

BEYOND *the Beauty*

The beauty of a flower unfolding in bloom is inexplicable. It offers a soul-warming, wonder-giving, worry-chasing charm. It makes us feel better. Such beauty is reason alone for the Missouri Botanical Garden to be, but it is only the beginning of what we do.

The Garden's work spans six continents. One hundred fifty scientists in nearly 40 countries are engaged on the Garden's behalf in a research operation that stands to change the course of events on the planet.

THE GARDEN'S SUCCESS
DEPENDS ON YOU.

“THE EARTH LAUGHS IN FLOWERS.”

– Ralph Waldo Emerson



The Garden casts a happy spell on its visitors. You see it in the delighted expressions of grandmother and grandson breathing in the scent of a rose, the wonder of a child watching koi swim in the Seiwa-en Japanese Garden, and the contented smiles of a couple enjoying the soft sway of a water lily in the reflecting pool. Visitors of the Garden say nothing compares to the quiet moments they spend amid the beauty and tranquility of the Garden.

For staff members dedicated to maintaining these 79 acres, nothing compares to knowing how much they are enjoyed. The horticulture staff spends an average of 1,300 hours a week keeping every corner of the Garden lovely. They maintain a world-class orchid collection, a nationally recognized daffodil collection, 1,800 unique daylilies, tropical plants that thrive in the Climatron®, and themed gardens representing Japan, England, Turkey, China, and Germany.



“A ROOT, A STEM, A LEAF, SOME MEANS OF CAPTURING SUNLIGHT AND AIR AND MAKING FOOD—IN SUM, A PLANT. THE GREEN SUBSTANCE OF THIS EARTH, THE CHLOROPHYLL, IS ALL SUMMED UP IN THE PLANTS. WITHOUT THEM WE PERISH, ALL OF US WHO ARE FLESH AND BLOOD.”

– Hal Borland, *Our Natural World*



The plant is not only lovely but essential. Without it, we risk instability in our global food supply and global climate. Today, the plant is threatened.

Think about the important role of plants. They take in carbon dioxide that reduces pollution and counters climate change. They emit oxygen, which we need to breathe and which also regulates our air quality.

Plants are our ultimate source of food. Nearly 60 percent of the world's food supply is from three crops alone – rice, wheat, and corn. Plants form the basis for many medicines, fabrics, building materials, and other products that support our lives.

Now, think about what we stand to lose as plants become extinct.

It is possible that by the end of this century, nearly half of the 350,000 plant species in the world will be gone. Explosive population growth, increasing consumption rates, global climate change and the spread of invasive species are driving plants to extinction at a rate comparable to when dinosaurs disappeared from the Earth some 65 million years ago.

Only one in six plants has been identified, and even fewer plants have been evaluated for their potential to treat illness or meet other needs. What might we lose if we do not act quickly?

“LOOK DEEP INTO NATURE, AND THEN YOU WILL UNDERSTAND EVERYTHING BETTER.”

– Albert Einstein

Plant families, like human families, are a complex cast of characters.

In a human family, we may find a musician, a mechanic, a salesman or a CEO. In a plant family, we may find a hair dye, a cleaning product, a potent health food, or the basis for jet fuel.

Such is the case with the Lythraceae family (pronounced lith-RAY-si-ee).

The cosmetics industry in the United States imports 300 tons a year of a powder from the dried leaves of a plant in the Lythraceae family. That same leaf was used in ancient Egypt as a dye for hair, fingernails, and skin. (Cleopatra accentuated her good looks with the dye from this plant.)

Pomegranate, a fruit popular in the United States because of its antioxidant properties, also is part of the 600-species Lythraceae family.

The most populated branch of this family tree – the Cuphea species – features an impressive collection of seeds from which we extract oils. Some oils are ingredients in household cleaning products. Others are in food. One seed’s oil is being studied as a possible component in jet fuel; another is being tested for its viability as a domestic crop.

The potential is spectacular, and it is being revealed in part because of the work of botanists at the Missouri Botanical Garden. What we know today about this plant family – and many others – is the result of the Garden’s global work to find plants, identify plants, understand similarities and differences among species in a plant family, and ultimately add the information to a vast body of knowledge to share with researchers everywhere.

The work is not glamorous. These scientists work long hours in sticky, hot climates. They hike 20 miles in search of a particular plant. They pack their essentials on the backs of mules and hike into altitudes in which oxygen is scarce. They trek along

river shores when rapids become too dangerous to navigate by boat.

Their searches take them along the edges of land mines and into the paths of mudslides. They board fixed-wing airplanes to explore abandoned gold mines, sleep atop mountains, and work by candlelight to sort and identify the plants they find by day.

When their work in the field is complete, these researchers ship their findings to St. Louis to be physically stored in a plant library at the Garden. They also are digitally stored in a database available to any scientist with access to the internet.

Building this body of information is a critical step in our pursuit of a healthier planet. It is difficult to develop strategies for slowing plant extinction without a reliable inventory of what grows where and how abundant it is today.

Enlisting Help, Slowing Extinction

Scientists at the Garden are not satisfied with simply collecting data on plants. They work with leaders in remote corners of the world to ensure the work continues. The Garden trains botanists, park rangers, and conservationists, some of whom earn degrees in St. Louis and return to their countries to assume positions in which they influence policies on conservation and environmental protection.

Garden staff members also work with indigenous people to help them adopt practices to preserve land and resources. In Vietnam, for example, researchers have introduced community gardens to prevent the harvesting of endangered plants and provide a more nutritious diet to the families who participate.

In the Chilcos Valley in Northern Peru, where residents were cutting trees and hunting endangered animals for their pelts, the Garden introduced a coffee crop as an alternative income for residents of the valley.

In Madagascar, a fish farm has enabled a community to cease its practice of slash-and-burn agriculture to feed its families.

These changes make life better not only for the people who live in these plant-rich places but all of us. The health of the land and preservation of plant life everywhere is essential to each of us.

As Garden researchers document plant life around the world, they provide important information about global climate patterns, too. Data collected over decades tells us what used to grow in a particular region compared to what grows there now. With that information, researchers can anticipate what crops will succeed in the future and what plants may need to be introduced elsewhere to avoid extinction.



Compiling everything we have learned about plants into one easily accessible body of information is essential to making progress in our understanding of plant life around the world. Here's how we do it.

Tropicos

The Garden developed Tropicos (tropicos.org) 25 years ago as an internal tool to track what researchers had documented on plants. The value of the information was quickly apparent, and the Garden made it available to the world's scientific community. Today, this online resource contains more than 70,000 images of plants and 3.4 million records on plant specimens.

Botanicus

The Garden also developed this Web-based encyclopedia of historic botanical literature and shares it with the world.

Herbarium

This library stores plants collected through our vast plant-identifying initiative. In 2008, the Garden filed its 6 millionth specimen.



“IN THE END, WE WILL CONSERVE ONLY WHAT WE LOVE, WE WILL LOVE ONLY WHAT WE UNDERSTAND, AND WE WILL UNDERSTAND ONLY WHAT WE ARE TAUGHT.”

– Baba Dioum, Senegalese conservationist

Grasping the profound importance of our relationship with plants and planet can feel intimidating if you confront it alone. At the Garden, lessons are sometimes subtle and sometimes direct, but they always begin exactly where the learner wants to begin.

That means a 6-year-old may make that first connection biting into an apple while a Garden instructor explains to him that people eat plants. A teen may experience that moment idling at a busy intersection and remembering what a Garden instructor said about carbon emissions. A harried executive may see anew the power of plants in a class featuring herbs' potential to calm and comfort.

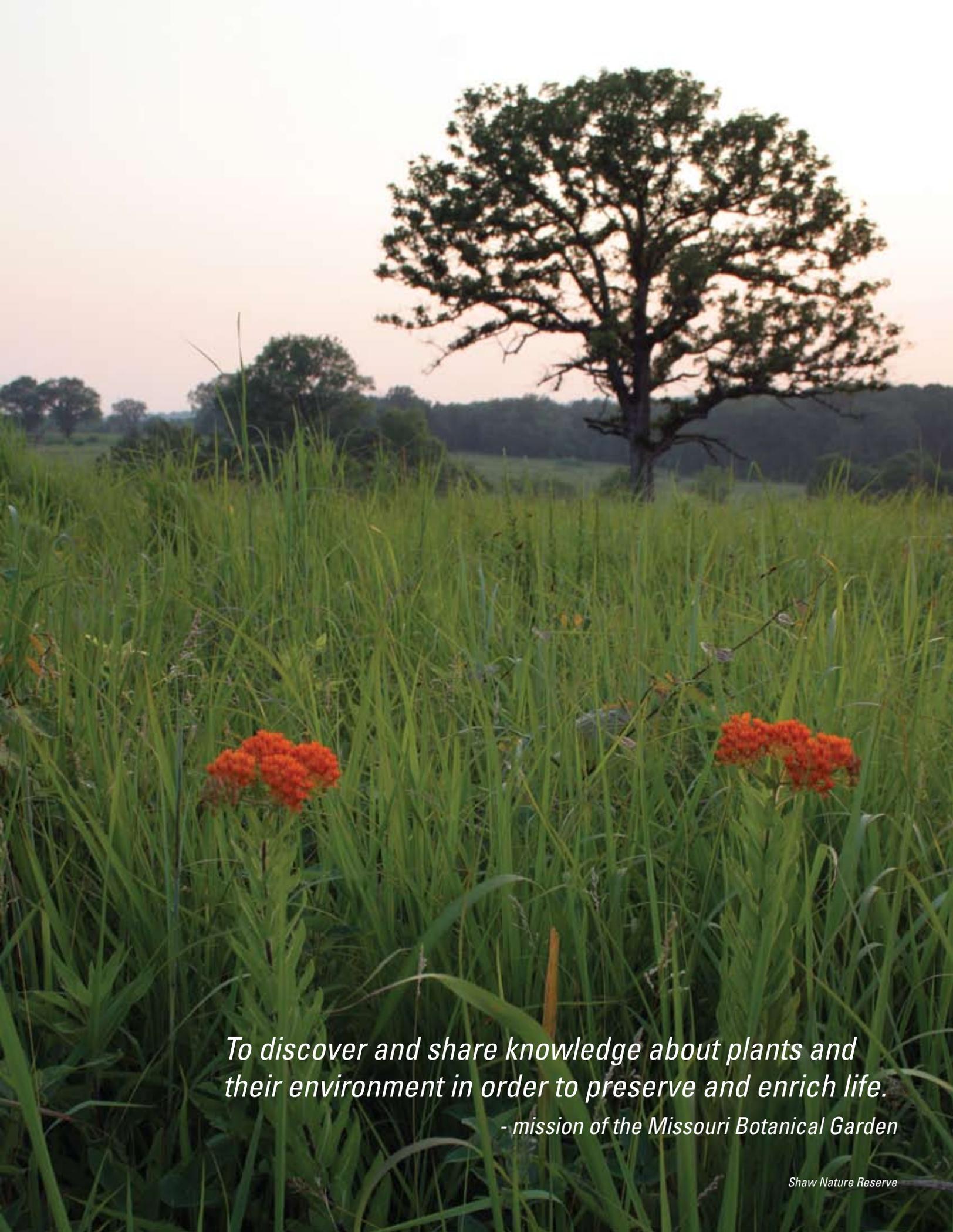
When Henry Shaw founded the Missouri Botanical Garden in 1889, he mandated that education remain central to its work. The Garden has honored Shaw's vision throughout its 150-year history. Today, we apply the best thinking on teaching and learning and bring it alive in five locations.

At the Garden in South St. Louis, more than 40,000 children a year discover the natural world at the Doris I. Schnuck Children's Garden. Many thousands more trek through a prairie at Shaw Nature Reserve. At the Sophia M. Sachs Butterfly House, children experience the insect world standing among tropical butterflies in free flight. At EarthWays Center, children see the difference they can make by taking little steps to conserve resources. At Litzsinger Road Ecology Center, a site dedicated exclusively to school groups, children return repeatedly to immerse themselves in ecology.

The traditional classroom student is far from the only student at the Garden. Science teachers study with us. Parents bring their children for informal learning. Retirees and professionals gather for classes, and of course, visitors to every site encounter countless opportunities for discovery and exploration.

For the gardening enthusiast, the Missouri Botanical Garden is a spectacular resource. The William T. Kemper Center for Home Gardening features 23 educational gardens that attract about 130,000 people a year. More than 1.8 million people a year log on to gardeninghelp.org, a Garden-hosted web site dedicated to providing answers on soil, pests, landscaping and plants. Countless others stop in the Kemper Center, plant in hand, seeking help from experts, and even more call a phone line for one-on-one help from the Plant Doctor.





*To discover and share knowledge about plants and
their environment in order to preserve and enrich life.
- mission of the Missouri Botanical Garden*

“I BELIEVE THAT THERE IS A SUBTLE
MAGNETISM IN NATURE, WHICH, IF
WE UNCONSCIOUSLY YIELD TO IT,
WILL DIRECT US ARIGHT.”

– Henry David Thoreau



Life in metropolitan St. Louis is simply more interesting with the Missouri Botanical Garden. We are here for the inquisitive, the academic, the activist, the romantic, and the adventurer. Please be a part of our continued success.

Ways to Contribute

Become a member. The Garden has individual, family, and corporate members.

Contribute to the Henry Shaw Fund. The Garden is grateful for every gift it receives to the Henry Shaw Fund, which supports annual operating expenses.

Remember a Loved One or Honor a Special Occasion. You can make a gift in memory of a loved one or pay tribute by buying a brick or bench.

Support a Special Project. If you are interested in a particular type of floral display or specific aspect of our research, you can make a donation and restrict its use. Find out more by contacting a member of our staff at (314) 577-9438.

Volunteer. Your time in support of our mission is greatly appreciated. Find out how you can help by sending an email to volunteer@mobot.org.

Remember the Garden in your Estate Plans. A gift beyond your lifetime can have great impact.

You can find out more about all of these possibilities at www.mobot.org, or call a member of our staff at (314) 577-9438.

The Garden reaches far beyond its 79-acre campus in South St. Louis.

Shaw Nature Reserve, 2,400 acres in Gray Summit that offers visitors 14 miles of hiking trails and exposure to habitat native to Missouri.

The Sophia M. Sachs Butterfly House, where thousands of tropical butterflies fly freely in an 8,000-square-foot conservatory.

The EarthWays Center, a Victorian home in Midtown that models energy efficiency and serves as a center for environmental education.



MISSOURI BOTANICAL GARDEN

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