34 Place based learning, online.
Students stay grounded from afar.

20 Bog Garden

A new planting brings a bit of bog to Smith.

McKenzie Swart AC ’21 works in the Succulent House during her workstudy hours. Tim Johnson
Above: Aechmea fasciata, a beautiful bromeliad on display in the Stove House. Pamela Dods
ISSUE THREE

4
Plant Pick  *Dirca palustris*
Elaine Chittenden

8
Botanical Entanglement
Mary Ellen Hannibal ’81

16
After 30 Years, Steve Retires
Jimmy Grogan and Staff

24
A New Mission Guides Our Work

26
Scenes From Our Flower Shows
Staff

30
Aligning Collections with Global Priorities
John Berryhill

40 First Glimpse of Neilson Library’s New Landscape
Tim Johnson brings us images of Neilson and highlights its botanical features.
Dirca palustris

Leatherwood is an intriguing common name for Dirca palustris, an underappreciated woody shrub, rarely seen in landscape plantings. It is a member of the daphne family (Thymelaeaceae), which is worldwide in distribution containing 45 genera and 850 species of mostly shrubs and trees, and rarely lianas (woody vines) and herbs. All members of the family are highly poisonous, and Dirca has been known to cause contact dermatitis.

Hardy from USDA zone 2 to 9 (–50°F to 20°F), leatherwood can reach nearly 10 feet (3.0 m) in height and ranges from Quebec to Florida and as far west as Minnesota and eastern Oklahoma. It grows in wooded areas with rich moist soils, often near streams, and is commonly found growing with spicebush (Lindera benzoin). Like spicebush, Dirca blooms in early spring, with flowers emerging well before the leaves. The small, tubular, pendent pale-yellow flowers are typically borne in groups of 2 or 3 and have protruding stamens. The fruit is a green drupe (meaning each fleshy fruit has a single seed, like an avocado). They show no color change when ripe.

The branches are flexible, easily tied in a knot, but not breakable unless cut with a sharp implement or crushed via storm damage. The fibers (lignin) are so tough that injured branches may take on a wacky, gnarly appearance. A thick callus can form over the wounded area, causing a formerly upright branch to turn 180 degrees. In cultivation Dirca rarely reveals this ability to heal damage; in situ (in the woods), however, where trees may fall indiscriminately, one can find oddly growing individuals making one wonder, what happened?!

Other common names for leatherwood include leadwood, moosewood, ropebark, wicopy, and wigebi. Wicopy is an Algonquian word meaning “tough” and wigebi is an Abenaki word meaning “stringy bark.” The bark and twigs were used for tying and binding. There are numerous documented medicinal uses of Dirca by Native Americans, including the Algonquin who make a laxative tea from the inner bark and the Iroquois who make an emetic tea from the bark and wood to remove “yellow” from the stomach. As the Iroquois described it, “The yellow in the stomach was a sickness brought by the Europeans as they introduced tea, butter and tobacco.” It is further reported that “the yellow accumulated in the stomach and couldn’t be evacuated,” hence the need for an emetic.

The genus Daphne is a horticulturally popular member of the family, as there are many species, hybrids, and cultivars, most offering sweetly scented flowers and mainly in the spring. A standout specimen adjacent to the south door of Succulent House at the Botanic Garden of Smith College is Eternal Fragrance Daphne (Daphne × transatlantica ‘BLAFRA’), a cultivar that was developed by Robin White of Great Britain, who also wrote the book Daphnes: A Practical Guide for Gardeners (Timber Press, 2006). He patented this plant in 2007. The Botanic Garden acquired Eternal Fragrance Daphne in spring of 2015. On campus, flowering begins in April or May, then continues irregularly through the summer months until November. This hybrid selection has an ability to bear flowers on its new summer growth, although dry conditions can reduce summer bloom. Propagation by cutting will be legal in 2027 as patents typically last 20 years.

FURTHER READING


Native Plant Trust. Dirca palustris. gobotany.nativeplanttrust.org/species/dirca/palustris

Images on facing page: [Top] Elaine inspects Dirca palustris in Holyoke, MA. [Bottom left] Dirca growing near a stream in Holyoke. [Bottom right] The flexible nature of Dirca is demonstrated by bending the stem into a knot. Sarah Loomis
Jeff Rankin, assistant curator and gardener, weeding in the Systematics Garden in June 2020. Horticultural staff, deemed essential workers by Smith, remained on campus throughout the pandemic ensuring that our collection continued to thrive. Tim Johnson
Dear Friends,

2020 was the year the world recognized what many of us already know: Botanical gardens, arboreta, and green spaces are essential.

Our work is essential. Our workers are essential. The learning and discovery that happens here is essential.

From coast to coast garden professionals were called on to serve their communities by showing up day after day throughout the COVID-19 pandemic. They designed, propagated, nurtured, and tended to existing gardens and gardens yet to be. They taught and trained and brightened the lives of millions of visitors, both in formal programs and in innumerable casual conversations.

Telling that story of why our spaces and our work is essential is challenging at times. We can rely on metrics and data (as we should), but how do you measure the clarity of mind, the bubbling spring of creative thought, the simple joy that learning about plants and nature rouses in us? How do we measure the ways botanical gardens make us better people and in turn how they help make the world a better place?

I had a conversation with class of ’21 Smith student and Ada Comstock scholar McKenzie Swart (see cover image) who worked alongside our essential staff throughout the pandemic. She told me she had become “deeply protective” of her work study hours because each one was a precious hour in the conservatory. She added that her time working with staff at the Botanic Garden of Smith College had unexpectedly changed her. Where she had previously felt Smith was preparing her to be tough enough to go it alone as a professional, she confessed that now she was really looking forward to being a part of something bigger than herself. She was looking forward to joining another team, adding bittersweetly, “I am ready to move on.”

Change is the constant of higher education. Change is the constant of the garden. Change is the constant in the curious mind. Learning itself is an act of change from what we were to what we are now.

In his article on engaging students in plant conservation (page 30), landscape curator John Berryhill writes about the idea that botanical gardens are places where we examine our relationship with nature, past and present, through the lens of how we preserve or use up, share or hoard, and value or depreciate the natural resources every civilization is built upon. The message that tends to get lost in the sciences of plant ecology and plant evolution—what guest writer Mary Ellen Hannibal ’81 names as “the warp and weft” of the botanical garden (page 9)—is that the human species is part of the natural world, not separate from it. I can’t help but see embedded in those metaphorical fibers a place for scholarly exploration of what is good, what is just, and what is fair.

What could be more essential.

Tim Johnson
Director
Author and journalist Mary Ellen Hannibal, class of 1981, serves on the Botanic Garden of Smith College’s Friends Alumnae Committee. Her book, *Citizen Scientist: Searching for Heroes and Hope in an Age of Extinction*, was named one of the best titles of 2016 by the San Francisco Chronicle. *The Spine of the Continent*, her 2013 book on the Rocky Mountains, was lauded by Publisher’s Weekly, “This is what science writing should be: fascinating and true.” Her work has appeared in the *New York Times, Science, Anthropocene, Nautilus*, and many other publications.
TIME STANDS STILL
We think of gardens as places of repose but they are frequently sites of great reckoning. Jesus accepted his fate in the Garden of Getsemane. Buddha attained enlightenment under a sacred tree. Dante encountered Beatrice in the Garden of Eden—as also the scene of a famous encounter between a woman, a snake, and an apple. Things go on in gardens.

The Botanic Garden of Smith College is no exception. Today this green feature of the college comes under the scrutiny of our times. The garden’s new mission statement asserts the goal of environmental justice and positions the garden as a place to address the legacies of colonialism and racism. At the same time, the Earth’s biosphere is undergoing unprecedented change. Wild plants and animals are disappearing as their habitats are plowed, irrigated, and built on to support human consumption. All botanical gardens today exist in reference to our decimation of their wild source. Some may wonder how an enclosure containing named and arranged plants could help us redress such vast and seemingly disparate ills. For one thing, the botanical garden is a place in which it becomes clear that these problems are interconnected.

A botanical garden is generally a collection of plants organized to better understand how and where they grow. While many botanical gardens, including Smith’s, plant showy ornamentals to entertain and delight, they are also serious places elucidating evolution and ecology. Some botanical garden collections demonstrate these concepts geographically, grouping plants that evolved together in a specific region, like the mountains of Southeast Asia or Central America. Another way to group plants is by similar adaptive strategies, even when native occurrences are far apart. Cactus gardens, for example, regularly showcase plants from desert environments all over the world. The complexities and wonders of how plants have come to live where we find them are at the heart of how nature operates.

Evolution is the genealogy of all life-forms going back to the very beginning—a family tree. Ecology, the word famously deriving from the Greek for “household,” doesn’t so much address the way the furniture is arranged but how the whole of life functions through physical relationships. Evolution and ecology are the warp and the weft of life, the threads of which are pulled across deep time and through terrestrial, aquatic, and atmospheric space. The botanical garden is a simulacrum of this wholeness. Botanical gardens allow us to experience the present while we consider the very processes underpinning its creation. Amazingly and wonderfully, they are literal and tactile expressions of the biggest idea of them all: life exists.

THE SPICE OF LIFE
The English word colony derives from Latin colo, meaning to till, to cultivate, and to worship. It expands to colonus, indicating a Roman tenant farmer, and this sense of the word grew to encompass Roman military bases and cities. A colony is more or less a group of people living in close proximity. This is how we use the word colony in relation to plants and animals. There are aspen and huckleberry colonies, bird colonies, bee colonies, ant colonies. We call corals colonial organisms. They blur the definition of what is an individual and what is a group, since a coral has both a single identity and a multiple make-up. Plants, of course, are called Earth’s first colonizers. Over 500 million years ago, land plants purposed photosynthesis to grow and spread around the globe, creating habitat for the emergence of terrestrial animal life. Plants transform the sun’s energy into food which is purposed by animals who eat the plants. For millennia, the energy transaction among species completed a circuit that supported its own continuance. Birds, for example, poop out nutrients and undigested seeds that plant and nourish the garden that is earth. They have spread plant species around the globe, and thus helped to provide their own sources of food and shelter. Globalization and colonization are
part of how nature functions. The growth and dispersal of life-forms in different places create biodiversity.

Plant life, and all it makes possible, is a prime motivator that has sent Homo sapiens far and wide probably for as long as we have been a distinct species. Even so-called sedentary human colonies have historically traded with people from other places. Just as a bee, in a way, trades the service of pollination to a flower in exchange for nectar, so do humans trade with one another to increase and diversify resources. In Cumin, Camels, and Caravans: A Spice Odyssey, ethnobotanist Gary Nabhan points out that "the initial phases of the inexorable processes" speeding globalization are at least 3500 years old. Nabhan connects the very term species to the same root as the word spices, both referring to "kinds, forms, or appearances," or singular expressions of a composite whole. In the Middle Eastern spice trade, "the Oriental and Occidental worlds met, competed, and intermingled." Nabhan writes, "Imperialism, cultural collaboration, religious belief, and social status are embedded in every milligram of cardamom, cinnamon, or cumin." He argues that European colonial powers based their playbook on practices established particularly by Semitic peoples interacting with Mediterranean cultures going back thousands of years.

Generally today's use of the word "colonialism" describes appropriation of indigenous land and resources by white Europeans who enslaved both Africans and Native Americans to benefit from their labor. White Europeans did not trade fairly but appropriated resources from others through coercion and violence. The concept extends beyond the way humans treat each other to the way we treat nature. Taking without giving back is the practice of many industrialized nations that harvest primary production from the biosphere without replenishing it. As agriculture, manufacturing, and transportation have exponentially developed in the past several hundred years, the colonial impulse reverberates into the very roots, soil, and water from which the basic building blocks of life emerge. A 2014 study by the Royal Botanical Gardens, Kew, and Stockholm University reports that 571 plants have disappeared from the wild in the last 250 years. Partly this is due to human appropriation of natural habitats which we plow, dam, and build on. Our impacts extend to every biome on the Earth—you could call us an invasive species.

THE GARDEN OF EDEN

In 16th and 17th century Europe, the Creation—the living, breathing world of plants and animals—was understood as originating in the Garden of Eden. Not a metaphorical garden, but a literal garden existing both in human history and also beyond it. Catholics and Protestants believed the original Garden had been hidden somewhere after Noah's flood, and held out hopes that as expeditions went around the world, one of them would find it. While the Garden escaped detection, fascinating and exotic pieces of Creation arrived back home aboard every ship. Perhaps Paradise was not hidden in a single location. An alternative explanation posited that when the darkness of knowledge and death fell on Adam and Eve, the Garden dispersed. Botanical gardens were arranged to put the pieces back together again. This “Re-Creation” was a devout effort at redemption. Reassembling the Garden of Eden would transform spiritual aspiration into physical manifestation. Regaining the Garden would open a direct portal to the divine.

The great botanical gardens established in the 16th century at Padua, Leiden, and Montpellier, along with the 17th century's Oxford and Uppsala gardens, were laid out like books, set for reference and prefiguring the encyclopedia. The fact that the plants were alive in these gardens supercharged their importance. The Garden of Eden was the birthplace of all genealogy, where God had instigated humanity and all other life-forms. Discerning order and relationship among the plants was literally to map the mind of God and to explain life on Earth. But as more species arrived in Europe from all over the world, the botanical gardens where they were assiduously studied silently revealed some major problems with the thinking behind them.

For example—how did species get to the places where they are found? The literal belief at the time was that Noah's ark had come aground on Mount Ararat in Turkey, and the plants and animals aboard had dispersed from there. But how could some delicate life-forms survive oceanic journeys? How could plants make it across deserts that would kill them? Maybe there were separate creations—God had simply put species down in different kinds of places, making different kinds of gardens. But then how to explain the deep resemblances among life-forms from widely separate locations? The concept of a total floor plan of the Earth, with four quadrants representing Europe, Asia, Africa, and (eventually) America, informed garden design for several thousand years. It also laid the groundwork for the concept of biogeography, literally the life history (bio) of the terrain (geography). Darwin's big thought bomb delicately but decisively rewrote the scriptural origin story, furloughing Adam, Eve, and Noah and giving their starring roles to plants, animals, earthquakes, and volcanoes. The outlines of a very different drama began to be discerned, in which the scenery itself—the sun, the oceans, the mountains, the rain—continuously created the characters on stage.

NAMING NATURE

As thousands of plants were “discovered” and brought back to Europe, some order by which to understand them became more necessary. Thus the binomial classification scheme instigated by Linnaeus in the 1700s. Naming each plant by genus and species (e.g., Deppea splendens) both differentiated it from other plants and determined its place on the Tree of Life, which helped to establish relationships between life-forms. Linnaeus thought he was limning the mind of God. But the patterns revealed in what amounted to a gigantic spreadsheet showed evidence that life proceeds through generations and relationship, not by divine fiat. Linnaeus's system would help topple one of his own dearly held beliefs, which was that life-forms are immutable, made by God the way we find
Entanglement suggests that the good has come along with the bad, and that our job is to carefully tease these apart, as a gardener does not decimate whole flower beds to eliminate weeds.

them. A great motherlode of knowledge has issued from the comprehensive system of relationship articulated by Western taxonomy (and globally adopted by developed nations). But equally great stores of local and indigenous knowledge embedded in ancient traditional names have been obscured or lost. Thus one of the main organizing features of a botanical garden strikes some as an unfor-givable and untenable mark of colonialism. Should we get rid of binomial classification?

Cultural critics today use a term, “entanglement,” to better describe how globalization and colonization have led to our moment in time and are not easily—or even optimally—erased. Entanglement suggests that the good has come along with the bad, and that our job is to carefully tease these apart, as a gardener does not decimate whole flower beds to eliminate weeds. One issue in Western classification is the presence of overtly racist, sexist, and otherwise offensive names in use by the International Association for Plant Taxonomy. Some of these names are so egregious, they can and ought to be changed right away. Other contested names will take longer and more nuanced consideration.

Binomial nomenclature is a documentation of history, of historical thought, and it is important to sustain the format. It provides a road map for illuminating the history of science in the last few hundred years. It has become a universal language for understanding plant, animal, and fungal diversity. In removing it we would lose hundreds of years of careful work linking specimens in museum collections with the places and times they came from. This historical information is critical for understanding current distributions of plants, because they show us how these are changing, illuminating not just evolution but climate change and global biodiversity loss. But indigenous plant names can be even more deeply imbued with cultural meanings. Where they can be recovered, indigenous plant names should take their place right alongside and get equal billing with Latin names.

There are better ways to approach the legacies of colonialism than to throw out its nomenclature. At the UC Santa Cruz Arboretum and Botanic Garden, Native Californians participate in an Amah Mutsun Relearning Program, caring for plants growing in their historic habitat. This “native plants garden” exists side by side with plants collected from elsewhere, with different stories to tell. The Amah Mutsun tending this garden are not only reasserting the healthy functioning of the landscape before the Spanish arrived in 1769, but also extending it through restoration projects elsewhere in the Bay Area. Most residents, I hazard to say, are unaware that Native Cali-

FURTHER READING


Thanks and Praise to Steve Sojkowski for 30 Years of Service

Stephen Sojkowski retired last November after 30 years of service as greenhouse assistant in Lyman Plant House. Steve is a great ambassador for the Botanic Garden at Smith and for the Pioneer Valley, where he has lived his whole life. His energy, enthusiasm, and dedication were tremendous assets to Lyman and Botanic Garden staff over these past three decades.

Steve was a three-sport athlete—cross country, basketball, and baseball—at Easthampton High School, graduating in 1976. He went on to earn his associate’s degree from Holyoke Community College in law enforcement, but when a second-shift custodial position opened up at Smith in 1986 he was glad to secure the steady job that would help him raise three children: Daniel, Bryan, and Katie.

Within six months of arriving at Smith he bid into a first-shift outdoor garden laborer position working for then-landscape manager John Bak. When current Botanic Garden assistant curator and gardener Jeff Rankin vacated his indoor Lyman Plant House position in 1991 to take over care of the outdoor Rock and Systematics Gardens, Steve switched positions again, accepting from then-Botanic Garden director Richard Munson a one-month trial for the greenhouse assistant position, which he passed with flying colors. And he never regretted migrating from law enforcement to horticulture, saying, “It’s easier working with plants than with people!”

Steve’s sense of humor and kind-hearted nature made for a great colleague, and an even better friend! His colorful stories about the good ol’ days working at Smith and the Botanic Garden, or just reminiscing about retro music, movies or sports, definitely brightened our work environment. Steve was a fan favorite, not only with the staff, but also with our students, interns, and volunteers. The college is losing quite a historian, especially when it comes to knowledge about the flower shows! We will miss his daily presence at Lyman Plant House and that big smile of his, never quite knowing if he was just in a happy mood or if he was up to something! Steve is definitely one of the good guys.

Sheri Lyn Peabody, Business Operations Coordinator
Steve was very good with students. He would talk to them and cared that they knew something about the culture of the 60s and 70s. Steve is a music phenom who remembers songs, bands that performed them, and even serious oldies. I am so glad he has a sense of humor as well because it was fun to prank him and, believe me, “He always started it.”

Elaine Chittenden, Manager of Living Collections

Steve’s wit and ever-present sense of humor were unmatched, except by his warmth and selflessness. You always knew when you worked with him that he had your back and wanted you to succeed. Although he was always ready with a joke, he never passed on a chance to compliment a colleague or student and you always knew it was from the heart.

John Berryhill, Landscape Curator

On my first day, I remember the first thing Steve said to me was, “You have a couple holidays this week, let’s hurry up I need to show you the ropes.” I started Thanksgiving week and at that time I wasn’t very familiar with paid time off. From that day forward Steve made sure I knew all the ins and outs of the union and Smith College as a whole. I always felt like I had someone who was looking out for me. Steve was a great co-worker and also an excellent storyteller. Whenever we worked on a project together I always looked forward to what he was about to say. I had the pleasure of working with Steve for seven years, and only fond memories of him will remain.

Dan Babineau, Greenhouse Horticulturist

Among his many talents, Steve was the best at spotting the river otters in Paradise Pond. I’ll miss our nature watching sessions from Lyman.

Sarah Loomis, Manager of Education

I first met Steve while interviewing for the director position I now hold. It was a long process and I was three hours into day two of interviews. I had just wrapped up a meeting with my future team and was leaving the room when Steve caught up to me. He hadn’t said a word during the interview, but he pulled me aside and said, “You did good in there. That was a good job.” I’d come to see this pattern from Steve over the next three years we worked together, not just in our interactions with each other, but in his interactions with student workers, interns, and visitors. Out of the spotlight he would casually, deliberately, and authentically offer a little pat on the back before you even realized it was what you needed most at that moment.

Tim Johnson, Director
Steve and I had some great adventures with the wildlife that insisted on making homes in the greenhouses. A pair of robins used to nest in the Cool Temperate House every year. We had the great fledgling roundup in the summer when the young would leave the nest but weren’t able to fly out of the greenhouse, much to the consternation of the parents! Steve loves wildlife and was very protective of his “charges.” With the exception of the squirrels nesting in the monstera....

Pamela Dods,
Office Assistant and Tour Coordinator

Thus began Steve’s 30-year career on the cool side—of Lyman Plant House, that is. Lyman is divided roughly equally between warm- and cool-growing houses, and Steve was responsible all these years for the cool ones: Physiology House and Cold Storage, where the annual bulb and mum shows are staged, the high-ceilinged Cool Temperate house in the back of the building, Camellia Corridor that runs the length of Lyman’s interior space, and the Blakeslee Range—our production greenhouses rarely accessed by the general public as they are used for plant propagation, warehousing plants that are not in bloom, and storing dormant plants.

In collaboration with conservatory managers and with greenhouse assistant counterparts from the warm side, Steve was responsible for staging the annual spring and fall flower shows that are such an integral part of the Smith, Northampton, and Pioneer Valley scenes. Like clockwork the Spring Bulb and Fall Mum Shows have come and gone all these years largely thanks to Steve.

Through 30 years in Lyman, Steve saw many co-workers and managers come and go. His tenure spanned four Smith College presidents (Mary Maples Dunn, Ruth Simmons, Carol Christ, and currently Kathleen McCartney), four Botanic Garden directors (Richard Munson, Kim Tripp, Michael Marcotrigiano, and currently Tim Johnson), three conservatory managers (Roger Graves, Rob Nicholson, and now Jimmy Grogan), and three co-greenhouse assistants (Sue Schaffner, Nate Saxe, and currently Dan Babineau). Countless work-study students, interns, and student researchers have also benefited from Steve’s patient, generous, and cheerful management and mentorship. Students loved working with Steve.

What’s been the hardest and the most rewarding work in Lyman Conservatory over the years? Steve says the Spring Bulb and Fall Mum Shows evolved a lot during Rob Nicholson’s tenure, expanding in size from one house—Physiology, the first house that you enter from Lyman’s reception area—to occupy two houses, Physiology and Cold Storage. This raised the stakes on bringing 6000+ bulbs into flower synchronously the first week of March every year, in perfect condition; in all those years he remembers only one time that “it almost didn’t happen!” The most rewarding? Working with students, absolutely, and with Botanic Garden volunteers and staff, “a great, diverse group of people to work with.” Back atcha, Steve, and hopefully see you soon!◆
As the weather warms, the careful observer walking by Lyman Plant House may notice a large black tub sitting on the south side of the conservatory. Stopping for a moment, they might watch as a small fly circles, hovers, and lands on the innocuous looking leaves of a Venus flytrap. As the unsuspecting insect brushes against a series of short hairs running along the inside of the leaf, called trigger hairs, the two lobes of the leaf snap shut, imprisoning it. A bad day for the fly, but a fascinating moment for the viewer.

This cinematic scene will play out again and again at the site of our new bog planting, the culminating effort of greenhouse horticulturist Dan Babineau. Though Venus flytraps (*Dionaea muscipula*) may be the most infamous of the carnivorous plant species, the planting is primarily composed of *Sarracenia*, or trumpet pitchers, that sit nestled into a thick layer of wet moss that fills the tub. Why *Sarracenia*? These pitcher plants are natives to North America and are right at home here in Massachusetts, though they range from southern provinces of Canada, down through the New England states and the East Coast, through to Florida and the Gulf Coast states.

Both *Sarracenia* and Venus flytraps typically grow in bogs: specialized wetland habitats characterized by acidic, low nutrient water, and the presence of peat, a partially decomposed mixture of mosses and other plant material. Peat forms a “mat,” that can reach over three feet thick, which sits on top of the water creating a highly acidic and adsorptive environment, conditions which many plants find inhospitable. But, like much in the plant world, it is precisely these challenging growing conditions that reveal some amazing plant adaptations in the species that reside there.

At left: The pitchers of *Sarracenia leucophylla* are particularly showy, making them popular in the floral industry. This fact has led to growing concerns of overharvesting. *Smith College*
Bogs are not only acidic, they are also void of many nutrients that plants need to survive. Plants like the pitchers and Venus flytraps have evolved to utilize insects and similar prey—flies, ants, beetles, and spiders—for their nutrient needs. In the case of *Sarracenia*, the “pitchers” are actually highly modified leaves that attract insects by using bright colors which mimic flowers, by having sugar-exuding glands, and in some cases, by releasing scent. As insects land near the pitcher opening to eat, they fall from the slippery rim and are soon trapped and die. Though the exact method of digestion varies by species, most *Sarracenia* absorb nutrients from the decaying bodies through special cells inside each pitcher.

There is some debate about the number of species in the genus *Sarracenia*, but most botanists agree that it consists of 8 to 15 species, with many subspecific taxa. Of these species and subspecies, nine are listed as either critically endangered, endangered, near threatened, or vulnerable on the International Union for Conservation of Nature Red List of Threatened Species. Habitat destruction and fragmentation, changes in water quality and hydrology, and invasive species are just some of the reasons behind these declines.

Another notable concern is poaching. While this occurrence accounts for a small percentage of overall species loss, it certainly puts added stress on already vulnerable populations. Similarly, *Sarracenia* (in particular *Sarracenia leucophylla*) have become increasingly popular in the cut flower trade, and with few suppliers of ethically sourced pitchers, most of these are likely taken from wild sources.

So, what can you do? If you are interested in planting your own bog garden, be sure to purchase only sustainably sourced plant materials and consider learning more about the work of the North American Sarracenia Conservancy: [www.nasarracenia.org](http://www.nasarracenia.org). In the meantime, come visit our bog planting! ✨

At right: The bog planting sits on the south side of Lyman Plant House. Here you can get a firsthand look at the following species:

- *Sarracenia leucophylla*
- *Dionaea muscipula*
- *Sarracenia alata*
- *Sarracenia flava*
- *Sarracenia flava 'Cut Throat'*
- *Sarracenia minor*
- *Sarracenia psittacina*
- *Sarracenia purpurea*
- *Sarracenia minor var. okefenokeensis*
At the core of liberal education is attention. We attend to what Ralph Waldo Emerson calls “natural facts,” those elements in our surroundings that are imbued with significance. That attention yields manifold meanings and values that deepen our understanding of the world and each other. When we look closely at things we might otherwise and often take for granted, we renew those things, we refresh and strengthen our connections to the world. We grow. The new mission of the Smith College Botanic Garden aligns precisely with these core values of the college. Linking learning and social justice, grounding both in community and communication, and centering this work from the student perspective, this mission statement is at once innovative and deeply traditional, progressive in its revitalization of those modes of attention—cultivation, curation, storytelling—that have long structured the fundamental work of teaching and learning.

Michael Thurston
Provost and Dean of the Faculty;
Helen Means Professor of English
Language & Literature
The Botanic Garden of Smith College fosters environmental and social justice through teaching and learning about plants, people, and place.

We do this by:

- Curating plant collections that help us tell stories about plant and human diversity
- Training students to be informed and impactful change agents
- Preparing educators to develop effective, interdisciplinary, learner-centered experiences
- Welcoming visitors to explore, learn, and contribute their knowledge
- Cultivating spaces and landscapes that stimulate thought, foster well-being, and facilitate collaboration
Scenes From Our Flower Shows

For the last year, two of our most beloved events have been held virtually. Here are a few magic moments from our Spring Bulb Show and our Fall Chrysanthemum Show, as shot by staff members.
Above: *Sanguisorba canadensis* in the Systematics Garden. Canada burnet is native to eastern and western North America, and is protected across much of its range. It can be found growing across New England and is happiest in wet areas such as around streams and rivers, wet meadows, riparian forests, and swamps. Smith College

**WITHOUT PLANTS, THERE IS NO LIFE.**

The Global Strategy for Plant Conservation is a catalyst for working together at all levels—local, national, regional and global—to understand, conserve and use sustainably the world’s immense wealth of plant diversity whilst promoting awareness and building the necessary capacities for its implementation.

Learn more: www.cbd.int/gspc
ALIGNING COLLECTIONS WITH GLOBAL PRIORITIES

John Berryhill
Landscape Curator

In 2016, Smith College released a five-year strategic plan—Lives of Distinction and Purpose: A Plan for Smith College. This plan defined Smith’s path to creating a learning environment for future leaders to understand and address the world’s most complex and urgent problems. Its themes—inclusion and equity, experiential learning, and innovative pedagogy—became the framework for our own strategic plan: 125 Years in the Making: 2019–2024 Strategic Plan for the Botanic Garden of Smith College and our new mission statement.

It can be hard to see how these guiding documents translate into actual decisions about what plants we curate in our collections and the specific work they should support. However, viewing them in the context of a global paradigm shift that has occurred in the botanic garden community makes the importance and weight of plant curation decisions clearer.

Shortly before the turn of the 20th century, a handful of botanical gardens were leading efforts to get the global community to come to terms with the fact that plants, which all life depends on, were at the center of the biodiversity crisis. This effort culminated with the adoption of the Global Strategy for Plant Conservation (GSPC) by the United Nations under the 2002 Convention on Biological Diversity. The GSCP created a set of objectives for the documentation and conservation of plant species, as well as a framework for the equitable use of the world’s botanical resources. This urgent call to action allowed botanical gardens to coalesce around a shared goal. Standing at the intersection of science, horticulture, education, and outreach makes these institutions uniquely and ideally qualified to accomplish much of the work outlined in the GSPC.

In the time since the GSPC was adopted, Botanic Garden Conservation International (BGCI) has emerged as a powerful force for aligning, coordinating, and amplifying the conservation work of public gardens. In recognition of the vital role that these institutions must play, BGCI North America drafted the North American Botanic Garden Strategy for Plant Conservation to put GSPC work into sharp focus. The result is six objectives and 62 associated targets that guide the global network of gardens and arboreta in addressing a complex urgent problem that requires new thinking, new voices, and new styles of engagement. It is, in so many ways, applying the philosophy behind Smith’s Strategic Plan to the biodiversity loss crisis that threatens our planet.

The Botanic Garden of Smith College is playing a role in this work as well. In the spring of 2020, we assessed our outdoor collections to begin work on action item 1.3.1 of our Strategic Plan—“Develop a collections plan that aligns plant collections with their purpose as a resource for education, research, and conservation.” This work began with an assessment of how our existing collections and operations aligned with the priorities of these guiding frameworks. The goal is to provide experiences and maintain collections that will allow Smith students to see a meaningful relationship between an environmental challenge, a globally recognized framework to address it, a Smith project that fits within that framework, and their own academic journey. This is the point where theory becomes action and our work feels connected to these aspirations.

The Collections Management Plan, which was approved in March 2021, describes 28 projects, collaborations, and practices that will not only give our students hands-on experience with the
Established in 1993 as part of Native Plant Trust’s New England Plant Conservation Program, the Plant Conservation Volunteer (PCV) program is the oldest one in the country to conduct rare plant-monitoring. PCVs support professional botanists and State Heritage Programs by gathering vital data in the field. Across the six states of New England, PCVs conduct field monitoring, seed collection, and habitat management. PCVs now number in the hundreds, but as native plant habitats face mounting stresses, we need even more passionate volunteers to help save New England’s native plants.

Learn more: www.nativeplanttrust.org

The Collection Management Plan is to establish salient and actionable steps to transform our collections and collection management strategies in service of our mission. The proposed projects consider an honest assessment of our current state, are rooted in both institutional and global frameworks, and have been designed to optimize the collections curated and managed by the Botanic Garden of Smith College for their capacity to serve Smith College’s values, strategic priorities, and expected learner outcomes.
conservation work of a modern botanical garden, but also advance Smith College strategic priorities and bring our work into better alignment with Smith’s values, hopes, and dreams for the world. Action will be focused on three new areas:

**Building active, holistic conservation collections** including new work conducting rare plant surveys that will inform conservation priorities, and collaborating with our peers across the globe to build carefully coordinated metacollections of threatened native species. These metacollections will share the burden of effectively holding the breadth of species’ genetic diversity in living collections so that they may effectively serve as starting points for resilient habitat restoration work.

**Closely and honestly examining the colonialist and racist legacies in botanical gardens** by assessing our own collections, programs, interpretation, and approaches. Historical relationships with imperial economies are a reality that must be confronted in the botanic garden world. The commoditization of botanical resources and centering of white European and white American culture over others have led to both social and environmental inequities and injustices. Building an effective learning environment and an equitable future for all begins with this acknowledgment.

**Considering how our plant care practices and operations affect the natural living systems** that Smith is connected to. We will consider how all aspects of our work have the potential to benefit or harm living systems locally and beyond, and how these actions are an expression of our values. Energy, chemical, and other resource inputs have real ecological impacts. We aim to make choices that do not conflict with the health of the environment.

An initial assessment of our collections and operations, prior to drafting our Strategic Plan and Collections Management Plan, revealed that we were addressing 15% of the targets of the North American Strategy. **With the implementation of the new Collections Management Plan, we expect our work will be addressing 95% of that critical, global work.** Students will be exposed to this work with experiential learning opportunities that will prepare them for leadership roles. We look forward to sharing this work with you as we go forward and aim to redefine what a college botanic garden can do. ✉️
What does experiential learning look like in a remote setting? I’ve asked myself this question almost daily for a year now. After all, getting hands on plants is the soul of my work as an educator. And yet somehow, we have persisted! Here are a few examples of “remote horticulture” from this pandemic year.
This course is designed to ground students in the landscape, both literally and theoretically. We use the natural environment, gardens, and plants that surround us to build skills in seeing, identifying, and interpreting landscapes to experience and enhance a “sense of place.”

This year, instead of students learning together about the garden spaces and plant materials on the Smith campus, the fall class was comprised of 24 students scattered across 9 states, each studying the plant materials in their own community, often in their own backyards.

Students received 9”x12” sketchbooks in the mail, which they filled with plant portraits, photo essays, journaling, reading responses, pressed plant bits, and their own creative musings. Rather than piling into vans, students went on virtual field trips to places like Gardening the Community, Wanczyk Nursery, and Nasami Farm. The final project, “Five Minutes in a Garden,” asked students to record an audio reflection on their garden space as accompaniment to a slide deck of images.

Preceeding page and at left: Excerpts from Camille Butterfield’s sketchbook showing plants and trees in her neighborhood. Camille ’21 is a studio art major.
Both the kindergartners and fourth graders from Smith College’s Campus School substituted their usual conservatory visits with Zoom field trips to Lyman Plant House. With work-study student McKenzie Swart AC ’21 as camera operator, students in Ms. Ananda and Ms. Echevarria’s fourth grade classes got a virtual tour of the Lyman greenhouses, considering plant adaptations in desert and rainforest environments (aka our Succulent and Palm Houses!).

In September, Ms. L’Heureux’s kindergarten class dissected kidney beans at their kitchen tables along with me via Zoom in the Palm House to observe for themselves how a seed is a “baby in a box with its lunch.” A few weeks later, we met outdoors at the Campus School, with students aided in physical distancing by hula hoops. One at a time, the kids stepped forward to plant pea seeds to grow on home windowsills. Even if you can’t get all the way to fruits in November, pea shoots are still delicious to munch on!
ENVAGING IN A VIRTUAL WORLD...AND IN PERSON

Somehow, we have managed to connect with students despite it all. Our newly minted digital support assistant Jamila dePeiza-Kern ’22 created an inspiring virtual tour of the Botanic Garden which I shared in Zoom hangouts with eight groups of new Smithies through the Bridge Preorientation Program for first-year and transfer students of color. Many had never been to campus since they had been admitted during the 2020 lockdown! I also shared the tour and other new digital content to support Admissions outreach, Smith’s Precollege Program, First-Year Experience Program, and Family Weekend. Most precious of all, we were able to establish protocols that allowed us to include those students who were on campus in Fall 2020 in the annual planting of bulbs in Capen Garden as well as in potting up thousands of bulbs for the Spring 2021 Bulb Show. The show would not be the same without the hands of students involved, most especially our intrepid work-study duo McKenzie Swart AC ’21 and Bridget MacNeill ’21. 

Students assist in planting tulip bulbs at the Capen Gazebo. Gaby Immerman
The new Neilson Library, designed by Maya Lin features a few botanical treasures.
Naomi Brill ’22 (religion major and archaeology minor) studies in the warmly lit Neilson Reading Room at one of the custom built, live edge American elm reading tables that furnish Neilson Library. This table was built from a 125 year old tree that, due to unforeseen and unavoidable excavation (and despite the best efforts of project designers, engineers, construction managers, and botanic garden arborists), could not be safely left standing. The tree was repurposed into three 11-foot-long tables (including this one), four benches, and two coffee tables by furniture designer and builder Sam French of Gill County CC Woodworks in Gill, MA. For additional images of the custom American elm pieces, and to learn more about Sam’s work, visit gillccwoodworks.com.
Above: For furniture designer and builder Sam French, this was a special project. “These nine pieces embody the heart of what I am attempting to achieve at Gill CC Woodworks. I am deeply honored to have been able to give these majestic giants a new life and contribute to such an amazing project in collaboration with Maya Lin!” Because every slab that is milled from a tree is different, Sam had the opportunity to showcase both his skill and the beauty of the wood. “The Elm was an absolute joy to work. Each slab for the reading tables was oriented to give a different view into the beauty within the tree. One table is bookmatched so it appears each side is a perfect mirror of the other. The two other tables are laid out so that the heartwood is displayed face up. The 20+ butterflies [pictured here and used to stabilize cracks in the wood] are from the same tree. Each butterfly is hand cut, and custom sized and laid out using the golden ratio. Each sits in a mortise that was hand cut into the tables and benches.

Preceding page: The Neilson Library renovation transformed not only the interior of Neilson, but the exterior and surrounding landscape as well. The building is now flanked by stone clad wings that designer Maya Lin describes as “jewel boxes” on the north and south extremities of the building. The curving lines of the north wing (pictured here) are complimented by a new amphitheater populated by a grove of native hop hornbeam (Ostrya virginiana) trees.

This image is a composite of over 350 individual long exposure images, inspired by and created with assistance from Smith College Professor of Geosciences, James Lowenthal. James says that “the night is its own ecosystem” that he loves being a part of. “Practically every clear night I’m on campus—working with students from the McConnell Rooftop Observatory where we look for undiscovered exoplanets. Pretty often I set up my camera and tripod for a time lapse video sequence or a ‘nightscape’, a landscape with a starry sky. I usually have several plans for compelling images rattling around in my head. Sometimes it’s years before they are realized.” James adds that this is more than just a hobby for him. “I’ve wound up using those images in public talks, classes, research presentations, and my advocacy work to protect the starry night sky [from light pollution].”
At left: Marge Poma ’23 (biology and Portuguese & Brazilian Studies double major) works against the backdrop of a portion of Neilson’s rooftop terrace and the Holyoke Mountain range. The terrace is generously adorned with oversized planters and raised beds that will be planted with hardy quaking aspen (*Populus tremuloideae*) and a mix of drought tolerant native grasses. Marge is one of 10 incoming summer interns working with the Botanic Garden in 2021 and building upon experience, knowledge, and skill gained through work study and as a horticulture student. “In my two years at Smith, I felt welcomed by the floral beauty and fresh air of the campus, especially since the pandemic has limited [our movement indoors]. With the opening of the new Neilson Library, I can pursue my studies and research while staying connected to the familiar landscape that I call home.”
At left: Observant and knowledgeable plant lovers will appreciate a striking and inspiring moment in the third floor study room of the north wing. While on a study date, Clare Sackson ’21 (study of women & gender and government double major; red shirt) and Etienne Oliver ’21 (English and sociology double major; blue shirt) sit at one the American elm tables built by furniture builder Sam French while looking out on a 100 year old American elm in Chapin Lawn. “We picked that table because of the view,” Clare said. “The nice big window gave us a lot of natural light which makes doing homework a bit easier.”

Above: On the lower floor of Neilson, Olivia Pomeroy ’22 (psychology major) reads in the courtyard study area just inside from the Sunken Garden. The study area features study corrals, booths, soft seating, and compact shelving for the library’s general collections. Four earthen mounds support native yellow birch (*Betula alleghaniensis*) trees with an understory of barren strawberry (*Waldsteinia ternata*). In winter, as snow blankets the contours of the garden, the stepstone walkway will remain free of snow and ice thanks to an in-ground heating system.
Renew your **Friends membership** today to continue supporting our work.

[GARDEN.SMITH.EDU](http://GARDEN.SMITH.EDU)
Botanic Garden of Smith College

Tim Johnson
Director

Sarah Loomis
Manager of Education

Elaine Chittenden
Manager of Living Collections

Jimmy Grogan
Conservatory Curator

John Berryhill
Landscape Curator

Sheri Lyn Peabody ’87
Business Operations Coordinator

Pamela Dods AC ’08
Office Assistant and Tour Coordinator

Gaby Immerman
Education and Landscape Specialist

Dan Babineau
Greenhouse Horticulturist

Benjamin Green
Chief Arborist

Nathan Saxe
Chief Gardener

Jeff Rankin
Assistant Curator and Gardener

Dave Dion
Gardener and Assistant Arborist

Friends Advisory Committee

Betsy Anderson ’04
Syretha Brooks ’08
Susan Goodall ’83
Mary Ellen Hannibal ’81
Diane Xochitl Munn ’95
Alex Julius ’09
Shirley Mah Kooymen ’73
Elizabeth McCarthy ’06
Connie Parks, ’83
Rachel Rock-Blake ’09
Sue Ann Schiff ’69

Ex Officio

Kathleen McCartney, President, Smith College
Susan Komroff Cohen ’62
Paula Deitz ’59
Lynden Breed Miller ’60
Cornelia Hahn Oberlander ’44
Shavaun Towers ’71
The Botanic Garden of Smith College

16 College Lane
Northampton, MA 01063