The Sacred Lotus
Bill McNamara, Executive Director

Even the sound of the words is exotic. Hearing them, I'm instantly transported to the hot and humid tropics of India, Myanmar, Vietnam, and southern China, though lotuses have been grown in temperate regions of Asia and elsewhere for centuries. Flowering for the first time at Quarryhill, we are now able to enjoy this beautiful water plant, so important to the cultures of south and east Asia.

With the scientific name of *Nelumbo nucifera*, the sacred lotus is one of two species in the *Nelumbonaceae*, the other being *Nelumbo lutea*, native to the eastern and central United States. The sacred lotus is widely cultivated in Bhutan, India, Indonesia, Japan, Korea, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Vietnam, and throughout much of China. It has been cultivated for so long that it is unclear where it originated, though it is most likely from India. Primarily grown for its edible seeds and rhizomes, though its flowers and young leaves are also eaten, all parts of the plant have been used in Chinese traditional medicine. It is also loved and revered by people all over Asia for its splendor and symbolism and is the national flower of India and Vietnam. Hindu and Buddhist deities are frequently displayed seated on lotus flowers, the lotus being a symbol of beauty, purity, and perfection, having risen above the murky water from the mud below. According to legend, the Buddha was born with the ability to walk, and everywhere he stepped, lotuses flowered.

Sometimes confused with waterlilies, lotuses have much larger leaves, with both the leaves and flowers usually standing well above the water, though young leaves can be seen floating. The round leaves can be two to three feet wide, and the flowers up to twelve inches across, occasionally rising several feet above the water. In shades of pink and white, the flowers open early in the morning and close in the afternoon, lasting only three days. They grow best in the mud of shallow ponds in full sun.

Early in the twentieth century, farmers in northeastern China came across lotus seeds while digging in an old lake bed to remove peat for fuel. Unaware of how old they were, children apparently ate the seeds. Hearing of this, Japanese botanists acquired some seeds and successfully germinated them. A study of the lake found that the lake must have dried up over 400 years earlier. Further studies revealed the seeds to be more than 1,000 years old.

With its bold bright green leaves, delightful fragrance, and majestic flowers, the sacred lotus has long inspired poets and painters. Often displayed in Chinese paintings as a symbol of summer, “lotus viewing” has, since ancient times, been a popular summer activity in gardens and parks throughout China. Now thriving in the upper-most pond in the Grotto area, we too can add “lotus viewing” to our appreciation of the many splendors of summer at Quarryhill.
Nursery News
Corey Barnes, Nursery Manager

As our dedicated nursery volunteers will attest, propagating plants can be very rewarding. Every time our seeds germinate, our cuttings root, or our divisions survive, the results can feel as magical as the first time. Especially rewarding have been results from our seed collecting expedition to Sichuan Province last fall, in which I was very fortunate to participate.

Being there, finding the specimen and collecting the seed, fruit, cones, and spores adds an exciting perspective to the task at hand here in the nursery. Seeing and touching the parent plant, remembering the surroundings—the misty, wet days slogging through the forest, and the slippery hike up the mountain that led to the temple completely shrouded in fog—impart significance on a sometimes teaspoon-sized seed yield. I also gained appreciation for the rarity of particular species through the challenges we faced in our efforts to find seed. Magnolia sargentiana, for example, bore few fruit. This is likely the combined outcome of lack of insect visitation (and thus pollination) due to the sporadic tree populations and flower and fruit harvest for medicinal use. The small propagules in the zip bag have a tangible history. We hiked and found them, we characterized their parents and their surrounding environment, we collected, carried, and cleaned them, and now we’re working to germinate them. We have some exciting successes to report thus far.

The second collection of the trip included a type of propagule new to Quarryhill’s repertoire, the spore. No more than 20 minutes into our first hike, we encountered a small, attractive species of Lepisorus fern growing on a vertical, mossy rock wall. Upon our return, the spores—specks of dust—were scattered over sterilized seeding medium in a Petri dish. The dish was covered and placed out of direct sun, and the medium was kept moist. Two months later, a tiny green mat began forming. This mat, comprised of thousands of microscopic gametophytes—the microscopic first of two life stages after spore germination—is just now beginning to produce sporophytes, the spore-producing, larger, readily identifiable second stage in the fern life cycle. At just 2 millimeters tall, they have quite a ways to grow! Pending continued success cultivating these specimens, we will experiment with establishing them at Quarryhill, and will also plan to share them with other scientific collections.

With only one cultivated-source specimen in the garden of Davidia involucrata, the dove or handkerchief tree, wild-origin specimens will be a wonderful addition. As soon as next year, we hope to establish more of this unique tree. These trees were found on steep, muddy slopes, growing with bamboo, Cercidiphyllum (katsura tree), dogwood, Hydrangea, and maples, among others. Fruit was not abundant, but we were able to collect about 10 on each of 2 trees.

Davidia seed requires alternating periods of warm and cold temperatures to germinate, with several months at each.

Over four fortuitous weeks of collecting, we found viable seed on four Camellia specimens. Without flowers present on three of them at the time of collection, species identification must wait. On our last day of collecting, however, we found one large Camellia growing in a dense forest on Mt. Tiantai near a shallow river. It presented many small, white flowers.

Summer Intern

This July, we were fortunate to have Sarah Carlton visit us from the Royal Botanic Garden Edinburgh, Scotland. Sarah brought an enthusiasm and competence to her time with us that was very appreciated. She jumped in and helped us in the Acer pentaphyllum Conservation Grove and with several important projects in the nursery. Sarah decided to dedicate herself to horticulture after caring for gardens at a marina in Brighton, England. Upon graduation, she hopes to combine her passion for travel with her appreciation for Asian plants by finding employment in the botanical garden setting. Sarah has traveled extensively in China, as well as several other Asian countries. This fall, Sarah begins her second of four years in a Bachelor of Science degree at RBGE titled Horticulture with Plantsmanship. As part of her program, Sarah will have the opportunity to take part in a more lengthy internship. We sincerely hope she will consider returning to Quarryhill!
In Memory of Marilyn

Marilyn Smith passed away on July 4, 2010 at her home in Glen Ellen surrounded by her family. Born and raised in Kansas, she graduated from the University of Kansas with a degree in Music Education. Marilyn devoted her life to producing and promoting the arts, most visibly as Executive Director for 23 years of the Mountain Play in Mill Valley. Marilyn and Dr. Robert Smith, her husband of 58 years, traveled the world, bicycling where and whenever possible, and always making friends along the way. As the matriarch of a close and loving family, Marilyn was the proud mother of five children and ten grandchildren. The emotional celebration of her life, held on August 6, 2010, filled to capacity the Mill Valley Community Center with hundreds of admirers, with many standing in the aisles and doorways.

Only occasionally in life does one have the opportunity to meet someone as wonderful as Marilyn. Everyone at Quarryhill not only had this opportunity, but was fortunate to be her friend and to work with her over the last several years. Volunteering for Quarryhill in countless ways, but most importantly in getting our Annual Spring Celebration up and running, Marilyn did everything in the most energetic manner. Always enthusiastic, always smiling, and always creative, we could always count on Marilyn to solve a problem, suggest a better idea, and bring the right people together. It is difficult, if not impossible, for us to imagine Quarryhill without Marilyn Smith.

Flowers leave some of their fragrance in the hand that bestows them

- Chinese Proverb

Fall Programs at Quarryhill

Fall Elementary Education Tours Begin

New volunteers, we need you! Momentum is building as we enter a new school year with our field trips booked right through spring 2011. Covering conservation, plant anatomy, the flower cycle, seed germination, planting, and geography, this successful program is a beneficial supplement to the California Department of Education content standards. This important and rewarding program helps us reach out to our community and achieve our mission, and it’s a lot of fun! Please consider visiting us to observe a tour day. For more information, please contact Corey at cbarnes@quarryhill.bg.org or (707) 996-6027.

Climate Protection Campaign Fall Fundraiser

Docent tours leaving at 3:15, 3:30, 3:45 and 4 pm
Brief presentations by:
  Dr. Lisa Micheli - Executive Director, Pepperwood Preserve
  Michael Ellis - Naturalist, Footloose Forays
  John Garn - Sustainable Winegrowing Practices
Dinner featuring local and organic fare
Silent Auction

Saturday, October 2, 3 - 6 pm
Tickets: $75 per person
purchase tickets at brownpapertickets.org
For more information visit climateprotectioncampaign.org

Hypertufa Container Building
With Shigeo Kubota of San Francisco Horticulture

2-part workshop:
Saturday, October 30
Saturday, November 6
Starting at 10:00 am

Please call the main office or visit our web site for more details.

Learn the recipe and techniques for building your own hypertufa planting containers. The first class will cover mixing and molding, and the second class will cover removing the container from the mold and styling it. You will complete the class with a container of your own making.
New Staff Member

Quarryhill is pleased to announce the addition of Jennifer Kesser to its staff. Jennifer joins the garden as the new Administrative Assistant and comes to us with glowing recommendations from new Quarryhill director Kaye Heafey, owner of Chalk Hill Clematis, for whom Jennifer has worked over the past five years. Her duties there have included ordering, shipping and billing and will segue well into similar responsibilities that she will assume here in her new position.

Jennifer is a Sonoma county native and currently hails from Rohnert Park, where she previously attended Phoenix High School before embarking on a career path that has led her through such diverse occupations as waitressing, automobile sales, shower door sales, and even a stint selling recreational game equipment for a local manufacturer.

Her interest in plants, gardening, and nature is evident from her two years of service at the Fairfield Osborne Preserve as a school tour docent. There, she led students through the many ecosystems of the Sonoma Mountain preserve, helping introduce them to principles of plant science, the water cycle, and various nature studies during their all-day visits. Jennifer enjoys cooking, jewelry making, traveling, and hiking the beautiful, local countryside of Sonoma County, and is excited to join the garden’s mission to preserve and display the natural beauty of another, more exotic region of the plant world.

Jennifer will soon be stationed at the new Visitor & Education Center where she will host the garden during its expanded weekend schedule, which now includes Sundays, and greet visitors throughout the week, presenting a welcome face and informative presence for the garden’s many visitors.

Please stop by the office or Visitor’s Center to help us welcome Jennifer and wish her a happy tenure at the garden.

Quarryhill Donors

We are immensely grateful to all of our members, without whose annual support we could not accomplish a fraction of what you read about in this newsletter. Listed below are our Sustainer, Patron, Expedition Circle, and Corporate members. We thank you all, most sincerely.

Expedition Circle
- Thomas R. Anderson & Tamia Marg
- Viscount Philippe de Spoelberch
- Dana & Richard Dirickson
- Kaye & Richard Heafey
- Lord Charles Howick
- Sally MacBride
- Christine & Ronald Mickelsen
- Willa & Ned Mundell
- Christine & Michael Murray
- Shelagh & Thomas P. Rohlen
- James Rundel

Patron
- Elizabeth H. Bechtel
- Christopher Davidson & Sharon Christoph
- Troy & Steven Hightower
- Tatwina C. & Richard Lee
- Leslie & Mac McQuowan
- Sherry Perkins
- OJ & Gary Shansby
- Deborah & Harvey Shein
- Calvin R. Vander Woude
- Ben Verduin
- Frances & Cameron Wolfe, Jr.

Sustainer
- Cassandra & William Bernstein
- Ellen & Andrew Bradley
- Margaret Kelly & David Crombie
- Delphine & Allen Damon
- Naved Khan & Helena Geng
- Robert H. & Mary H. Kroninger
- Rosemary & Gene McCreary
- Frank R. Pope
- Max & Molly Sbardt
- Milo Shepard
- Robert N. Smith
- Barbara Solomone
- Judy & Leslie Vadasz
- Cathy & Chuck Williamson
- Alexis, Kay & Dorin Woods

Corporate
- Fairmont Sonoma Mission Inn and Spa
- Taicang Agricultural Comission

Quarryhill is now open on Sundays!

We are pleased to announce that Quarryhill will now be open to visitors seven days a week 9:00 am - 4:00 pm. Closed on major holidays.

Visit our web site at www.quarryhillbg.org and look for Quarryhill on Facebook.
Nursery News

Continued from page 2

and one tiny fruit, containing one seed. Identified as C. sinensis, the tea bush, this plant is the source for all non-herbal tea products—from white to green to black. Leaves of different ages, flowers, and even stems are all used to produce the varied steeped beverages with which we are familiar. Though the source plant was likely an escapee from a tea plantation on the same mountain, the one seed we found, and the small plant it has produced, will be an exciting addition to the garden. Camellia seed appears to germinate best when sown immediately—at the time or just before the fruit naturally splits open.

![Camellia sinensis](image1)

Schima sinensis, a relative of the camellia, was one of the more rare trees found in our travels. We only encountered one tree, located near a paved trail of steep steps—tens of thousands of them—on a slope of the venerated Mt. Emei. Luckily, the tree held much fruit, and many ripe seeds. The broad, glabrous leaves and sturdy white flowers, 4-5 cm in diameter, make this a very attractive specimen. This species of Schima, like the Camellia species we have worked with, germinate best when sown immediately. At the top of Mt. Emei, at a full 3,099 meters, rests the Golden Summit Scenic area. Mt. Emei is a World Heritage Site, and the tallest of the four sacred Buddhist mountains in China.

Our luck with magnolias was very different. Over our four week expedition, we found several specimens of Magnolia wilsonii, but no seed to spare. We also searched upwards of 30 M. sargentiana, and only encountered one fruit with viable seed. This large specimen was growing in a deep ravine in the Meigu Dafengding Nature Reserve. We bumped along for hours on a wet, stony road to reach the site where a few M. sargentiana grew. Our Yi guide, a local forestry ranger named Urde, said he had seen a panda in this reserve. He also told us that he heard a story of a panda that enters a village home on the reserve land, where the inhabitants feed it. Unfortunately, pandas were even less abundant than magnolia fruit on our tour of the reserve that day. Our one M. sargentiana fruit yielded about 20 seeds, of which 10 made their way back to Quarryhill. M. sargentiana seed requires a cold stratification period of approximately 3 months at 3-5° C for germination. Two seedlings represent our ultimate yield from this expedition.

We were able to collect seed from many other species that will further our important mission to conserve this beautiful flora, and add to the diversity and richness of Quarryhill. Walking through the nursery with our new plants can be an escape to Sichuan, a strong connection that keeps the experiences close. On request, I would be happy to walk through the greenhouse with you and share related pictures and stories from the expedition.

![Schima sinensis, Mt. Emei](image2)

Inset: Schima sinensis seedling, Quarryhill

We were able to collect seed from many other species that will further our important mission to conserve this beautiful flora, and add to the diversity and richness of Quarryhill. Walking through the nursery with our new plants can be an escape to Sichuan, a strong connection that keeps the experiences close. On request, I would be happy to walk through the greenhouse with you and share related pictures and stories from the expedition.
Upcoming Events

September 18 Third Saturday Docent Tour

Members: Free
Non Members: $10

18 Music in the Garden
Phat Barbees

Members: $15
Non Members: $20*

October 2 Climate Protection Campaign

All $75

16 Third Saturday Docent Tour

Members: Free
Non Members: $10

November 6 Session 2 - Hypertufa Container Building

TBD

To register, send payment to:
Quarryhill Botanical Garden
PO Box 232, Glen Ellen, CA 95442
(707) 996-3166, info@quarryhillbg.org
www.quarryhillbg.org

The printing of this newsletter was funded by Sweet & Baker Insurance Brokers