



## Being a Naturalist in the 21<sup>st</sup> Century: Dirty Boots and iPod Apps

by Gail Kahn, Assistant Director, Wellesley College Botanic Gardens

I recently sat down with Botanic Gardens Director Kristina Jones and Assistant Professor of Environmental Studies Alden Griffith to talk about the idea of being a naturalist and where that fits in modern science. The first thing both of them expressed was a desire to add to their own natural history knowledge. “I think of a naturalist as someone who is really observant and follows through on their curiosity,” said Kristina, “getting to know the names of things, and even better, their

stories. The training of your senses, your observation skills, is an essential part of being a naturalist. For several years I was able to spend most of the summer in the field in Colorado, getting to know the plants and their pollinators and spending hours and hours watching bumblebees do their thing. I like going back to the same spot over time, just to see what’s different. I’m not nearly as much of a naturalist as I’d like to be, and still feel like a rookie in New England, even though I’ve lived here since 1994!”



Alden Griffith and lab instructor Marcy Thomas with Environmental Studies 101 students in the Science Center meadow.

Alden had similar feelings. “I slip into moments of feeling like a naturalist, but it’s hard for me to consider myself one. Maybe that’s because science has become too disconnected from what it is to be a naturalist. There are a lot of scientists who don’t know what they’re looking at when they step outside. They’re focused instead on their system. I’ve learned a lot of plants since being here, but like Kristina, I’m much more of a naturalist in the eastern Sierra. That’s where I learned my plants; I know them better.”

Both Alden and Kristina agreed that while being a naturalist and being a scientist are two different things, there are people who do both well. “The naturalists who are aware of what the big questions are in science and who quantify their observations to have useful data associated with them are contributing to science,” said Kristina. “They’re thinking scientifically while they’re out there being naturalists.” Alden added, “There is an element of training which is required to be a scientist. It’s hard to study all by yourself and then somehow burst onto the scientific community. Whereas there is a lot of self-training that you can do as a naturalist. And there isn’t enough formal training as a naturalist anywhere.”

With the rise of molecular biology in the twentieth century, course offerings at many colleges and universities shifted away from

# Notes from the Director — Fall 2011

Greetings from Wellesley! I like to start these notes by commenting on the season's weather conditions, not only because this is such a topic of interest in New England (and I am trying my best to become a good New Englander), but also because weather is such a huge determinant of the health and well-being of the gardens and their inhabitants, and there certainly has been some comment-worthy weather in the past few years! We are feeling very lucky in the Botanic Gardens since the greenhouses survived Tropical Storm Irene with only minor flooding, something of a miracle. The outdoor gardens had some downed limbs but no major tree losses, especially compared to the large trees uprooted on Severance Green, Tupelo Point and elsewhere on campus. Overall, it has been a pretty good growing season here, with plenty of sun and sufficient rain, especially late in the season.

The Edible Ecosystem garden is off to a great start, thanks to many pairs of hands and a well-thought-out design. Dave Jacke and Keith Zaltzberg led a workshop in early April, teaching many volunteers how to sheet mulch on a slope, grub out some of the more aggressive existing plants, and plant baby trees and their understory guilds through the sheet mulch. We got much of the Nut Grove planted then and on subsequent workdays in the garden with our summer crew. The area most heavily infested with crown vetch and spurge (mostly where the Fruit Woodland will go) received cardboard sheet mulch topped with a coir erosion-control blanket. When plants started peeking through the blanket in early summer, huge tarps were laid over the whole blanket area in an attempt to "solarize" those shoots. By September, when we removed the tarp to have a look, there was nothing green in sight. At a fall workshop again led by Dave and Keith (and with another great group of volunteers, including several Wellesley students and alumnae

participating through the Day to Make a Difference program), we sampled the soil under the traditional sheet mulch (cardboard plus wood chips), and under the cardboard/blanket/tarp combo, to test the effectiveness of these techniques for eliminating crown vetch. (There is no technique documented to work well.) These soil samples are now in the greenhouse, where we'll see what if anything emerges from them. I can say now that the soils under the cardboard generally seemed dark, rich and relatively root-free, compared to similar soil samples from the pathways that did not get sheet mulched. We also prepared and sheet-mulched the Fruit Thicket area and made vole and deer-protection cages for the young trees and shrubs. Permaculture enthusiasts from as far away as New York joined us, making for a great mix of participants.

This summer we piloted an expanded student internship program, called Environmental Horticulture and Sustainable Agriculture (EHSA) as it included working in the Edible Ecosystem, the Italian kitchen garden behind the greenhouses, and the student farm (known as Regeneration), as well as the

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Dave Jacke explaining a weeding project at the fall workshop.



Kristina leading a group doing soil sampling in the areas sheet-mulched to control crown vetch. The samples will be grown in the greenhouses to see if there are still viable crown vetch rhizomes and seeds in these areas.

## Greenhouse Ghosts on exhibit in the Margaret C. Ferguson Greenhouses

This winter, the Ferguson Greenhouses will host a special art exhibit: a series of life-sized animal silhouettes perched on branches, hiding in foliage, or foraging on the ground throughout the greenhouse habitats. Carved in low relief and painted a flat white, these "greenhouse ghosts" symbolize an absence in the world's ecosystems, as each represents a threatened, endangered or extinct animal. This site-specific installation is the work of local artist Andrea Thompson, in collaboration with Wellesley College students who helped identify the animals to be depicted and the plant species that they depend upon.

Opening Reception: January 26, 2012  
Contact the office for details.

[www.AndreaThompsonArt.com](http://www.AndreaThompsonArt.com)

# New Assistant Director of the Botanic Gardens

by Vivi Leavy '62, WCFH Docent

If you think you are seeing Friends of Horticulture administrator Gail Kahn around the greenhouses more often than usual, you're right. She has a newly created full-time, 10-month position as Assistant Director of the Botanic Gardens.

In addition to everything she does for the Friends—schedule tours, manage courses and instructors, assist students and contribute to programs in myriad ways, both big and small—Gail assumes more responsibilities for botanic gardens activities. As part of the administrative team with Kristina Jones, Gail attends horticulture staff meetings, helps oversee the Thorndike Intern, works on the combined WCBG-WCFH budget, supervises the student employees who staff the Visitor Center on weekends and holidays and takes care of the botanic gardens web site. She is running the September 21 Mystical Tree Tour, the gardens' big event of the year for the College community, with a lot of help from Kristina, the horticulture staff and Julie Vining '12, the new Thorndike intern. She is also working on the Visitor Center exhibit on Art in Science. (see below) Even with more to do, Gail claims to be more relaxed and looks it.

Gail started at the Visitor Center nine years ago when she joined the docent training class and became a volunteer. Her science background—she holds both a BS and an MS from MIT in the area of planetary science—seems an odd fit. But as Gail explains, since she already knew about the interactions of geology and atmospheric, plant biology was the part of the planet she needed to know about to round out her education. "I'm always happy when I'm learning more about plants and environments or about the history of the College," she says. She joined the paid staff in 2005 and stepped up to administrative manager in 2007, a part-time position that often found her rushing home after overseeing a course to do chores and let the dog out.

In addition to the satisfaction of learning more herself about plants and their environment, Gail enjoys encouraging kids to go outside and investigate the natural world. During her time at Friends of Horticulture the number and quality of programs for children have increased. Plant FBI will be back again this year as will Greenhouse Kids' Time during school holidays. Gail recalls spending hours as a child poking about in nature—



looking under rocks, catching lightning bugs and even trapping bees in peanut butter jars. (And yes, sometimes she got stung.) Today's kids seem to have a lot fewer opportunities for poking and wandering on their own, so the greenhouse programs are that much more important and Friends of Horticulture is fortunate to have Gail in charge.



## *Two upcoming exhibits highlight the importance of botanical art and illustration ...*

### Global Flora: Botanical Imagery and Exploration

October 19, 2011 – January 15, 2012



Morelle Lasky Levine '56  
Works on Paper Gallery  
of the Davis Museum

Long admired for its aesthetic qualities and scientific importance, botanical imagery traces the links from historical encounter, conquest, and collecting to the contemporary effects of globalization on our experience of place. This exhibition, drawn from collections of the Davis and the Wellesley College Library Special Collections, features prints and illustrated books that resulted from exploratory missions, and also those that demonstrate the current interconnectedness of our world.



### Art in Science

October 19, 2011 – January 15, 2012

Wellesley College  
Botanic Gardens' Visitor Center

From early books on medicinal herbs and documentary paintings by plant explorers to the teaching tools used and studies done by Wellesley College and Friends of Horticulture students, botanical illustration has been vital in furthering knowledge. Our companion exhibit to the Davis highlights the use of botanical imagery in the study and communication of scientific concepts. Visitors are encouraged to visit actual specimens of the exhibit's featured plants in the Ferguson Greenhouses and outdoor gardens.



# High School Students in the Greenhouses

by Vivi Leavy '62, WCFH Docent

Early spring normally brings an upsurge of visitors to the greenhouses. Snow may lie in drifts against steamed-up outside doors but inside plants are blooming. Wellesley College students, cub scout troops, third-grade classes from Boston schools, residents of local nursing homes, garden club members, and mothers with toddlers anticipate the season and enjoy the fresh smells and colorful leaves and flowers. For the last decade another category of visitor has been high school students armed with clipboards and study sheets carefully making their way from Desert House to Hydrophyte House and on through the center ranges thoughtfully looking, sketching and writing up their observations. These are students from Concord-Carlisle Regional High School engaged in their independent biology project.

All college prep students at Concord-Carlisle are required to take a lab science in their ninth and tenth grade years. In the year-long biology course, each term includes an independent project. In the spring to illustrate evolution, students may elect either to visit the Ferguson Greenhouses or the Franklin Park Zoo. The zoo is a wonderful place for students who prefer to study animals. However, especially in recent years as the role of plants in the ecology has been emphasized, the large majority of students choose the greenhouses. Priscilla Guiney '81 teaches honors biology and originally organized the project. A biology major, she was very familiar with the greenhouses as a teaching tool from her time on campus. She is one of a half dozen Concord-Carlisle biology teachers whose students visit the greenhouses although not every teacher structures the project exactly the same way.



A Concord biology student and his parent start in the Desert House with his project questionnaire.



The banana plant (*Musa acuminata*) is a student favorite.

The students in Ms. Guiney's class have a lengthy questionnaire to fill out to guide their study of evolution as exemplified by plant diversity and adaptation. There is a page of questions for each of the five houses in the east-west range plus one for the cryptogam (fern) house and an invitation to simply enjoy all the flowering plants in center ranges. Students are asked to make hypotheses about how plants react to environmental factors in each house. In the Desert House, for example, they are asked to "compare and contrast characteristics of the cacti you observe with the succulents you observe," and speculate on the "evolutionary reasons that might account for the differences in their structure; for the similarities." The goals of the lesson are to develop students' powers of observation and to hone their research skills since they need to look up more information when they get home to answer some of the questions posed. They learn to use academic journal articles from the web and other information from sites with 'edu' domains.

Finally, the students are asked to choose their favorite plant and make a sketch of it noting its salient features. The plants the students choose most frequently tend to be the large dramatic ones, maybe the easiest to draw: the golden barrel cactus (*Echinocactus grusonii*), the banana plant (*Musa acuminata*) and the large cycad (*Dioon spinulosum*) in the tropic house. The project takes at least a couple of hours to complete. As the greenhouses are closed for the evening, Concord-Carlisle students are often among the last visitors to leave.



# A Bog for the Botanic Gardens

by Kristina Niovi Jones, Director, Wellesley College Botanic Gardens

For years there has been talk of adding a bog to the variety of habitats represented in the Botanic Gardens. New England has such fascinating bogs, with remarkable plants (many of them carnivorous) found in no other habitats. There was a suitable location available: the acidic meadow behind Paramecium Pond has a low spot near the path to the 'Ville,' a spot that holds standing water much longer than the rest of the meadow does. We are always seeking ways to entice people off of the paved path and into the gardens, and thought that the sight of pitcher plants a few feet away would induce a closer look.

Spurred by the impending move of our local botanical consultant, Doug Goldman, from Harvard to the USDA Plants Database in North Carolina, we started planning the bog in earnest last summer. Doug procured permits to collect a few specimens of common, characteristic plant species from southern New England bogs, then visited the chosen bogs to make the collections before his move last fall. The specimens then spent the better part of a year in plastic tubs in one of the pits between the greenhouses, with Tony Antonucci and David Sommers making sure they didn't dry out by watering with rainwater collected in barrels in the renovated Annex greenhouse (not the salty, pH-adjusted well water that comes out of our hoses!). Doug also dug test holes and measured the water-holding capacity of various soil mixes at the future bog site, ultimately recommending a mix of two parts native soil to two parts peat moss to one part sand.

Finally, in July of this year, the time was right to put in the bog: we had a great summer crew, the plants had survived well, and Doug was able to come up for a day to direct our efforts. Our all-woman crew of Barbara Solorzano and Ngoc (Suong) Tran – our two summer assistants borrowed from Dining Services – and several EHSA student interns, all led by Tricia Diggins, dug the 2-foot-deep hole on the afternoon of July 28. The native soil was remarkably dark and rich in organic matter, very heavy and wet, and had an annoying tendency to form large clods. The next morning, Doug helped lay the black plastic pond liner, then promptly cut holes in it so that it would drain slowly. We rented a wheelbarrow mixer and spent most of the day of the installation mixing hundreds of batches of soil to refill the hole. By early evening it was finally full. It took a whole tank of water from the Cushman cart to fill it to near saturation.

At last it was time to plant! In one of the plastic bins, the plants had rooted together so tightly that we decided not to separate them, but instead planted the whole thing as a dense mini-community. Doug's favorite *Calopogon* orchids were in their own container, carefully screened from the



Newly planted bog plants are small to start, but they will continue to grow and multiply.

rodents that like to dig them up, so those went in their own section, screens and all. Another bin, less dense than the first, allowed separation of its occupants, so the chain fern, Labrador tea, bog laurel and sheep laurel each got prime spots with plenty of room to spread. The community filled in a bit more a few weeks later, when the weather finally cooled off enough for a specialty nursery to ship our order of yellow pitcher plants and ladies' tresses, and Doug sent up a few gleanings from North Carolina. When Tropical Storm Irene brought down some large trees on campus, Jim Doyle from the Grounds department brought us some large red oak logs from a tree near Tupelo Point, to serve as both a barrier to foot and bike traffic, and a seat from which to contemplate this unique community. Come take a peek the next time you're at Wellesley! 🌿

## Initial Species List

<i>Blechnaceae</i>	<i>Woodwardia virginica</i> (Virginia chain fern)
<i>Clusiaceae</i>	<i>Triadenum virginicum</i> (Marsh St. Johnswort)
<i>Cyperaceae</i>	<i>Eriophorum virginicum</i> (cottongrass) <i>Rhynchospora alba</i> (white beaksedge)
<i>Droseraceae</i>	<i>Drosera intermedia</i> (spoonleaf sundew) <i>Drosera rotundifolia</i> (roundleaf sundew)
<i>Ericaceae</i>	<i>Kalmia angustifolia</i> (sheep laurel) <i>Kalmia polifolia</i> (bog laurel) <i>Ledum groenlandicum</i> (Labrador tea) <i>Vaccinium macrocarpon</i> (cranberry)
<i>Lentibulariaceae</i>	<i>Utricularia cornuta</i> (horned bladderwort)
<i>Orchidaceae</i>	<i>Calopogon tuberosus</i> (grass-pink) <i>Pogonia ophioglossoides</i> (rose pogonia) <i>Spiranthes cernua</i> (nodding ladies' tresses)
<i>Sarraceniaceae</i>	<i>Sarracenia flava</i> (yellow pitcher plant) <i>Sarracenia purpurea</i> (purple pitcher plant)
<i>Xyridaceae</i>	<i>Xyris montana</i> (yellow-eyed grass)

## Dirty Boots *Continued from page 1*

botany, plant systematics (the study of how plants are organized into families), and field studies – topics that would be part of a naturalist’s knowledge. But there’s evidence that the pendulum is swinging back to include these significant components of a well-rounded biological and environmental education. Alden served as a teaching assistant in a course in plant systematics during his graduate studies at UC Santa Cruz. He started teaching field botany at Wellesley in 2009 and intends to continue offering it every other year.

Kristina reflected on the difference between a research-oriented university, where sometimes the emphasis is on training future scientists in certain marketable techniques; and a liberal arts college, whose focus is broader. In speaking about science education at Wellesley in particular she pointed out, “There are several biology classes that get outside and start with observation, generate questions from those observations, and then start designing experiments. It’s a great foundation for lots of kinds of science. This campus is a living laboratory; the Botanic Gardens a case in point. There are some students who are uncomfortable leaving the paved path. They’re happy to be outside looking up at trees and listening to birds, but they don’t want to go in where they might get spiders in their hair or something like that. But one of the cool things about Wellesley is that it attracts such incredibly

diverse students from so many different backgrounds, and trying to understand what their perceptions of nature are can be really interesting just by itself. Getting them outside and curious about their natural surroundings is key.”

Alden spoke about the conversations he’s had with other scientists in the Environmental Studies program. “We’re trying to develop more question-driven inquiry, teaching science through the process of science. This focus on inquiry and process can change the way students think about approaching the natural world in general. Part of the point with field botany is that every time you step outside, I want you to be thinking about plants. You go for a walk anywhere, you look at the sidewalk cracks in front of CVS and there’s a plant growing there. How did it get there? Why this species and not that? So hopefully they’re starting to ask some of these questions. And once you have a framework for asking questions, you become more observant.”

Kristina noted, “One of the things we’re doing is putting in place some structures where we can make repeated observations on long term projects, like the Climate Change Garden, the bog, and the miniature conifers. We’re going to start accumulating historical observations on them. You add your own observations and now you can start asking questions with just one day’s worth of data, because you have everybody’s data from before. The iPod apps that we’re developing enable data collection to happen quickly,



First-year students study a fennel plant harvested from the Italian kitchen garden.

and the conversion of observation to data that are in the computer and ready to be analyzed is going to be so much faster with these apps. It’s going to make it easier to be a naturalist and contribute to interesting science. So I think that’s a nice step forward.”

All three of us spent some time envisioning the day when other laboratory equipment might also become hand-held devices. “We might be able to go out and sequence the DNA of something by clipping a leaf, and not only know the species but what its lineage is. That’s going to move forward what it means to be a

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Samples of some of the iPod apps being used for collecting data on campus. Photos courtesy of Consuelo Valdes.

## Dirty Boots *Continued from page 6*

naturalist, too,” Kristina speculated. But Alden cautioned about the consequences of technology. “When it becomes easy to just simply ID something, how much do you learn? How much are you the naturalist, versus how much is your iPod the naturalist? I’ve had discussions at New England Wild Flower Society about the new online flora being developed there. We want there to be teaching elements throughout the process. I was a big proponent of making sure the plant family was available. But it’s a fine line to walk, because you don’t want to say, ‘You’re not a naturalist unless you do it the old way – open up the 5,000 page book!’ We don’t want to put up barriers but we don’t want to defeat the purpose.”

Technology can definitely help the 21<sup>st</sup>

century naturalist. But as Kristina noted, “The world is dauntingly diverse.” She had advice for anyone who wants to learn more natural history. “One way is to pick a place, to get to know that place and its inhabitants really well; and the other is to get to know a particular group of organisms. If you’re a birder, you go to where birds are. So those are two different ways to specialize, to become more observant, more in tune with nature. I recommend this campus! There is a lot going on that humans are not controlling in our lightly manicured piece of the earth. I stood gawking on the path for about a half hour one time watching an oriole fledge. The silly bird was squawking its head off and really couldn’t fly yet and was attracting who knows what predators. It was really cool

watching this baby bird trying to figure out what to do next. It was going down and down and finally ended up on the ground and scooted into the underbrush, which was a good thing. And I saw a blue heron eat a big bullfrog that was bigger than its head, and it took it at least half an hour to get it down. This was right at Paramecium Pond. You can be a naturalist like that. But you have to have your eyes open and just kind of be ready for it.”

Alden and Kristina recommend these books:

Bernd Heinrich, *A Year in the Maine Woods* (and other works by this author)

E. O. Wilson, *Naturalist*

Tom Wessels, *Reading the Forested Landscape: A Natural History of New England*



# Why Does the Swiss Cheese Plant Have Holes?

by Gail Kahn, Assistant Director, Wellesley College Botanic Gardens

The Swiss cheese plant *Monstera deliciosa* is a frequent stop on docent-led tours because of its intriguing names (both common and Latin) and fantastic leaves. This tropical liana, closely related to philodendron, is a member of the Araceae (aroid) family native to Central America. In our Tropic House, at least one of the Swiss cheese plants is usually in flower or fruit. The edible fruit, which resembles a large green pine cone, tastes like a combination of banana, pineapple and mango. A “delicious monster” indeed!

Docents love a plant with a good story, and the Swiss cheese plant delivers. Even young visitors can figure out that the common name derives from the holes in its leaves. The question is, why does the plant grow this way? It’s obviously an adaptation to its tropical rainforest habitat – but what is the advantage to the plant? Here are some of the explanations I’ve heard:

- The holes let sunlight, a precious commodity in a jungle environment, through to the lower leaves.
- The holes let rainwater pass through to the leaves and roots.
- The holes allow the wind to blow through without tearing the large leaves.
- The holes are meant to fool insects into thinking that the plant has already been extensively chewed on, so that they go lay their eggs elsewhere.
- The holes confuse the sonar of bats, so they will not find the fruit of the plant.

Some of these hypotheses may be correct, others may be wrong. What’s important is that visitors are thinking critically about this plant and its environment. As a teaching tool about plant adaptations, the large, dramatic Swiss cheese plant is second to none.



# Programs

- All classes are held in the WCBG Visitor Center unless otherwise noted.
- For classes over the lunch hour: Bring your own lunch or walk to local shops.
- Materials Lists may be found on our website on the Courses page.
- Parking on campus is restricted. Use of the Davis Parking Garage or car pooling from off campus is encouraged.

To register for classes, use the form on page 11 or visit [www.wellesley.edu/WCFH](http://www.wellesley.edu/WCFH) and print a registration form.

## **Wicked Bugs: The Louse that Conquered Napoleon's Army and Other Insect Monstrosities**

In a follow up to her wildly successful New York Times bestseller *WICKED PLANTS*, Amy Stewart takes a darkly comical look at the sinister side of our relationship with the natural world. She has tracked down over 100 of our worst entomological foes—creatures that infest, infect, and generally wreak havoc on human affairs.

Saturday, Oct. 22, 2011      **HOR 12 030**  
2:00 p.m.

Location: Arnold Arboretum's Weld Hill Bldg  
1300 Centre Street, Roslindale. Free parking.  
*Members \$5 / Non-Members \$15*

## **Wild Food: Foraging for Edible Plants and Mushrooms**

Join professional environmentalist and wild foods enthusiast Russ Cohen, author of *Wild Plants I Have Known...and Eaten*, to learn about foraging for wild plants, followed by a walk outside to see what might be available at this season.

Monday, Oct. 24, 2011      **HOR 12 040**  
2:00 p.m. tea

2:30 – 4:30 p.m. lecture and walk

*Members \$10 / Non-Members \$15*

### **Soil:**

## **Where Geoscience Meets Botany**

Join Janet McDonough, Senior Instructor of Biological Science Laboratory at Wellesley College, to gain a new appreciation for this backbone of our landscape. From geology to biology, Janet will give us all the dirt on soil.

Monday, Jan. 23, 2012      **HOR 12 070**  
2:00 p.m. tea, 2:30 p.m. lecture

*Members \$10 / Non-Members \$15*

### **In Bloom:**

## **The Ferguson Greenhouse Collection**

For the past few years, WCFH docent Vivi Leavy has recorded the blooming of greenhouse flowers—showstoppers as well as those easily overlooked—in her task of updating the “What’s in Bloom” board in the Visitor Center. Come for a great photo tour of the greenhouses in bloom and to hear Vivi’s stories of her favorites from the collection.

Monday, Feb. 27, 2012      **HOR 12 100**  
2:00 p.m. tea, 2:30 p.m. lecture

*Members \$10 / Non-Members \$15*

## **GIS for Public Gardens, Managed Landscapes, and More**

In this introductory, hands-on workshop using individual work stations, Brian Morgan will guide you on how to download and install the Alliance for Public Gardens GIS Public Garden Data Model template, how to create and edit map features in ArcGIS, how to collect garden data, and how to create plant collection maps. Brian will discuss crucial concepts and background information about GIS, managing and presenting garden collections data, and additional resources available for creating a GIS for your own garden, park, nature center, zoo, cemetery, museum or other landscape.

*Offered by the Arnold Arboretum of Harvard University, the New England Wild Flower Society, Tower Hill Botanic Garden, and Wellesley College Friends of Horticulture with promotional support from Mount Auburn Cemetery*

**NOTE LOCATION:** Harvard University’s Science Center Classroom B-09.

Public transportation recommended. Visitor Parking Permits (\$13) can be purchased in advance <http://www.uos.harvard.edu/transportation/parking/>

Please bring your lunch or plan to purchase lunch locally. Coffee and sandwiches can be purchased from a cart located in the Science Center. Note: eating is not permitted in the computer lab.

Tuesday, Jan. 24, 2012      9:00 a.m. – 5:00 p.m.  
(Snow Date: Wednesday, Jan. 25)

**HOR 12 060**

*Fee before Dec. 15: Members \$160 / Non-Members \$195  
after Dec. 15: Members \$185 / Non-Members \$220*

## **Fabulous Ferns!**

Elizabeth Farnsworth, illustrator and co-author of the Peterson Field Guide to the Ferns of Northeastern North America, uses WCBG’s diverse fern collections to explore fern anatomy, architecture, life cycle, ecology, and microscopic characteristics. Bring your lunch along with sketchbook and pencils or pens (whichever is your preferred medium for sketching), and colored pencils for recording various anatomical structures.



*Dryoptermedia intermedia*  
© Elizabeth Farnsworth

Tuesday, Feb. 21, 2012      **HOR 12 080**  
10:00 a.m. – 4:00 p.m.

(Snow Date: Wednesday, February 22)  
*Members \$75 / Non-Members \$95*

## **Women in Botany**

Judith Sumner, botanist, author, and educator, celebrates women’s significant contributions to plant science through exploration, research, and publication. In addition to lecture, slides, and discussion, peruse primary source materials from the New England Wild Flower Society library and participate in hands-on activities that commemorate the diverse roles of women in botany.

Sunday, Feb. 26, 2012      **HOR 12 090**  
10:00 a.m. – 4:00 p.m.

Note Location: Garden in the Woods, Framingham, MA

*Members \$72 / Non-Members \$87*

## **Bonsai: History, Facts and Myths**

Learn how bonsai are created and tips for keeping them alive as long as possible. Pauline F. Muth will present a program on the history, art and horticulture of bonsai. She will illustrate her talk with both a photographic and live collection of various types of bonsai.

Monday, March 19      **HOR 12 110**  
2:00 p.m. tea, 2:30 p.m. program

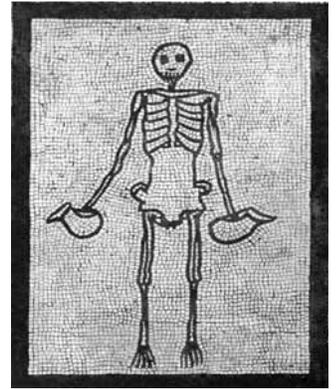
*Members \$10 / Non-Members \$15*

## WINE: A Matter of Life and Death

John Varriano, author of *Wine: A Cultural History* will examine two aspects of the cultural history of wine – its central role in theories of medicine from ancient Greece to the present and its changing meaning over the ages in art and meditations on the afterlife. Recently retired from the faculty of Mount Holyoke College where he taught courses in European art and architecture since 1970, John Varriano's special interest is the art and architecture of seventeenth-century Rome. He is also the author of over three dozen specialized studies in his field including several books, the most recent being *Wine: A Cultural History*.

Monday, November 14, 2011      4:30 p.m. lecture, SCI 277      HOR 12 050

*Free program*



More classes of interest ... complete details online,  
in our program brochure, or contact WCFH office.

### Colored Pencil I: Fundamentals

3 days: Tuesday, Jan. 3 – Thursday, Jan. 5, 2012  
(Snow Date: Friday, Jan. 6)  
9:30 a.m. – 3:30 p.m.

### Demystifying Vellum

3 Fridays: Jan. 6, 13, 20, 2012  
(Snow Date: Friday, Jan. 27)  
9:30 a.m. – 3:30 p.m.

### Pen & Ink I: Foundations for Botanical Rendering

3 days: Tuesday, Jan. 10 – Thursday, Jan. 12, 2012  
(Snow Date: Friday, Jan. 13)  
9:30 a.m. – 3:30 p.m.

### Foundations of Botanical Drawing and Painting

Classes are 9:30 a.m. – 12:30 p.m.  
8 Tuesdays: Jan. 31; Feb. 7, 14, 28; March 6, 13, 20, 27, 2012  
8 Wednesdays: Feb. 1, 8, 15, 29; March 7, 14, 21, 28, 2012

### Watercolor Painting for All

7 Wednesdays: 1:00 – 4:00 p.m.  
February 1, 8, 15, 29; March 7, 14, 21, 2012  
(Snow Date: March 28)

### Fantastic Fungi in Graphite

3 Fridays: Feb. 3, 10, 17, 2012  
(Snow Date: Friday, March 2)  
9:30 a.m. – 3:30 p.m.

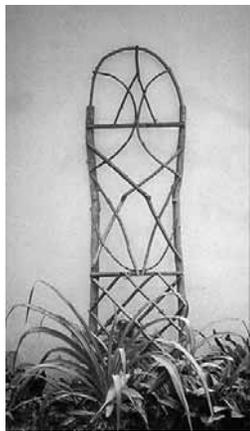
### Designing Your Watercolors: Using Collage for Creative Inspiration

Saturday, March 3, 2012      10:00 a.m. – 4:00 p.m.  
(Snow Date: Sunday, March 4)

### Experimental Techniques in Watercolor

5 Saturdays: March 10, 17, 24, 31; April 7, 2012  
(Snow Date: Apr 14)  
1:00 – 4:00 p.m.

### Rustic Trellis Building Workshop



Craftsman Frank Hamm believes that anyone can build beautiful and functional furniture using just green tree limbs and saplings. Under his expert guidance, learn how to construct a terrific garden gate, trellis or side table in this half-day, hands-on workshop. You will learn how to use straight, curved and forked branches for design and structural integrity. Create harmonious, sculptural forms by carefully coordinating the complex shapes of individual wood cuttings. Take home a terrific addition to your garden, home or yard. (Log on to [www.frankhamm.com](http://www.frankhamm.com) for ideas.) Bring a hand drill and small bits, measuring tape, hammer and saw if you have them. Dress for the weather. Wood/building materials supplied.

Saturday, April 28, 2012      1:00 – 5:00 p.m.      HOR 12 120  
(Rain Date: Sunday, April 29)  
*Members \$75 / Non-Members \$95*

### It's A Small World— Macro-Digital Photography Go Up-Close and Explore!

This hands-on workshop is ideal for photographers who want to explore their own creative vision in the realm of macro photography as well as artists who want to record small details as a reference for future artwork. A more complete list of requirements is available online. Please contact our office if you are not sure if your equipment or experience is sufficient. Please bring your lunch.  
Friday, March 23, 2012  
9:30 a.m. – 4:00 p.m.  
(Snow Date: Friday, March 30)



DIG 12 101

*Members \$75 / Non-Members \$95*

# Memories of Wellesley

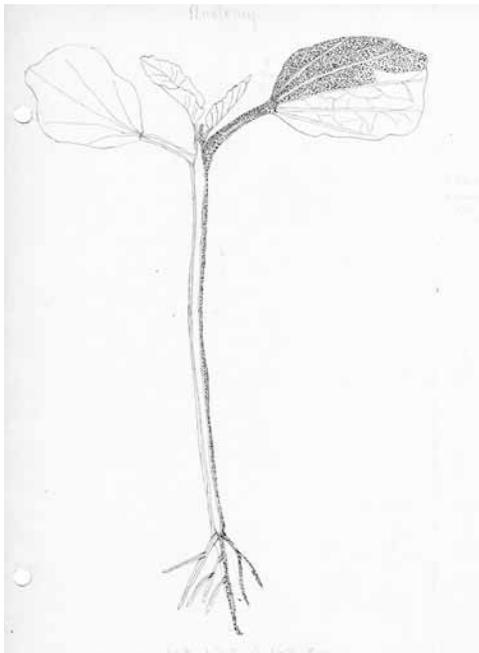
by Nancy Martin Barnes '37

*The following excerpts are from a letter sent last winter to the Friends of Horticulture.*

In my freshman year, 1933, Miss [Mary] Bliss was my professor in Botany 101. We began with the castor bean to learn about the first true leaves. She took us to the great Arnold Arboretum in Jamaica Plain to see trees unknown to us and dozens of varieties of such species as barberry, viburnum and cotoneaster. We saw the glass flowers at Harvard. We learned of Louis Agassiz. We enjoyed Dr. Ferguson's greenhouses with the myriad plants. We rooted sedums and yew there. I could not bear to destroy the little rootings, so I sent them home to Kansas City in my American Express laundry carton and grandmother put them in her plant stand.

Miss Bliss, that summer, had been to the Alaskan Territory to study the flora, to see the effects of long hours of daylight and permafrost. This seems like a venture for one from New England. It was less than forty years after the Klondike gold rush.

I had Miss [Alice] Ottley for Ecology and also for a course in mushrooms, lichens and mosses. A time or two she took the class on mushroom hunts in the



From the botany notebook of Eda Gregg McCoy who studied at Wellesley in the 1920's.



Miss Davis introduced students to landscape design and also Triscuits.

woods. Then we returned to her house and cooked up soup and omelet recipes with the edible mushrooms.

Miss [Helen] Davis was another excellent botany professor. I had her for two courses in landscape design. Her lectures were very interesting and she was a talented designer. We learned of Frederick Law Olmsted and she took the class to visit well-designed properties—estates around Boston. I remember a spring visit, perhaps to the Saltonstall's, that we walked up a long curving driveway of dark brick, edged on both sides with wide borders of black pansies. Imagine!

Once in 1937 we were working in the drafting room and Miss Davis came in with a box of new crackers she had been sent. She passed them around to us, a treat. They were Triscuits, just put on the market by the makers of shredded wheat. Now you know how long good Triscuits have existed.

The college gave me generous scholarships and for three years I lived in a co-op house. For two years the Botany Department gave me the job of minding the botany library at night, this for \$50 a semester. This was a nice help since in those days you did baby-sitting for 35 cents an hour, no minimum.

To my utter astonishment I was made Phi Beta Kappa my junior year and at graduation I was given the Science Prize of \$50.

In the 1930s the landscaping of the Wellesley campus was beautiful beyond compare. Every place was beauty—the English yews; bluets in the meadow; blue and orange violas covering the ground under all the bushes; heavy, white heads of cherry trees near the observatory, such as A.E. Housman wrote of; round, broad apple trees on either side of the Central Street entrance to the Jacobean Quad.



**Notes from the Director** *Continued from page 2*

rest of the Botanic Gardens (including installing the new bog garden – see p. 5). Jenny Goldleaf '12 served as Farm Manager. She had interned on the farm the previous summer and was Co-President of the associated student organization during the year. We had three applicants for each available slot, interviewed the top eight candidates, offered the five slots to the top five candidates and they all accepted! So, we had a great crew: Olivia Astran '14, Katie Byrnes '12, Lauren Cahillane '12, Julia DiCicco '12, and Sophia Liu '14. Exit surveys from the interns indicated that they all want to follow up with more science, horticulture, and agriculture, demonstrating that the program's primary goal was achieved. Olivia is becoming a Biology major, and in her fall Ecology class has been very pleased to show off her plant identification skills. Katie, an Economics major, is doing an independent project with me this fall, building a small-scale aquaponics system for the greenhouse. Lauren, a Cognitive & Linguistic Sciences major, deepened her interests in herbal medicine and sustainable agriculture, and intends to craft a career along these lines. Julia is a Geosciences major, now working in Professor Dan Brabander's lab on a project investigating the effects of soil variation on the terroir of grapes. And Sophia is continuing as a Botanic Gardens student employee during the year, growing all kinds of food plants and taking great pleasure in sharing the harvest. There was a lot of harvesting and eating over the summer, a key community-building ingredient in a small group working hard! Together with Tricia Diggins and our two summer workers from Dining Services, Suong Tran and Barbara Solorzano, the students transformed the harvest into a great variety of treats, from herbal vinegars to Vietnamese spring rolls to amazing baked goods. We learned a lot about what makes an internship program like this work well, and will be seeking funding for the program for the long term.

I'm extra busy this fall team-teaching a first-year seminar on the Art and Science of Food in Italy, with Art History professor Jacki Musacchio. Building on the seminar that Jacki taught last year, Dining with Michelangelo: Food and Art in Renaissance Italy, we are teaching each other and the students how an art historian and a biologist approach the complex topic of food (everything from taste and nutrition to agricultural production, from the Renaissance to the Slow Food movement). Like last year, we are using an Italian kitchen garden that we (mostly Katie Byrnes) grew specifically for the course, and the students are busy sketching and harvesting in preparation for presenting their chosen crops to the class.

I hope you too are enjoying a bountiful fall harvest, and hope to see you at Wellesley soon!

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



**NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**PHONE: Home:** \_\_\_\_\_ **Work/Cell:** \_\_\_\_\_

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Mail this completed form and your payment to :

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106 Central Street, Wellesley, MA 02481-8203

**COURSE REGISTRATION**

See programs and classes information and cancellation policy

Course ID#	Class title	Fee
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_____	_____	_____

**SEPARATE CHECK FOR PROGRAM FEES** \$ \_\_\_\_\_

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\_\_\_\_\_ Women's Large \$40 each = \$ \_\_\_\_\_

\_\_\_\_\_ Men's Large \$40 each = \$ \_\_\_\_\_

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Shipping / Handling at \$5 for each vest, tote, pair of mugs = \$ \_\_\_\_\_

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Wellesley College Friends of Horticulture

106 Central Street

Wellesley, MA 02481-8203

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## GREENHOUSE KIDS' TIME

Escape to warmer climates of the beautiful Ferguson Greenhouses on a mini-vacation. We'll have special children's activities including crafts and scavenger hunts. Drop in any time between 1:00 and 4:00 p.m. to experience the wonders of plants from around the world.

*FREE for families on school vacation days!*  
*All children must be accompanied by an adult.*

Monday, Jan. 16, 2012 1:00 – 4:00 p.m.  
(Martin Luther King, Jr. Day)

Monday, Feb. 20, 2012 1:00 – 4:00 p.m.  
(Presidents' Day)



## SEE WHAT PLANTS ARE ... ALL ABOUT! ... FOR ALL AGES

All children must be accompanied by an adult. In your RSVP, please give the ages of all children accompanying you. However, even without a child to bring along, adults are encouraged to come and spend an engaging afternoon immersed in the natural world of the Botanic Gardens. Dress appropriately for going outdoors into the gardens.

FREE, pre-registration by prior Friday at noon is required.

Space is limited. Call 781-283-3094 or email [horticulture@wellesley.edu](mailto:horticulture@wellesley.edu).

Visit our website or call the office for more details and future *All About!* Programs.

### *All About!* CARNIVOROUS AND PARASITIC PLANTS

Saturday, November 12 9:30 a.m. – 12:00 noon

Get up close and personal with some of the most unusual plants on earth! We'll learn about a carnivorous plant's bug-catching strategies and why parasitic plants send their roots into other plants instead of the ground.

### *All About!* CACTI AND DESERT SUCCULENTS

Monday, January 16 9:30 a.m. – 12:00 noon (Martin Luther King, Jr. Day)

In the greenhouses, our desert plants are experiencing cool days so that they'll bloom in spring. We'll explore a desert plant's strategy for coping with its environment. A cactus craft and treat will finish our session.

### *All About!* THE PLANTS DINOSAURS ATE

Monday, February 20 9:30 a.m. – 12:00 noon (Presidents' Day)

What sorts of plants were around when dinosaurs roamed the earth? How do scientists know what the dinosaurs ate? We'll visit some greenhouse plants that would have been very familiar to these creatures. A dinosaur craft ends our session.

