



## WELLESLEY COLLEGE

### Bones

**T**he creation of a garden can be the lifelong endeavor of a single individual or a large-scale project involving many dozens of people. Global Flora, essentially a garden in a newly constructed building, has most definitely involved dozens: skilled construction professionals, architects, landscape architects, geologists, botanists and horticulturists. By February, we started to turn a corner as the project began to shift toward garden building rather than building building.

The idea that a garden has “bones” around which the plantings are established seems to date to the early 1900s. Architect Edwin Lutyens, in collaboration with legendary garden designer Gertrude Jekyll, created iconic English homes and landscapes, transforming how generations would design buildings and gardens. In 1908 Lutyens wrote of the need “for a garden scheme to have a back-bone, a central idea, beautifully phrased.” Since that time, the idea of ‘the bones of the garden’ has come into general usage and implies the infrastructure and hardscape but may also mean larger trees and shrubs.

The Global Flora conservatory will be a garden enclosed within a structure but the plantings will intersect with ‘the bones’ just as an outside garden would. Large stones will be a feature, and outcrops and cliff faces will be constructed of western Massachusetts stone.

The iconic deserts of the American southwest feature red rock, and this was a color we felt would look best in the Arid Biome, giving the feel of a parched landscape. We spent quite a bit of time tracking down a source of brownstone, the ubiquitous building material of New York City and Boston, which often has a reddish tinge. What many people don’t realize is that New England quarries supplied all the brownstone that built these metropolises.

Today, not a single brownstone quarry is still in operation so sourcing this stone took some leg-work. One tip brought me to an



Setting the first bone in the Wet Biome.

owner of an old quarry (“I sold all the stone I had last year”), who related that the sidewall of his quarry had the word ‘Death’ chiseled into it, a pre-OSHA warning to any new employees. Eventually I found Tom O’Brien in East Longmeadow who had accumulated an ample supply, hoping to one day construct a brownstone barn. He generously sold us a load to construct a rockscape for our Arid Biome.

For the Wet Biome, we had the luxury of working with an actual quarry, Ashfield Stone, of Shelburne Falls, MA. A selection of 27 boulders was made by the landscape architects, Todd Montgomery and Martha Eberle from Andropogon Associates, and on February 11th, the first of these was set into place in Global

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## NOTES **from the Director**

**G**reetings from Wellesley! This is a winter of great anticipation, with so much to come this spring. The 2018 growing season ended early with a colder-than-average fall, but the winter itself has been pretty light in this region, with several snowstorms turning to rain and generally thin snow cover. The Global Flora construction site has been alternately frozen and muddy with minimal weather delays.

curve of artfully arranged concrete block whose thermal mass is a crucial component of the climate management system, makes the case that architectural beauty doesn't rely on high-end materials. Wellesley may have the most beautiful and sustainable machine for growing plants, anywhere!

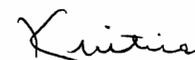
While the machine itself is mostly built, there is still a lot to do inside and out. Landscaping inside a building is quite the logistical challenge. What goes in first: the boulders, the huge cycad moving back

connections to fill with water. It will be a long-anticipated treat to water exclusively with filtered rainwater.

With great student interest and demand for work-study jobs and internships, we are building our student work program in parallel with the new greenhouse. Annalise Michaelson '21 and Ava Mackay-Smith '20 are our first student Curation Assistants, learning the ropes of IrisBG (botanic gardens database) to help accession new plants into the Global Flora collection, under the guidance of Rob Nicholson and Jenn Yang. As many of the plants are propagated from unique material that Rob is gleaming from other botanic gardens and specialty collections, it is essential to keep track of their full identities and label them accordingly. And we are in the process of hiring a Post-Baccalaureate Fellow, a full-time, year-long position for a plant lover to continue building skills with hands-on horticultural work and monitoring in the most research- and teaching-intensive gardens, and to help mentor students. This Fellowship is funded by the Friends, yet another way that your support directly increases the opportunities the WCBG is able to provide. Thank you!!

Please note that while the Global Flora greenhouse will open to the campus community at Reunion in June, it will not open to the public until the adjacent Science Center construction is complete and parking is restored in the area. If you would like a tour in the meantime, please contact the Friends office and we will do our best to accommodate. I will be trading in my hard hat for my faculty hat next semester, and cannot wait to teach with Global Flora!

With best wishes for a wonderful spring renewal,



Kristina Niovi Jones, Director  
Wellesley College Botanic Gardens  
kjones@wellesley.edu 781.283.3027



Botanistas on the mezzanine-to-be in the Global Flora greenhouse, November 2018.

Once the steel frame of the Global Flora greenhouse went up, just in time to greet students arriving for fall semester, the excitement really started building. The structure sits so beautifully on the hill, its geometry truly stunning. Then the ETFE 'skin' went on, huge pillows of air spanning the wide open spaces between the beams. The light inside is fantastic, even now with all of the mechanical systems in, as they were very carefully placed along the steel. The north interior wall, a gentle

in, the sidewalks and retaining walls, the big tank for the mangroves? Once all of the big items are in place, the landscape grading done, and no more construction vehicles needed inside, then the single panel of ETFE film will go in to separate the 'dry' biome from the 'wet,' and planting will begin in earnest. The exterior landscape, of course, will need to wait for spring to arrive outside. The two enormous (25,000 gallons each) cisterns have been buried down the hill, awaiting final

## The Silent Sentinel of the Sahara

To a botanist, every plant has an interesting story to tell; how it evolved into the form it has, how it reproduces and spreads, what ‘survival skills’ are unique to it and so on. Bringing these stories to the general public in a way that is compelling and not too jargon-heavy is a challenge for scientists and one that too many shy away from. So, in picking plants for Global Flora, I have to be alert to what plants are the best storytellers and how they might enlighten the general public.

My first year with the Wellesley College Botanic Gardens, 2018, was a great year for me and it ended even better as on December 28th, I heard from Marc Hachidourian, the Director of Glasshouse Horticulture and Senior Curator of Orchids at the New York Botanical Garden. He offered a *Cupressus dupreziana*, a good-size, 6-foot one, “that was originally from you.”

My reply was an immediate “yes!!” as the plant was an old friend. If plants can tell stories, then the Sahara Cypress is a green raconteur of the highest order. *Cupressus dupreziana* is one of the rarest trees in the world. Only a few hundred of them are scattered on the Tassili N’Ajjer Plateau in the central Sahara Desert in Algeria. They are considered critically endangered on the IUCN Red List. The population has been counted at 233 trees scattered over 500 square kilometers at an altitude between 1400 and 1800 meters.

While working at the Arnold Arboretum, I visited the plateau in 1984 with the plan

of getting propagation material so that documented specimens might be grown in botanic gardens. After securing permits and Tuareg guides, we trekked up the side-wall paths then across the plateau to a site called Tamrit. The Algerian forest service had done a census of the trees, numbering them all, and as we approached Tamrit my guide exclaimed, “Voilà, il y a l’arbre numéro un.” I squinted and in the distance I could see the dusty dome of a magnificent tree (see photo). We camped that night in Tamrit and the following day I did measurements and took notes and photos of all the trees in this subpopulation. Some were ancient; estimates of up to 3000 years have been made. Corings of trees coupled with corings of construction wood in ancient houses using old wood have allowed climate scientists to create a 5000-year climate history for the region based on tree ring growth.

Climate has shifted so drastically in this region in the last 10,000 years that little to

no regeneration occurs from seed as there is not enough rain to sustain germination and growth. This relict population probably is tapped into a subterranean reserve of water.

I was allowed to collect 75 cuttings and 20 cones and from this was able to get ten seeds to germinate, of which four survived. Over the ensuing decades, I propagated hundreds of rooted cuttings from these four and sent them to botanic gardens in Arizona, California, Israel and Kuwait where they can live outside, and conservatories in the US and Europe. Thirty-foot specimens now grow at the Boyce Thompson garden in Arizona, a fact that doesn’t make me feel any younger! And now, Wellesley will have its own exemplar of this ancient species.

by Rob Nicholson  
Botanical Collections Manager



Sahara Cypress number one. Algeria, 1984

# Learn With Us

Due to construction projects taking place at the Science Center, WCBG Friends' botanical art programs are now being held at the Massachusetts Horticultural Society and other programs at the Wellesley College Club.

**Massachusetts Horticultural Society**  
**The Gardens at Elm Bank**  
**900 Washington St., Wellesley, MA 02482**

**Wellesley College Club**  
**At the Route 16 entrance to the College**

Attendees for programs taking place at the Wellesley College Club can park at the College Club lot for the duration of the program. All other parking on campus is restricted to the Davis Parking Facility at the Rte. 135 entrance to the college.

- \* For classes over the lunch hour, bring your own lunch.
- \* Full course descriptions and materials lists may be found on our website.
- \* To register for classes fill out a registration form printed from our web site: [www.wellesley.edu/wcbg/learn](http://www.wellesley.edu/wcbg/learn)

## Science: Tell It Like a Story

In this workshop led by storyteller Fran Stallings '65, learn to use the story elements that work in time-tested folk tales to craft science information into nonfiction narratives that make complicated ideas easy to remember, and help listeners see meaning in masses of facts.

**HOR 19 030**

Tues., Apr. 2

4:00 – 5:30 p.m.

Wellesley College Club

Members Free | Non-Members \$10

Pre-registration required

## Seeing Nature with Carol Govan

Carol Govan will discuss the website she is developing, called "Seeing Nature: The Connection Between Art and Science," which will become her own reference book of illustrated nature observations.

**HOR 19 040**

Thurs., Apr. 18

10:00–11:30 a.m.

Wellesley College Club

Members Free | Non-Members \$10

Pre-registration required

## Botanists John Lindley and Asa Gray

Join Carol Govan to discover John Lindley, the most prominent British botanist, and Asa Gray, the most prominent American botanist of the 19<sup>th</sup> century.

**HOR 19 050**

Thurs., May 16

10:00–11:30 a.m.

Wellesley College Club

Members Free | Non-Members \$10

Pre-registration required

## Spring Studio Focus: Lilies

This four-session class with Sarah Roche will have access to the Massachusetts Horticultural Society's stunning greenhouse display of lily species and cultivars, as well as the Redouté and Lilian Snelling Lily collections in the Mass Hort library. Suitable for artists at both Foundations and Techniques levels of experience.

**BAC 19 104 / 204**

4 Tues.: April 30; May 7, 14, 21

9:30 a.m.–12:30 p.m.

Cheney classroom at Elm Bank

Members \$195 | Non-Members \$245

## Drawing and Painting for the Petrified

In this relaxed, informative seminar, you will work towards developing your drawing and painting skills. Sarah Roche encourages your observational skills to grow as you experiment with the accurate representations of botanical forms and beginning botanical watercolor exercises. All anxiety levels welcome!

**BAC 19 010**

4 Wed.: May 1, 8, 15, 22

9:30 a.m.–12:30 p.m.

Putnam classroom at Elm Bank

Members \$125 | Non-Members \$150



### Introduction to Botanical Art

Explore the world of botanical art over four days in this course designed especially for you--the beginner. Sarah Roche guides your experience through structured exercises, projects and demonstrations, exposing you to the basic techniques and methods of botanical drawing and watercolor painting. All experience levels welcome.

#### BAC 19 101A

4 days: Mon., June 10-Thurs., June 13  
Mon.-Wed.: 9:30 a.m.-3:30 p.m.  
Thurs.: 9:30 a.m.-12:30 p.m.  
Putnam classroom at Elm Bank  
Members \$260 | Non-Members \$310

### Recipes for Foraged Edibles

Ellen Duarte will guide you in foraging, studying, rendering and sampling edible plants. The final project will be to illustrate a recipe for your favorite foraged food in your choice of materials. Classes will span the growing months to afford the opportunity to experience a wide variety of foods. You are welcome to enroll in any or all classes.

#### BAC 19 061

Class 1: New England Farm, Field, and Forest  
4 Thurs.: May 23, 30; June 6, 20  
9:30 a.m.-3:30 p.m.  
Putnam classroom at Elm Bank  
See our web site for Classes 2 and 3.  
Members \$265 | Non-Members \$315

### Roots and Shoots

Join artist and naturalist Louise Barbeau for a one-day botanical workshop. Using a hand lens and a notebook, examine many examples of plant structures while considering their role in plant growth. Brief slide presentations will be accompanied by hands-on observation and exercises.

#### BAC 19 020

Fri., June 21  
9:30 a.m.-3:30 p.m.  
Putnam classroom at Elm Bank  
Members \$70 | Non-Members \$85



Sarah Roche and the staff at WCBG Friends are excited to be able to offer this amazing seven-day painting experience, based at St Grégoire, Sarah's house in the Lot-et-Garonne region of southwestern France, close to the market town of Castillonès. We will find our painting inspiration at the local daily markets, selecting and bringing back the fruits and vegetables of the fall harvest to study and paint at St. Grégoire. All experience levels welcome. Accommodations at Haven on the Hill, Lalandusse, district of Lot et Garonne.

#### BAC 20 230

7 days: Friday, August 30-Friday, September 6  
Members \$1,365 | Non-Members \$1,465, shared double or triple room  
\$910 | \$1,010 due upon registration; \$455 due May 1  
Fee includes:

- Opening reception on Friday evening at Sarah's home
- Five days of instruction & painting time
- Visits to local markets, bastides, vineyards, and chateaux
- All transportation during your stay, including to/from Bergerac railway station
- 7 nights' accommodation; twin or triple bedroom with en-suite
- 7 breakfasts, 5 lunches & 4 dinners

Contact WCBG Friends office for more details.

## Certificate in Botanical Art and Illustration

### 2019 Awards Ceremony

Monday, May 6, 4:00 -5:30 p.m.: lecture, ceremony and reception  
"The Legacy of Frederick Law Olmsted" with Lauren G. Meier, ASLA  
Lauren Meier, a landscape architect and an editor of the Papers of Frederick Law Olmsted, will provide an overview of his work.

Putnam classroom at Elm Bank

Free; please call 781-283-3094 or email [wcbgfriends@wellesley.edu](mailto:wcbgfriends@wellesley.edu) to let us know you are attending.

CBA Artist Exhibition begins May 6 at Elm Bank Visitor Center.

Call the Friends office for exact times.

## Linking People to Plant Form

The Global Flora Collection at the Margaret C. Ferguson Greenhouses is connected to a French door in the Botanic Gardens' Visitor Center by a long, curving corridor. We have two main goals for this linking corridor, or 'link', as it's come to be called.

Our first goal is also the solution to a problem: to provide a home for the historic botanical objects that need to be removed from Sage, the 1927 portion of the Science Center that will be demolished this summer. (Visit [www.wellesley.edu/academics/sciences/center](http://www.wellesley.edu/academics/sciences/center) to get an overview of the project.) The conversion of the Science Library into a data lab and lounge brought us our first refugee from the Science Center construction last spring. The large walnut hutch given to the Botany Department by Henry Durant, part of the Botany Library for many years and housed in the Science Library since 1977, now makes its home in the Visitor Center. We envision using it to display a selection of historical objects that will tell the story of botany at Wellesley. Specimens from the wood display on the second floor of Sage would be exposed to many new eyes here. Historic photos, awards from the Botanic Gardens' participation in the New England Spring Flower Show, and other objects will be on view in this magnificent piece of furniture.

The Durant hutch sits opposite the French door into the link, where visitors will encounter more about how botany was taught at Wellesley in past years. We hope that selected panels from the cases that line the walls of Sage will have space here. We also plan for our collection of papier maché botanical models to be restored and housed in the link. Their larger-than-life depictions of floral form will provide a perfect segue into Global Flora.

Our second goal is to have visitors start to think about plant form as they move through the link and into the conservatory. The curved wall is the perfect space for some sort of interpretive art project, and two artists have really inspired us. The first is Isabella Kirkland, whose 'Taxa' prints are artfully arranged and accurately detailed collections of plants and animals. The college's Davis Museum owns a set of the prints and they are on display this semester. (You can find Isabella's work at [www.isabellakirkland.com](http://www.isabellakirkland.com).) The second artist is muralist Jane Kim, who painted the

stunning Wall of Birds at Cornell University's Lab of Ornithology. (Go to [www.inkdwell.com](http://www.inkdwell.com) to see Jane's work.) We reached out to Isabella to see if she could help us with our project. Not only was

she interested, but she was friends with Jane Kim! Both artists spent a couple of days with us last November. Wellesley art professor David Teng Olsen was eager to have them present our project to his class, so both artists, Botanic Gardens staff, and some of the graduates of the Friends' Certificate in Botanical Art and Illustration program gathered in his class to brainstorm ideas for the link.

Two complementary ideas came out of that session: a mural for the curved wall, with interpretive storybooks displayed in designated spaces within the mural. David Teng Olsen, an accomplished muralist, is making the mural a project for his class this spring. Their ideas will be critiqued, and if none of the students' plans work for us, then David has offered to design and paint a mural himself!

The storybooks provide a way for many members of our community, especially students, to contribute to our interpretation of plant form. The ideas being worked on so far span a range of topics and artistic approaches: a story about plant defenses, a collage

of plant forms, and a book of photos displaying the wide variety of pollen from greenhouse specimens.

As visitors move through the link, they will get a sense of Wellesley's rich history in botany, juxtaposed with an imaginative mural on plant form and wall-mounted storybooks that convey individual reflections on plant structure and adaptations. The link will be a space that encourages lingering, and we'll have tour groups gather there before they are led into the conservatory. A large flat panel screen at the end of the link will introduce them to Global Flora and some of the research taking place there. Primed for their experience, our visitors will then walk into the Global Flora Collection.

by Gail Kahn  
Assistant Director, WCBG



Botany Fellow Jenn Yang joins Jane Kim and Isabella Kirkland for a look at the plants being kept at the Hunnewell Greenhouse.

## Remembering Nancy AbuHaydar

The Friends learned a few months ago of the death of long-time volunteer Nancy AbuHaydar '50 last June. Nancy's interest in Wellesley College students, for the Botanic Gardens, and especially for furthering the connection between the two, is what the staff remember most about her. For many years, she had a regular Wednesday morning shift at the greeter's desk and was a frequent participant in the New Student Plant Giveaway and other student events.



After marrying Lebanese physician Najib AbuHaydar in 1954, Nancy divided her time between Beirut and the US, living in Lebanon on a permanent basis until the civil war in 1975 caused the family to relocate to Wellesley. She was a frequent visitor to Beirut throughout her life, and often timed her visits to coincide with the asparagus harvest, which she relished.

A conversation with Nancy was always a great experience. Her self-deprecating humor contrasted with her pointed observations and store of wisdom. In an information-gathering document she filled out for the Friends, Nancy mentioned two things that might interfere with her ability to volunteer: a medical condition and old age. "The first one," she said, "is under control; no hope for the second." For special skills and training, she wrote, "No skills. Only attribute is enthusiasm." The Friends might beg to differ about the skills she brought to her volunteerism from her active life. But there is no question that her enthusiasm for the greenhouses and gardens was infectious, and lit a spark in many visitors from the College community and beyond.

### Bones

*Continued from page 1*

Flora, our first 'bone'! Some of these pieces weighed two tons and were nine feet long so maneuvering them into place relied on the considerable skills of the heavy machine operators. Just as we like plants with an educational story, our heavier bones have interesting tales to tell, a part of the forgotten history of New England.

The final set of stones have botanical tales to tell, not of centuries past, but of plants that lived hundreds of millions of years ago.

*For these stories see the full article: [www.wellesley.edu/wcbg/resources/newsletter](http://www.wellesley.edu/wcbg/resources/newsletter)*

by Rob Nicholson  
Botanical Collections Manager

### MEMBERSHIP IN WCBG FRIENDS

A membership level of \$50 or above entitles you to discounts on WCBG Friends programs and discount admission to botanical gardens across the U.S. through the American Horticultural Society's Reciprocal Admissions Program. For an up-to-date list of participating gardens and for details on how to enjoy benefits, see: [www.ahsgardening.org/gardening-programs/rap](http://www.ahsgardening.org/gardening-programs/rap)

**Your membership is valid for a full calendar year.**

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Friends of Wellesley College Botanic Gardens  
106 Central Street

Wellesley, Massachusetts 02481-8203

Or give online: [www.wellesley.edu/give](http://www.wellesley.edu/give)

# Friends of WCBG

WELLESLEY COLLEGE BOTANIC GARDENS

Science Center  
106 Central Street  
Wellesley, MA 02481-8203



## Remembering Liz Raymond

**M**ary-Alice Ewing Raymond '44, known as “Liz” to all her college acquaintances, passed away in September 2018. Liz once wrote a précis of her life for the Friends: “My Wellesley life began when I was born to Alice Bennett Ewing, Class of 1912. In 1940, the year Harriet Creighton came to Wellesley in the Botany Department, I entered as a freshman. And I’m still here and loving it. It has been my privilege to serve on many college boards and now—the best job in the world –volunteer at the Visitor Center.”

Liz was a warm and welcoming presence at the greeter’s desk for many years, engaging visitors with anecdotes that revealed her knowledge of and love for Wellesley. In 2009, she was honored by the Alumnae Association with the Syrena Stackpole Award for her lifetime of outstanding service and dedication to the college. But there was another tribute, also in 2009, written by Farm Fellows Tyler Blangiardo '09 and Samantha Lowe '10 in their farm blog. They visited Liz’s home, White Barn Farm in Wrentham MA, where both Liz and her mother were born, and where Liz’s granddaughter Christy now runs an organic farm on the family land. They were shown around the farm, given seedlings for their plot, and served a delicious lunch. But it was their interactions with Liz that they remembered most fondly. “I thought that Liz was 60 judging by her appearance, energy, and articulateness. She’s 87,” wrote the Farm Fellows. “I want to be this woman when I grow up.”



## Friends of WCBG

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106 Central Street  
Wellesley, Massachusetts 02481-8203

781.283.3094  
wcbgfriends@wellesley.edu  
www.wellesley.edu/wcbgfriends

### EDITORIAL COMMITTEE

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