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Dean Vettrus Reflects on Arboretum Beginnings

Dean Vettrus guided generations of University of Idaho students as manager of the Student Union and the Associated Students for nearly 30 years. But for several of those years, he was known to spend his evenings and weekends on the south side of campus, working toward a dream — carving a beautiful arboretum from an empty field.

"He was involved from the very beginning," remembers his wife, Phyllis Vettrus. "There were many nights and weekends when he wasn’t home, but he enjoyed working on the project. And it worked out."

The UI Arboretum & Botanical Garden plan began with Dr. Ernest Hartung, UI president from 1965 to 1977. After he left the university, Dr. Hartung would visit the Vettrus family in Moscow. He and Dean would stay up late discussing arboretum ideas.

Under Dr. Hartung’s leadership, the university had designated 63 acres for an expanded arboretum in 1975. UI’s original arboretum, named for early forestry professor and prolific tree-planter Charles Houston Shattuck, fills the hillside behind the president’s residence. The new land was across the street, just east of the golf course.

"He had dreams for an arboretum that could be connected with the Shattuck," Dean says. "The back yard of the house is the Shattuck, so he wanted the front yard to be the second phase."

The project, however, was slow to come together. Dean and a group of UI employees, Moscow Rotary Club members and townspeople began dedicating their spare time to making it a reality, forming the Arboretum Associates in 1978.
The first priority was making the land accessible. One day, local farmer Gene Thompson told Dean to meet him at the arboretum site at 8:00 a.m. sharp the next morning.

"He came out with a twelve-bottom plow," Dean says. "I said, 'What are you going to do?' He said, 'I'm going to plow you a road.' And he did."

The volunteer workers shaped roads that were "good enough in slope to run a wheelchair or a baby buggy down," dug ponds, created a water-pumping system and restored the old barn at the far end of the property. The Arboretum Associates identified spaces with the right exposure for planting flowers and formed the arboretum's layout, which organizes plants by their continent of origin.

"All we had was the big plot, and we'd point out where things would go," Dean says.

Dean lent his mechanical skills as well as organizational leadership to the project.

"Back in the early days they had no equipment and no money. So Dean found this little tractor at the government surplus and rebuilt it," Phyllis says.

(The tractor was dubbed the Yellow Submarine after a brake failure put it into one of the ponds, but it survived the plunge and was operational for several more years.)

Under the guidance of the Arboretum Associates, which Dean led as president from 1985 to 1989, the so-called "new" arboretum flourished. They dedicated the Idaho State Federation of Garden Clubs' lilac grove in 1987 and the UI Centennial Oak Grove — which remains a favorite of Dean's — in 1989. Every season new trees, bushes and flowers were added.

"It was a warm feeling to see all of that," Dean says. "It was really getting to be a beautiful facility."

In 1987, President Gibb appointed professor Richard Naskali as Director of the arboretum. The volunteers whose effort gave the project momentum could finally breathe a sigh of relief and satisfaction.

Dean, who retired from UI in 1993, and Phyllis look back on the years of hard work fondly, and enjoy the occasional stroll through the blooming and bustling arboretum.

"Both of us feel when we go over and walk there — the word that keeps coming is "gratitude," just to see what has become of people's time and effort that they put in to make it happen," Phyllis says. "It was done out of the love of working with plants and developing a garden for everyone."

The Vettruses agreed that Dr. Hartung, too, would be pleased to see his dream finally breathe a sigh of relief and satisfaction.

"By and large," Dean says, "the arboretum will outlive us all."

Tara Roberts
Two New Arboretum Pond Invaders

The Smallest of the Small Aquatic Vascular Plants: Azolla sp. (the Smallest Fern) and Wolffia sp. (the world’s smallest flowering plant):

2013 marked a remarkable first population explosion of the floating water fern, *Azolla* in the lower pond in the UI Arboretum and Botanical Garden. *Azolla* species, sometimes called ‘mosquito ferns’ are the world’s smallest fern. These floating ferns frequently fracture into single plants only one centimeter in diameter; they have pendent short roots. Around the world there are some six or more *Azolla* species (family Salviniaceae); in the Pacific Northwest there are two species *Azolla mexicana* and *A. filiculoides* with *A. mexicana* the more common. Specific identification is difficult unless tiny megaspores form as sexual reproduction begins. They must be microscopically examined for identification.

From fossil records, *Azolla* has been on earth since Eocene and Pliocene times.

In our lower arboretum pond last summer this fern formed large floating colonies, which can double in size in less than five days under the ideal environmental conditions of light, water temperatures and water chemistry. As environmental conditions changed and night temperatures cooled, the bright green colonies developed bright red pigments with the result that the *Azolla* colonies became floating red carpets. In order to prevent the hundreds of pounds of the decaying plants from generating low oxygen (anoxic) water conditions, Horticulturist Paul Warnick and his helpers raked and gathered many loads of *Azolla* plants periodically for recycling on land. To date there is no acceptable herbicide to control *Azolla* in our ponds without serious legal and biological consequences.

These ferns have symbiotic blue-green algae (Cyanophyceae) in the intercellular spaces and pockets of the floating plants. The unique symbiont, *Anabaena azollae*, as other blue-green algae, readily fixes/coverts nitrogen of the air into usable nitrogen compounds—greatly compounding the growth potential of the *Azolla* in Moscow, ID and rice fields around the world. For centuries many Asian rice farmers have happily gained enhanced rice yields whenever *Azolla* grows in the rice paddies.

Photos of *Azolla* in the lower Arboretum pond by Richard J. Naskali

Wolffia sp. (the world’s smallest flowering plant):

Late summer 2013 is the first time that I noted, photographed and collected Wolffia sp. commonly called ‘water meal’ (Lemnaceae, the duckweed family) among the *Azolla* plants at the southern end of the lower large pond. Wolffia plants, each about one millimeter in diameter, are green spheres without leaves, stems or roots; under the proper environmental conditions they form true, simple flowers without the usual petals and sepals. If pollinated, very simple fruits can form with a single seed. If you check Google under Wolffia you can find many illustrations.

Without flowers or fruits and seeds, I was not able to identify the species of Wolffia in the Arboretum. W punctata and W Columbiana have been documented in the flora of the Pacific Northwest.

It is not known how the *Azolla* and Wolffia plants came into the UI Arboretum. It seems most likely that they were carried in by ducks, Canada geese, or other migratory waterfowl.

Richard J. Naskali.
I am often asked "What do you do all winter?" The short answer is I work in the office, updating records in the database, formatting labels, and planning and ordering for the following planting season. Those are what I consider the "have to's" on my winter to-do-list, and especially with the record keeping it could easily expand enough to fill any available time. But, there are also some "want to's" on my list and I try to squeeze some of those in every year as well.

Some of those involve outside work like pruning or cleanup that just never seem to get done during the growing season; some are things that no doubt never will get done, (much like at home, things like "I'd really like to get all those old photographs organized...") and some are things that just seem like good ideas, but don't get done while outside work is happening.

One of those "want to's", that I was able to accomplish this year was applying for and receiving status as a National Display Garden with the American Hosta Society. The Society has a list of requirements to become a Display Garden, including that it be a public garden, have an educational mission, a significantly large and appropriately labeled collection, and a commitment to maintain the garden. We are now officially recognized as one of twenty national Display Gardens in North America.

On the "have to" list I updated the Arboretum database to include the 1,248 new 'permanent plants' that we added last year (and the less publicized 77 removals), formatted labels for all the new 'woody' trees and shrubs, and ordered lots of new plants for planting this spring.

The largest planting project will be a memorial planting for Harley Wright, retired UI Librarian and longtime Arboretum volunteer and supporter (see additional article for more details). Although every year I think I will cut back and plant fewer plants, it looks like I failed to do that again. We will be adding to the existing gardens, including new hostas, butterfly garden plants and xeriscape plants.

Another unfortunate "have to" has been cleaning up after the unusually severe damage from a storm in November. On the evening of Friday, November 15, there was a storm combining some wind with some snow. It really didn't seem very dramatic at the time, and I really didn't think much about it until I drove through campus on Sunday and saw quite a few broken limbs on the Ad Building lawn. I was still completely shocked when I drove into the Arboretum Monday morning. It was the worst damage I have seen in my thirteen years at the Arboretum. We ended up completely removing seven trees and there was significant damage (I define that by anything that required a chainsaw to clean up) on 104 trees and shrubs. Damage from the storm continues to show up, and in fact one more large oak tree had to be removed after a brief storm on June 13.

Every year it seems like the weather improves enough to start working outside before I finish all the winter projects on my list—but, that is the thing that makes this such a great job—enough inside work to fill the winter months, combined with being able to work outside whenever the weather cooperates. Private support is what allows us to continue to plant new plants, install labels, construct new shelters and pretty much everything that makes the Arboretum such a popular destination. Thank you to all the generous donors!

Paul Warnick
Arboretum Associates Annual Meeting

The thirty-seventh annual meeting of the University of Idaho Arboretum Associates was held April 10, 2014, in the Great Room of the 1912 Community Center. The evening began with a social hour with light fare and a no host bar, and then the business meeting was called to order by Vice-President Maureen Taylor Reagan who was substituting for President Jennifer O'Laughlin. After giving a brief report that included an overview of the events of the year, Maureen introduced Joy Fisher who provided the Treasurer's report. She reviewed the budget activity for 2013 including revenue, expenses, and gifts as well as discussing budget highlights for 2014. In other business, Maureen thanked Bev Rhoades and Harriet Hughes for their service on the board. Board members were elected by voice vote: Dan Johnson - member-at-large with his term expiring at the annual meeting 2016, and Bill Bowler and Ron Mahoney - members-at-large 3 year terms expiring at the annual meeting 2017. Amy Ross-Davis will assume the role of secretary with her term expiring at the annual meeting 2015.

Maureen then introduced Paul Warnick, Arboretum Horticulturist, who gave his State of the Arboretum address. Paul reported on numerous projects in the Arboretum including ongoing development of the irrigation system; progress on the World War One Memorial Grove in the Shattuck Arboretum, including benches and paths; and the development of Bay Boyd's Memorial Aspen Grove, which began in 2013. There continues to be development in both the Dixon butterfly and the xeriscape gardens and a plan is in the works to create a Harley Wright Memorial Garden that will include Russian Sage, Japanese Barberry, and hardy rosemary. He also reported that the Beth Bowler Hosta Walk has been recognized as a National Display Garden of the American Hosta Society. It is one of 20 gardens nationally with this recognition. A kiosk honoring Malcolm and Carol Renfrew has been constructed at the southern end of the arboretum. To conclude the meeting door prizes were drawn and given to lucky attendees.

The 2015 Annual Meeting - time and date to be announced - will follow the same format with a catered social hour preceding the meeting. Additionally, there will be a silent auction fund raiser for Arboretum projects during the social hour.

Jan Leander

Contractile Roots: How Your Crocuses, Irises and Some Other Garden Plants Remain Buried at a Constant Depth

Many corm-forming (e.g., crocuses), and other garden plants such as some lilies, narcissus, and bearded irises, etc., remain at a constant planted depth over many years because they form contractile roots. In development of these contractile roots the central core (stele) of the roots shrinks and bends as the outer root tissues become shrunk with a contorted surface appearance. In the case of crocuses and gladiolus, each year a new corm or corms develop at the top (apical) side as the former corm shrinks, dies and decays. During these events, new roots subsequently form at the base of the newest corms, and contractile roots pull the new corms to a constant depth. For gladiolus in northern gardens, this has no significance because the new corms are dug and stored each autumn. In their native sites (Africa to Asia and Asia Minor) where gladiolus species are native, this is important such that the annual new corms remain at a constant depth. Otherwise the new (replacement) corms of our crocuses in our northern gardens and those of gladiolus in their native sites would eventually emerge from the soil. Some lilies, and many bearded irises (especially if planted too shallowly) would not be properly rooted without the regular formation of contractile roots. In northern gardens our crocuses' corms would emerge from the soil over the years.

Some photos which follow illustrate contractile roots formed in Moscow gardens.

Richard J. Naskali
On Saturday, May 31, the Arboretum Associates hosted its annual plant sale in the ice skating pavilion located at the Latah County Fairgrounds complex. The sale, a significant fundraiser for the arboretum, is a wonderful social event that provides gardeners the opportunity to shop for a wide variety of plants, many of which are unusual and difficult to find while helping to raise money for a worthy cause. Specifically, the proceeds from this year’s sale will be used to place bike racks at the entrances to the Arboretum.

The success of this annual endeavor is the result of the ongoing efforts of Paul Warnick, Arboretum Horticulturist, who propagates many of the plants for sale from the Arboretum and tends to them and the other plant offerings in the greenhouse in the months leading up to the sale. An energetic crew of volunteers make the sale itself run like clockwork providing plant advice, transport to checkout, and plant carryout after purchase.

The Associates wish to thank everyone from shoppers to volunteers whose continued support make this event possible. We are beginning to plan for next year’s plant sale that will be held the first Saturday after Memorial Day, May 30, 2015.
Elaiosomes and Ants in Your Garden Plants

Elaiosomes are lipid (fat) bodies attached to the seeds of hundreds of species of garden and wild plants in the northern and southern hemispheres. They may be most common among species of understory perennials. In Moscow, ID, elaiosomes are common on the seeds of glory-of-the-snow (Chionodoxa lucilae), Dutchman's breeches (Dicentra spp.), Viola spp., glacier lilies (Erythronium spp.), wild ginger (Asarum spp.), spring beauty (Claytonia spp.), Cyclamen spp., some Crocus species, Colchicum spp., twin leaf (Jeffersonia diphylla), and others.

If you enter Google images for Sanguinaria and Trillium elaiosomes, you will see the prominent white photographs of them.

Richard J. Naskali

Message from the President

I would like to take this opportunity to thank you for your continued support of the University of Idaho Arboretum and Botanical Garden. This beautiful and educational site continues to grow in its importance to the University and the region.

Because of your support, we have been able to not only provide continued support for the growth and development of the arboretum, but also provide some educational opportunities for our members. This past year a new Arboretum lecture series was initiated. The first lecture, held on January 16, featured our own Paul Warnick showing slides and discussing his tour of gardens in the Czech Republic. The second one was held on February 13 and featured Anthony Davis from the UI College of Natural Resources who presented a program on native plant production and reforestation efforts in Hawaii, Haiti, and Lebanon.

Both events were held in the 1912 Center. We had many positive comments on the lecture series and plan to continue it in 2014-15, perhaps adding an additional lecture event during the fall semester.

We are initiating another new educational program this summer in the Arboretum, Science Saturdays for children and parents on three different weekends throughout the summer. More details are available in the article in this ArborNotes issue. Learn about raptors, pond ecology, and sketching nature as our first three Science Saturday programs unveil.

Thank you to the many patrons who regularly support our annual plant sale. In addition to the fun and excitement of the sale, we raised enough money at our May 31st sale to fund new bike racks for the entrances to the Arboretum.

Plans are underway for our annual summer concert. Many thanks to Dan Bukvich from the UI Lionel Hampton School of Music, and all the community musicians who contribute to this special evening in the arboretum. This year’s concert will be on July 14th. I hope you will join us for this special event.

A new information kiosk and shelter near the barn on the south end of the Arboretum was dedicated on May 21st to honor Malcolm and Carol Renfrew and their amazing legacy. Funding for the kiosk and shelter was donated by Malcolm. Numerous family members were able to attend the dedication, and help pay a final tribute to the Renfrew’s support and generosity.

I am sure you will join me in thanking Paul Warnick and his staff for their hard work and dedication. We are lucky to have such talented and caring individuals creating and maintaining the treasure that is the University of Idaho Arboretum and Botanical Garden.

Jennifer O’Laughlin
Harley Wright Memorial Planting

Harley Wright, a retired librarian at the UI Library, was involved in an amazing number of groups and activities around campus and the community. After her death in October 2013, Harley’s family selected the Arboretum as a site for a garden in her honor. This choice was particularly fitting because Harley was a long time Arboretum supporter and volunteer, as well as an avid gardener and plant person.

One of Harley’s favorite plants was Russian Sage. Her family has fond memories of planting and growing it, both in Harley’s garden as well as their own gardens. Somewhat coincidentally, this year several different nurseries have released ‘new and improved’ cultivars of Russian Sage, Perovskia atriplicifolia. The planting in the Arboretum will include five new cultivars of Perovskia, along with some of the original species. In addition to the Perovskia, the collection is going to include a number of newer Japanese Barberries to add some purple and yellow contrast with the silvery foliage of the Perovskia. For further contrast, the collection will also include four different cultivars of the culinary herb Rosemary. Most selections of Rosemary are not reliably hardy here in Moscow, but these four all claim to be, and at least one has survived several years in a local garden.

Located toward the south end of the Arboretum, the new planting will essentially expand the Xeriscape Garden to the north along the east edge of the gravel road. It will convert another difficult to mow slope to a colorful assortment of shrubs. This memorial has been very generously supported by a wide range of people. The Arboretum and family both want to express their appreciation for the contributions.

Paul Warnick

New Peony Garden to honor Joy Passanante

In honor of English faculty member Joy Passanante’s retirement, after thirty-seven years at the University of Idaho, friends have contributed funds to create a special region of the Arboretum dedicated to peonies. Aside from being a personal favorite of Joy’s, peonies appeal in lots of ways. As one landscaper friend noted, “Peonies live for years and years, and like lilacs, they resonate emotionally with many people.” The plants also have a long history in both western and eastern culture. In Greek mythology, Zeus is said to have protected Paeon against the jealousy of the god of medicine, Asclepius, by turning the young man into a peony. This early classical association created a connection between the peony and the ideas of safety and peace. The ancient Greeks believed that the flower was imbued with Paeon’s healing powers. (This origin story appeals to Joy, who taught Greek mythology for many years in the English department.)

The petals have food properties, and the blossoms have been a favorite subject of artists around the world for centuries. Joy and her husband and colleague, Gary Williams, will add to the generous donations in Joy’s honor to create the “Joy Passanante & Gary Williams Peony Garden.” The intent of the installation will be to represent species from a wide geographical area and to provide a fragrant and brilliant haven for arboretum walkers during the spring blooming season.

Paul Warnick

Calendar of Upcoming Events

JUNE 28
Science Saturday – WSU Raptor Club, UI Arboretum 10:30 a.m.

JULY 14
Summer Concert in the Arboretum, UI Arboretum 7:00 p.m.

JULY 26
Science Saturday – Pond Ecology and Invasive Species, UI Arboretum 10:30 a.m.

AUGUST 23
Science Saturday – Sketching Nature, UI Arboretum 10:30 a.m.

MAY 30, 2015
Arboretum Associates Plant Sale, Palouse Ice Rink, 9:00 a.m. to Noon