

The Trillium

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Chapel Hill, Durham, Raleigh, NC
<https://www.piedmontnargs.org>
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Hellebores from the Beginning to Present Day

By Dick Tyler

I doubt that I need to explain what a Hellebore is. Just in case, hellebores are mostly evergreen perennials that bloom in shade or part shade in winter and early spring. They are native from England through the Balkans to Turkey. One species is native to Tibet.



Caulescent

There are two main categories that the species of the genus *Helleborus* are divided into with three species not fitting into either of those two categories. First up are the “Caulescent” types; *H. foetidus*, *H. argutifolius*, and *H. lividus*. These species have their leaves and flowers on the same stem (s). The “Acaulescent” Hellebores have their flowers and leaves on separate stems. *Helleborus niger* (Christmas Rose) has both as does *H. vesicarius*.



Helleborastrum plant structure

Acaulescent

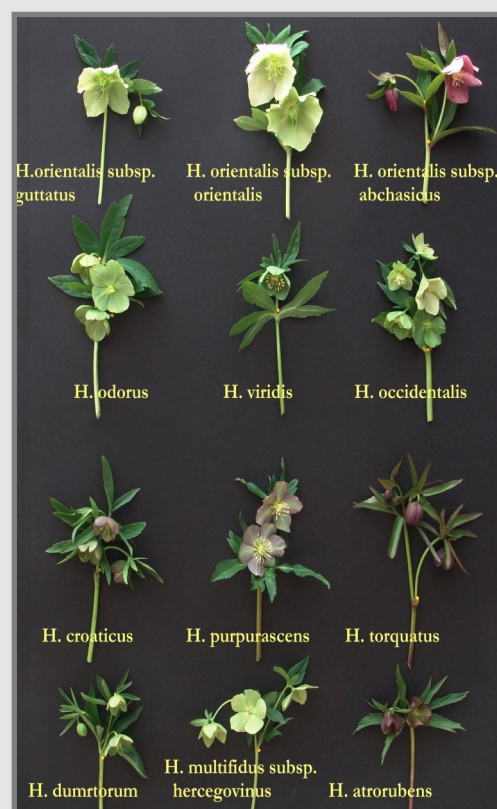


H. Niger

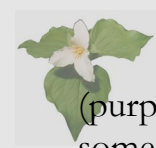
While the white flowering *H. niger* is a wonderful early-blooming plant there is not a great deal of difference in flower color within the species. It is used in breeding as the seed-parent for many of the Interspecies Hybrids.

For this article, I am going to concentrate on the Acaulescent type Hellebores. There

are about twelve species in this category. Over the years the species in this category have been bred together to produce what are now called *Helleborus x hybridus* (Common Name: Lenten Rose). These used to be called “*Helleborus orientalis*” or “*Orientalis Hybrids*” because the white flowered *Helleborus orientalis* found in Turkey and Caucasus Mountains in Soviet Georgia makes up the main portion of their background. *H. orientalis* and its two subspecies; *H. orientalis subsp. guttatus* (white with spots) and *H. orientalis subsp. abchasicus*

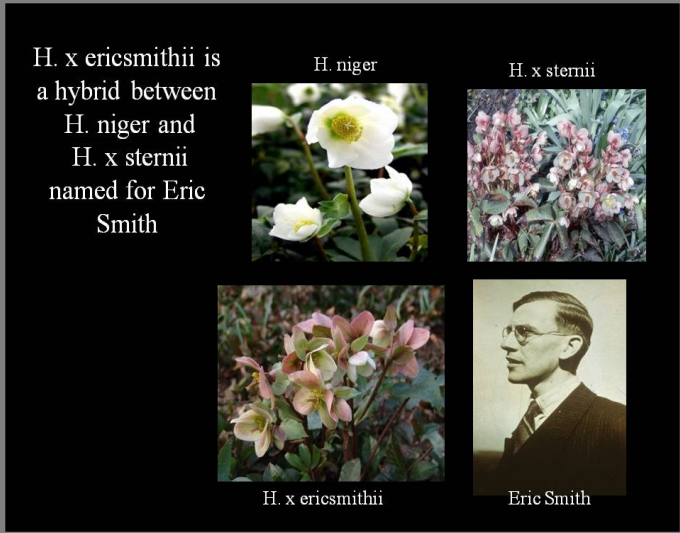


Acaulescent Species



(purple) were used as the background of the breeding because they do not go summer-dormant like some of the other Hellebore species.

Some of the earliest breeding work was done by Germans, Alex Braun and Karl Koch. One of the first Hellebore books was Victor Schiffner's Monographia Helleborum. These are only a few of the many in Central Europe that were trying to identify and use the plant. Around the same time in the UK, EA Bowles and Thomas Archer-Hind were also starting to work with them.



Eric Smith



Picotee

plants from root divisions. One of the things she developed was a white flower with a narrow raspberry picotee edge. She also discovered two double flowering *H. torquatus* which she named "Dido" and "Aeneas". These were some of the first doubles (later to become "Party Dress" hybrids) grown by Robin White of Blackthorn Nursery.

Perhaps all early breeding in the UK was influenced by Helen Ballard. She set the standard with some of the best color breakthroughs. You can still find plants with her names on them today though most should not be labeled as such as they are seedlings of her plants and not clones.

She left her breeding stock to Gisela Schmiemann in Germany. Seed from those plants were sold by Jelitto Perennial Seed for a while as the Lady Strains.

In Germany, Günther Jürgl and Heinz Klose did a

All of this work was interrupted by two World Wars. After WWII, Eric Smith, Jim Archibald, and Hilda Davenport-Jones began to work in breeding. Hilda later turned over her nursery to Elizabeth Strangman at Washfield Nursery (now closed). Elizabeth was one of the first to grow Hellebore plants for sale in pots. Before, you could only get small



Jim Archibald on right with wife Jenny



Elizabeth Strangman



Helen Ballard

lot of breeding including some more doubles. Later, Hans Kramer in Holland did some good work. The first reverse picotee I ever saw was at his place.

All of the early breeding was done within groups. Breeders focused less on specific species of a plant and more on desirable traits within the group. Dark *H. torquatus* to get a “very

dark one” best of the *H. odoratus* to get the yellows, good veining of *H. croaticus* to get



Dark *H. torquatus*

veining are what make up some of plants we marvel over today. Now, breeders do not generally work with species in their crosses; in-

stead opting for special hybrids.



H. croaticus

species. We asked Brian if he would write a key for our own book, but he quickly said, “no”. In fact, he said he regretted adding a key to his own book as too many plants do not fit easily into one of our notions of a “species”. Later, Brian along with Will McLewin wrote many good articles for “The Plantsman” on Hellebore species.

There is no one that I know of who has worked harder to understand the species than Will McLewin. He has recently written a

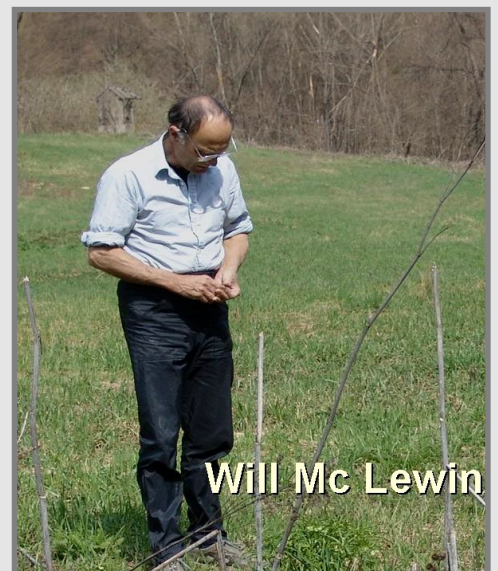


Hans Kramer's Reverse Picotee



H. odoratus

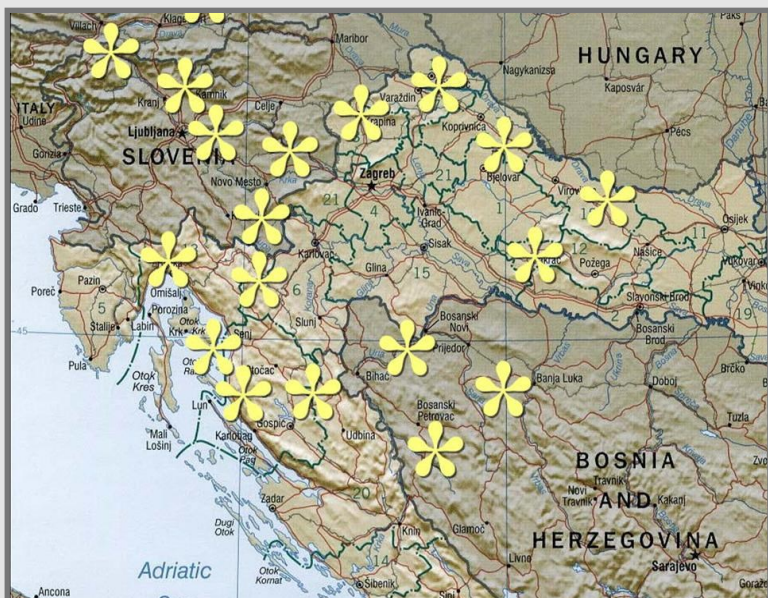
Some people have made attempts to understand and classify the species. Brian Mathew wrote the book Hellebores in 1989 to try to explain the



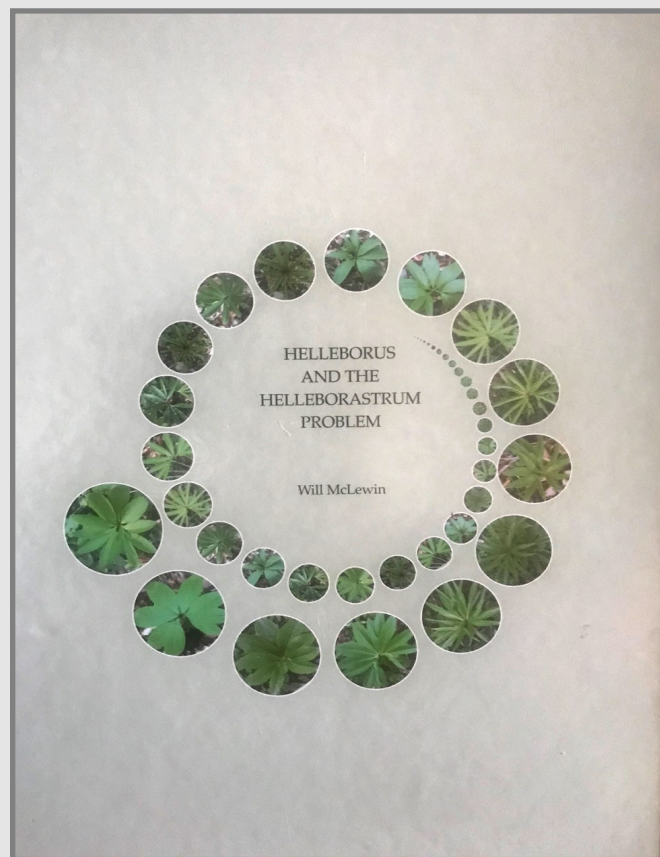
Will Mc Lewin



book Hellebores and the Helleborastrum Problem; an amazing work. I wish I was smart enough to understand it all. Some points from his book that I think I understand are that Hellebores are evolving. There are almost no pure colonies hence why the use of Provenance is somewhat limited. When we were traveling through the Balkans with Will, the word “variable” kept coming up. Take this picture taken in a fairly



Places in the Balkans



Will's Book

“Type” as in “Torquatus Type”. This is usually only a problem when you want to converse with someone else to be able to refer to a species and both have a similar idea what you are talking about.

small area of what should be *H. multifidus* as an example. I appreciate Will's use of the word



Kevin Belcher on left with Jill Pierce and John

There have been some amazing advances in breeding in the last twenty or so years. Most of this is due to Ashwood Nursery in the UK. Kevin Belcher has been breeding at Ashwood for going on thirty years yet he still looks young. We used to go to Ashwood every year with our friends

Cole Burrell and Ernie and Marietta O'Byrne to bring back plants for our own breeding. There always seemed to be groups from Japan doing the same thing along with other groups from across the EU. Kevin somehow always seems to have new crosses. His recent showcase at Chelsea two years ago was mind boggling.



Chelsea Flower Show



In this country, Ernie and Marietta O'Byrne have been producing some great seed strains. We grow and sell their strains at Pine Knot and have recently begun working again on our own breeding program.

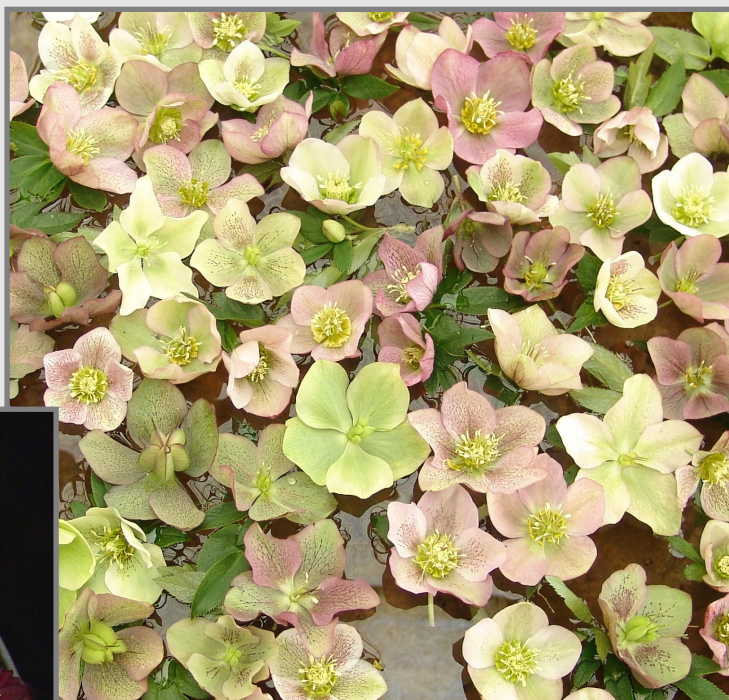
There is a couple in France; Thierry and Sandrien who are doing great work as well as groups in Japan and New Zealand.



O'Byrne Seed Strains

Some other people who helped to increase interest and improve Hellebores in this country include; Dan Hinkley, Elizabeth Lawrence, Bill Hunt, Nancy Goodwin, and Pam Harper; to mention a few.

Here at Pine Knot Farms we got our start with Hellebores from Sam and Carleen Jones of Picadilly Farms. Sam found some plants in an old garden in Atlanta. We used his plants to breed with until we made the first of our almost twenty-five trips to England and began bringing back plants to breed with. The plants we brought back got better every year.



Early Plants



Recent Bowl

As it stands now, we are still planning to have our annual Hellebore Festival in February and March. We will adjust this decision as it seems appropriate based on Federal and Local regulations and guidelines. Keep an eye on our website and social media pages for the latest information. 🍀



The Intersection of an *Amorphophallus* and a Titan's Legacy

By Brandon Huber and Jason Lattier

The following article is not a botanical treatise on *Amorphophallus*, nor a biography of one the heroes of the genus. Authors far more qualified than us have written those articles. Rather, we present to you a story of how these fascinating plants have brought together the authors of this article, at the beginning of their horticultural careers with Alan Galloway, one of the botanical titans of North Carolina horticulture in the waning year of his life. A life, filled with curiosity and discovery, that he graciously shared with us as we delved into the strange and wonderful world of the corpse flower.

Brandon's first encounter with *Amorphophallus* dates back to 2002. At only 13 years of age, he acquired an *Amorphophallus konjac* among other relatives, including *Sauromatum* and *Dracunculus*. Two years later, Brandon bloomed his *Amorphophallus konjac* and he was hooked on the genus for life. Later, he acquired the fabled titan arum (*Amorphophallus titanum*), intrigued by the species holding the title of "world's largest inflorescence." However, living in a northern climate with no greenhouse proved too challenging to grow this monstrous tropical species from Indonesia, and it soon succumbed. In 2010, Brandon acquired another titan arum from the Huntington Botanical Garden and named it "Lupin." Lupin traveled with Brandon to his new job at Meadowbrook Farm of the Pennsylvania Horticulture Society where he cared for it in one of their stock greenhouses. In 2014, Lupin attended grad school at NC State University alongside Brandon where Diane Mays, the greenhouse curator, was kind enough to give it a home in the conservatory. By the fall of 2016, to Brandon's surprise, Lupin graced the conservatory with its first bloom standing 6'4". This led to many connections, including Alan Galloway and (later) Jason Lattier.

Jason's first encounter with *Amorphophallus* was during a scholarship in the United Kingdom. He was working a dream internship in the research greenhouses at the Eden project when, among the botanical wonders, one plant stood out among the rest. It was a giant *Amorphophallus*. He couldn't believe the enormity of its single leaf, the green patterns on its huge petiole, and the shocking smell of its corpse flower. He, like many others, realized the simple fact that, once you've encountered a huge corpse flower, you'll never forget it.

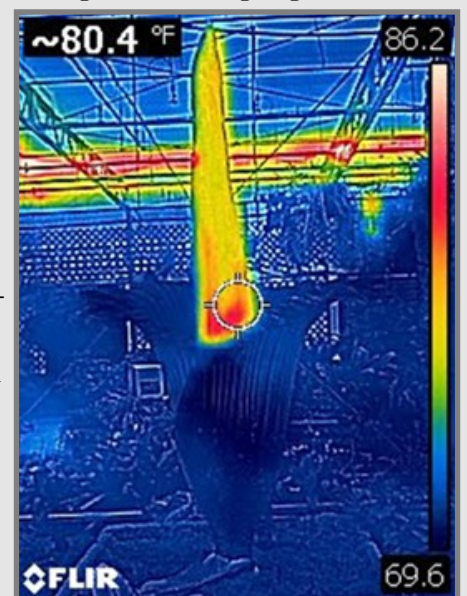
Many might wonder why you would grow a flowering plant that smells like a rotting corpse. However, when you dig deeper into the genus containing over 200 species it is easy to gain appreciation for them. For



Alan Galloway and Brandon Huber with 'Peter Grande' at Plant Delights Nursery in 2018. Bloom of *Amorphophallus titanum* (rear) and full-size plant of *Amorphophallus ongsukalii* (front).

starters, *Amorphophallus titanum*, is noted as the flagship conservatory species, known for drawing huge crowds up to 30,000 people as the world's largest inflorescence. This plant is known by a people from all walks of life beyond horticulturists, and often appears on peoples' "bucket list." The titan arum produces an odor so strong and fascinating that people cannot help but come back for more. The odor omitted is a unique mechanism to draw more unusual pollinators like carrion beetles and flies. But if that was not clever enough, these flowers are often thermogenic, releasing heat as much as 15 degrees warmer than ambient air

Even when not in bloom, *Amorphophallus titanum* catches attention as a leaf standing up to 12-15' tall. A



Thermal image of *Amorphophallus titanum* "Lupin" at the NC State University conservatory in September 2016.



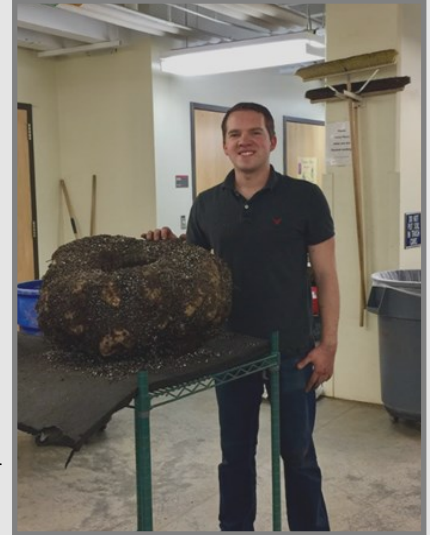
Brandon Huber beside a petiole of *Amorphophallus titanum* “Lupin” at the NC State University conservatory in March 2020

very peculiar leaf, comprised of a single petiole with various patterns resembling lichens, with multiple symmetric leaflets held atop spreading as wide as it is tall. But not all *Amorphophallus* are giants and not all have a fragrance. At the smaller end of the spectrum is the Lilliputian species *Amorphophallus ongsakulii* standing with a mature leaf 3” tall and an inflorescence only 1” tall. As you compare *Amorphophallus titanum* and *Amorphophallus ongsakulii* together, you can easily see the resemblance, but it is truly out of this world. Beyond the various inflorescence colors found across species, the leaf petiole and leaflets come in various colors, sizes, and textures making them all stand apart. What is even more bizarre is that even in the largest of species like *Amorphophallus titanum* standing 12-15’ tall, that all growth shown above ground is temporary, declining after each growing cycle to

return to a single underground corm weighing as much as 300 lbs.

While the desire to grow monster conservatory plants captures the imagination of most horticulturists, very few are afforded the opportunity to cultivate these mesmerizing tropical monsters. Years later, after wrapping up a postdoctoral appointment at the US National Arboretum, Jason heard of a unique opportunity to build a new tropical conservatory (The Caine Conservatory) in his home state of North Carolina on the campus of High Point University. After moving back to North Carolina, he began chatting with his old colleagues at NC State’s horticulture program and learned of a corpse flower named “Lupin” that was about to bloom for a second time in their conservatory. He had to meet the person responsible for growing this monster bloom. Jason and Brandon met over lunch on a rainy day on Hillsborough Street where Jason picked Brandon’s brain for hours about this surreal genus. A group of plants that remained in the back of Jason’s mind since that first encounter in the UK. After the volumes of good advice from Brandon, he suggested Jason meet the real expert who happened to live right down the road where he maintained one of the world’s largest species collections of *Amorphophallus*.

Prior to formally meeting Alan through Lupin in 2016, Brandon was aware of Alan Galloway’s contributions to the genus, but he did not know that he lived only 15 minutes from him, just down the road from Plant Delights Nursery. That was until 2016, when Alan



Brandon Huber and a 120 lb. corm of *Amorphophallus titanum* “Lupin” at NC State University



Photo 5. Brandon Huber (left) and Jason Lattier (right) with flower of *Amorphophallus titanum* “Lupin” at NC State University Conservatory in 2019.



reached out to Brandon as Lupin was developing its inflorescence. Alan emailed Brandon and said “Tony Avent just told me about your *Amorphophallus* addiction and that you are a student here at NCSU. I work here and have the same plant addiction. Look at my plant collection on my website.” Looking at Alan’s website Brandon was blown away. Over 200 species in a genus with the most detailed photos for each species, cultivar, and selection you could find anywhere in one place. Shortly after exchanging emails, Alan identified Lupin’s developing shoot was an inflorescence before Brandon did, based on pictures he was sharing with him.

During Lupin’s bloom (Sept 2016), thousands came to see the flower, including Alan. He waited in line with everyone else and initially Brandon did not distinguish the “world expert” from the crowd. Alan showed up multiple times. He later sent Brandon a message, saying “Hey, I stopped by to see Lupin this morning and I think you should pollinate Lupin as soon as possible if you want seeds.” Brandon took his advice.

Later in 2016, Alan invited Brandon over to see his collection and their personal connection grew. Alan was very generous, and each time Brandon would visit, he would leave with a car full of plants, stuffed into a small car. One of the plant labels read *Amorphophallus gallowayi*, which triggered Brandon to ask about its history. This led to learning about many of the plant expeditions and discoveries Alan was involved in. He mentioned *Amorphophallus gallowayi* was discovered with the help of other explorers, highlighting the group effort, and mentioned he did not want it named after him. After further research, Brandon noted that Alan described over 30 species, but he would not tell you that. These discoveries were not only limited to *Amorphophallus*, but included *Dracunculus*, *Typhonium*, and the iconic *Colocasia gigantea* ‘Thailand Giant’. The years following, Brandon would learn extensively from him about *Amorphophallus* and his exploration through messaging and each time he visited his home collection.

For Jason, meeting Alan Galloway for the first time was an experience in itself. Visiting his collection with Brandon in 2019, Alan’s casual and unassuming manner immediately put us both at ease. However, a quick glance around the walls of his house revealed that we were in the presence of a true botanical giant. On his walls were framed photos of rare species, photos of plant exploration trips around the world, photos of new species he discovered and named, and many other pieces of ephemera that documented a lifetime of study and discovery. And we hadn’t even visited his greenhouses yet.

Heading down into Alan’s outdoor shade house we were greeted by monster plants, with the largest tied to the structural posts for extra support. Alan used a lightweight soil mix (equal parts bark, perlite, and bag mix), which allowed him to manage the large plants by himself. Sitting among his plants, drinking a PowerAde and smoking a cigarette, Alan shared his experiences on building his plants



A tour of Alan’s private plant collection with Brandon (front), Jason (photographer), and Alan (rear) in 2019.



collection and shared his advice on managing such a large diversity of *Amorphophallus* species. Alan had been busy dispersing much of his collection and agreed to give some replicates to the new Caine Conservatory at HPU. When Jason asked for small collection of representative species, Alan said with a wry smile “take it all, or nothing.”

Alan maintained his collection of deep tropical species in a glasshouse packed with wild-pattered leaves, dormant tubers, and makeshift pots and structures. Awe-inspiring Aroids such as *Taccarum*, *Typhonium*, *Arisaema*, and *Amorphophallus* lined the benches of his greenhouse. Strange long-tuber species of *Amorphophallus* (think of a long, ugly carrot) were growing them in pieces of PVC tubes with extra drain holes drilled into the sides. These tubes were carefully arranged in a hand-built wire frame to prevent them all from tumbling like bowling pins. These unusual and rarely seen species were happily growing in their tubes with barely any soil. It was in his greenhouse and connecting head house where we got to see his method of labeling dormant tubers, where piles of tubers were arranged on bench tops with their tags set loosely nearby. When asking him “what happens if I bump into a bench or leave the door open to a gust of air?” Alan simply replied with an impassive smile “you’re dead.” Alan had his system down to perfection and we realized we were fortunate guests in his botanical kingdom. Luckily, not a table was bumped nor a gust allowed through the door.

Though Alan was somewhat kidding with his previous “all or nothing” comment, Jason spent much of the fall of 2019 transporting a box truckloads of *Amorphophallus* to High Point University, even before the conservatory and greenhouse construction was finished. Dormant tubers were inventoried and placed wherever he could find space. Dormant tubers were stored at an offsite greenhouse at a nearby estate, a marmot dormancy chamber in the animal research facility, and (appropriately) in a basement cadaver lab in his science building.

Plants that survived their first winter dormancy were planted and grown in the two new production greenhouses adjacent to the conservatory’s main display house. *Amorphophallus* were slow to wake up in Spring and after several stressed calls to Brandon to get reassured that they were still alive, the collection began to wake up. Several plants were pushing large flowers that were placed in prominent locations on display. These became a source of fascination for students and faculty alike. As plants in their leaf phase grew large (and began being top heavy) they were nested into the display beds (Photo 7). Plants were nested while still in their containers to make them easy to remove once they began to go dormant. The planting mix was Alan’s standard mix and the bed soil was a Stalite (expanded clay) based media. The top surface of the soil dries quickly and so far there has been no corm rotting. Once *Amorphophallus* go dormant, it is easy for them to be removed from the soil. Many of the plants had begun to aggressively break through their plastic nursery containers and produced roots through the drain holes that penetrating deep into the surrounding soil.

After juggling hundreds of *Amorphophallus* plants over the last year, with many plants being replicates of the same species or cross, Jason has begun connecting with other NC gardens to further distribute some of Alan’s collection. Plants were recently donated to Reynolda Gardens and dormant tubers will soon be sent to the NC Zoo to display in their tropical Apiary. Jason will maintain a working collection of Alan’s plants at the Caine Conservatory while disbursing additional plants to interested gardens. We can think of no better legacy for Alan’s collection than to have it displayed in public gardens throughout North Carolina, and gardens abroad. ❧

Editor’s note: Alan Galloway was recognized world-wide for his knowledge of the aroid family of plants. As noted in Brandon and Jason’s article he is credited with identifying 30 new species; other plants from his collections are likely to be “new” to science as the cataloging continues. In fall 2018, Alan became ill and several months later he was diagnosed with late stage bone cancer. After his diagnosis, Alan began distributing his vast collection of aroids for conservation to gardens and gardeners around the world. Alan died in May 2020. Tony Avent paid tribute to Alan Galloway in the Summer 2020 issue of *The Trillium*.



Plant Profile by Marian Stephenson

Botanical name: *Mahonia eurybrachteata* 'Marvel'

Family: Berberidacea

Dimensions: Up to 6' tall and 4' wide.

Culture: Part sun to shade, protect from strong winds. Does well in filtered shade.

Bloom time: Late fall into early winter. Long, continuous blooming period.

Color: Flower color: clear yellow. Foliage: medium green

Habit: Upright, providing a nice vertical accent with layered branches.



A well-grown, mature **Mahonia** 'Marvel' that I am hoping to achieve in time.

General attributes: Nice used as an accent plant in a small garden bed, foundation plantings, and as I use it - at the edge of woods behind my apartment. Flowers are said to have fragrance, but I have not detected that. I enjoy its long blooming period, which started in November and is still going strong with blooms on the first day of 2021. It is a cheerful plant, quietly adding charm to the slowly developing woodland boarder that I hope will provide some needed screening.

'Marvel' is one of the Southern Living Plants series and should be a available in this area. Mine came from Southern States in Carrboro. 🌿



Mahonia 'Marvel' growing in shady edge of woods—still blooming January 1, 2021.

The Piedmont Chapter Completes Another Successful SeedEx Activity

Under the guidance of Amelia Lane, 14 volunteers successfully packaged seeds of 200 genera in 5 days in early December. Folks picked up their kits of materials, including instructions and seeds, in Raleigh, Cary and Durham at homes of Amelia, David White, and Marlyn Miller. Kits were picked up Friday, Dec 4 from the contact person and returned to them Tuesday, Dec. 8. Amelia expressed her appreciation to volunteers Elsa Liner, Bobby J. Ward, Marian Stephenson, James & Anita Hollister, Ralph Whisnant, David White, Sandy Horn, Tom Harville, Marlyn Miller, Wayne Stephens, Scott Zona, Valerie & William Lorenz, and Marilyn Golightly. 🌿



Bulk seed envelopes, seed name labels, glue stick, glassine envelopes provided for packaged seeds and more.



Contents of one bulk seed packet on paper plate for easy scooping and measuring 10 or 20 seeds for glassine envelope.



Completed seed packets from one bulk envelope—ready for securing with a rubber band.



Ready for final packing to be sent to fulfillment group.



Ready for FedEx guy!



Message from the Chair

Cyndy Cromwell

Happy New Year – welcome to 2021 and buh-bye 2020! Last year, in person meetings ended after February, and the Raulston Blooms Plant Sale, a botanizing trip to western North Carolina and our May picnic all went by the wayside. Still, 2020 brought a few bright spots for the Piedmont Chapter.

Thanks to generous donations by chapter member Tony Avent, we were able to stage a couple of online plant sales that were well supported by our members this spring and summer. Thanks to Plant Sale Chair Jim Hollister for handling the logistics!

The fall bulb sale was a quick sellout again this year, with members snatching up an appetizing selection of Van Engelen bulbs. Amelia Lane did an outstanding job, placing our order for 1600 bulbs last spring before stock sold out, hosting a socially distanced packing party with committee members Elsa Liner, David White and myself, as well as organizing distribution.

We wound up the year with another round of seed packaging for our parent organization, NARGS. Many seed exchanges are not operating this year due to the pandemic, but thanks to NARGS leadership and chapter members working individually at home, Seedex will continue. Kudos to everyone who participated this year, and enormous gratitude to Amelia Lane, who stepped in to organize our chapter's efforts.


If you haven't ordered before, NARGS Seedex is a wonderful resource for rare and unusual seeds, including wild collected taxa, and a real bargain. For \$17, NARGS members receive 25 taxa, postage paid.

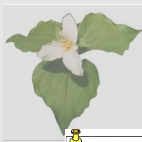
First round ordering continues through the end of January, details here: <https://nargs.org/2020-online-ordering-information>

Outstanding programs are the heart and soul of the Piedmont Chapter, and Bobby Ward has kept up our chapter's standard of excellence, scheduling an interesting variety of speakers for our Zoom meetings.

On January 16, I'm looking forward to a welcome jolt of color from Pine Knot Farm's Dick Tyler in his talk, *Hellebores: Homeland to the Present*.

Then on February 13, Brandon Huber and Jason Lattier present *The Aroid Collection of Alan Galloway*. Alan was a world-renowned plant explorer and botanical scientist, who conducted 21 study expeditions to remote regions of the world, where he discovered 30 plant species new to science. It should be fascinating to hear about his collection, its distribution and preservation.

What about 2021? Will there be a plant sale this spring? When will we meet in person again? We wait in hope! Updates will be posted at the website as they become available. 



NARGS Piedmont Chapter Meeting

Zoom Program
10 am, January 16, 2021

Dick Tyler
Clarksville, Va.

**“Hellebores: Homeland
to the Present”**

BOARD OF DIRECTORS

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Jim Hollister

TRILLIUM EDITOR

Marian Stephenson

Bobby Wilder, Distr.Mgr

Bobby Ward, Quality Review Editor

OTHER SIGNIFICANT POSITIONS:

Plant Sale Manager: Tim Alderton

Piedmont NARGS Speakers

Fall 2020/Spring 2021

February 13, 2021

Brandon Huber and Jason Lattier
NCSU and High Point University

“The Aroid Collection of Alan Galloway”

March 20, 2021

John Dole

Former head of the Dept. of Horticulture at NCSU
Associate Dean and Director of Academic Programs
for the College of Ag and Life Sciences at NCSU

**“A Floral Journey:
Discovering the Magic of Flowers”**

April 17, 2021

Jeremy Schmidt and Meghan Fidler
Raleigh, N.C.

“The Bristol Briar: From Space to Place”
[the development of their garden south of Raleigh]



Helleborus x hybridus O
‘Winter Jewels’
Blue Diamond Strain

**Hellebores Available at
Pine Knot Farms**

**Look for Open House
Coming Soon**

Website: pineknotfarms.com
Phone: (434) 252-1990



Helleborus Frostkiss 'Anna's Red'