africa, and Australia as well as California, all experiencing the early spring in San Francisco together. Studying how these ecologically similar but evolutionarily distant



Kristina Niovi Jones addressing volunteers in the Creighton Room about "What's New at the Greenhouses."

(i.e. essentially unrelated) species respond, in terms of such things as flowering time and growth patterns, helps us understand how changes in weather affect natural communities all over the world.

At the recently restored Conservatory of Flowers in San Francisco, there was a truly breathtaking special exhibit, described in a local paper as "Jackson Pollock meets orchids." The whole room was very artistically done, with gauzy materials and sculptural

dividers alternately hiding and highlighting the orchids. Very creative and inspiring!

Back home at Wellesley, the design idea of leading the observer through a series of highlighted focal points was similarly employed in the pilot run of our light show in the Margaret C. Ferguson Greenhouses on January 9. Thank you to the many Friends volunteers who stayed after their monthly meeting to critique the show! The goal of the light show is to enable people to see and think about things such as plant adaptations in ways they may not have before, by spotlighting the prop roots of the Screw Pine, for example, in an otherwise darkened greenhouse. Normally there is so much to look at that it can be overwhelming, particularly in the Tropical House, and easy to miss those amazing prop roots hiding in the middle. People particularly enjoyed the impromptu demonstrations of such things as the self-shading architecture of the Golden Barrel Cactus, engagingly provided by the horticultural staff. For next year's "real" show, I think it will work well to have a special preview for Friends volunteers, then have docents provide demonstrations

during subsequent showings. Tony Antonucci, David Sommers, and Tricia Diggins of the WCBG staff, and Janet McDonough of the Biology Department all contributed a lot of time and ideas – thank you! We also were pleased to have Nora Hussey and Ken Loewit from the Theatre Department visit the show; they have ideas for theatrical lighting above and beyond our simple first efforts. It's going to be an exciting show next year!

Another new offering was Sarah Roche and Carol Govan's Botanical Art Wintersession course for Wellesley students. (See article on page 11.) This course provides a new bridge into the sciences for students who might otherwise minimize their exposure to science at Wellesley—directly in line with our mission to increase scientific and environmental literacy and to increase participation in science. Thanks very much to the Friends for sponsoring this course, and to Sarah and Carol for making it so appealing.

We are working on a database of the greenhouse collections that will serve as a resource for everyone from docents planning tours to visitors looking for more information to WCBG staff considering additions to the collections. To that end, we would like to hear YOUR plant stories—which plants are your favorites and why, or which have special meaning for Wellesley. This is especially relevant for greenhouse plants as we strategize about what form the collections should take, particularly in light of renovations to the greenhouses, for which I am lobbying the college administration.

Additionally, we are interested in your stories about landscape plants at Wellesley. Tricia Diggins worked with David O'Steen of the College's IT department to make the arboretum

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

781-283-3094
horticulture@wellesley.edu

Editorial Committee:
Carole M. Jansson Ely '79
Kristina Niovi Jones
Gail Kahn
Nancy Webb

Summer Research Program

Studying Plants: Investigating Chloroplast Movement in Chloroplast Division Mutants of *Arabidopsis thaliana*

by Selasi Dankwa '07 and Kristen Granger '06

How does the number of chloroplasts affect the ability of a plant to move them in response to light? Support from the Amabel Boyce James Fund and the Howard Hughes Medical Institute made it possible for us to investigate this question as part of Wellesley's Science Center Summer 2005 Research Program. Under the supervision of Professor Martina Königer of the Department of Biological Sciences, we examined chloroplasts using confocal microscopy and leaf-light transmission to study the chloroplast division machinery and the effect its disruption has on chloroplast mobility.



Selasi Dankwa '07 (left) and Kristen Granger '06 (right) with the confocal microscope.

Chloroplasts move in response to blue light, in order to maximize their photosynthetic output. In low light intensities, chloroplasts accumulate, aggregating at the top of the cell to absorb the highest possible amount of light. In high light intensities, chloroplasts assume an avoidance reaction; they move to the sides of the cell to minimize damage to their photosynthetic machinery. Wild-type cells of *Arabidopsis thaliana* plants have an average of 83 to 120 chloroplasts.

Arc mutant plants, in which genes involved in chloroplast division are disrupted, have a reduced number of chloroplasts, ranging from one to 94 chloroplasts per cell. These mutants also exhibit impaired chloroplast mobility; yet it is unclear what role the division genes play in facilitating chloroplast movement.

By shining blue light of increasing intensity on the leaves of wild-type and mutant plants for 19 hours, we were able to measure percent light transmission and track the repositioning of the chloroplasts. The traces produced by the light transmission device revealed the plants' abilities to carry out the avoidance and accumulation reactions. The mutants were often unable to induce these responses as well as the normal, wild-type plants.

We used the confocal microscope to inspect the mesophyll cells of the mutants, as well as wild-type *Arabidopsis thaliana*, to compare the chloroplasts' mobility to their evident size and number. The confocal microscope uses argon and krypton lasers to take optical sections through the leaf. Unlike a traditional light microscope, this produces three-dimensional images of the chloroplasts (which glow red under the lasers) and enables us to see their size and shape more accurately. This amazing microscope revealed mutant, irregularly shaped chloroplasts that were so large they often filled the

Summer Research Program at Wellesley

Each summer an increasing number of students, "from Wellesley and other colleges, conduct ten weeks of research in a variety of disciplines both on campus and at other institutions. ... During the summer of 2005, fifty-eight students were supported by grants organized through the Science Center. Students attended seminars by outside speakers, toured faculty laboratories, gave presentations of their own research to their peers and faculty, discussed graduate school with a panel of current graduate students, participated in a field trip, and discussed career options with a panel of professionals who majored in the sciences and who now work in non-academic, non-medical fields."

Research support comes from private as well as corporate sponsors. This program succeeds thanks to their generosity and through the dedicated efforts of Wellesley's Faculty and Administrative staff.

Quote from Preface of "Wellesley College Summer Research 2005" booklet.

entire cell, which could explain the severely hindered responses to light evident in our transmission traces.

Our summer spent as a part of Professor Königer's lab gave us experience performing research, using equipment that undergraduates at larger universities normally cannot access. We gained insight into a process vital for plants and an increased appreciation for their understated complexity. Participating in the Summer Research Program also immersed us in a scientific community; we attended lectures on scientists' research, as well as panels on graduate school and career opportunities. For the first time, we were surrounded primarily by other research students who shared our interest in science. Most importantly, we acquired a greater confidence in ourselves as scientists, developing critical thinking skills we can apply to every aspect of our lives. 

The Plant Personified

by Gail Kahn, WCFH Docent

"My Carnivore is your perfect pet!" the Web site exclaims. "Each plant has a name, a birthday, and a unique personality." MyCarnivore.com sells insectivorous plants by conceptualizing them as wee pot-people. You can choose from Caesar the Sundew, Seymour the Venus Flytrap, or Nick the Nepenthes. Once you adopt your plant, you see its baby pictures and are enticed to buy accessories like plastic bugs or a graveyard kit to spruce up the "cage" that the pot rests in. Beware of Plant! Order yours today, only \$19.95!!!!

Fuchsia
Fouette



was far from immune to plant personification. When considering their sexual reproduction he wrote:

"Yes, Love comes even to the plants.

Males and females, even the hermaphrodites, hold their nuptials ...The actual petals of a flower contribute nothing to generation, serving only as the bridal bed which the great Creator has so gloriously prepared, adorned with such precious bed-curtains, and perfumed with so many sweet scents in order that the bridegroom and bride may therein celebrate their nuptials with greater solemnity. When the bed has thus been made ready, then is the time for the bridegroom to embrace his beloved bride and surrender himself to her."

Obviously this personification of plants goes to an extreme to attract the pet-hungry youngster. But giving plants human characteristics has a long history. From the earliest days of naming plants, human-centric judgments have been made about them. Plants deemed useful—e.g. sources of food, fiber or medicine—were given masculine Latin names by Roman scholar Pliny the Elder; "worthless" plants were given feminine names. Imbuing the plant world with innate purpose and utility led to the theory of the Doctrine of Signatures, which entered Western medical practice in the 16th century. This proposed that God put all plants on earth for the good of humanity, and the key to a plant's usefulness was its "signature:" its color, appearance, growth habit, or some other characteristic that resembled an anatomical part or disease. For instance, the white spotted leaves of lungwort (*Pulmonaria officinalis*) were thought to resemble a diseased lung, so this plant was used to treat pulmonary ailments.

Swedish botanist Carl Linnaeus (1707-1778), the so-called Father of Taxonomy who devised the genus/species system of classification,

Linnaean taxonomy was based on reproductive parts and his language was full of sexual terms, with plants categorized into classes by the number of "male genitals," then into orders by their "female genitals." The supporting structure of the calyx was the "nuptial bed." Linnaeus' critics savaged his imagery for its sexually explicit nature. Biologist Johann Siegesbeck went so far as to call it "loathsome harlotry." (Linnaeus achieved a unique revenge by naming a small useless weed *Siegesbeckia*.)

Linnaeus's overheated plant-as-sexual-person concept was recycled in a less offensive but even more effusive fashion by Erasmus Darwin (1731-1802), grandfather of Charles Darwin. His poem "The Botanic Garden" ranges over 4,000 lines of rhymed couplets to explore concepts as varied as meteors and steam engines, stopping along the way to hint at a new theory of biological evolution some 50 years

before his grandson would publish *Origin of Species*. Darwin supported Linnaeus' link between botany and human sexuality. His speaker is the Goddess of Botany:

"... In soft notes I tune to oaten reed
Gay hopes, and amorous sorrows
of the mead.

From giant Oaks, that wave their
branches dark.

To the dwarf Moss, that clings
upon their bark,

What Beaux and Beauties crowd
the gaudy groves,

And woo and win their vegetable
Loves..."

Plants with human characteristics have long been used to teach youngsters. Victorian-era children's botany books frequently gave plants human traits when describing them. In contrast, modern children's botany books have largely eschewed personification in favor of scientifically accurate information. Children's fiction is more variable.

Venus fly trap Elizabite in *Elizabite: Adventures of a Carnivorous Plant*

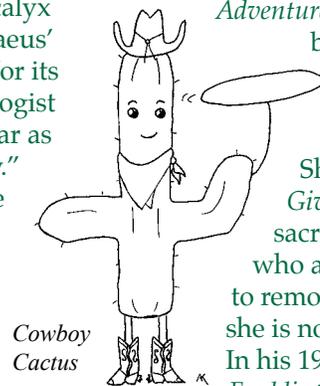
by H. A. Rey (1942) is a likely source of inspiration for My Carnivore's plants.

Shel Silverstein's *The Giving Tree* (1964) is a self-sacrificing mother figure who allows her human friend

to remove various parts until she is nothing but a stump.

In his 1982 book *The Fall of Freddie the Leaf*, Leo Buscaglia embraced the cycle of seasons and personified leaves to tell a story:

"One day, a very strange thing happened. The same breezes that in the past had made them dance began to push and pull at their stems, almost as if they were angry. This caused some of the leaves to be torn from their branches and swept up in the



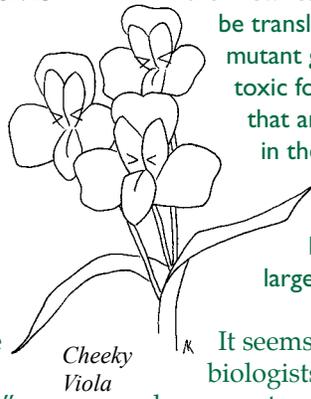
Cowboy
Cactus

wind, tossed about, and dropped softly to the ground. All the leaves became frightened. “What’s happening?” they asked each other in whispers. “It’s what happens in fall,” Daniel told them. “It’s the times for leaves to change their home. Some people call it ‘to die.’” “Will we all die?” Freddie asked.”

When read as botany, this book is so distorted as to be useless. Buscaglia’s aim is not explaining plant life but exploring death, and his person-leaves approach treats a difficult subject with gentle spirituality.

Nowhere is plant-as-human imagery more rampant than in garden writing. Hostas are “hardworking perennials” and roses “develop bare legs,” where they have no foliage for the first foot or so above ground. Containers should be placed in “gossipy groups” that must be regularly watered or the inhabitants will “flirt with heatstroke.” These expressions are writers’ extensions of language commonplace among gardeners, who speak of plants as shade loving or only shade tolerant; they may like wet soil or demand excellent drainage. It is furthered by the modern literary principle that non-fiction writing benefits from fiction’s techniques: characterization, dialogue, setting, scene, point of view, description and detail. Read a current guide on garden writing and chances are there won’t be a mention of personification. Instead there will be discussion of voice, tone, structure, intent and audience. Applying human characteristics to the plant kingdom arises naturally from certain combinations of these parameters.

Even the most scholarly writings are not immune to anthropomorphism. In *The Ghosts of Evolution* (2000), Connie Barlow writes:



Cheeky
Viola

“[The] practice of using teleological language – the language of purpose – is widely, if grudgingly accepted in evolutionary biology. In a 1971 paper, for example, [University of Pennsylvania tropical ecologist] Dan Janzen ... explained his departure from scientific decorum: ... ‘The statement, “It is likely that heavy investment in chemical protection of their few leaves is worthwhile,” may be transliterated to read, “Those mutant genotypes that produce toxic foliage without resources that are used for other purposes in the original genotype have a higher relative fitness in plants with small leaf crops than those in large ones.”’”

It seems even evolutionary biologists resort to writerly language to more plainly express concept.

Personification, whether of animals, plants, or inanimate objects, succeeds because we better comprehend and recall information when it is linked to a familiar concept. It is compelling because we have an innate desire to form relationships and see humanness in non-human things. When used in a purely scientific context, personification is technically incorrect. Plants do not love light or search for water. They respond to stimuli according to underlying principles of physics and biochemistry.

Is plant personification useful, or is it a distortion of scientific fact? It depends upon audience and context. In many instances, personification is the result of simplification: we say a plant reaches for light instead of explaining phototropism, just as we say the sun rises instead of discussing the earth’s rotation. Sometimes we choose to forego absolute accuracy in order to emphasize the relationship between people and objects. Sue Scheible’s newspaper article on

vision-impaired seniors visiting the Ferguson Greenhouses (*See WCFH Fall 2005 newsletter.*) draws a parallel between the elders adapting to failing eyesight and the desert-adapted plants in the greenhouse. While this is scientifically inaccurate – plant adaptation is achieved over many generations of a species, not within a single individual – it creates a moving story which weaves together the greenhouse collection and the women experiencing it.

Connie Barlow (*The Ghosts of Evolution*) makes a strong argument for personifying plants:

“There is one more reason I have elected sometimes to use so-called anthropomorphic language. The biodiversity crisis compels it. Anything scientists and science writers can do to promote a sense that other organisms are not lesser, dispensable beings is a virtue in these times.”

As volunteers and docents we are faced with choice of language every time we greet visitors at the Wellesley College Botanic Gardens. Sometimes we stress the science, as when explaining to kids that the tropical pitcher plants (*Nepenthes spp.*) do not actually chew bugs or people. Other times we use language that personifies the plants. Perhaps we are consciously trying to forge a connection between the visitor and the green world. Perhaps it’s simply because we love plants and think of them as friends. As renowned garden writer Paula Panich says (*Cultivating Words: The Guide to Writing About the Plants and the Gardens You Love*, 2005):

“The secret we gardeners know is this: All the world is a garden. In the garden is found all culture, civilization, human achievement and folly, love and disappointment, the whole lot of what it is to be human and to engage ourselves with nature, which is not separate, after all, from who we are.”

Illustrations by Allison Kahn 

Olga Kreeb Delves

In 2005 John Delves provided support for plant-based research grants and internships with a donation to WCFH Memorial Gift Fund in memory of his mother, Olga Kreeb Delves '33. Here is what he shared with us about her —

Dear Friends of Horticulture,

Impossible for a son—especially a writer son—to offer just a few words about his departed Mom. The picture is from Mom's 1936 wedding announcement just three years after her graduation, which seemed a better choice than something recent. There may be no alums extant who are both still with us AND read your newsletter, but just in case there are one or two, the lady in the picture might look familiar to them.

Olga Kreeb Delves moved with her parents from New York City to Amityville in 1917, and in the first grade she attracted the notice of John A. Delves, Jr., whose family had also just come to Amityville. She would immediately become "the only girl he ever wanted," and that courtship would last 19 years until they married on August 29, 1936.

Olga Delves was a born teacher, graduating in 1933 with honors from Wellesley College, and accepting a job teaching fourth grade in the Massapequa school system. When she attempted to give her notice shortly before the birth of her first child, Joan, in 1941, the school board declined to accept it, declaring her too valuable

to lose. But lose her they did, and her next job didn't come until some thirty years later when she stepped in to her husband's law practice, becoming an "overnight legal secretary" to help him gradually retire and close his office. She probably hadn't sat at a typewriter much since her final Wellesley term paper, and suddenly there she was, speeding through documents on one of the then-radically-new IBM Selectrics, efficiently dispatching all the affairs of a small legal office, and astounding everyone who had known her only as an intelligent, stay-at-home wife. After that awakening, she often looked back and wondered aloud if a woman's place really *is* in the home. That was fairly radical thinking for someone of her generation.

Although Mom didn't always insist on doing all the shovel work in the garden, she loved to be among her old-fashioned plants—dahlias, daylilies, buddleias, tuberous begonias, hybrid tea roses, and—



when she could get Dad to help tend them—tomatoes. Perhaps it was inherited. One of the few things Mom remembers her parents sparring over was the delivery of yet another load of peat moss and dehydrated cow manure for Grandpa's flowers and vegetables. Nana always thought that was an awful lot of money to keep sticking into the ground,

and apparently was not shy about saying so.

The other recollection I'd like to share speaks to Mom as a teacher and, therefore, as a Wellesley graduate. Mom died at 92, outliving most of her contemporaries. There were just a few left in her old home town of Amityville, NY to come pay their respects, and we thought we knew everyone who would be at the funeral parlor. A middle-aged lady walked in, somewhat hesitantly, obviously knowing no one and looking for family. She finally introduced herself to me, and then explained. "I've lived in Massapequa [the adjoining town where Mom taught in the 30's] all my life. Your Mom taught me in the fourth grade. I have never, before or since, had such a wonderful teacher, and I knew the minute I read the funeral notice that I had to come and tell you so."

Dad was lucky to have a Wellesley wife; I was lucky to have a Wellesley Mom; and now we knew that dozens—possibly hundreds—of schoolchildren had been lucky to have a Wellesley girl up in front of the class.

We are all grateful for her.

John A. Delves III 



*Hi! So I'm a senior and I just thought I'd post a picture of my first year plant – I don't know who I would thank at the greenhouse but I thought that they probably didn't get much thanks for all the work that goes into growing these plants for first years. I've brought mine home and repotted it twice and the tendrils are now longer than my room. So a big THANK YOU to the greenhouse for making my dorm room more lively!
Cheers, Maria C. Genco '06*

MARGARET C. FERGUSON

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In 1901 Margaret Ferguson returned to Wellesley. She remained at the College for the rest of her professional life, until her retirement in 1932. In 1904, as an associate professor, she was made head of the Botany Department. Two years later, she was made a full professor and Chairman, a position she held for twenty-six years. Her success as Chair of Wellesley's Botany Department and as a professional and active scientist was recognized well beyond the confines of the college. In 1929 she was named the first woman President of the Botanical Society of America. No other woman's name even appeared on the ballot. She was awarded an honorary doctorate from Mt. Holyoke College in 1937 during its centennial celebration. The citation reads: "To whom an outstanding department of botany among the colleges for women owes a great debt; to whom all men and women interested in the progress of science are equally indebted." In 1940 the Women's Centennial Congress named her one of the hundred most important American women, along with Eleanor Roosevelt.

The study of science was an integral part of the curriculum from the time of Wellesley's founding. The requirement that students engage in laboratory practice and work with scientific instruments put Wellesley at the forefront of colleges in terms of science teaching. Wellesley was unique in providing microscopes for every single student. One commentator observed in 1880 that Wellesley prepared its students better than Harvard!

By 1888 when Margaret Ferguson arrived at Wellesley as a special student, the Botany Department, under the direction of its first chair, Susan Maria Hallowell, had already outgrown its quarters in the original College Hall and had been moved

to the new Stone Hall. Years later as a faculty member, Miss Ferguson described the facilities in Stone Hall as "the best housed and best equipped botany department to be found in any college, man's or woman's, in the country." Professor Hallowell established the departmental structure that implemented a hands-on approach to teaching science, but it was Margaret Ferguson's energetic lobbying, not to mention sheer force of personality, that eventually led to the funding and development of the Alexandra Botanic Garden, the Hunnewell Arboretum, the new science building and, of course, the greenhouses.

It is clear from her own words that Professor Ferguson was a force to be reckoned with. A student who knew her in her retirement recalled her as "terrifying." She demanded much of her students, but her guiding philosophy was to teach students to use science to learn to think independently and appreciate the beauty of the world around them. In 1927 she published her own textbook, *Botany 101*, for use by Freshmen and Sophomores. In the first paragraph of her forward she wrote:

"In the botanical laboratory we study nature. The end sought is not *information* which may be secured by reading but rather that larger *knowledge* which comes by an actual study of the plants in their varied life activities and relations. In such a study Nature becomes the teacher, the Instructor is but a guide along the way. And you will find Nature a very exacting teacher. She is ever intolerant of the lazy, the careless, the indifferent; she has decreed

that all such must live, though rarely content to do so, upon the husks of life. But to those who seek diligently she opens wide her treasure house."

The students who attended Wellesley apparently welcomed this challenge. Only one student majored in botany in 1905. By 1929 that number was up to fifty-five. Botany at Wellesley under Professor Ferguson's leadership was not a subject for those of tender disposition. The first assignment in her textbook outlines how the students were to measure a four-square plot of land in the student gardens, mark it with stakes, "pulverize" the first several inches of topsoil with hoes, then level with rakes. The plots were then planted



1933: Wellesley Botany students tend their gardens in the Hunnewell Arboretum at the base of Observatory Hill.

with crocuses, narcissi and tulips. In spring the gardens were seeded with lettuce, radish, nasturtium, onion, and beets, and planted with seed potatoes and some flowers. These living laboratories exemplify the practical approach Professor Ferguson took to teaching botany, and they remained an important part of the curriculum until the 1950s, when botany ceased to be a full-year subject and the school year was shortened to end in early June, before a spring crop could ripen to usefulness.

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MARGARET C. FERGUSON

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The disastrous fire of 1914 that destroyed College Hall galvanized Wellesley's Alumnae to embark on the first real capital fundraising efforts on behalf of the college. Professor Ferguson was not going to let opportunity slip out of her hands. Although world-class at the time of their construction, by the early 1920s the botany facilities in Stone Hall had suffered from underfunding and neglect to such an extent that she almost despaired. The greenhouse the students used was Mrs. Durant's, and it, too, was in very poor condition and not convenient to the classrooms. Miss Ferguson called it "practically unsafe for human occupancy."



The Wellesley College Greenhouses on May 13, 1926 prior to the construction of Sage Hall.

The Master Plan for the College developed after the fire included new buildings for botany and zoology on what was then called Observatory Hill. Even before any buildings were constructed, Professor Ferguson persuaded the Board of Trustees to set aside twenty acres for a botanic garden, and in 1921 persuaded the Severance family to fund it. This became the lovely Alexandra Botanic Garden that remains a special feature of Wellesley's landscape even today. The adjacent Hunnewell Arboretum was dedicated in 1923 with an endowed gift from Isabella Huntington Shaw, daughter of Horatio Hollis Hunnewell, to support its development and maintenance.

Both of these significant spaces were dedicated before any ground was broken for buildings on Observatory Hill.

Just before the 1914 fire, some seed money had been given by Miss Susan Minns of Boston, a friend of Professor Hallowell's, to fund a new science building. Given the urgent financial needs of the college after the fire, capital efforts on behalf of the sciences were put on the back burner. By the early 1920s, though, the time seemed right to begin pressing for development on the hill, and Professor Ferguson's vision for the first phase of that development was to construct a state-of-the-art greenhouse complex. The greenhouses were to be the cornerstone of the entire science

complex. She had a strong sense of the college's history and the role botany had played in the college's early years; she wanted to honor that early legacy and expand it under her leadership. Botany was for her a living science, and observation of a variety of live plant materials was critically important to a well-rounded and modern curriculum.

Her lobbying efforts paid off, and in 1922 the Trustees voted to authorize funding for the new greenhouse complex, even before funding was committed for the new science building. The fourteen glass houses were complete by 1924. In May of that year Professor Ferguson published a

long piece in *The Wellesley Alumnae Quarterly* entitled "Botany At Wellesley" in which she took great pains to explain why the greenhouses were necessary and described the new facility with great pride. She wanted college alumnae to know their money had been well spent. "We believe we have here a system of greenhouses of which every Wellesley woman may be justly proud. They are of the best steel construction, admirably placed and designed for academic purposes." They were also state-of-the-art, and among the first greenhouses in the country to include a supplemental lighting system under clock control to aid in the study of photoperiodism, or how plants respond to changes in the duration of light.

In keeping with Professor Ferguson's vision, not only do the greenhouses have space for the students to grow and work with their own plant material, but they house a vast array of flora from different countries and different climates around the world, including specimens collected during her international travels. A camellia owned by the Durants and once resident in College Hall thrives today in the greenhouses. But the greenhouses were not just a workspace for students and a showcase of world flora; they had a much bigger role to play. Professor Ferguson understood that the world's energy resources are limited, and in the *Quarterly* she wrote that she hoped that chemists, physicists and botanists could work together to study the energy produced by plants and harness it, thus solving forever the world's looming energy shortage. Professor Ferguson was, indeed, a woman ahead of her time.

The Wellesley College Greenhouses were among the best academic greenhouses in the country, but what made them truly unique was a feature that Professor Ferguson insisted be part of the design plan from the very beginning: the attachment of the greenhouses to the science buildings on level with the adjoining lab rooms.

While this seems to make sense—the students could more easily travel from one space to another if they were attached—it was quite revolutionary. The building’s architects apparently protested the design.

Not only did Professor Ferguson insist that the greenhouses be attached to the building, but she also had definite ideas about how the building should be designed. She lobbied, for example, for the large, industrial-size windows that allowed diffused northern light into the laboratories. According to Harriet Creighton '29, a long-time Wellesley professor, she also “measured every bit of furniture and equipment that would be in a laboratory, drew pictures of many of the cabinets and desks, and thought about the way work would be done in the rooms so that when the architects finally went to work on the blueprints they were able to provide a building which was designed from the inside out.” She also made sure that a common room was included, complete with an endowment for future replacement of furniture and rugs.

Professor Ferguson had strong opinions, but she also had a sly and provocative wit. She titled a lecture she gave in 1925, just a few years after the end of World War I, “Communism and Monopoly in the Kingdom of Life.” Communism was the development of diversity of life from common growth, and monopoly was the development of the “higher forms over the means of sustenance.” Handwritten notes on a typed lecture outline in the college archives summarize aptly her entire teaching philosophy: “The purpose of this lecture is not only to make the freshmen see life in its essential unity but also to get a new glimpse of the oneness of all that is, to see that knowledge is not divided up into departments, but is rather a great book of knowledge with closely related chapters. In all the chapters of the book, the quest is the same—for truth, Truth and Beauty.”

The All-College War Farm

continued from page 1

Ferguson felt that it was worth all the effort. “Experiences like these have taught us that our young women, as your young men, are not less fine than in the pioneer days, that even in our pampered modern life the nobler characteristics are still there only awaiting the opportunity to manifest themselves.”

Miss Ferguson, the fearsome and exacting botany teacher, was also happy to give credit where credit was due. She gave great thanks in her report for the Ford truck, dubbed “Henry,” that made much of their work easier. “He never refused to carry tired girls at the noon hour or close of day, so long as there was standing, sitting or lounging room on any part of his anatomy. During the entire season he performed every task required of him, at times, to be sure, reluctantly and with groanings that could be heard afar. He was wounded many times and still bears numerous scars but he always recovered and returned to duty with renewed vigor. His long, varied and faithful services ... endeared him to us all.” 🌱

This philosophy guided her own research as well. In the early 1920s she began cytological and genetic studies of the petunia. This work was carried on for over a decade, into her retirement. It was exacting, demanding, and, as anyone who has ever worked with petunias knows, sticky work. By one count, she had grown and examined more than 300,000 petunias, and the pollen grains they produced, by the early 1930s. She measured more than 13,000 microscopic pollen grains with a filar micrometer. She published a number of papers on her studies of the heredity of the petunia, but she did not consider her work complete when she decided that she could no longer carry on the research.

Professor Ferguson did not believe in self-promotion, and was appalled to receive a letter in 1934 from a gentleman asking for her support because “I covet the honor of being President of the Botanical Society of America before ‘I pass on.’” She responded somewhat tartly: “I cannot quite put myself in your place, for honor of whatever sort has always meant so little to me. The only reward I have ever desired is the consciousness that I have been faithful in carrying out the demands placed on me and that I have tried to do my best, always conscious that the best is far below my ideals for the responsibilities to be met.”

continued on page 10

Views from Miss Ferguson’s time— still familiar to visitors 75 years later.



Water feature in Hydrophyte House.



The Cool Temperate Display House doors leading to Tropical House.

A Ferguson Greenhouse Experience

Dear Ms. Jones,

Recently, when I visited the Wellesley greenhouses, I came in through the front door at midday and was greeted by a very gracious volunteer, Mrs. Eleanor Viens (Class of 1933). The last time I had visited the Wellesley greenhouse was fifty-five years ago. That was also in mid-January, but then I came through the steam tunnel. It was midnight and I was terrified to be greeted by a night watchman.

In those days—and perhaps still—steam tunnels linked all the campus buildings. My roommate and I had stumbled across the entrance to one off the kitchen in Davis Hall where we were vainly searching for a midnight snack. Winter of 1947/48 was one of the coldest and snowiest on record. The tunnel, we figured, might lead us warmly to The Well—yesterday’s equivalent of today’s Lulu Chow Wang Center.

For nights, as snow pelted the upper world, we wandered the dark warren

of passages underground. Then one night we came to a door at the end of a tunnel and pushed it open. Where the tunnels had been cool and smelled of concrete, we were suddenly into a warm southern night, redolent with the scents of turned earth and flowers.

I can still envision that scene. Illuminated by a thin flashlight beam was a waterfall of purple bougainvillea, a cascade of nodding hibiscus, a curtain of luxuriant greenery. Okay, so I know my memory has conflated several scenes—the New England Flower Show, which I also saw that year when it was still at the Old Horticultural Hall on Huntington Avenue, my real home in New Orleans and the Wellesley greenhouse. But, if what I recall isn’t exactly fact, it was spiritual fact. We had stumbled through a dark tunnel and landed in Eden. Before we left, I stole a single flower—it was a red camellia.

My return last month was my first in fifty-five years. I don’t know why I didn’t go back before. Maybe it was

guilt for the stolen camellia, maybe it was because, when the snow stopped, the tunnels weren’t as inviting, or maybe I just didn’t want to challenge a perfect moment. Then, a while ago, I saw the write-up on the Wellesley greenhouses in *The Boston Globe*. And so a friend and I ventured out. As I said, this time we came through the front door and at noon, but, even though the building wasn’t exactly the same—the old one was rebuilt in 1982—it was exactly the same. The Ferguson Greenhouses are an oasis in January, an Eden in the snow and, most of all, true balm for the winter soul.

Thank you for a lovely experience.
Toni (de Bonneval) Frederick ‘51 

Share your stories about plants and experiences at the Wellesley College Botanic Gardens by emailing them to horticulture@wellesley.edu or sending to: Gail Kahn c/o WCFH 106 Central Street Wellesley, MA 02481

MARGARET C. FERGUSON

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While she did not believe in crowing about them, she did take quiet pride in her accomplishments. A number of her students went on to pursue advanced degrees and several became professors at colleges across the country, and even across the world. In 1932 she wrote to a friend that she was pleased with the number of Wellesley alumnae attending “the meetings of the learned societies.... When there are a dozen Wellesley women present at the botanical meetings, there may be 3 present from Smith, 2 from Mt. Holyoke, and none from Vassar.”

In an eloquent letter to a friend she wrote that “The scientist in all his searching, whether with his telescope

peering into the boundless reaches of space, or with his microscope seeking to understand the marvelous wonders of the almost inconceivably small, never finds anything he could improve. Thus measuring himself against the works of the Creator, he is kept humble and free from arrogance. To help bring this spirit into the lives of the women of Wellesley College and through them to society in general has been our ideal, our purpose for the department. We have not attained unto it, far from it; but had we arrived, it had not been an ideal. An ideal must always be that which lifts, which leads one to carry on but which can never be fully attained.” Yet at the end she couldn’t help adding “You might be interested to know that: 1. I am a member of sixteen learned societies. 2. Since I began to teach at Wellesley, I have

published twenty-seven papers. 3. I have recently been elected a member, as an alternate to Professor Arthur Eames of Cornell University, of the National Research Council.”

She had many accomplishments of which she could be justly proud, and it is wholly appropriate that the greenhouses are named in her honor. What was her secret? Perhaps she herself knew the answer. Early on in her career at Wellesley she filled out an index-sized card listing her credentials. On the back, next to the word “Hobby,” she filled in “Keeping at it.”

WCFH is indebted to the staff of the Wellesley College Archives for assistance with document and photographic research for this article. 

A Wellesley Wintersession Course: Introduction to Botanical Art

Wintersession at Wellesley is a special time, when students may choose to be at the College to pursue a course or project, try an internship, work, participate in team sports training, or simply enjoy the beauty of the Wellesley campus and a New England winter, without the pressures of schedules and deadlines.

FROM THE WELLESLEY COLLEGE WEB SITE



WCFH added a study of botanical art to the 2006 Wintersession offerings. Spearheaded by Biological Sciences Professor Emerita Mary Coyne, enthusiastic WCFH supporter and Steering Committee Advisor, the Wintersession course proposal was formulated last summer and received WCBG Director Kristina Jones's support as soon as she assumed her directorship this fall. After further endorsements from the Departments of Biological Sciences and Studio Art, the presentation continued through College channels. Approval from the Dean's Office came swiftly, even though the course was offered for credit and thus required extra curriculum scrutiny.

The course filled immediately and had a significant waiting list even though it did not fulfill any distribution requirements. The students represented a variety of majors in both arts and sciences, whose previous art experience ranged from absolute beginners to a major in studio art. The course met for a total of ten three-hour sessions during the month of January; additional open studio times were available for students to receive further help as necessary.



Carol Govan pointing out the details in a flora.

and history. Botany instructor Carol Govan began the course with an overview of the history of botanical art, followed later in January by a cross-campus trip to visit the stunning collection of botanical art housed in the Margaret Clapp Library's Special Collections. Carol also instructed the students in basic botany, a discipline familiar to those WCFH docents who have been privileged to study with her at docent training sessions. Students received hands-on lessons in close observation of greenhouse specimens and completed a number of detailed sketches of varied plant parts.



Sarah Roche helps to identify flower parts for accurate botanical representation.

Botanical Art illustrator Sarah Roche, who regularly teaches courses at the Botanic Gardens, instructed the students how to accurately draw and paint botanical forms. They learned techniques of representational drawing, shape and form, tonal shading, color theory and watercolor painting. By the end of the course, each student had completed a

watercolor painting of a pink blooming azalea, working from specimens supplied for the course.

Their work revealed individual personalities and observations, but all were superb. The quality of their finished work was a credit both to their instructors and their own dedication.

Wintersession participants left at the end of January with

an appreciation for the role of the botanical illustrator, both as scientist and as artist. In the words of botanical artist John Ruskin, "If you can paint a leaf, you can paint the world."

Special Thanks go to:

- Carol Govan and Sarah Roche, who spent many hours preparing and teaching this intensive course;
- Nancy Webb and Gail Kahn in the Friends Office, who took care of a multitude of details, always with a welcoming smile;
- Tony Antonucci, Tricia Diggins and David Sommers, who lovingly cared for the pink azalea plants ordered for the course;
- And most of all, a deep note of appreciation to all of you, WCFH members, whose support has enabled the Friends to underwrite this class.

Azalea painting by Wintersession student Heido Lo '06 

Introduction to Botanical Art, listed as an interdisciplinary course, successfully married art, science,

PROGRAMS *All classes held in the WCBG Visitor Center unless otherwise noted.*

For more information: visit our website www.wellesley.edu/FOH, call 781-283-3094 or email at horticulture@wellesley.edu.

Great Little Gardens: Secrets of Scale WLS 0605

Wednesday, March 22, 7:00–8:30 p.m.

Wellesley Community Center, Wellesley, MA

Co-sponsored with Arnold Arboretum of Harvard University, Massachusetts Horticultural Society, and New England Wild Flower Society.

With classical style and a dash of theatre, British designer Anthony Noel transforms gardens into magical settings. In this slide lecture, he will analyze gardens and share some of the theories he applies to small garden design. Noel's work has been included in *The Garden Book*, a compendium of the 500 most interesting gardens ever and in 2002 he was featured in *House and Garden's* list, "The 50 Best Garden Designers and Plantsmen in Britain."

Members \$18 / Non-Members \$22

Garden and Nature Journaling SBA 0605

Tuesday, March 21

9:30 a.m. Registration; 10:00 a.m.–2:45 p.m. Workshop

Co-sponsored with Garden Club of the Back Bay.

Attempting to draw your subject helps you remember it no matter what the drawing looks like. It's the process, not the product that is important. Carol Govan will help you observe and record the overall plant form and then move closer to see other details with a hand lens. Some easy drawing conventions and basic vegetative parts will be covered. No previous experience necessary except a love of plants. Bring sketchbook/notebook, #2 pencil, and hand lens. Bring your own lunch.

Members \$40 / Non-Members \$50

A Spring Symposium: Innovative Design for Garden Beds, Borders, and Containers SYM 0600

Saturday, April 29, 2006, 9:00 a.m.–3:30 p.m., MassBay Community College

Members \$90 / Non-Members \$110

Morning coffee/refreshments, lunch, and handouts included. An author book-signing will follow the talks.

This symposium is co-sponsored by: Arnold Arboretum of Harvard University, Massachusetts Horticultural Society, New England Wild Flower Society, Wellesley College Friends of Horticulture and Fine Gardening Magazine.

Everything but the Kitchen Sink: Recipes for Great Mixed Borders with Louis Raymond



Remember those days when we all thought perennials would keep the garden colorful all season long? Soon enough we learned the folly of perennial-heavy gardens in the sweltering heat and shivering cold of the typical New England garden. And in the process, we became highly skilled at deadheading, staking, dividing, and watering. According to Louis Raymond, the secret to long-lasting beauty in gardens is

garden-worthy shrubs, trees, grasses, annuals, vegetables, vines, bulbs, and tubers—and then add only a few perennials. Enjoy the wealth of plants that can make your East Coast garden both realistic and ravishing.

Consider the Leaf: Foliage Effects for the Woodland Garden with Judy Glattstein



A garden that's made for shade needs more than a focus on flowers. Layering foliage of different shapes and shades of green establishes a subtle, attractive display that can be embellished using leaves of silver, gold, copper, or red to accent beds, borders, and containers. Judy will suggest techniques to amend, adapt, transplant, and rearrange the plants you already have so that foliage becomes the focus. Whether you plant natives

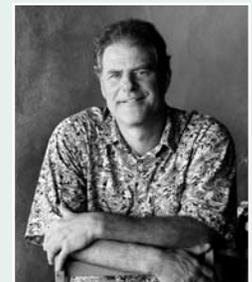
or exotics or, like most of us, a combination, Judy's advice will help you create a more vibrant and interesting woodland garden.

Perennials from Spring to Fall with Stephanie Cohen



Choose great old standbys and exciting new perennials, including grasses, and you can have it all—glorious color and fantastic foliage. Select plants with great blooming stamina and you'll have flower power that starts in spring and extends your season right into fall with a rousing flourish. This talk will send you directly to a nursery for Stephanie's perennial stalwarts.

A Passion for Pots with Steve Silk



Trying out new plants, playing with color schemes, and learning how to create dynamic plant combinations are easier when the ingredients are in pot and thus easily rearranged. Steve will explore the gamut of container gardening—from a few plants in a single pot to entirely container-based gardens using scores of planters to form borders. He will touch upon horticultural techniques such as basic propagation, over-wintering tender perennials, fertilizing, deadheading, and watering.

Essential Drawing Skills for Botanical Artists with Carol Ann Morley

Session One:

3 days: Tuesday, July 11 – Thursday, July 13
9:30 Registration; 10 a.m. – 4 p.m. Seminar

BAC 07 1211

Session Two:

3 days: Monday, Aug. 21 – Wednesday, Aug. 23
9:30 Registration; 10 a.m. – 4 p.m. Seminar

BAC 07 1212

Are you a beginner or an advanced artist in need of a foundational approach to drawing? Jump start your drawing skills with this intensive 3-day seminar designed to produce accurate observation and definition of form — both essential to artistic renderings, botanical or not. Focus on specialized observation; composition set up options; warm-up sketching exercises and techniques; proportional measurements; foreshortened angles of petals and leaves; spatial depth and compositional balance. All levels of students welcome. Bring your lunch or walk to local shops. List of materials needed for seminar will be sent after registration.

Class limit: 12.

3 day seminar: Members \$250 / Non-Members \$300

WCBG Floregium

with Sarah Roche & Carol Govan

4 Tuesdays, August 1, 8, 15, 29

9:30 a.m. Registration; 10 a.m. – 3 p.m. Seminar

BAC 07 141

Observe botany in action in Wellesley College's meadows and then record what you see with pencil sketches and dry brush watercolor techniques. By the end, we will have created a flora of the WCBG meadows in the Hunnewell Arboretum and Alexandra Botanic Garden. Recommended text: *Newcomb's Wildflower Guide*. Bring your own lunch or walk to local shops.

Class limit: 15.

Members \$112 / Non-Members \$140



Tanacetum vulgare from
WCBG Floregium 2005
by Julia Kerr

Pen & Ink Techniques for Botanical Rendering

with Carol Ann Morley

3 days: Thursday, Aug. 24 – Saturday, Aug. 26

9:30 Registration; 10 a.m. – 4 p.m. Seminar

BAC 07 143

Elegant flowing contours, rich tonal values, and expressive imagery are the hallmarks of pen and ink drawings. This workshop introduces the traditional illustrator's Crowquill pen — a versatile tool. Learn basic techniques, 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. Some drawing skill advised. Bring your lunch or walk to local shops. List of materials required for seminar will be sent after registration.

Class limit: 12.

3 day seminar: Members \$250 / Non-Members \$300

Plant Painting for the Petrified

BAC 0607

4 Tuesdays: 10:00 a.m. – 1:00 p.m.

June 6, 13, 20, 27

Do you long to draw and paint — yet you feel artistically challenged? Then this absolute beginners' class is designed especially for you. Sarah Roche, professional botanical illustrator, guides you through the elementary stages of drawing and painting — gently encouraging your creative instincts to flourish. The relaxed, informative class introduces you to drawing through observational skills, mark making, line drawing and tonal values and then to painting with an awareness of spatial relationships, composition and color. Materials list will be discussed in the first lesson. Please bring sketch paper and pencils:

HB, B, 2B, to the first class.

All abilities welcome. Class limit: 15.

Members \$100 / Non-Members \$125

Why Is A Hydrangea Blue?

HOR 0608

Fun Facts about Plant Chemistry

Monday, April 3

1:30 p.m. Reception; 2:00-3:00 p.m. Program

What makes a hydrangea blue? What causes fruit to ripen and rot? Join us to hear interesting and insightful tidbits about the chemistry of plants. Wellesley College Professor Emerita Sonja Hicks will share some of her explorations into the properties of different plant compounds. What are tannins and alkaloids and why do some plants create them? Find out why many of these special plant compounds are useful to us in cooking, medicine, perfumes, etc.

Members \$10 / Non-Members \$13

Free for WCFH Volunteers

The Landscape in Spring: A Study in Natural Settings

WCC 0623

7 Wednesdays: 12:30 – 3:30 p.m.

May 3, 10, 17, 24, 31; June 7, 14

Susan Swinand offers this seven session watercolor course for intermediate and advanced levels which covers color, direction of natural light and cast shadows, elements of atmosphere and linear perspective, simplifying to suggest complex masses, and modeling form with light and color. Participants will have study segments in the ideal setting of the College's Hunnewell Arboretum and Alexandra Botanic Garden.

Class limit: 12.

Members \$165 / Non-Members \$215 

**Registration form is on page 15
or visit www.wellesley.edu/FOH
to print a copy of the form.**

ON EXHIBIT IN THE WCBG VISITOR CENTER
through April 13

Wellesley Greenhouse Panoramas
Photographs by Esther Pullman

Wellesley Greenhouse Panoramas provides the viewer with an extended portrait of changing light, changing seasons and evolving plant material made possible through visits to Wellesley's Ferguson Greenhouses over six years by photographic artist Esther Pullman. After trading her career as a graphic designer for one as a professional photographer in the 1990's, Esther first visited the Ferguson Greenhouses to fulfill a student assignment. This modest effort became the inspiration for a wonderful series of greenhouse panoramas combining many of her interests: vernacular architecture, horticulture, and the design of space on a flat plane (in this case the surface of the photograph).



ARTIST RECEPTION

You are cordially invited to meet Esther Pullman

Thursday, April 6 from 4:30 to 7 p.m.

For more information and directions: WELLESLEY COLLEGE FRIENDS OF HORTICULTURE
www.wellesley.edu/FOH horticulture@wellesley.edu 781-283-3094

NOTES FROM THE DIRECTOR

continued from page 2

collections database available to any computer on campus. Now people can browse to see what plants we have, or search for particular species or characteristics. The more information we can add to this already wonderful database, the more useful it will be, especially for self-guided or docent-led tours.

You may be aware that the "maple swamp" area of the Hunnewell Arboretum is enduring the construction of a new water treatment facility for the college at its edge. As part of this project, the feed for the Silver Thread Brook and Paramecium Pond in the Alexandra Botanic Garden will be switched over from well water to water from Lake Waban, which will conserve groundwater. Professor Dan Brabander from the Geosciences department will have his spring environmental science class study this transition and monitor changes in Paramecium Pond. It is wonderful to be in an

environment where a necessary construction project becomes an educational opportunity!

Another educational opportunity is taking shape as plans for landscaping the area across from the Visitor Center move forward – focusing first on a stone wall supporting an educational garden, and on integrating this part of the landscape better with the adjacent arboretum. We are also working on a landscaping plan for the construction area near the maple swamp, including a "green roof" on the water treatment vault. There is never a dull moment for me in this new position!

I am greatly enjoying working with the Friends and staff in the botanic gardens, LOVE being back at Wellesley, and can't wait for spring! Hope to see you at Wellesley soon.

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

PROGRAM REGISTRATION FORM
WELLESLEY COLLEGE FRIENDS OF HORTICULTURE

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

NAME: _____

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

ADDRESS: _____

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

PHONE: HOME _____

_____ I would like information on volunteering at WCFH.

PHONE: WORK _____

E-MAIL _____

MEMBERSHIP IN THE FRIENDS OF HORTICULTURE

(for the academic year July 2005-June 2006)

Young Alum: \$15 (5 most recent classes)

Member: \$50

Sponsor: \$100

Donor: \$250

Supporter: \$500

Sustainer: \$1000 and beyond (thank you)

If applicable: Wellesley College Class of _____

MEMBERSHIP TOTAL _____

(SEPARATE CHECK FOR MEMBERSHIP, please, made payable to:
Wellesley College Friends of Horticulture)

Class ID #	Class title	Fee
_____	_____	_____
_____	_____	_____
_____	_____	_____

PROGRAM CHECK ENCLOSED \$ _____

ON EXHIBIT IN THE WCBG VISITOR CENTER
April 14 – June 12

Invasive Plants – Deceptive Beauty
by New England Society of Botanical Artists (NESBA)

What makes a plant invasive? Simplistically, it is a species demonstrating an invasive tendency, meaning it may escape from cultivation and vigorously naturalize in minimally managed areas. According to the National Park Service's "Weeds Gone Wild" website: "Invasive non-native organisms are one of the greatest threats to the natural ecosystems of the U.S. and are destroying America's natural history and identity."

As of Jan. 1, 2006, Massachusetts has officially banned the importation and sale of more than 140 plants identified as either noxious and/or invasive in the state, including Norway Maple, Burning Bush, Asiatic Bittersweet, and several other "beauties". The New England Society of Botanical Artists' timely exhibition highlights the physical beauty and documents the botanical characteristics of invasive organisms while bringing attention to the "biological pollution" they create.

For a complete listing of banned invasive plants in Massachusetts, see http://www.mass.gov/agr/farmproducts/Prohibited_Plant_Index2.htm. Or visit the United States National Arboretum Web site to find a chart of similar listings for other states. <http://www.usna.usda.gov/Gardens/invasives.html>



Celastrus orbiculatus
Asian Bittersweet Vine
by Carolyn Payzant

ARTIST RECEPTION

You are cordially invited to meet the NESBA artists

Monday, May 22 5-6:30 p.m.
following the WCFH Annual Meeting

For more information and directions:
WELLESLEY COLLEGE FRIENDS OF HORTICULTURE
www.wellesley.edu/FOH
horticulture@wellesley.edu
781-283-3094



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Friends of Horticulture
Science Center
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Wellesley, MA 02481-8203

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ANNUAL MEETING

Biodiversity Conservation: Insights from Gardening

with Kristina Niovi Jones, Director
Wellesley College Botanic Gardens

Monday, May 22

- 3:00 p.m. Visitor Center Reception
- 4:00 p.m. Meeting and Program
- 5-6:30 p.m. NESBA Artist Reception (See page 15)

Gardeners acquire a wealth of knowledge about plants simply by paying attention to their needs and interactions with other flora and fauna in the garden. Capturing gardeners' wisdom about native plants and exotic invasives would be a valuable resource in improving conservation of native species and ecological communities.

In addition to being an avid gardener, Kristina Jones is a plant ecologist who has studied both rare and invasive plants. As the Director of the Wellesley



College Botanic Gardens, she is interested in integrating gardening and research to promote the conservation of biodiversity in New England.

WCFH, NESBA and WCAB Members Free – RSVP only / Guests \$5

HOR 06AM

Share your stories about plants and experiences at the Wellesley College Botanic Gardens by sending them to [WCFH](mailto:WCFH@wellesley.edu) at the above address or emailing them to horticulture@wellesley.edu.