THE HYDE HERBARIUM

Dedicated Volunteers Support an Important Resource for Botanical Science

By Eve Rickenbaker

Many of the larger native trees growing in the Washington Park Arboretum were once young saplings spared from logging in the late 1800s. They have borne witness to more than 100 years of park and Arboretum history and no doubt have stories to “tell.” So, too, do the dried, pressed plant specimens of the Otis Douglas Hyde Herbarium at the Center for Urban Horticulture.

Our herbarium houses the largest collection of horticulturally significant dried specimens in the Pacific Northwest. Currently, some 24 thousand plants are stored in our carefully temperature- and humidity-controlled room adjacent to the Elisabeth C. Miller Library. This invaluable resource exists largely because of a group of dedicated volunteers. Like the herbarium specimens, these volunteers have their own narrative, spanning years of service—one that tells of a shared love of plants and botanical science, and of the development of many close friendships.

IMPORTANCE OF HERBARIA TO RESEARCH

Internationally, herbarium collections are organized according to Carl Linnaeus’s binomial system of nomenclature (by genus and species names). Our herbarium, like many others affiliated with large public gardens, focuses on locally grown species and cultivars. The Hyde Herbarium collects plant specimens from the Arboretum and Center for Urban Horticulture. In addition, University of Washington students, staff and faculty contribute specimens reflecting their research interests. Collections from many other local public gardens are also housed in the Herbarium, including those from the Elisabeth Carey Miller Botanical Garden, Bellevue Botanical Garden, Rhododendron Species Botanical Garden, Dunn Gardens, Heronswood Garden and Windcliff.

The Washington State Noxious Weed Control Board’s collection is also a valuable component of our reference collection, aiding in the control of invasive weeds around our state.
Our herbarium is a storehouse of botanical DNA from the Seattle region, the Pacific Northwest and beyond.

There are countless books and websites dedicated to the identification of plants. However, two-dimensional photos (while extremely useful) are no substitute for the real thing when examining the distinct squareness of a stem in the mint family (Lamiaceae), for example—or when experiencing a plant’s scent, which can still be detected in the dried specimens of aromatic species, such as cedars and pines.

Nor do photos or illustrations match the experience of viewing a specimen under a microscope, where we can see the sori (spore-producing structures) on the underside of a fern frond and use them for identification. Scientists examine pollen from herbarium specimens for insect ecology and medical allergy studies. Entomologists look at leaf damage on herbarium specimens to track plant predation. Taxonomists study herbarium specimens to help determine the evolutionary relationships of plants. Climate researchers use the flowering dates on plant specimens to help document climate change over time.
Unlike a herbarium specimen, an illustration or photograph cannot provide proof of the carbon dioxide content of a plant collected at a specific time. For example, Meriwether Lewis collected herbarium specimens while traveling with William Clark during the first American expedition across the West. Lewis collected more than 200 specimens from 1804–1806, a time in America before industrialization. The specimens that survived the journey are now stored at the Academy of Natural Sciences in Philadelphia. Lewis’s specimens are the earliest collected in North America. They show 280 ppm of carbon dioxide in the atmosphere in those years. Recent measurements of carbon dioxide are greater than 419 ppm.

**OUR VOLUNTEER COMMUNITY**

In the early 1970s, some dedicated volunteers from the Arboretum Foundation formed a group known simply as the Herbarium Committee. They collected plants from the Arboretum, and dried and pressed the specimens, building on work by other volunteers going back to the 1950s. They laid the groundwork for our herbarium, and the volunteer work continues to this day.

It was volunteers who advocated for the creation of a permanent physical space for the herbarium in the early years of the Center for Urban Horticulture. A gift from Charles H. and Otis Douglas Hyde in 1983 allowed for the establishment of a true herbarium, which opened in Merrill Hall in 1985. Simultaneously, Dr. Clement Hamilton was hired to direct the Herbarium and guide students in taxonomic research, as well as lead our facility to become one of the premier herbaria of cultivated plants in the country.

When Dr. Hamilton left in 1999, Dr. Sarah Reichard, a former graduate student who had helped to develop the Herbarium in its early years, assumed responsibility as curator. Sarah served in this position until her death in 2016. Today, Ray Larson, Associate Director of UW Botanic Gardens, is the Curator of the Living Collections and the Herbarium. But volunteers are still the lifeblood of the place.
SPECIAL VOLUNTEER CONTRIBUTIONS

Lily Takatsuka was one of the original volunteers on the Herbarium Committee, which has met every two weeks for more than 50 years—only interrupted by the 2001 Merrill Hall fire and, later, by the Covid pandemic. Lily showed up rain or shine and in all seasons. Many of those years were spent alongside Sue Anderson, Pat Danford and Lois Prestrud. Sue Anderson was a volunteer until she was 90 years old. She passed away on April 23, 2015. Pat is now 93 and resides in Bellevue, and Lois, 95, lives in Colorado with her family. Lily, 99, passed away on May 12, 2023. Recently, volunteers who met Lily have commented that they looked forward to their time volunteering because of the stories Lily told them about her life experiences as a Japanese American during and after World War II.

In addition to these dedicated women, one other volunteer has given considerable time and care to the Herbarium and deserves a special mention: Dr. Ross Bayton. Before becoming the director at Heronswood Garden, Ross—who has a PhD in plant taxonomy—volunteered with us. He collected more than 2000 specimens for the herbarium and, between 2012 and 2015, also completed an extensive audit of the entire collection.

Volunteers have done most of the work of collecting, drying, mounting and entering the data that comprises the Hyde Herbarium’s pressed plant collections. These collections are vital to science. Like Meriwether Lewis’s collection, they offer an inside view of the past, allowing scientists to study plant extinction, track invasive species, determine if horticulturally significant plants are affected by climate change, and more.

The Herbarium is also open to the public. Anyone is welcome to visit and browse the collection to identify plants in their local landscape or just to admire the beauty of the preserved botanical specimens. If you are interested in visiting or volunteering—or would like to coordinate a tour and/or workshop for a small group—please contact the Herbarium at hydeherb@uw.edu.

Eve Rickenbaker works at the Otis Douglas Hyde Herbarium in the Center for Urban Horticulture.

REFERENCES


LEFT: Former UW student Lauren Ivy Clark with herbarium specimens collected for a study of cross-breeding of Castilleja (Indian paintbrush) species at prairie restoration sites. Clark later returned to the Hyde Herbarium to sample DNA from the specimens for further research.

TOP RIGHT: Dr. Sarah Reichard, Lily Takatsuka, Pat Danford and Lois Prestrud touring the Washington Park Arboretum in May 2016.

BELOW: The Hyde Herbarium has specimens of Balsamorhiza sagittata (arrowleaf balsamroot) dating from 1933 to 1977. Each is valuable due to the variety of collection locations and dates, the amount of plant material, and the genetic diversity stored. Balsamorhiza sagittata was one of the specimens collected by Meriwether Lewis on April 14, 1806, along the Columbia River in Washington and used almost 200 years later to determine the level of atmospheric carbon dioxide prior to industrialization.

HAPPY AUTUMN FROM THE ARBORETUM FOUNDATION

Help spread the word!

If your friends, family, or neighbors mention your name when they join the Foundation at the Friend level or above, you’ll both receive a “You Belong” sticker and free cup of coffee or tea at the Arboretum Gift Shop. Something to warm your fall and winter walks!

Final WALKS & TALKS Event of 2023
For our Steward & Arbor Circle Members
Thursday, October 26
Fall Color with Randall Hitchin

We hope you’ll remember the Arboretum in your fall and end-of-year giving!