



WELLESLEY COLLEGE

Global Flora: Greenhouse Renewal, A Progress Report

In the Fall 2014 newsletter, I ended the *Global Flora: Greenhouse Renewal Phase 1* article on the optimistic note that we were aiming to break ground this spring. While we all are eager to begin the project (particularly with all the extra precautions and finger-crossing we've had to do during this winter's storms!) and have made great progress on planning and design, the project timeline has been "decompressed" to a spring 2016 construction start. An important reason is that the College has embraced a key project goal of achieving net-zero energy and net-zero water as part of the Living Building Challenge – very aspirational sustainability goals! The design team is fired up, and I am confident that the additional time and effort invested in planning will yield substantially lower operation costs as well as an impressively small environmental footprint for a conservatory-type building.

The longer planning period also provides more opportunity to plan the "indoor ecosystems" of Global Flora in detail. This article offers a current view of these plans and invites your participation in this very fun part of the process. Essentially we are planning an amazing indoor garden, and the more knowledge we can bring to the process, the better! Your experiences particularly in sub-tropical, desert, or Mediterranean-type habitats can

help shape Global Flora.

The plants and their arrangement in the Global Flora landscapes will tell several stories. Diversity of form is the overall theme. The main story is about diverse evolutionary lineages responding to common environmental conditions and challenges – in some cases converging on seemingly similar solutions, and in others with radically different approaches. For example, in the Dry House we will have cacti such as the golden barrel and the lady of the night, whose fleshy stems are green and perform photosynthesis, along with a palo verde – one of the famous "bean trees" (yes, it's a legume) which, as its name suggests, also has a green, photosynthetic trunk, along with minimal leaves. In the Sonoran Desert, cacti and palo verde frequently grow together, with the tree serving as "nurse plant" for young cacti. We are thinking to plant several small cacti at different distances from a palo verde to explore this relationship. This community grouping likely also will



D. Sommers

In Global Flora our large cannonball tree will have enough space so its extraordinary flowers can be seen more easily.

include several desert ephemerals in the understory, representing a very different solution to extended drought conditions.

As this desert example illustrates, careful choices of taxa and placement of plants will enable the collection to tell stories about topics such as convergent evolution and interactions between plants. At the same time, the landscape design doubles as an experimental design that students can use to test hypotheses, for example about plant responses to specific physical conditions. Completing the experimental platform will be several

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NOTES **from the Director**

I like to start these notes with comments on the kind of growing season (for Fall newsletters) or winter (for Spring) we're having, both to provide a window on Wellesley for those of you not in the area, and to reflect on how climate affects everything we do. It is striking to look back at last spring's opening comments: "Greetings from snowy Wellesley! Climate models call for wetter winters in New England, and that certainly characterizes this one so far, as we've had storm after storm." This year, after a dry holiday season and early winter, we've truly received "storm after storm" ever since the semester started the last week of January, shutting down the College (and the entire region) multiple times – unprecedented. The very thick blanket of snow should have helped buffer our unusually cold February temperatures (down to -10F) for perennials and shrubs, but we're likely to see some dieback on marginally hardy trees like *Franklinia*. And it will be very

interesting to track the timing of bloom and leaf-out this spring with respect to air temperatures and ground thaw. The Environmental Horticulture students take data on this every spring in the Edible Ecosystem, so we're starting to get an interesting data set on how various fruit and nut trees and shrubs respond to climatic variation.

Botany Fellow Katie Goodall is taking the lead on teaching the big Environmental Horticulture course (Biology 108) this year, and set a great tone when a major snowstorm caused a lot of cancellations, but she managed to ski in just in time for the 8:30 a.m. class. She says it's the first time she's taught in snow pants! Katie is bringing a huge amount of energy and enthusiasm to the class, and is taking full advantage of the "flipped classroom"

approach with lots of in-class activities in which the students practice applying their understanding of how plants work, thereby constantly improving that understanding

while seeing a wide range of ways that plants matter. My secondary role in that class this year has freed me up to teach an advanced seminar that connects directly to the Global Flora project, the Edible Ecosystem, and the Botanic Gardens in general. Cross-listed in Biology and Environmental Studies, the topic is Biology in Natural and Designed Ecosystems. The overall learning goal for the course is for students

to be able to apply knowledge of how organisms and ecosystems work towards the design and maintenance of healthy, resilient biological communities. Student interests range from restoring "natural areas" to designing ecologically sound indoor aquaponics systems, and it is eye-opening to all of us to think of these scenarios as biological communities and consider how things like energy, nutrients, and toxins move through the systems. If you're in the area, please consider coming to the students' Ruhlman Conference presentation on Wednesday, April 29. Many thanks to the Friends and all donors for making the Botany Fellow position and all that it enables possible. Katie also taught a new course this past fall, on Food and Environment in Latin America, and gave a wonderful Friends talk taking an interdisciplinary look at chocolate. Katie has made tremendous contributions towards our goal of bringing botany to ever-broader audiences at Wellesley, and we are so grateful to have her here!

Another big Botanic Gardens goal is to provide research platforms that enable faculty to integrate authentic research into courses, even at the introductory



Botany Fellow Katie Goodall is teaching BISC 108 this year.



D. Sommers

A thick blanket of snow covers the greenhouses. Who knows when we'll be able to walk in the side door again?

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Air Plants

like walking through the greenhouses to find plants growing on other plants. There are many, including some orchids, ferns, cacti, and bromeliads. Some of my favorites are the *Tillandsias*, relatives of the bromeliads. Carl Linnaeus the Swedish botanist named them for the physician Elias Tillands (1640—1693), back when doctors needed to be familiar with plants since many medicines were made from them. Spanish moss, *Tillandsia usneoides*, is one you might see hanging off the live oaks and other trees down South. The Latin word “oides” means to resemble. So usneoides means this plant resembles a common lichen called *Usnea* or beard lichen. Unlike a lichen or a moss, Spanish moss is a flowering plant and bears tiny, inconspicuous green flowers.

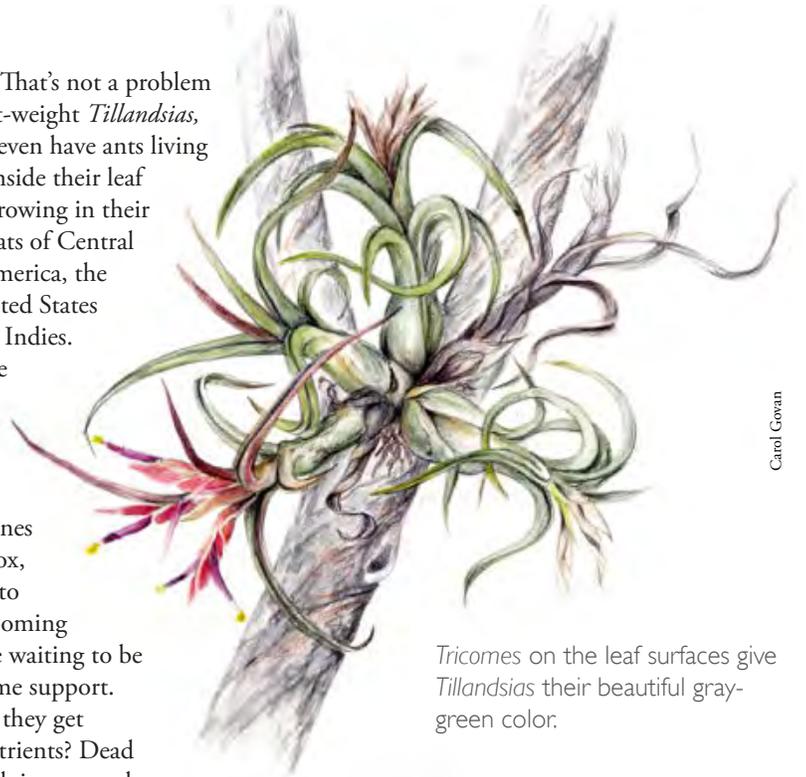
The cluster illustrated here is one of many other *Tillandsias* in the Wellesley collection. It can anchor itself to branches or other supports with tiny roots that don't absorb water from the ground. These epiphytes or “air plants” seem to be able to grow on nothing but are not parasites and will not feed off their support. However, they might be so happy and grow so large that the support collapses under

their weight. That's not a problem with the light-weight *Tillandsias*, which could even have ants living compatibly inside their leaf bases when growing in their natural habitats of Central and South America, the southern United States and the West Indies.

Tillandsias are not very demanding in the greenhouses. I found the ones I drew in a box, not attached to anything, blooming happily while waiting to be placed on some support.

How do they get water and nutrients? Dead plant material, insects and dust gather in the leaf crevices to supply the needed nutrients. Moisture on the leaves will carry these nutrients into the plant. Minute scale-like hairs called trichomes cover the leaf surfaces. Dead cells on the trichome edges act like sponges to open and gather moisture and then close to guide it toward the living cells where it can be absorbed. These scales also help reflect sunlight away from the plant and give many *Tillandsias* that beautiful grayish-green color.

When about to flower, the top leaves change from gray-green to red tones. *Tillandsias* have several pinkish bracts surrounding the tubular violet flowers with their ripe stamens growing up through the tubes. Typical of bromeliads, this species is monocarpic which means the plants bloom, set seed and die, similar to our century plants, bananas, and bamboos. New plants appear as clonal pups beside the one that just bloomed. Sometimes the horticulture staff removes a pup and puts it in the propagating beds to encourage the growth of a new plant.



Trichomes on the leaf surfaces give *Tillandsias* their beautiful gray-green color.

Hummingbirds are attracted to the flowers by the colorful bracts that stay bright long after each flower has released its ripened pollen and faded. The delicate flowers seldom last more than a day but these long-lasting bracts guide the hummingbird back to find new flowers day after day to collect nectar. Bees don't have the long tongues of a hummingbird to reach the nectar at the base of the floral tube and so can't pollinate the flowers, though they might become nectar thieves. They will make a hole, bypass the pollen, and grab the nectar.

Come and enjoy the *Tillandsias* and other epiphytes growing in the greenhouses.

For more information:
Wily Violets and Underground Orchids: Revelations of a Botanist by Peter Bernhardt.
 Wikipedia: *Tillandsia*
www.abc.net.au/science/slab/airplant

by Carol Govan,
 WCBG Friends Instructor

Friends of WCBG

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Global Flora

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kinds of sensors measuring variables such as soil moisture and temperature.

Ever heard of a paludarium? I hadn't, until we started looking into ways to house aquatic ecosystems. Picture an aquarium, but with substantial emergent vegetation. Apparently, having plants extend out of the water gives them a competitive advantage over algae. With some fish and other aquatic organisms it is possible to create a reasonably self-sustaining pond microcosm in a tank. Ecologists interested in aquatic systems have experimented with microcosms like this for decades, as have aquarium hobbyists. A good-sized paludarium would be an exciting step up from the opaque-sided pools in the current Hydrophyte House, especially as many emergent plants have different leaf forms underwater than they do in the air. A diversity of emergent plants should do a good job of filtering nutrients, keeping the water clear and providing another interesting and beautiful biological community to explore. The more we know about which plants have both distinctive



A student favorite, sensitive plant, *Mimosa pudica*, might be grown in the subtropical understory of Global Flora.

form and complementary nutritional needs, the better our first iteration of this community will be.

We expect to do a lot of experimenting with community composition, and aim to let both individual plants and populations grow as space and aesthetics allow. For example, in the desert community described earlier, starting with several species of ephemerals in equal numbers, students could measure survival and reproductive success, then predict and measure changes in populations over time - a great opportunity to learn field biology methods during the school year, so they can hit the ground running on research projects during the outdoor growing season and summer internships in the "real world." Every

year Environmental Horticulture students grow sensitive plant (*Mimosa pudica*), delighting in the leaf-closing behavior of this easy-from-seed plant. What if we had a population of these growing in the understory of subtropical trees - how much fun would they be to study, as they compete with and possibly facilitate the growth of other plants (like the bean trees, they are nitrogen fixers)?

Another featured community will be a subtropical bog, letting our Venus fly-traps, sundews, pinguiculas and other carnivorous plants out of their little



The stem of the golden barrel cactus performs photosynthesis.

terrarium and into a more naturalistic setting. The small bog garden that we created near Paramecium Pond a few years ago is going strong, with pitcher plants, bog orchids, and cranberries among the diverse community, but the Venus fly-traps we tried out there didn't make it through the first winter (they are native to the Carolinas and we knew it would be a stretch). The indoor bog will be a nice comparison to the outdoor one, similarly aiming to maximize diversity in a small, unique habitat. The diversity of forms among bog plants is remarkable, as several different evolutionary lineages have converged on carnivory as a solution to low nutrient availability, each in their own way.

Some of our large and most distinctive specimens, such as the screw pine and the cannonball tree, will have some separation from other trees so that they can be better appreciated from multiple angles. Others, such as our many different palms, will be clustered to mimic the close spacing of subtropical humid forests, with vines and epiphytes on the trunks and a diverse understory in the shade below - again, lots of different

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Wintersession Research in the Tropics

This wintersession I travelled to Central America with my Tropical Ecology class, taught by Professors Martina Koniger and Simone Helluy. During the fall semester, each student designed two research projects: one to study coral reef ecology and one to study rainforest ecology. This January, we were given the opportunity to carry out these projects in a real coral reef and rainforest.

On the morning of January 3rd, we departed from Miami Airport and by nightfall we were settled in Glover's Reef Station, a research facility maintained by the Wildlife Conservation Society on Middle Caye Island. The first few days were spent learning how to snorkel in the lagoon of the reef atoll and identifying which animals we should avoid touching at all costs. (If it has the word "fire" in the name, watch out!) I was astounded by the beauty of the coral reef and the kindness of the people on the island. Two students from the University of Belize accompanied us and taught us much about both the reef ecosystem and Belize itself. They even taught me a phrase or two of Creole, although my accent remains subpar!

For the next week I worked with Ellice Patterson '16 to characterize the sponge communities of the three patch reefs closest to the Middle Caye dock. Together we took representative photos of the patch reefs and used an imaging program to calculate what percentage was covered in sponge, macroalgae, hard coral, or soft coral. We also counted how many sponges of each species we found. By the end of our stay in Belize, we were both experts on Caribbean sponge identification and hammock swinging.



A juvenile silver fish stuck close to snorkeler Sarah Russell '16 in the back reef of Middle Caye Island.

In Costa Rica, our group visited a coffee plantation (where I had the best mocha of my life) and the caldera of Volcán Poás (where I got to walk through the clouds) before heading to La Selva Biological Station, located at the northern edge of Braulio Carrillo National Park. The rainforest was truly breathtaking. I have never

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Global Flora *Continued from page 4*

growth forms within a single habitat.

We have so much to learn about our plants and how best to place them, which means there are lots of opportunities to get involved with the planning for Global Flora. One of last year's Environmental Horticulture students, Samantha Brown '16, spent the fall semester in Panama, where she did a research project on bromeliads. She returned to Wellesley eager to share her new knowledge and to learn more botany. Over winter break she compiled a list of preferred conditions for all of the bromeliads in our current collection, and recommended other species that would contribute to the diversity of form theme. One of her recommendations, *Abromeitiella*

chlorantha, prefers dry conditions, so now we'll be trying a bromeliad in the Dry House, along with a Mediterranean fan palm – both examples of outliers that have adapted to different conditions than most species in their lineages.

Every plant in Global Flora must earn its spot. Each will contribute to the big story of diversity of form and to the myriad other stories and research opportunities that the collection will provide. We expect the collection to continually improve over time as we learn about new exciting taxa to replace underperformers, as in any well-attended garden. Where the collection begins at the opening of Global Flora depends on our collective knowledge of the wonderful world of botanical diversity.

If you know of a plant whose form

has a good story, and that couldn't grow outdoors here at Wellesley, it is a candidate for Global Flora, even if not part of our current collection (e.g. we'll be getting a *Welwitschia* from the Arnold Arboretum). It can be the overall form or a particular part such as flower or leaf that is of interest. For a current working list of Global Flora plants, please contact Gail Kahn or me. We'd like to hear from you, whether you garden somewhere where it doesn't freeze, visit a subtropical habitat, or maintain a beautiful paludarium. Scout for amazing and unusual forms, and send us photos and stories!

by Kristina Niovi Jones,
WCBG Director

Collecting Memories

On my very first day at Wellesley, I had barely finished unloading all the stuff from the rental car into my new room before I was pulling my mother with me across campus to the greenhouses. I had read somewhere among the masses of orientation materials that they gave out plants to first years, and I wanted to make sure to get a “good one.” Half an hour later, we still hadn’t found the greenhouses, although I think we had made it to the Observatory. We did eventually find them, and I returned to Munger triumphantly holding my new pothos. After that, I don’t think I made it back to the greenhouses until the spring of that year, when the horticultural staff let us start seedlings for the student farm in the greenhouse annex. I remember spending sunny Sunday mornings in February in the potting room learning how to mix soil, and popping in to the annex between classes to see how the carrots were doing. It was only a matter of time before my warm-blooded Californian self discovered the joys of the bench in the tropical room on a freezing winter afternoon, and the rest is history.



The lady of the night cactus is a show-stopper when it blooms.

This past wintersession, I began a project interviewing Wellesley students, alumnae, and present and former faculty and staff about their memories of the Margaret Ferguson Greenhouses. The question I almost always started with was, “Do you remember your first time in the greenhouses? How did you find them?” As most people who have visited them know, the greenhouses are not always easy to find, so I was curious about how people had made their way to what multiple interviewees referred to as “Wellesley’s

best-kept secret.” Many recent students and alumnae had stories similar to mine: while they may have gone to the greenhouses initially to collect a first-year plant, their real memories of the greenhouses came later, once they had found their way to the greenhouses again on their own.

Another, quite popular story from some slightly older alumnae involves ending up in the greenhouses while exploring the steam tunnels. (I have been advised by the greenhouse staff to make it known that this entrance is now locked off.)

I undertook this oral history project for a number of reasons. This fall, it seemed that the current greenhouses and I were on a similar time-table: as my time at Wellesley would be coming to an end, so would the current incarnation of the greenhouses. Both of us would be (hopefully) moving on to bigger and better things. And I thought that before we went our separate ways, I would like to find a way to commemorate the greenhouses that had been such a prominent part of my time at Wellesley. This was not just a personal project, however. I also wanted it to be a way for the College as a whole to celebrate the history of these greenhouses that were first built in 1923 and have played such an important role not only in the history of the College as a whole, but also in shaping the experiences of individuals here.



Meg McClure’s oral history project celebrates the role of Wellesley’s greenhouses.



The Durant camellia has had Wellesley.

I chose to do interviews because I wanted to create a lasting commemoration of these individual experiences in and relationships with the greenhouses, rather than just a record of their physical layout and appearance. It's one thing to look at pictures of the buildings; it's a different experience entirely to hear people talking about how it felt to sit and meditate in the hydrophyte house, or the way the steam in the tropical house on cold mornings made it seem like you were actually in the rainforest. The enthusiasm and love for the greenhouses that came through in each interview convinced me that I had chosen the right medium for this project.

Another facet of this project was collecting stories about specific plants in the greenhouses, some of which we will be highlighting during our spring Light Show greenhouse history celebration. Some plants stood out as clear show-stopping favorites: the Durant camellia, the lady of the night cactus, and the century plant all had large fan bases with a number of stories about each of them. Other plants had more personal significance: a failed attempt at stealing papyrus to grow in a dorm room, a Jerusalem cherry with seeds from an unlikely source, and other plants that have long since disappeared from the greenhouses entirely. It's been amazing to me how vividly some plants are remembered, decades later in some cases, Latin names and all.

What stood out to me the most, though, from the interviews that I've recorded so far, was the sheer variety of different ways that people experience the greenhouses. They are a refuge for stressed-out students, a place for lab work and art classes, a favorite study spot, a place for photo-shoots and small concerts, a place to develop photography skills, and, of course, a place to learn about all the amazing things the plant world has to offer. Time and time again, people would tell me about the feeling they get when they walk into the greenhouses: a mental and physical relaxation that would stay with them even days after their visits.

While working on this over wintersession, I quickly realized that this project was more than I could undertake in the two short weeks I had before classes started

again. Fortunately for me, the schedule of the Global Floral project has been decompressed, which has also allowed this project to continue, and for us to seek out more greenhouse memories and stories. To hear some of the stories we've collected already, stop by the Light Show this spring, where we will also be collecting more stories and memories. While I am not sure yet what the final fate of all these interviews will be, I am looking for ways to share them with the greater Wellesley community, so that we can all take some time to reflect on the amazing history of these buildings before moving on to the next phase of their (and our) time here.

by Meg McClure '15,
Thorndike Intern



many fans over its 130-year tenure at

Tropics

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seen such a dense forest or such a dazzling range of plant morphologies in my life. I saw strangler figs, orchids, bananas, lianas, and epiphytes galore. If only the Botanic Gardens at Wellesley could contain a hundredth of the species there!



A rainforest orchid, the only one spotted by Wellesley wintersession students.

In the rainforest, I learned how frustrating and physically exhausting research can be. I had to hike through the rainforest understory to find colonies of specific microorganisms on specific species of tree leaves—quite a challenge! My goal was to characterize the relationship between these leaf-dwelling microorganisms, called epiphylls, and their hosts, but my most significant finding was that we don't know much about the epiphyll communities in La Selva! I could spend a year looking at rainforest leaf scrapings under a microscope, identifying all the cyanobacteria, fungi, and lichen.

Buried in snow and work at the Wellesley campus, I find myself missing the fair weather and friends I encountered in Belize and Costa Rica. A visit to the tropical house is enough to call to mind all the sights and smells that accompanied my walk to breakfast every morning, the sounds of howler monkeys in the rain and waves crashing on mangroves. I am so happy to be back with even more reason to be grateful for the Wellesley College Botanic Gardens.

by Sarah Russell '17,
Thorndike Intern

Learn With Us

- * 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.
- * Full course descriptions and material lists may be found on our website.
- * 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/wcwg/learn_discover and print a registration form.

The Versatility of Black and White: A History of Pen and Ink

HOR 15 100

Carol Govan discusses the centuries old tradition of creating pen and ink illustrations, which are valued for their rich detail and ability to be reproduced for scientific as well as artistic purposes.

Monday, April 13

1:00 p.m. - 3:00 p.m.

Members Free | Non-Members \$10



Maria Sibylla Merian

Growing Behind Prison Walls

HOR 15 110

Research Technician Mia Howard and Lab Instructor Marcy Thomas are volunteers in the newly created Horticulture Program at the Framingham Women's Correctional Facility, where the mission of "Women Helping Women" is advanced through a shared goal to have inmates learn new skills and grow food to donate to women's shelters.

Tuesday, April 28

4:15 p.m. lecture

Members Free | Non-Members \$10



Nature Journals—Small & Simple Handmade Books

WCC 15 051C

In this workshop with Suzanne Lee, create a book great for a diary, recipe book, special memories or travel journal. The workshop includes all materials. No previous experience needed.

Thursday, April 23

9:30 a.m. - 3:30 p.m.

Members \$85 | Non-Members \$100



Seeing Color

BAC 16 041

Carol Govan leads you in exercises in seeing the range of color. Experiment with the various properties of different color media and grounds to use alone or in combination.

3 Sat.: August 15, 22, 29

9:30 a.m. - 12:30 p.m.

Members \$115 | Non-Members \$145

Color Theory for Artists, Designers and Color Enthusiasts

WCC 15 130

Lynda Davis Jeha introduces color mixing using a limited palette to give you a solid foundation in understanding the complexity of mixing colors. This course is open to anyone who is interested in understanding the language of color on a deeper level and be able to use color relationships in practical applications.

3 Sun.: May 17, 31; June 14

1:00 p.m. - 4:00 p.m.

Members \$125 | Non-Members \$155



The Pleasures of Sketching

BAC 16 140

With Carol Ann Morley, enjoy the relaxed art of loose sketching while discovering ways to capture a habitat or landscape expressive of the moment. Try out some sketching techniques on toned paper with mixed media that give pleasing results. This class will work from still life set-ups and photo imagery.

3 days: Tues., Aug. 25 - Thurs., Aug. 27

9:30 a.m. - 3:30 p.m.

Members \$250 | Non-Members \$300



©Carol Ann Morley

Especially for Beginners

Painting: A Beginner's Beginning WCC 15 120

Do you think: "I want to paint but ...?" This class with Lynda Davis Jeha is truly a beginner's beginning for those who have never held a paintbrush, have no idea where to start, feel confused about art supplies and different media. There are no rights and no wrongs, just the joy of trying something new in a supportive and non-judgmental environment.
4 Wed.: May 13, 20; June 3, 10
5:00 p.m. – 8:00 p.m.
Members \$135 | Non-Members \$160

Drawing and Painting for the Petrified BAC 15 010

Get started painting! All abilities and anxiety levels welcome. In this relaxed, informative seminar with plenty of helpful demonstrations, Sarah Roche encourages your observational skills to grow as you experiment with line drawings and the accurate representations of botanical forms.
4 Thurs.: May 7, 14, 21, 28
9:30 a.m. – 12:30 p.m.
Members \$125 | Non-Members \$150

Drawing to See

Carol Govan encourages you to become comfortable with drawing through careful observation of plant forms. Gesture and contour drawing exercises help you discover the best way to draw what you see.
BAC 15 040A:
3 Sat.: May 30; June 6, 13
9:30 a.m. – 12:30 p.m.
BAC 15 040B:
3 Wed.: June 3, 10, 17
9:30 a.m. – 12:30 p.m.
Each 3-week session:
Members \$115 | Non-Members \$145

Watercolor Landscapes WCC 15 203

Susan Swinand teaches adults at all levels of experience how to use ordinary elements of nature for expressive purposes. Follow your own interests in the classroom or work on site in the gardens.
6 Thurs.:
April 30; May 7, 14, 21; June 11, 18
1:00 p.m.—3:00 p.m..
Members \$175 | Non-Members \$225

Tablet Tech for Gardeners HOR 15 120

Explore how the tablet computer can be an invaluable tool in the garden with Sarah Roche as your guide. Feel free to bring your tablet with you.
Tuesday, May 19
1:00 p.m. - 2:30 p.m.
Members Free | Non-Members \$10

On The Road: Gardens of Eastern Rhode Island TVL 15 101



Day trip to eastern Rhode Island from Wellesley College to visit Roger Williams Botanical Center and other nearby gardens of note.
Wednesday, June 17
8:00 a.m. – 6:30 p.m.
Members \$90 | Non-Members \$115
For more details visit our website or contact the Friends office.



©Susan Swinand

Volunteer with the Friends

Share your love of nature and gardens with others by becoming a volunteer for the outdoor gardens. Training sessions are free. Pre-registration is required. For more information, contact us!
4 Fri.: May 1, 8, 15, 22
9:30 a.m. – 12:00 noon

For more details on these and other programs contact the Friends office for the Spring/Summer Brochure or visit our website:
www.wellesley.edu/wcbg/learn_discover

The Year the Century Plant Went Through the Roof

“The Plant of the Century,” proclaimed the front-page headline in the Boston Globe on Saturday, July 31, 1965. Other local papers chimed in: “Century Plant Blooms at Wellesley College,” “Rare Mexican Plant Starts Sprouting After 40 Years.” Visitors flocked to see Wellesley’s wonder, marveling at the 21½ foot flower stalk towering over the greenhouse roof.

The *Agave americana* that produced this spectacle was planted in the Desert House in 1925. Over the next 40 years it grew into a 16-foot diameter specimen with a rosette of 30 or more stiff, gray-green leaves that each measured 7 to 8 feet from base to spiked tip. The common name of century plant arises from the legend that it blooms once in a century. That’s an exaggeration; the plant usually blooms between 10 and 30 years of age.



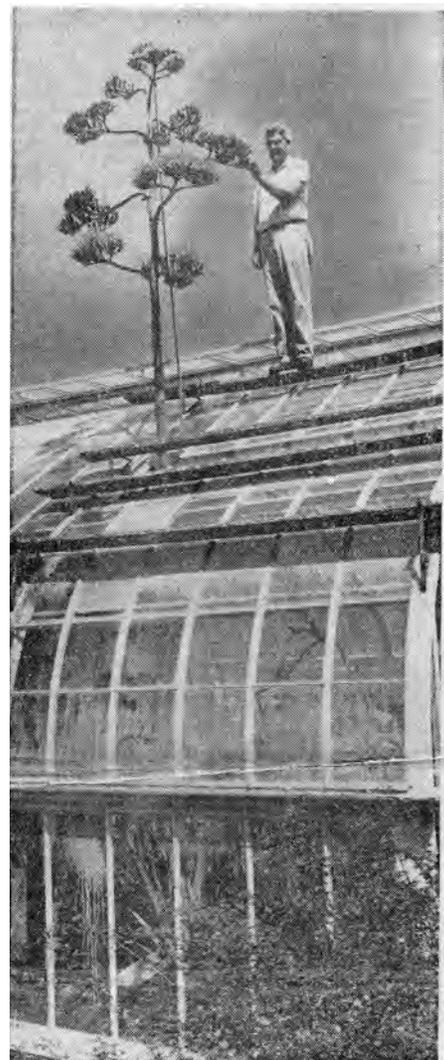
Students measured the growing flower spike twice a day, determining an average growth of 5 inches per day.

It was on April 22, 1965 that someone first noticed the flower spike on the plant. It must have sprouted very

rapidly because it was 6 feet tall already. It looked like a giant asparagus. It was 14 feet tall by May 5, when a pane of glass was removed from the Desert House. Professor Harriet Creighton had her students measure its growth twice a day. In its first weeks, the flower spike grew an average of 5 inches every day. Its growth slowed when it was let out into the cool spring air, but it often rose by 2 or more inches in 24 hours, growing faster during warmer days. Harriet wondered if there were other recorded instances of a century plant blooming under glass and had her students undertake a literature search. Her inquiries to botanic gardens produced a couple of instances, but in none of them did anyone bother to record the development of the inflorescence.

In June the flower spike developed 12 lateral branches, each with more than 100 yellow-green blossoms. A photograph of assistant horticulturist Andy Barton standing on top of the greenhouse roof next to the plant appeared in local papers. Greenhouse superintendent Joe Jennings hoped for his own opportunity to pose with the monumental inflorescence, and got his chance when the Boston Globe photographer came by in July.

By mid-summer the inflorescence had reached its full flowering. As autumn arrived, so did the birds, attracted to the seeds. The dried inflorescence was cut down and the glass pane replaced in late November. Agaves are monocarpic, meaning that the plant expends so much energy in producing its giant flower stalk that it dies soon afterward. Happily, the century plant developed “pups,” clonal offshoots of the main plant, and these continued to



This photograph of Greenhouse Manager Joe Jennings with the century plant appeared on the front page of The Boston Globe on July 31, 1965

thrive after the original plant died.

This spring marks 50 years since the century plant bloomed so spectacularly. We still have the data that Harriet’s students collected on its growth, and docents still tell the story of the time when the century plant went through the roof.

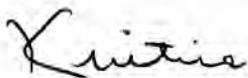
by Gail Kahn
Assistant Director, WCBG

Director's Notes *Continued from page 2*

level. The phenology study in the Edible Ecosystem by Biology 108 students is one example. Another is the farm-in-a-box long-term study, utilized again this fall by Environmental Studies 103 and Biology 209 (Microbiology). Suffice it to say that the data comparing organic vs. "conventional" approaches to growing spinach and carrots were quite different from the previous year! Research technician Mia Howard '12 has made it possible to measure everything from productivity to soil nutrients to plant nutrient content, with the latest addition being nitrogen leached out of the boxes (and into collection cups carefully constructed to fit underneath). Yes, the boxes with synthetic fertilizer had much higher rates of nitrogen loss from leaching than did the organic boxes. Other results were not so intuitive, challenging students (and faculty!) to take a closer look at their assumptions about these methods of growing food. It will be very interesting to see how the results change over time, as we consistently apply organic or synthetic inputs to the same boxes each year. Mia also is bringing a scientific approach to pest control in the greenhouses, testing various Integrated Pest Management (IPM) recommendations for managing thrips and aphids in the research greenhouses, where we grow many individuals of the same species (e.g. sunflowers for an introductory biology lab) – two kinds of research happening on the same plants!

You'll hear more about these projects in future newsletters. In the meantime, thank goodness for greenhouses, enabling teaching and research on plants while there are many feet of snow on the ground outside.

Think spring!



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Mari Wright '60 (left) and Margaret "Missy" Moore '60 took part in the third annual session of Art at The Kampong. The alums (who were roommates at Wellesley) enjoyed studying together in the 5-day course taught by Sarah Roche, Education Director of our Certificate in Botanical Art and Illustration. The Kampong in Coconut Grove, FL is part of the National Tropical Botanical Garden.

ANNUAL MEETING OF THE FRIENDS 2015

The (Under)story of *Coffea arabica*: Biodiversity, Farmer Livelihoods and Your Caffeine Addiction with Botany Fellow Katie Goodall
 Monday, June 1
 3:00 p.m. Reception, 4:00 p.m. Lecture



The lecture is followed by Certificate in Botanical Art and Illustration Awards Ceremony

Free. Please call 781-283-3094 or email wcbgfriends@wellesley.edu to let us know you plan to attend.