



Liquid Sunshine

Newsletter of the Marsh Botanical Garden

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Marsh Gardens Welcomes New Student Employee

We would like to welcome and introduce our newest member of the Marsh Gardens work force. Eleanor Burgess is a first year student, mature beyond her years, but with all of the enthusiasm that one could hope from a colleague. She first came into contact with the gardens through her volunteer work with the Sustainable Food Initiative, when they were here starting vegetable and flower seeds. We provided this innovative group some space in the greenhouse as part of our effort to work with diverse campus groups in the greening of Yale University. Eleanor asked for some instruction in fruit tree pruning, and I mentioned that we had some fruit trees coming in soon, to replace in part some of the Rosaceae collection that was destroyed when Greeley Lab was built. The photo shows Eleanor helping to plant a Fuji Apple tree on a bleak cold late winter day, when she had a bad cold. I was so impressed with her willingness to work even when under the weather, and her thirst to learn, that, after consulting with Dave, and with Tim, we hired her as an in-term student worker. Welcome aboard.

We planted several apples, peaches, apricots and a persimmon tree in the area below the Forestry and Environmental Studies greenhouse. This hillside will provide the best air movement for these fungus-prone plants, and the display will be a much better show than at present. We will be doing a workshop on fruit tree pruning later this summer. Stay tuned in future issues of Liquid Sunshine.



Eleanor Burgess showing her prowess with a shovel. Photo by Eric Larson

Liquid Sunshine is a publication of the Marsh Botanical Garden at Yale University. The title comes from a common nickname for rain, because we only have time to write on rainy days.

Marsh Garden extends from Prospect Street to our office on the corner of Hillside Place and Mansfield Street. The Garden is open to the public and we welcome you to visit anytime.

Director	Timothy Nelson
Manager	Eric Larson
Horticulturist	David Garinger
Steering Committee	Mark Ashton, Mary Helen Goldsmith, Michael Donoghue, Timothy Nelson

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Some reminders of up-coming events:

This Friday, April 30, is the signature event for the Rice study community at Yale, and on the East Coast, probably nationally and perhaps globally, at 55 Hillhouse Avenue, which is Horchow Hall. This important symposium, titled *The Future of Rice Biotechnology: Scientific Advances and Policy Issues* will live up to its title by offering presenters from across the scientific and social policy/bioethic spectrum, including our own Tim Nelson, Xing-Wang Deng and Robert Evenson. For more information specific to start time and presenters, please access www.rice2004.org.

On Friday, May 21, the Botany Community at Yale will be having a picnic hosted here at Marsh Botanical Garden, with the usual blackened steer, cholesterol specials and other mystery meats, as well as pot luck other goodies. Please put this date on your calendar.

On May 6, Marsh Gardens, in conjunction with the Peabody Museum, will be hosting a group of middle-school teachers who have been working across discipline lines to inject more science into the curriculum. Please stop by if you are interested in interfacing with anyone who might fit that description.



Tulip bed in full bloom. Many of the varieties are fragrant. Come see and enjoy. Photo by David Garinger,

Tulip Time in Marsh Botanical Garden

The Tulips that Elizabeth Black, Laurie Cuocco and I planted last fall are up and blooming. We invite anybody who is interested to come by to look at our modest but handsome display. Not only is it a beautiful sight, but I selected Tulip varieties that have olfactory presence as well. Please come by in the next week, and enjoy the display. I have a map of the selections and varieties that I will make available to those who are interested.

The photo at left is *Tulip batalinii Red Gem*, taken by David Garinger. The Tulip display was one of the signature events for Marsh Botanical Garden back in the day, along with Irises. We decided to give a bow to those earlier times with this planting, with another planned for next year.



The featured plant in this issue is Bloodroot, or *Sanguinaria canadensis* in the Latin binomial. This plant is a native of eastern North America, and is blooming now in the area here at the Garden known as the Rockery. This area is one of the few remnants of the design by Beatrix Farrand for the Marsh Botanical Garden. Now an informal-feeling shady ephemeral wetland, when Ms. Farrand designed it and had it installed, it was a sunny intensely planted bog area. The intervening years have not been kind to the planned landscape that Ms. Farrand had in mind, considering the vicissitudes of institutional priorities, but there is still a great deal of charm about this small garden. Volunteer trees have grown, shading the once-sunny location, and some invasive species have gotten a foothold. This summer, we will be continuing the program of cleaning out the invasives and clearing out around the native woodland plantings

Bloodroot is a spring ephemeral perennial, which means it emerges in spring, blooms, sets seed and dies back to the root within a few weeks. Although still present in the garden, it cannot be seen for most of the growing season. For this and other reasons, it is not often included in the perennial garden, but it is certainly worth planting in the rock garden, or shade garden.

American natives are well on their way to becoming a cult item, with the movement to plant more native plants in full sway among gardeners and horticulturists in the know. The British have known about many of our native plants for enough years to have hybridized many wildflowers, such as Mullein, sending them back over to us as splendid specimens, often veiled under the Latin name, such as *Verbascum*. Some of the reasons for planting natives include that they are acclimated to our soils and climate, are well-woven into the web of life, providing food, shelter, or other benefits for the chain of life above and below them, and are over-looked in the plant collecting world. Add to this the fact that many, like Bloodroot, are spring ephemerals, and you have a very interesting selection of plants.

Bloodroot is an excellent example of a New World member of the Poppy family, *Papaveraceae*. Among other genera in this wonderful family are of course, *Papaver*, the true Poppies, *Escholtzia*, the California Poppy, and *Macleaya*, the Plume Poppy. The genus *Sanguinaria* has only one species within its fold. The name comes from the Latin, *sanguis* for blood, referring to the color of the latex that exudes from the root. The species name is indicative of the nativity: many of the Latin names derive from the 15th and 16th Centuries, when the east coast was divided into much larger units, and European botanists were not altogether sure of political divisions in the New World. Hence many

species names from that time of amazing plant exploration were from the general area. For instance the numbers of plants with the following species names will give a rough idea of the nativity but not provide much in the way of specific orientation: 'virginica,' 'pennsylvanica,' 'canadensis,' 'chinensis,' and the list goes on.

Back to *Sanguinaria*, the best milieu for this wonderful little perennial is the dappled shade of the woodland setting. Even deep shade of deciduous forest is not prohibitive, as Bloodroot's life cycle is divinely modified to coexist in such by its early spring start and finish, often completing its yearly sojourn before the later-leafing hardwoods have fully leafed out. As you might guess, a nice loamy soil, with plenty of leaf mould and other humic material is the ideal soil. Good drainage helps, as you might find in soil caught in rocky outcrops within the woodlands.

This is a plant that transplants reasonably easily, being rhizomatous in nature. Kate Tatham handed over a few extras from her garden as a donation to the Marsh Botanical Garden, not the first gift this native plant enthusiast has donated to us. I would remind everyone about collecting plants, whether for herbarium specimens or to transplant into the 'protection' of your own garden: It is often detrimental to try to transplant these delicate denizens of the forest at the wrong time, in the wrong way. Plant collecting in the wild should be eschewed for observing, and at the most, collecting seed. Many of our native forbs are endangered, and are part of the local food web. To remove them is to put at risk organisms that may be even more rare than the herb you are collecting.



Sanguinaria Canadensis or Bloodroot. Notice the two sets of petals, one set of four larger and one set of four smaller. Photo by David Garinger