

New United Plant Savers Center Seeks to Conserve Medicinal Plants of Appalachia

The United Plant Savers (UpS) is a nonprofit, grassroots membership organization that was founded in 1994. Its mission is “to protect native medicinal plants of the United States and Canada and their native habitat while ensuring an abundant renewable supply of medicinal plants for generations to come.”¹ Construction of the organization’s new Center for Medicinal Plant Conservation will begin soon. The center, which will be about 1,600 square feet and open to the public, will sit at the entrance of the 379-acre UpS Sanctuary in Rutland, Ohio.^{2,3}

The building will serve as a visitor center, and UpS hopes that it will help attract more visitors to, and ensure the long-term preservation and financial sustainability of, the sanctuary, which is home to many medicinal plant species native to Appalachia.^{2,3}

“[This] will be the first public space in the United States to recognize the historical, cultural, and economic significance of native, and in many cases endemic, Appalachian medicinal plants,” wrote Sara Katz, president of UpS’ board of directors (email, September 27, 2017). “I believe the center will be the key to making the sanctuary accessible

to visitors, as well as collaborations with individuals and groups working in the burgeoning field of native medicinal plant conservation.”

Importantly for UpS, the center will be the first climate-controlled building on the property and will therefore expand the capabilities of the site, since southern Ohio is typically very humid. It will give the organization a place to archive information and store artifacts. It will also include the following: a classroom (which



The front of the forthcoming Center for Medicinal Plant Conservation.
Artwork by Philippe Grenade XIV.
Courtesy of United Plant Savers.



opens to a covered outdoor space) for the organization's wide variety of educational programs; a commercial kitchen (which will be open to the classroom) for use as a teaching apothecary; a library of books about medicinal plants for use by interns, the community, and visitors; an herbarium cabinet; a gift shop with locally made herbal products; and an office.^{2,3}

In addition, a museum at the entrance of the building will explore the history of botanical medicine in the region. "There is a huge wealth of herbal history, especially among the Eclectics, that relates specifically to southern Ohio and the Appalachians," said Susan Leopold, PhD, the executive director of UpS (oral communication, August 31, 2017). "The Lloyd brothers [John Uri Lloyd, Curtis Gates Lloyd, and Nelson Ashley Lloyd], for example, were based out of Cincinnati. There was a whole network of Eclectic schools in the region back in the late 1800s and early 1900s. So, we want to tell that history of botanical medicine."

Eclectic medicine was a branch of American medicine that sought to reform, instead of attack, the existing medical system and educate physicians about the use of herbal medicine at a time when conventional medical practices still made extensive use of mercury, blood-letting, and purging, which are dangerous. Eclectic physicians used whatever therapies were found to be most beneficial and treated the patient instead of the pathology. The word "eclectic" derives from the Greek *eklego*, meaning "to choose from."^{4,5}

Leopold hopes the center will serve and engage the local community in a way that is reminiscent of the Eclectics. "The Eclectics, going back to the Lloyd brothers, were all about giving back to the community," she said. "They provided free medicine to orphanages. They set up preserves [e.g., the Curtis Gates

Lloyd Wildlife Management Area in Kentucky] where they protected old-growth forests. They were visionaries for their time, and their whole business and philosophy of working with medicinal plants was all about giving back to the land and giving back to the people." (She added that the Lloyd brothers "have left a legacy with the Lloyd Library [in Cincinnati] that is the hallmark of the Eclectic American herbal history.")

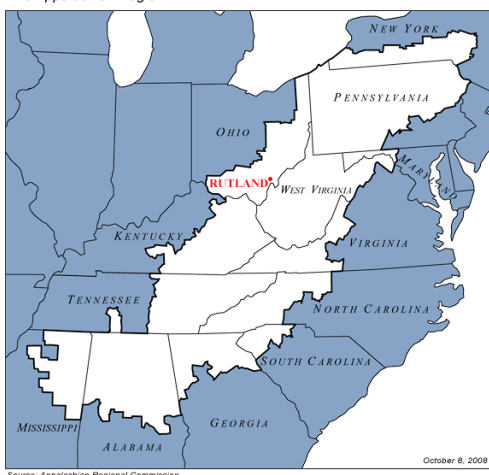
She also noted that rural Appalachia is facing many economic challenges, and this has had a negative impact on some native medicinal plant species. UpS hopes the new facility will help educate people about how to conserve and avoid overexploitation of these resources, in the midst of these challenges. As one example, extensive harvesting of ramps (*Allium tricoccum*, Amaryllidaceae) in the area has recently depleted some wild populations of this plant, which is in the same genus as onion (*A. cepa*) and garlic (*A.*

Trillium (*Trillium grandiflorum*) watercolor by Shay Clanton. Prints of this painting and two others will be sold to raise additional funds for the center. Courtesy of United Plant Savers.



Map of the Appalachian region of the United States. Courtesy of Wikimedia Commons.

The Appalachian Region



sativum), and is used for its flavor and as a spring tonic. While some ramp harvesters may use sustainable collection practices, many do not. For this specific plant, UpS encourages harvesters to take only one leaf per plant and to cultivate the species instead of relying on wild populations.⁶ Overall, UpS promotes relationships with plants that are beneficial to both people and the plants. “I really see this [center] as a great economic opportunity for the community,” said Leopold, because it will help demonstrate what an herb-based economy looks like.

The facility will host different events and workshops and will increase the possibilities of UpS’ internship program. The property also includes a multipurpose barn, a cabin in the woods, and a yurt where most onsite classes and lessons are currently held. Some interns have come from around the world, including from Australia, Canada, Japan, and Nigeria, to participate in UpS’ Medicinal Plant Conservation Certificate Program (MPCCP). In addition, UpS has a close relationship with Ohio University, which is located about 25 miles north of Rutland in Athens, Ohio, and the organization hosts interns from the university’s botany department.

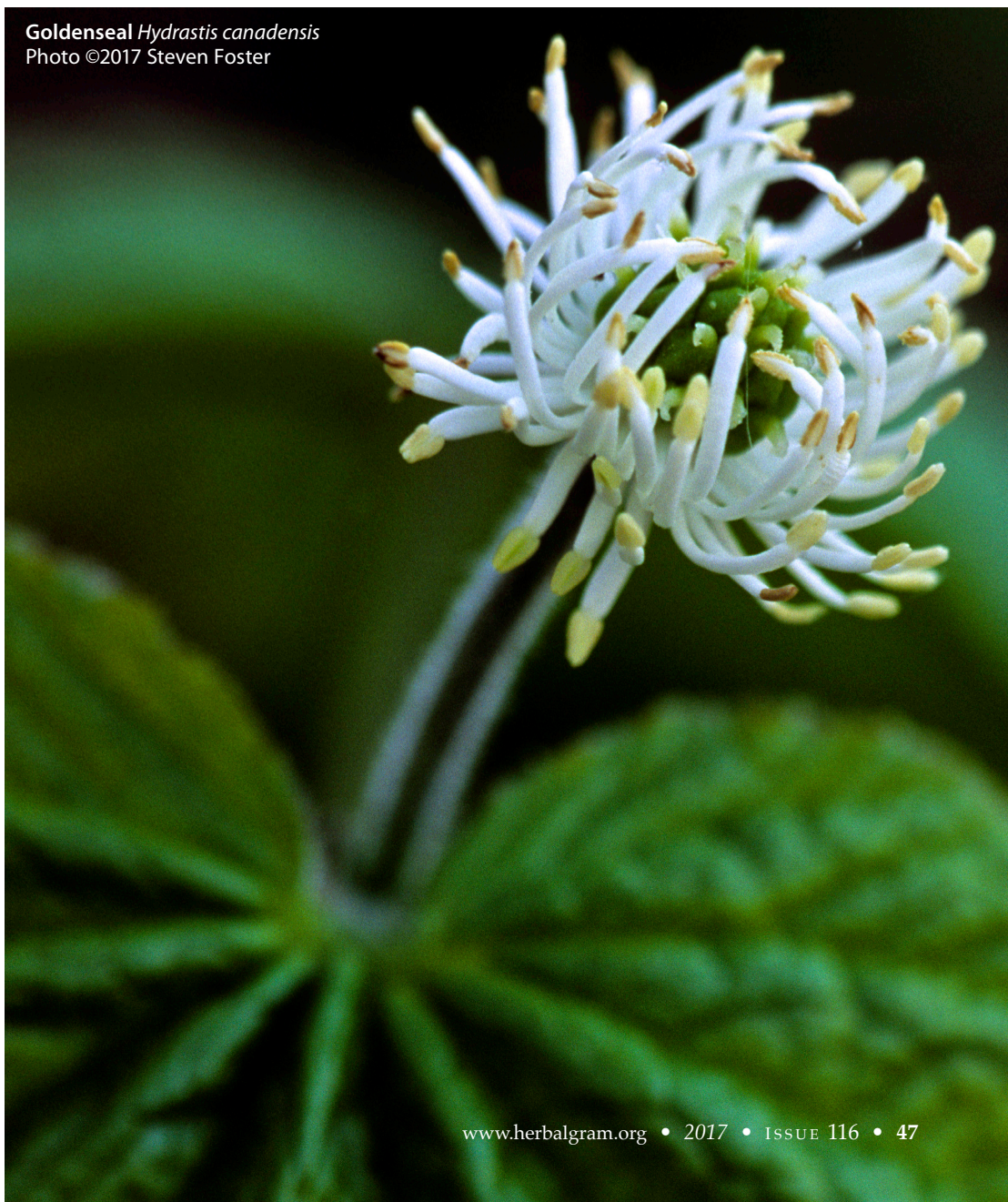
UpS interns learn about medicinal plant identification and how to sustainably harvest and prepare the plants for medicinal use. In addition, they participate in greenhouse work, help plant and maintain a vegetable garden, maintain and improve the sanctuary landscape, and more, with guidance from UpS staff. “We currently have a pretty strong internship program and feel like this [new facility] will step it up a notch,” said Leopold.

Most of the new building will be constructed using wood from ash (*Fraxinus* spp., Oleaceae) trees that grew on the property but died because of the emerald ash borer, an invasive beetle. The wood was milled at a local mill and moved to the onsite barn for curing. The building was designed based on the vernacular of a country store where one would

typically go to buy herbs.^{2,3} “It is really meant to blend in with the landscape,” said Leopold. It was also designed to be energy-efficient, with roof-mounted solar panels.

The center will be built with a \$250,000 budget. Through CrowdRise (a crowdfunding platform), UpS raised \$95,000 in donations over a period of four weeks, and it earned \$65,000 in awards and bonuses from the 2017 Earth Day Roadmap Climate Challenge (a fundraising competition for climate, conservation, environmental, and other related nonprofit organizations), for a total of \$160,000. “I think it says a lot that we were able to raise this money through a process of engaging hundreds and hundreds of people,” Leopold said. Some of the biggest contributors to the crowdfunding campaign (more than \$2,000 each) include Herb Pharm, Mountain Rose Herbs, Rosemary Gladstar, Traditional Medicinals, the Florida School of Holistic Living, Daniel Gagnon, and Gaia Herbs.

Goldenseal *Hydrastis canadensis*
Photo ©2017 Steven Foster



In addition, UpS member and Walker Mountain Botanical Sanctuary steward Shay Clanton donated watercolor paintings of goldenseal (*Hydrastis canadensis*, Ranunculaceae), American ginseng (*Panax quinquefolius*, Araliaceae), and trillium (*Trillium grandiflorum*, Melanthiaceae), and limited edition prints of the paintings will be sold to raise additional funds to build the center.

The center will be dedicated to revered ethnobotanist James A. Duke, PhD, and his wife, Peggy, a botanical artist. “It was a consensus among the board to want to honor Jim and Peggy Duke, because of Jim’s contributions to our knowledge of medicinal plants and his love for the plants, and because of Peggy’s passion for merging art and science,” Leopold said. “[Jim] was really supportive of the United Plant Savers from the get-go.”

Jim Duke wrote: “I am grateful for my many fond memories of trips to Meigs County, specifically to the UpS Sanctuary.... I am deeply honored that Peggy’s artwork and my poetry, lyrics, books, and prose will be featured on exhibit at the new center. I ... encourage every plant lover to visit this true treasure and tribute to native plant conservation” (email, September 28, 2017).

The UpS Sanctuary, most of which is deciduous forest, is home to an extensive wild population of goldenseal. Hundreds of other species, including American ginseng, black cohosh (*Actaea racemosa*, Ranunculaceae), wild yam (*Dioscorea villosa*, Dioscoreaceae), slippery elm (*Ulmus rubra*, Ulmaceae), trilliums (*Trillium* spp.), false unicorn root (*Chamaelirium luteum*, Melanthiaceae), and bloodroot (*Sanguinaria canadensis*, Papaveraceae), also grow at the site. “We also have a prairie, which has pleurisy root [*Asclepias tuberosa*, Apocynaceae] and echinacea [*Echinacea* spp., Asteraceae], and [other herbaceous flowering plants] as well,” Leopold said. “For the most part, most of those [medicinal plants] that are typical of Appalachia are found at the sanctuary.”

According to Rosemary Gladstar, founder of UpS and founding president of its board of directors, it is uncommon to see natural habitat where the native plants are not only surviving but thriving. “That is one of the things that is so remarkable about the sanctuary. For some reason, that particular farm was never poached (or poached heavily) or clear cut, so the plant communities there are still intact and are really quite amazing to see” (email, October 6, 2017).

UpS’ herbarium collection includes about 300 specimens, all from the sanctuary. “It is specific to the sanctuary and we hope that once we have an herbarium cabinet, then we can continue to add to the herbarium collection,” Leopold said. She noted that the development of the center comes at a time when many institutions are discontinuing their botany departments and disposing of their herbarium specimens. She hopes this effort will help renew interest in botanical medicine.

The UpS Sanctuary is the center of UpS’ Botanical Sanctuary Network, in which UpS members designate private land to be used for the conservation of medicinal and other plants. This network includes sanctuaries throughout the United States and Canada.⁷ UpS provides certain benefits for members of the network (e.g., priority consideration for UpS grants). In addition, the UpS Sanctuary is part of the Sacred Seeds Sanctuary Network, which is a global network intended to preserve biodiversity and plant knowledge through living gardens.⁸

UpS hopes its new facility will encourage other sanctuaries that are both inside and outside these networks to establish similar centers that celebrate and help conserve the medicinal plant diversity of their respective regions. “There is no other center for medicinal plant conservation that I know of,” Leopold said. “I think we are creating a model that we hope will inspire others to do similar projects.”

In 2016, UpS was awarded a grant from the Ohio Environmental Protection Agency (EPA) to develop



Ash (*Fraxinus* spp.) tree that grew on the property and will be used to build the center.
Courtesy of United Plant Savers.

Ash (*Fraxinus* spp.) tree that grew on the 379-acre UpS Sanctuary. Courtesy of United Plant Savers.

an interpretive trail that highlights the reclamation of part of the sanctuary from strip mining.³ Part of the property was strip mined in the 1960s and has undergone an extensive amount of restoration. “We are about to launch what we call the Reclaim Trail, which tells the whole history of resource extraction,” Leopold said. “Appalachia has been really plagued by the economics of resource extraction, so this is a real opportunity to shift that paradigm and have the economic story be about conservation of these medicinal plants and all the economic benefits that they bring.”

In 2012, UpS placed part of the sanctuary under conservation easement with the Meigs Soil and Water Conservation District and, in 2016, placed the rest of the sanctuary under conservation easement with the Appalachian Ohio Alliance. (A conservation easement is a voluntary, legally binding agreement between a landowner and a qualified conservation organization or government body that permanently limits the uses of all or part of a property in exchange for tax savings, charitable contributions deductions, income tax credits, and lower property taxes for the landowner.) A parcel of land near the entrance of the property was excluded from the easements for the development of the new center.

“Ever since we first walked this beautiful earth sanctuary, it has been our dream to create an educational center that would bring people from all walks of life, and from around the country, to study and learn about medicinal plants and, even more importantly, to witness plant conservation in action,” Gladstar wrote. “There is really no better place in the country for this than the northern foothills of Appalachia where the UpS Sanctuary is located. It is truly one of the most plant-rich bioregions of this continent and has some of the richest concentrations of North American at-risk plants growing there naturally.”

Leopold thinks the Center for Medicinal Plant Conservation will be a great contribution to rural tourism. “The plants have been attracting people to this land for thousands of years, and the conservation center will be a modern conduit to help ensure that this tradition continues,” she said. HG

—Connor Yearsley



References

1. Our mission at UpS. United Plant Savers website. Available at: www.unitedplantsavers.org/about-ups. Accessed September 25, 2017.
2. Building the Center for Medicinal Plant Conservation. *Journal of Medicinal Plant Conservation*. Spring 2017:20-21.
3. Join us this Earth Day to become a permanent part of the UpS Botanical Sanctuary. United Plant Savers website. Available at: www.unitedplantsavers.org/images/pdf/11-1121B-UpS-Earth-Day-Flyer-FINAL.pdf. Accessed September 25, 2017.
4. Pizzorno JE, Murray MT. *Textbook of Natural Medicine*. St. Louis, MO: Churchill Livingstone; 2013.
5. Haller JS Jr. *A Profile in Alternative Medicine: The Eclectic Medical College of Cincinnati, 1845-1942*. Kent, OH: The Kent State University Press; 1999.
6. Ramps. United Plant Savers website. Available at: www.unitedplantsavers.org/ramps. Accessed September 25, 2017.
7. UpS Botanical Sanctuary Network: Active Members. *Journal of Medicinal Plant Conservation*. Spring 2017: 32-33.
8. Sacred Seeds. *Journal of Medicinal Plant Conservation*. Spring 2017:38.