



# conifer

AMERICAN CONIFER SOCIETY | CONIFERQUARTERLY | Volume 36, Number 4/FALL 2019

# Fall 2019 Volume 36, Number 4

**CONIFERQUARTERLY** (ISSN 8755-0490) is published quarterly by the American Conifer Society. The Society is a non-profit organization incorporated under the laws of the Commonwealth of Pennsylvania and is tax exempt under section 501(c)3 of the Internal Revenue Service Code.

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## CONIFER QUARTERLY

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### Inside Cover Photo

*Pinus koraiensis* 'Morris Blue' close-up,

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*Picea abies* 'Acro-yellow',

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# Gotta Love that Latin Beat

David Olszyk

One of the things that I've enjoyed most during my short time as your president has been the opportunity to go to events and interact with you, the membership. Something that's always concerned me is how new members and other novices react to us Coneheads speaking botanical Latin. While I can appreciate how intimidating this might be, I assure you that this curious behavior is not out of a sense of arrogance or superiority, it's simply us speaking our language. Allow me to explain:

Conifers, like all other living things, are classified using the Linnæan system of taxonomy, as developed by Carolus Linnæus (born: Carl von Linné) in the mid-1700s. At that time, Latin was the universal, academic language for all official documents, including those reporting scientific discovery. The use of Latin for scientific nomenclature has persisted to this day and facilitates universal communication and understanding. Linnæus was Swedish, and his native language would not have served any of us, unless, of course, we all spoke it. Besides, modern languages frequently change over time and, as such, do not provide reliable linguistic stability. Classical Latin, the prose that Linnæus used, however, has remained roughly the same from its earliest forms and gave voice to what we know as scientific nomenclature, universally understood by all who study nature. Take, for, example



a very attractive and popular conifer, the Nordmann fir, named in honor of the Finnish biologist, Alexander von Nordmann.

Nordmann fir is a popular choice for Christmas trees all over the world. Here in the United States, we know it as Nordmann fir, or sometimes as Caucasian fir, because it is native to the Caucasus Mountains of Eastern Europe. However, what if we're talking to someone from Germany? They know this conifer as *Nordmann-Tanne*. How about someone from Turkey, where the tree is native? They call it *Doğu Karadeniz göknarı* (eastern Black Sea fir). I think you get the idea. All of these common names are used, but where's the common ground? It is the Latin name *Abies nordmanniana* that is universally understood, allowing us to communicate clearly about our beloved conifers.

Taxonomic history and evolution can get even more curious. Take for example, the ever-popular Nootka cypress (*Cupressus nootkatensis*), one of the more confusing characters in this drama. First, consider the genus, which, during the time I've been working with conifers, has changed at least 3 times. In the early 2000s, everybody knew this species as *Chamaecyparis nootkatensis*, a name we still commonly see on plant tags everywhere. In 2001, upon discovery of the Vietnam cypress (*Cupressus vietnamensis*), taxonomists began to take a hard look at the *Cupressus* genus. For a short time, Nootka cypress was placed in a new genus, *Xanthocyparis*. Then, taxonomists created yet another

genus, *Callitropsis*, in an attempt to resolve the differences that Nootka cypress had with other cypresses. Finally, DNA analysis conducted by a Chinese team led by Mao Kangshan on all cypresses and junipers in 2010 gave us the classification that the ACS uses today: the genus *Cupressus* and its four sections, namely *Cupressus*, *Hesperocyparis*, *Callitropsis*, and *Xanthocyparis*.

Our linguistic journey does not end with botanical names. We began this discussion with common names for the Nordmann fir. Nootka cypress has had a series of nomenclature twists and turns, too. Of all of the common names available for this species, you see that I prefer to use the least common choice. Why? Simply because it's the closest translation from the Latin. This cypress was originally collected and described based on a specimen found on Nootka Island in British Columbia, Canada, in the early 1800s. Other common names for *Cupressus nootkatensis* include Alaska(n) cedar, which is problematic because it's not a cedar. Only plants in the genus *Cedrus* can rightfully be called cedars. We have the same issue with the other prevalent common names: yellow cedar, yellow cypress, Nootka cedar, and Alaska(n) yellow cedar.

A similar problem exists with *Juniperus virginiana* (eastern red-cedar). Obviously, based on the botanical name, it's not a cedar, either. This is a juniper, but use of eastern juniper as a common name has yet to gain traction. To me, sticking as closely as possible to the translation from Latin suggests

that the common name should be Virginia juniper. Western red-cedar (*Thuja plicata*), is equally absurdly named. It's not a cedar either, but rather a species of arborvitae. So, western arborvitae would be more sensible. My suspicion is that our pioneers used the term "cedar" for all conifers with aromatic wood, hence the use of the common name for a number of non-*Cedrus* genera. I hope this gives you an idea of why veteran Coneheads prefer to use botanical Latin. It is all about communicating plant names clearly and correctly and understanding each other. Obviously, we still have work to do with common names!

### **A few other notes**

Your Board of Directors is still very interested in establishing a Conservation Committee, responsible for soliciting and reviewing applications for grants to be applied to conifer conservation projects, then recommending who receives funding. Anyone with a background in conservation or experience in working with fundraising is welcome to apply. Please feel free to email me.

The financial arm of the Society needs one more person to round out the Investment Committee. Experience helping non-profits would be wonderful! In addition, the Finance Committee needs an accountant with a background in internal control. Please call, email, or text Robin Tower, ACS Treasurer at 336-416-4175.

# *Pinus krempfii*, The Most Unusual Conifer in the World

Text and Photography Scott McMahan



Huge *P. krempfii*.

In late June 2018, Dr. Dzu Văn Nguyễn, a colleague of mine at the Institute of Ecology and Biological Resources (IEBR), contacted me. The IEBR is a branch of the Vietnam Academy of Science and Technology (VAST). Dr. Dzu suggested that I consider making a return trip to the Central Highlands of Đà Lạt, Vietnam, where he and I had traveled together before. I had wanted to see more of the rich biodiversity there and, also, to try to gain a better understanding of some of the rare conifers that exist in Bidoup Núi Bà National Park. In particular, I wanted to study the only known flat-needled pine in the world, *Pinus krempfii* (Krempf's pine).

With financial support from the American Conifer Society, my goals on this second trip were to establish

the appropriate bureaucratic channels with the Vietnamese government and thereby to gain permission to collect seed from *Pinus krempfii*, in order to share it with the VAST biodiversity station in northern Vietnam. Eventually, I want to evaluate the ability of the tree to grow in temperate climates in the United States, and building the relationships with the right people and organizations in Vietnam was the crucial first step in this endeavor. We also began to discuss the idea of building seed beds inside the park in areas with more light. The idea was to increase germination and, thus, to enable the distribution of seedlings. Since we already had a well-established relationship with VAST, the staff was very amenable to working with us to collect seed and to attempt to establish plants in a few botanical gardens outside of Vietnam.

We decided that early December was the best time of year to collect seeds, and I booked my flight. Not wanting to fly all the way to Hanoi just for a few days in the field, I also set up meetings with colleagues at Flora and Fauna International (FFI), so that together we could continue to work out a plan for collaborative efforts in Vietnam. I invited Dr. Peter Zale, Associate Director of Conservation, Plant Breeding and Collections, Longwood Gardens, to come along for these meetings. He is a very keen plantsman and had expressed to me an interest in working in Vietnam. With Peter on the team, I felt that we were ready to have serious discussions about conservation and collaboration in the field with FFI and IEBR.

Currently, the IUCN (International Union for Conservation of Nature) conservation status for *Pinus krempfii* is "vulnerable". It is only known to exist in two locations, the Vietnamese provinces of Khánh



Young cone producing *P. krempfii* in full sun.

*P. krempfii* seedling in situ.



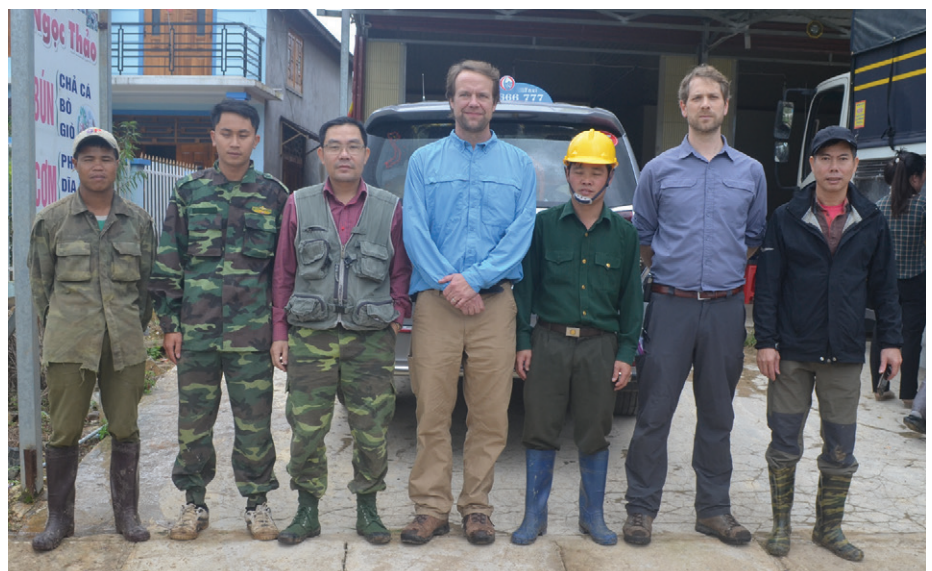
Hòa and Lâm Đồng, although other populations of these trees are reported, but unconfirmed, which may number more than 200 individuals. While our team was hiking through the area, we noted no more than 10 mature trees, with some natural regeneration. However, the immature seedlings coming up in the forest hardly resembled the unique parents. Instead, to me, the seedlings looked much more like vigorous *Podocarpus* (plum yew) seedlings. Our guide kept saying, “baby, baby” as he pointed to each seedling we passed. It finally dawned on me what the seedlings were. They looked so different that I had not understood at first that they were, in fact, juvenile *P. krempfii*. In fact, the taxon *Pinus krempfii* var. *poilanei* (Thông lá det or Ngò ri Krempf’s pine) was described in 1924 and was based on the foliage of the younger plants. That name was later deemed invalid. While the morphology of this species has been the topic of discussion among conifer researchers for many years, chloroplast DNA

analysis has proven that *P. krempfii* falls clearly in the subgenus *Strobus* (white pine).

Peter and I arrived in Hanoi nearly at the same time and it was a fast and furious trip. After landing, we gathered our gear and headed into town to meet Dr. Dzu. That very afternoon, Dr. Dzu picked up our signed permits from the forestry department in Hanoi that allowed us to work in Đà Lạt and to collect seed of *P. krempfii*. We first

needed to meet with our friends at FFI and then with the director of IEBR, to ensure that we were all on the same page regarding collecting and sharing material and information. The next morning, we had a remarkably productive meeting with the country director of the Vietnam program of FFI, Josh Kempinski, the country manager of the Vietnam program of FFI, Lâm Văn Hoàng, as well as two of their field researchers. As it turned out, the three locations we identified in the north as being remarkably rich and well-preserved were very near to where FFI was already working to protect the Tonkin snub-nose monkey (*Rhinopithecus avunculus*) and its habitat. In this meeting, we were all in agreement as to what areas would be our focus. We then created a memorandum of understanding.

Following our meeting with FFI, we went straight over to IEBR to meet the director of the department, Dr. Sinh Văn Nguyễn. By the end of the meeting, we had all agreed on some basic collaborative



Collecting Team: Climber, forestry student, Dr. Nam, Scott McMahan, local forestry director, Dr. Peter Zale, Dr. Dzu.

guidelines and, since then, we have had subsequent meetings to discuss further how we should proceed both *in situ* and *ex situ* conservation work. While there is a basic nursery infrastructure in place within the Academy of Science just north of Hanoi, we discussed the need to make some changes and upgrades that our group would help facilitate (installation of a small tissue culture lab, soil-less growing media, sufficient shade structures) before we could begin to bring seed or plants down from the northern border areas. Much of this will be discussed and worked through in the months ahead.

Now that the key business side of our trip was successfully behind us, it was time to fly down to Đà Lạt to try and fulfill the second goal of the trip, to assess the difficulties of collecting seed of *Pinus krempfii* and possibly actually collect some seed. The next morning, Peter and I were picked up and shuttled off to the airport by Dr. Dzu. I had asked Dr. Vũ Quang Nam to join us. He is an expert in Asian Magnoliaceae from the Vietnam National University of Forestry. Then the hunt was on!

The Bidoup Núi Bà Nature Preserve was established in 2004 and is one of the largest preserves in Vietnam. While much of the surrounding area has been cut over and farmed to the point of complete degradation, the forest in this park has been well preserved and is remarkably diverse. In 2009 (last IUCN update in this area), the park had 62 vascular plants on the IUCN Red List and was found to be home to 15 of the 33 known conifer species in Vietnam. The park is located



Dr. Nam with *Magnolia laoensis*.

in southern Vietnam near the coast. Mountainous surroundings protect the area from temperature extremes. It is named after the two highest peaks around: Bidoup (7,631 feet) and Núi Bà (7,231 feet).

The typical elevation range of *P. krempfii* is between 5,006 and 6,740 feet. The grove of trees we

found suitable for climbing was right in the middle of that range at 5,763 feet. While I knew the area was rich with Krempfer's pines, based on my first visit a few months ago, this time I was able to pay more attention to the amazing diversity of plants growing in association with this ancient conifer. The edge of the forest was full of flowering *Impatiens* species, as well as terrestrial and epiphytic orchids. We were also surrounded by large *Rhodoleia championii* (Hong Kong rose), *Magnolia laoensis* (Laotian magnolia), *Chamaecyparis hodginsii* (Fujian cypress), and *Dacrydium elatum* (Hoàng đàn giả podocarp), just to name a few.



*Dacrydium elatum*.

After a short hike, we began to see the enormous trunks of the trees, the seeds of which we hoped to collect. Many of the *Pinus krempfii* in this park have been around for

nearly 2,000 years and some have reached heights of over 200 feet. Once these mammoth trees reach mature height, the picturesque flat tops become easy to spot, as the trees tower over the canopy. As with most pines, the cones are not produced close to the ground or even close to the trunk. Someone was going to have to climb up these trees (the lowest limbs were 100 feet off the ground) and crawl out onto the branches to reach smaller limbs with cones that could be cut with a machete and then dropped down. This is why we brought locals with us, even though they were scratching their heads as to how they should get started. After seeing the trees, they told me it would be 500,000 Vietnamese Dong (~\$20) per tree climbed. I agreed, and they were ecstatic. The climbing ropes came out.



Tallest trees in the forest.

First, the climbers tried to scale up a tree using a rope, in hopes that they could get to the lowest limb and tie it off. However, the tree was too large, and the distance too great to go very far. Then they tried to climb a smaller tree that was growing next to the larger specimen. They thought they could then somehow transfer from one tree to the other, but that proved to be too dangerous. Finally, they decided on a tree that had a very old vine growing up the side. One of the climbers had the rope tied to his waist and then used the vine to get a foothold as he worked his way up the trunk. Within minutes, he was in the canopy. I could not believe his agility. Once he had tied himself off, he began walking out on the biggest branches and cutting off small branches that had cones. We were a little late in the season and could tell that many of the cones had already dehisced. However, between this tree and one other, our climber was able to get us 18 green cones before the afternoon rain started.

After Peter and I manually pried open each cone and extracted seed, we had around 80 seeds that looked good. However, once we did a float test (a float test for seeds is to put them in water; those that sink are generally viable, those that float are not), we saw that only three sank, and, subsequently, only one of those did germinate. We are unsure if the low viability had to do with the age of the trees or with our timing. Further studies and more expeditions are needed to determine the answer. However, putting all of our hopes in that one seedling proved futile, as it damped off shortly after germination. Too much time has now passed to expect the other two sinkers to germinate, but the more difficult and more important job of creating a relationship with the Vietnamese experts was successful. We are now planning a return visit this fall, where we hope to collect more seed and produce *Pinus krempfii* seedlings. Then we can begin to determine if this lovely and ancient pine can grow in the United States.



Climber in *P. krempfii*. The climber is in the center of the photo.



Collecting cones of *P. krempfii*.



Successful attempt. Seeds were collected over 100 feet up.

# Cedrus, My Favorite Conifer Genus

Text and Photography Jack Christiansen



A panorama of the Christiansen Garden in San Jose, CA, which contains 23 different *Cedrus* cultivars.

When I first started my garden 10 years ago, I did not have a clue as to what kind of plants I would use to fill it. My son and I installed tons of rock for the hardscape, but I didn't have a clear idea of how or what I wanted to plant. It was when I attended a bonsai show in San Jose, CA, and met a vendor there who used *Cedrus* (cedar) for his bonsai that I was hooked.

Conifers were seldom seen at local nurseries in the San Jose area at the time, and, what was offered was not that inspiring. The vendor at the bonsai show displayed a particular cultivar, *Cedrus libani* 'Green Prince'. That plant, like no other on display, made my heart skip a beat. Even now, many

years later, 'Green Prince' still mesmerizes me. I enjoy many species of conifers, but none more than *Cedrus*. Everywhere I look in my garden, there is a cedar.

My go-to handbook for finding cedars back then was the catalog Larry Stanley had published for 2007-2008. I spent a lot of time reading it from cover to cover. Although all of the conifers listed interested me, I opted to buy as many dwarf cedars as I could. Yes, the Addicted Conifer Syndrome set in, and there was no turning back!

I was determined to search out places in Oregon and Washington that listed hard-to-find cedars. I mused about what those unique

plants would look like in my rock garden. I asked myself if they would grow, and what kind of shape they would take over the years?

I have 23 cedars in my garden now. I also appreciate the large ones that were planted in my community decades ago. Cedars have always been my favorite trees in the landscape, but I never knew the names of the trees or the number of varieties.

I hope you enjoy the pictures of some of the different cultivars growing in my garden.

My experience choosing and growing cedars taught me the following:

1.) Only purchase a plant that can grow in your USDA zone. Cedars will not fare well with long periods of hard freezes or humid summers. Some varieties are more cold-hardy than others. Check the zone where you live and compare the recommendations of the grower for best results.

2.) Make sure that the plant you purchase is compatible with the size of the space you have in mind for it. With good pruning skills, you can generally make it fit. Cedars come in various sizes, from miniatures to full-sized trees. Check the 10-year size estimation tag for the best placement.

3.) Cedars prefer a soil that drains well. Here in Northern California many of us have heavy clay. Planting on mounds or slopes helps with drainage and keeps the plants happy.

4.) Cedars do not like to be drenched by heavy watering. Once established, cedars are very drought-tolerant. New plantings need to be watered regularly for at least the first couple of years.

5.) I have found that cedars are quite free of insect damage. Newly planted trees watered from overhead can develop fungus during the heat of summer. Spraying the cedars against fungus will ensure healthy and happy plants over time.

6.) In my experience, the best time to transplant cedars from containers into the garden is when they have finished their first spring growth, and after that growth has hardened off. Your own zone and climate may dictate different timing.

7.) Unless you want your plant to grow as a ground cover, many

cedars will need staking to get them up off the ground and to encourage them to grow upward. I have allowed some plants to grow naturally and have trained others to be more vertical. It is up to you. Just be mindful of the size parameters of the plant and where you place it.

8.) Do not be overly concerned if your newly planted cedar does not take off immediately after planting. Cedars need time to establish a good root system. Position the young plant where it gets sun, but not hot wind and extreme heat. Newly planted trees usually start growing sometime in the third year.

I wish you well enjoying cedars!

*Cedrus atlantica* 'Hillier's HB'  
(Hillier's HB Atlas cedar).

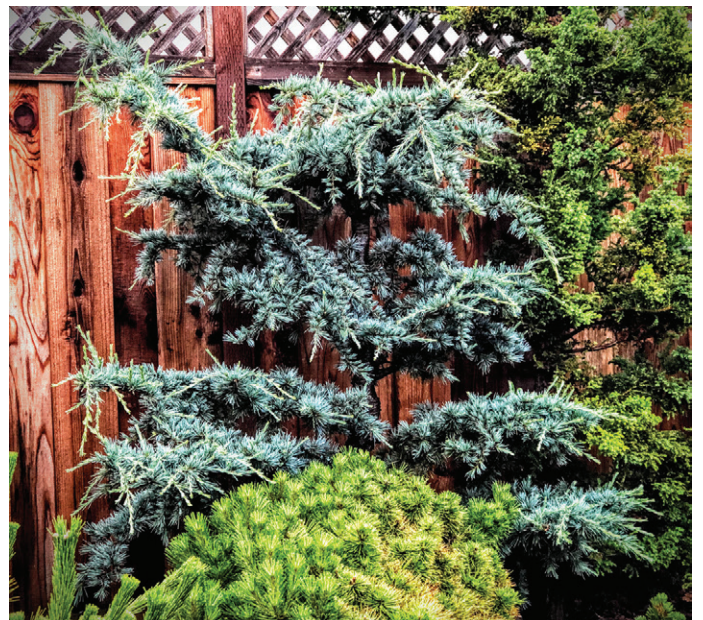




*Cedrus deodara* 'Prostrata' (prostrate Himalayan cedar).



*Cedrus deodara* 'Feelin' Blue' (Feelin' Blue Himalayan cedar).



*Cedrus atlantica* 'Horstmann' (Horstmann Atlas cedar).



*Cedrus atlantica* 'Aurea' (golden Atlas cedar).



*Cedrus deodara* 'Deep Cove' (Deep Cove Himalayan cedar).



*Cedrus atlantica* 'Glauca Pendula' (blue weeping Atlas cedar).

# If Two Were Not Enough...**FOUR** Fungi Are Attacking Conifers

Text Dr. Ronald J. Elardo

In the Summer 2019 CQ (pp. 23-26), Leah Alcyon asked what was going on with needle cast on her *Pinus aristata* (Rocky Mountain bristlecone pine). She discovered black dots on the needles of her plant that proved to be a fungus. Her inquisitiveness actually identified for ACS members what researchers at universities in the US had identified in as early as 2006.

Leah discovered that her bristlecone pine was suffering from *Rhizosphaera* needle cast (*Rhizosphaera kalkhoffii*). Further investigation also revealed the telltale black dots of that fungus on *Pinus sabiniana* (gray pine), *Pinus jeffreyi* (Jeffrey's pine), and *Pinus wallichiana* (Himalayan white pine). She widened her search and photographed a *Pinus sylvestris* (Scots pine) at the home of a neighbor. There were black dots on the stem of the Scots pine, like the fungus fruiting bodies on the stems of her bristlecone pine. She did not know it at the time, but what she observed and photographed was neither *Rhizosphaera* nor *Stigmina* needle cast. That is where I come in.

I also wrote an article for the Summer 2019 CQ (pp. 27-30) on fungi attacking conifers. The damage has been pretty extensive among my trees. Upon inspecting my failing conifers (21 in number), I also found the fruiting bodies of *Rhizosphaera kalkhoffii* on the needles. Next, I noticed that there were two kinds of black dots. *R. kalkhoffii* looked neat, like round

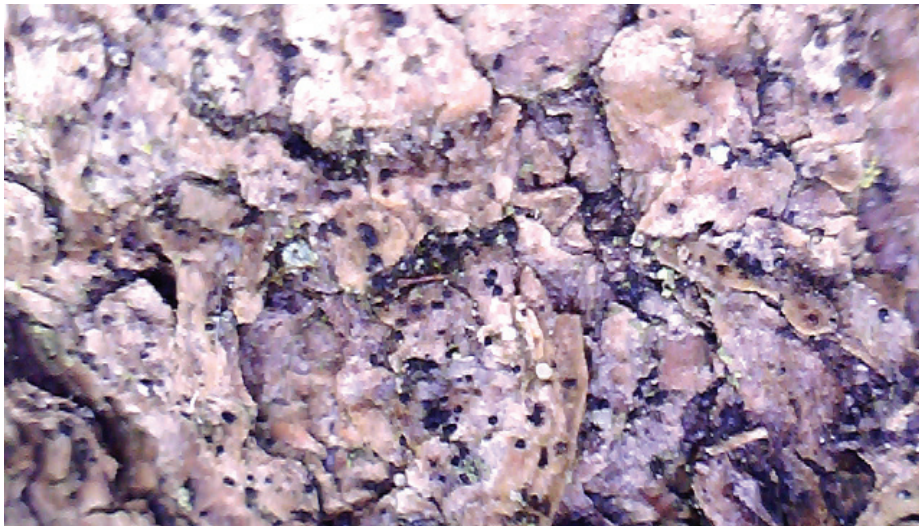


The result of *Phomopsis* on the tips of *Pseudotsuga menziesii* at the home of Ron Elardo.  
Photo by Ron Elardo

bowling balls. The second kind of black dots were splotchy, similar in appearance to spiders, making the needles look "dirty". I googled *Stigmina lautii*, the second fungus Leah discussed. An MSU Extension report appeared.

Dennis Fulbright, Department of Plant Pathology at Michigan State University, pointed out that the "black splotches" indicate the presence of *Stigmina lautii*.

Then I thought, what about the fungus Leah photographed on the stems of both the Scots pine and her bristlecone pine? A different fungus or just *Stigmina* on the stems? Could two distinct fungi be attacking the trees? Leah did not reveal a third species of fungus, and none of the agencies that she contacted reported anything either, even after she sent them samples. She photographed round, smooth, fruiting bodies on the trunks and



*Setomelanomma* on the bark of *Pinus aristata* at the home of Leah Alcyon. Photo by Leah Alcyon

stems of two conifers. What I found is that a third fungus is attacking conifers. In 2006, in *Tree Talk*, Jim Walla, a forest pathologist, and Kasia Kinzer, a plant pest diagnostician, at North Dakota State University of Agriculture and Applied Sciences in Fargo, ND, identified those black dots on conifer stems as *Setomelanomma rostrata*. *Setomelanomma* fungus attacks conifers, cereals, and grasses. This fungus appears also as black, ball-shaped, fruiting bodies, like those of *Rhizosphaera kalkhofii*, except that *Setomelanomma* grows on conifer stems and trunks.

In 2008, Michigan State Extension researcher, Dennis Fulbright, also confirmed the existence of the *Setomelanomma* fungus. Thus, Leah inadvertently uncovered a *third* conifer-attacking fungus. Kudos to Leah! The researchers at NDSU do not say very much about the fungus in their report, other than to ID it. They do, however, mention that fungicides on the market can treat *Rhizosphaera* but not *Stigmina*, and vice versa, but nothing about treating

*Setomelanomma*. On the other hand, Fulbright lists 5 ways to minimize *Setomelanomma*, *Rhizosphaera*, and *Stigmina*: 1. choose trees appropriate for the site, 2. buy high-quality planting stock, 3. plant with proper spacing, 4. do not mulch up to the trunk, and 5. water during dry periods. I planned to be more exact: site the conifer in a spot that drains well, so that the plant does not sit in water.

The fourth species of fungus attacking conifers is *Phomopsis juniperovora* (*Phomopsis* tip blight),

identified in 1917! *Phomopsis* causes the new growth on conifers, both on seedlings and mature specimens, to turn brown and wilt. The infection begins with the germination of asexual conidia (asexual, non-motile spores of a fungus, also called mitosporae), borne from pycnidia (asexual fruiting bodies produced by mitosporic fungi). The mycelia, the vegetative parts of a fungus, move inward down the branch and eventually into the main stem. In order to check the spread of this fungus, the blighted tips should be removed and destroyed. You must also sterilize any pruning tools to avoid the spread of the pathogen (a very good IPM practice). Researchers recommend choosing resistant varieties and spraying new growth with fungicide until the plant(s) has (have) matured.

I have never seen a plant tag labeling a plant as "*Phomopsis*-resistant". It is possible that, since 1917, certain conifers might have become resistant, or been even bred as such, but my now 15-foot tall *Pseudotsuga menziesii* (Douglas-fir), planted in 2003



*Stigmina* on the needle of *Pinus aristata* at the home of Leah Alcyon. Photo by Leah Alcyon



*Setomelanomma* fungus on the bark of *Pinus sylvestris*. Photo by Leah Alcyon

as a 5-footer, did not come as a *Phomopsis*-resistant plant. All of the tips of this Douglas-fir are limp and browning for the third year running. Unless I scale a very tall ladder—or rent a cherry picker—to remove the blighted tips, neither of which I will do, I am going to have to take that tree down. Once the tree is felled, I will cut off the infected tips and cut up all the branches, seal the tips and pieces in paper garden waste bags, and transfer everything to my waste collector for disposal. The trunk of the tree will be cut up and burned.

My advice: *caveat emptor* (buyer beware)! Read the plant tag and hope that the plant you have chosen is *Phomopsis*-resistant, or resistant to any kind of fungus, for that matter!

*Phomopsis juniperovora* is known to attack:

- Juniperus virginiana* (eastern red-cedar)
- Pinus banksiana* (Jack pine)
- Pseudotsuga menziesii* (Douglas-fir)
- All *Abies* (true fir) species
- All *Juniperus horizontalis* (Rocky Mountain creeping juniper)
- All *Larix* (larch) species
- All *Thuja* (arborvitae) species

Stressed trees are more likely to fall victim to opportunistic pathogens or insects. Whatever the stress-producing agent, significant numbers of conifer species are succumbing to fungi. Every living organism on Earth is programmed to die, but the acceleration of the demise of some conifers comes directly from fungal infection.

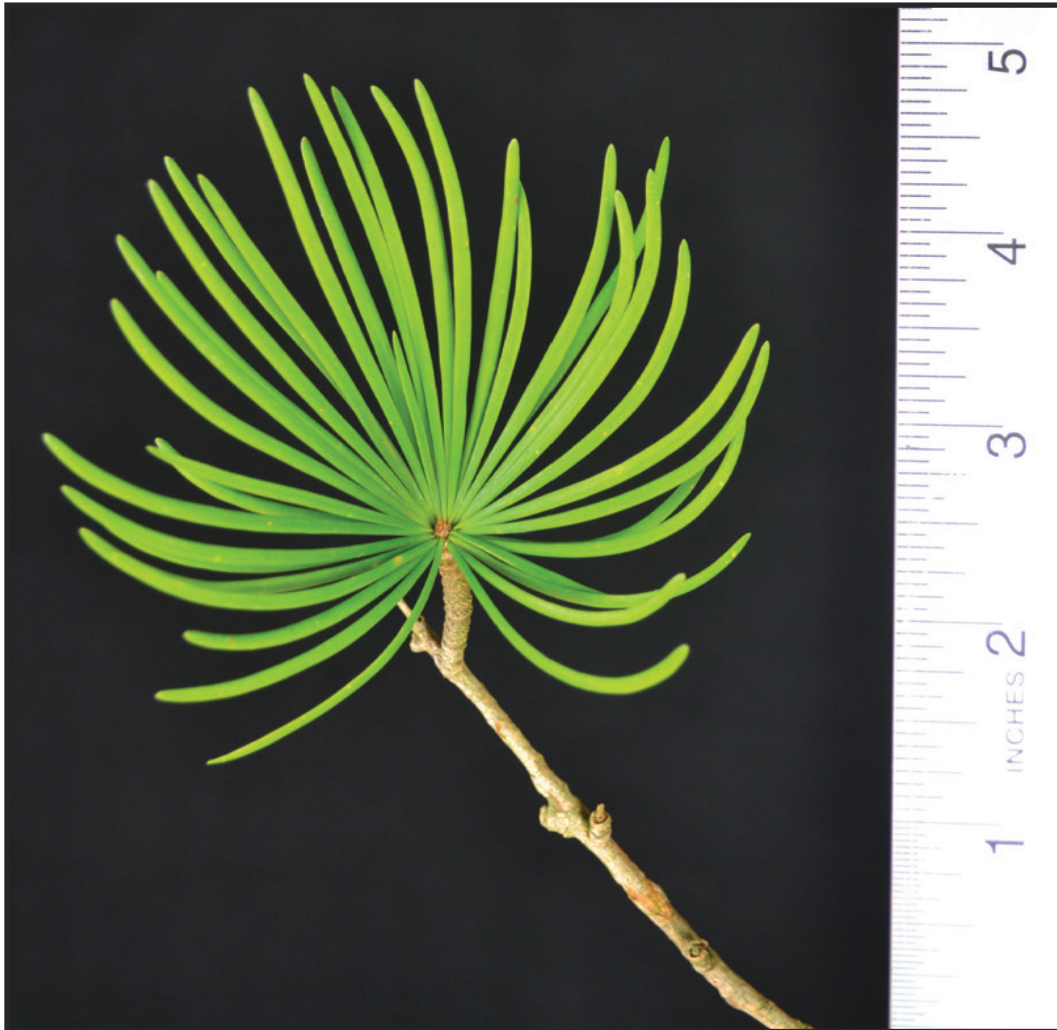
In an NBC News report by Jacelyn Jeffrey Wilensky, climate change, insect invasion, tree death, and deforestation are noted to increase the release of CO<sub>2</sub>. As a result, the amount of

that greenhouse gas balloons and causes an ever-increasing hostile environment to life. Add to that what Jill Wegryzn (University of Connecticut Stress Genetics professor) writes about the weakening of the immune systems of trees through drought and weather extremes, and certain of our conifers face serious challenges.

A former colleague of mine at Adrian College, Dr. Craig Weatherby (Emeritus Professor of Biology and Environmental Studies), has been studying box turtles (*Terrapene* sp.) all his professional life. I once asked him why he dedicated his life to those animals. He immediately replied: "Because the way the turtles go, humans will go." Box turtles are now an endangered species.

# North Carolina State University Online Course

## Test your Plant ID Skills Online



North Carolina State University and world-renowned Longwood Gardens have teamed up to bring a series of online plant identification classes to the gardening public. These fun, self-paced classes cover a range of key ID characteristics and cultural information for trees, shrubs, conifers, annuals, perennials, edibles, bulbs, and houseplants. Designed for all learning types, participants have access to videos, an e-book, games, assignments, and a forum for discussing gardening with a global community of students. Certification with Longwood and continuing education credits for environmental educators and Master Gardeners are available. Classes are held three times per year, and the fall semester begins September 9th. Class material is available for six months after class begins, so that participants can register for class after September 9th and not miss a beat. See you in class!

Can you ID this conifer? Send your response to: [preston\\_montague@ncsu.edu](mailto:preston_montague@ncsu.edu)

Our website: [go.ncsu.edu/eg-online-classes](http://go.ncsu.edu/eg-online-classes)

### Instructor Bio:

Preston Montague is an artist, landscape designer, and educator working to strengthen the relationship between people and their environment in the interest of improving public health. He has a BA degree in horticulture and an MA degree in landscape architecture. Preston believes distance education provides an opportunity to connect people to global horticultural innovations that encourage human and environmental wellness.

# Conifer Propagation Seminar at Hidden Lake Gardens

Tipton, MI

March 7, 2020 from 8:45AM to 4:00PM

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Join us as we share propagation techniques for some of the rare plants of the Harper Collection of Dwarf and Rare Conifers.

Learn the art and science of making more conifers (cone-bearing plants). Staff and volunteers will share their extensive knowledge and experience on the nuances of propagation.

Seminar includes:

Hands-on grafting of 6 different plants  
Cuttings to root of 16 plants  
Lunch  
Tour of Harper Collection or propagation facility

Species will likely include *Thuja*, *Juniperus*, *Pinus*, *Picea*, and *Abies*. Extensive care instructions provided. Designed for the beginning propagator, this seminar will share techniques even experienced propagators will appreciate. Advance registration is required, but experience is not. Participants are asked to bring their own bypass hand pruners.

Cost: \$115 per person / \$95 per person for Friends of HLG,  
\$135 per person after February 24, 2020.

Registration is limited and will close on February 29. Registration is required.

Please call 517-431-2060 to register.



**MICHIGAN STATE**  
UNIVERSITY

#### **Cancellation Policy**

Please register early to ensure your space. To withdraw from this class and receive a refund please do so 7 days prior to the registration deadline. Cancellations after this date will not be refunded.

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Michigan State University is committed to providing equal opportunity for participation in all programs, services, and activities. Accommodations for persons with disabilities may be requested by contacting Cheryl Roe at 517-431-2060 or [roe2@msu.edu](mailto:roe2@msu.edu). Requests must be made at least 3 weeks in advance of program and will be honored whenever possible.

# ACS 2019 Student Scholarships and Awards

Text and Photography Gerald Kral

Thanks to the generosity of several donors, the American Conifer Society was able to offer four awards this year totaling \$7,500. Donors include: an ACS Board member who believes that granting scholarships is one of the most important things a society like ours does; Olivia Kuser, in memory of her father, John Kuser, who selected and named the cultivar *Metasequoia glyptostroboides* 'Bonsai', taught forestry at Rutgers University, and was an ACS member for many years; and an ACS member who thinks reaching young students is an investment in the mission and future of the ACS.

Since the inception of the program in 2005, the ACS has awarded 20 scholarships. Your Scholarship Committee is currently looking for ways to expand the number of young people we can reach and support. We are considering separate awards for graduate and undergraduate students, travel awards for students to attend ACS meetings, sponsoring internships at arboreta and botanical gardens, and supporting student research projects related to conifers.

Meet our 2019 Scholarship and Awards recipients:



## Steven Augustine (\$2,500)

Steven is a first-year PhD student at the University of Wisconsin-Madison, where he is a member of the Department of Botany lab of Dr. Kate McCulloh. Dr. McCulloh is also his sponsor. Steven is conducting research into how needle morphology and physiology constrain the distribution of conifer species facing climate change.

Steven has spent much of his first year creating a living collection of pines on the UW-Madison campus. The collection currently has 42 of the 75 pine species native to North America. The collection, although extensive, has only two specimens of *Pinus edulis* (pinyon pine) and only five specimens of *Pinus quadrifolia* (Parry pinyon pine). The scholarship will partly fund a trip to Mexico to collect seeds of pine species not currently in the collection.

Steven states in his application: "Tied together with collecting seeds, I will also be conducting an elevational study with these conifer species, looking at how traits can be used to determine the future distribution of each species. The ACS student scholarship will provide me with the opportunity to complete a chapter of my dissertation, present my research at an ACS National Meeting, and collect seeds from some of the most endangered species of pines in North America."



## Max Goldstein (\$1,000)

Max is a Western Kentucky University graduate with an MS degree in Horticulture. His sponsor is Dr. Martin Stone, Associate Professor of Horticulture and Director of the Baker Arboretum. In 2017, Max completed an internship at the Baker Arboretum under the supervision of Dr. Stone. That same year, Max attended an ACS National Meeting. He writes of that experience: "I led numerous tours for individuals whose experience with conifers

and ginkgo well surpassed my own, but the respect and enthusiasm they showed encouraged me throughout the conference. During the last morning, there was a conifer sale in the parking lot next to the hotel. I could not go home empty handed. I purchased my first conifer, *Thuja occidentalis* 'Filliformis' (threadleaf arborvitae)."

Max plans to use his award to help finance an internship at the University of Manoa, HI.



**Andoni Rodriguez Eraso (\$2,500)**

Andoni is currently pursuing a Master of Landscape Architecture at the University of Cincinnati, where he works as a teaching assistant. He has an MA degree in Architecture from the University of Basque Country in Spain. His sponsor is Byron Baxter, currently ACS Central Region President and owner of Dendrological Sales in Richmond, OH.

Andoni has an interest in green roofs and in enhancing the green spaces present in cities. His study of architecture makes him particularly qualified to understand how living structures can be incorporated into urban settings.

He states in his application: "A green roof is a harsh environment, and dwarf conifers could be excellent candidates for these conditions...I set out to try to find an example of a green roof that had solely used conifers as the primary plant material. Much to my regret, and after much research, I found none. Truly believing there is a case for such a project, I would love to explore this particular application and hopefully, with the right client, I will someday take it to fruition."

The ACS Central Region will invite Andoni to attend the 2020 ACS National Meeting and Conifer College in Iowa. He will use the scholarship to cover tuition, educational supplies, and health insurance.



**Robert Hammond (\$1,500)**

Robert will be a senior at the University of Cincinnati during the fall of 2019, finishing a BS degree in Horticulture. The ACS awarded Robert a \$2,000 Scholarship in 2018. His sponsor is David Gressley, Director of Horticulture at Spring Grove Cemetery and Arboretum.

He is studying how plants interact within an ecosystem and how plants evolve, adapt, and migrate. He says: "Plants amaze me in what they can do and where they can live. In Cincinnati, there is a specimen of a conifer called *Juniperus virginiana* (eastern red-cedar) that astonishes me every time I look out my car window on the interstate. This tree is essentially growing on the edge of a cliff, where nothing else can grow, just waiting for a landslide."

Robert will use his scholarship to finish his degree and continue his desire to improve conservation efforts, find strategies for plant diseases, educate the general public, and promote horticulture.

Congratulations to all of our scholarship recipients.

It is with some sadness that I report that this will be my last year as Chair of the ACS Scholarship Committee. I will truly miss interacting with these budding "coneheads" and sharing their passion for conifers. Starting in 2020, the new Chair of the ACS Scholarship Committee will be Lois Girton.

Lois brings excellent credentials and experience to this effort. She has been an ACS member for more than 15 years, and her gardens include over 100 conifers. Lois has a PhD in Plant Pathology, along with BS and MS degrees in Genetics. She has been on the faculties of both a public and a private university, as well as an instructor at a community college. During the past 10 years, she has been advising coordinator for the Genetics and the Bio-informatics and Computational Biology undergraduate programs at Iowa State University. She is on the committee that annually reviews dozens of applications for scholarships in life science programs.

Lois plans to bring a new and exciting presence to the ACS Scholarship Committee. Lois and I, with support from the ACS Board of Directors, have already achieved an increase from \$2,500 to \$10,000 from the ACS annual budget for student scholarships and awards. Optional donations can make this amount even larger. Your Scholarship Committee hopes to reach many more students by increasing application options for our scholarships and student awards and by continuing to inspire and foster lifelong interests in conifers and the ACS.

# The Bigfoot Trail

## Celebrating the Conifer Diversity of the Klamath Mountains

*Text and Photography Michael Kauffmann/Bigfoot Trail Alliance*



Allison Poklemba, on the far right, climbs to the highest point on the Bigfoot Trail at Packer's Peak in the Trinity Alps Wilderness.

In 2009, just after the school bell rang for the last time that year, and my 30 seventh grade students ran out the door for summer, I jumped into my car and headed to the Mendocino National Forest in Northern California to start the first-ever, official thru-hike of the Bigfoot Trail. I am the first person to plan, map, and hike the Trail, which I created by connecting existing trails and Forest Service roads. I decided to name it after Bigfoot, also known as Sasquatch, the large and mysterious creature purported to inhabit the mountains in this part of the country.

A thru-hike is a hike on an established end-to-end, long-distance trail, with continuous footsteps, that is completed within one calendar year. Over the next 20 days and 360 miles, I walked, mostly alone, on my way across the Klamath Mountains to Crescent City, CA.

I first cooked up the idea of this hike in 2007 with my friend, mentor, preeminent botanist, and conifer expert, John O. Sawyer. We envisioned it as a way to connect existing trails, roads, wilderness, and botanical wonders across the Klamath Mountains. This project would combine hiking and natural

history by defining a new thru-hike in one of the most species-rich, temperate, coniferous forests on Earth.

North America holds two of the most species-rich, temperate forests in the world: those of Southern Appalachia and those of the Klamath Mountains.



The Bigfoot Trail follows the Boundary Trail through the Red Buttes Wilderness along the California-Oregon border. Dr. Jeffrey Kane is seen here on the Boundary Trail.



The heart of the Marble Mountain Wilderness is Marble Mountain itself, sprinkled with the rare California-endemic foxtail pine (*Pinus balfouriana*).

What do these locations have in common? Glaciers and seas did not completely cover them during the Cenozoic Era, and the mountains were monadnocks, or islands above the plains, offering temperate refuges to plants and animals over time. Both locations have historically maintained a moderate climate.

These areas are beyond the southern terminus of the enormous continental ice sheets of the Pleistocene Epoch (commonly called the Ice Age). Some plants undoubtedly remained in these regions through historic climatic change, while other species repeatedly moved in as the climate cooled, and the glaciers pushed southward, or, then, species moved out and followed other glaciers northward. These dynamic fluctuations have cradled plant diversity in these two unique regions.

The current consequences of these historical patterns are that the Klamaths and the Southern

Appalachians have grand floristic diversity, a concentration of endemic plants, and a fundamental importance to the forest floras of nearby regions. Per unit area, the Klamath Mountains and the Southern Appalachian Mountains hold more plant taxa than any others in North America. Plant genera such as *Cornus* (dogwood), *Asarum* (wild ginger), and various conifers (*Pinus*, *Abies*, *Thuja*, *Chamaecyparis*) grow a continent apart, while providing a comparative glimpse of ancient floras.

Complex interactions between biotic and abiotic factors have encouraged and nurtured biodiversity in the Klamath Mountains over millions of years. The region is a botanical museum, hiding relicts of epochs gone by, which are called paleoendemics, such as Brewer spruce (*Picea breweriana*). The region is also a cradle, promoting the adaptive evolution of new species, which are called neoendemics, like Baker's cypress (*Cupressus bakeri*).

Complex climates and soils nurture biodiversity. The area also has a central location and continuity with other mountain ranges along the Pacific Cordillera. Across this landscape, a mosaic of habitats mix at a crossroads of five biotic regions—Cascade Range, Oregon Coast Range, Great Basin, Central Valley, and Sierra Nevada—each helping to define the Klamath Mountains.

Within the geologic boundaries defining these complex habitat mosaics of the Klamath Mountains, there are approximately 3,540 taxa (species, subspecies, and varieties) of vascular plants and up to 38 species of conifers, depending on how one delineates the region. In addition to plants, the region holds exceptional diversity in amphibians, mammals, and birds.

In the Tertiary Epoch, beginning around 65 million years ago, a temperate forest prevailed here, unlike any other in the history of the Earth. In this Arcto-Tertiary forest, as it is called—existing on a landmass that would soon become North America, Europe, and Asia—a blending of conifers and broad-leaved trees dominated the landscape. With continental drift and climate change, the offspring of these great forests became fragmented. Over time, ice ages came and went, causing a change in flora, as increasingly dry conditions became more common.

The descendants of the Arcto-Tertiary forest became less extensive and more isolated. These progenitors remained, finding refuge in the higher and cooler regions that maintained a climate more similar to that of the early



Michael Kauffmann surveys the final climb up the Bear Creek Trail into the Trinity Alps Wilderness.

Tertiary—in what we now call northwest California and southwest Oregon. Here, today, we glimpse a forest that is similar to those of the earlier epoch. Holdouts include, but are not limited to, Brewer spruce, Lawson cypress (*Chamaecyparis lawsoniana*), coast redwood (*Sequoia sempervirens*), California pitcher plant (*Darlingtonia californica*), and Kalmiopsis (*Kalmiopsis leachiana*).

The Bigfoot Trail highlights the immense ecological diversity of the ancient forests of Northwest California and other unique landscapes by connecting existing trails and remote Forest Service roads. It passes through the hamlets of Hayfork, Junction City, Seiad Valley, the town of Crescent City, and gets close to Etna and Hiouchi. Trekkers from all over the world have hiked either parts or all of the trail since 2009, with at least 40 thru-hikers having completed the route. These folks not only bring monetary rewards to local communities, but also leave with a

love for this unique region, as they venture on a conifer treasure hunt. There is now a non-profit organization overseeing the establishment of the route. The Bigfoot Trail Alliance is a 501(c)(3) that is working to support the establishment and maintenance of this 360-mile route through the Klamath Mountains. The BFTA fosters a community committed

to constructing, maintaining, promoting, and protecting—in perpetuity—the Bigfoot Trail. Visit [bfta.bigfoottrail.org](http://bfta.bigfoottrail.org) to learn more about the trail and the mission of the organization. After the Summer 2019 ACS National Meeting in Oregon, the American Conifer Society became a partner with the Bigfoot Trail Alliance. For that, we thank you all!



The final segments of the Bigfoot Trail pass through Jedediah Smith Redwoods State Park, here in the Stout Grove. Seen here is Ian Nelson walking among the redwoods.

# 2020 Collectors' Conifer of the Year

Text Dennis Lee, Chair

Photography Sam Pratt, Rare Tree Nursery



*Abies concolor* 'Archer's Dwarf'.

2020 marks the 15<sup>th</sup> anniversary of the CCOY program. This mutually beneficial endeavor has been a successful way of providing members with an opportunity to add enjoyment and interest to their landscapes, while supporting the Society in furthering our mission of education. Last year we increased the offerings with more unique selections. You responded with enthusiasm, and sales went up. So this year, the American Conifer Society is happy to offer another bounty of plants, some old and some new, but all with varying colors, textures, hardiness, heat-tolerance, genera, and forms. Just as last year, we are only able to offer selections in limited numbers. Therefore, ordering early will increase the chances of you getting a particular plant. It is my pleasure to celebrate this CCOY anniversary by letting you fulfill your conifer passion. After all, conifer addiction has therapeutic benefits!

## ***Abies concolor* 'Archer's Dwarf'**

This is a compact, upright selection of white fir with a very interesting texture. The powdery blue, sickle-shaped needles are flat and blunt and slightly curving. The branchlets hang slightly downward and inward on tiered, horizontal branches that make the densely pyramidal form of the plant striking. Yearly growth is typically 3 to 4 inches. In 10 years, a specimen is generally about 3-feet high and 2.5-feet wide. J. W. Archer of Farnham, UK, originated this cultivar, and it was introduced to the nursery trade in 1982. The plant has proven to be a very dependable, beautiful, and low-maintenance addition to the landscape. Our offering is grafted onto *Abies bornmuelleriana* (Turkish fir) rootstock, which is more adaptive to varying soil conditions and is more heat-tolerant than other choices. It does best in a sunny site, but also performs well in light shade. 'Archer's Dwarf' is listed as suitable for USDA zones 3 through 7, although we have reports of it doing well as high as zone 9b.

## ***Abies lasiocarpa* 'Green Globe'**

This semi-dwarf, multi-stemmed, dense selection of subalpine fir has a refined look because of its short, soft, lustrous, forward-pointing needles. In the spring, new growth pushes out a bright green, and, as it matures, 'Green Globe' often takes on bluish tones. Yearly growth is typically 3 to 6 inches. In 10 years, a specimen could easily be up to 5-feet high and almost as wide. Although 'Green Globe' is generally globose, it can take on



*Abies lasiocarpa* 'Green Globe'.

a more pyramidal form as it ages. Any upward tendency can easily be kept in check with judicious pruning. This selection originated in the 1970's from Verkade Nurseries, NJ. This offering is also grafted onto *Abies bornmuelleriana* (Turkish fir) rootstock, making it adaptive to heat and varying soil conditions. 'Green Globe' should perform well in sun to partial shade in zones 3 through 7. Again, higher zones may well be appropriate.



*Ginkgo biloba* 'Clica'.

## ***Ginkgo biloba* 'Clica'**

*Ginkgo* are the only living link between ferns and conifers. At one time, because of certain similarities to conifers, researchers lumped ancient lineage *Ginkgo* with conifers. Today, *Ginkgo* belong to a distinct order, Ginkgophyta.

There is only one species of *Ginkgo* surviving today, with many very ornamental cultivars. In 2010, the CCOY program offered a remarkable dwarf selection, 'Mariken' and, in 2017, a strikingly variegated form known as 'Snow Cloud'. Continuing with the program tradition of including this conifer relative, we are offering a new selection that has a unique look. 'Clica' is distinct because of its small, ruffled, light-green leaves, which adorn a heavily branched, multi-stemmed, slow-growing mound. The resulting effect is a very tidy, refined specimen with an eye-commanding texture. A site in full sun to partial shade will produce a most appealing plant. *Ginkgo* are tough by nature and perform well in zones 4 through 8. There are reports that the plant has also done well in zones 3 through 9b as a compliment to conifer collections. 'Clica' provides a contrasting form and texture, and its bright, buttery-yellow fall foliage is a hit. Depending on site and vigor, 'Clica' can push 4 to 8 inches of growth a year. In 10 years, a happy specimen can be at least 3.5-feet high and 4.5-feet wide.

***Picea abies* 'Acro-yellow'**

Last year, our yellow selection of Norway spruce, *Picea abies* 'Lemonade', sold out. This year we are offering another great golden form of this versatile spruce in hopes of satisfying a continuing demand for a very hardy, colorful attention-getter. 'Acro-Yellow', discovered by Greg Williams of Kate Brook Nursery, VT, is a newer form of an old cultivar, 'Acrocona'. Like 'Acrocona', this selection produces a multitude of emerging raspberry-red cones, mostly at



*Picea abies* 'Acro-yellow'.

the terminal ends of branches. The cones pop out against a background of bright yellow. As the dangling cones mature, they fade to a light brown, while the maturing foliage takes on a more frosted, subdued yellow. A sunny site brings out and maintains the best color of this selection, although it also performs well in some shade. 'Acro-Yellow' grows 3 to 5 inches per year. In 10 years, this irregularly growing, upright, conical specimen may be 5-feet high and 3-feet wide. For a good show, it does best in zones 3 through 7, with the usual anecdotal evidence of good performance in some warmer zones.

***Pinus koraiensis* 'Morris Blue'**

This intermediate, narrow, pyramidal selection of Korean pine comes from the Morris Arboretum at the University of Pennsylvania, Philadelphia, PA. It stands out for its mix of silvery-blue and bluish-green, thick, curved, stiff needles that capture the light. Large, plump, young, bluish-green cones also add to its appeal. Additionally, it has a compact, superior growth habit and a strong, central leader. Growth can be 6 to 9 inches a year and, in 10 years, you can expect a very handsome 8-foot high by 4-foot wide eye-catcher.

A sunny site produces a most prominent sentinel. 'Morris Blue' is suitable for zones 3 through 7, with reports of successful cultivation in Mediterranean zone 9.

***Pinus contorta* var. *latifolia* 'Taylor's Sunburst'**

One variety of lodgepole pine grows at high elevations in the Rocky Mountains. In 1984, Dr. Alan Taylor of Boulder, CO, discovered an amazing specimen in the Indian Peaks Wilderness. He named it 'Taylor's Sunburst'. This incredible, dazzling, upright, narrow, showstopper makes heads turn with its brilliant, lemon-yellow push of spring growth that sharply contrasts with past growth that has already matured to green. During the same time of spring growth, small, bright, red pollen cones appear for additional eye appeal. For 3 to 4 months, 'Taylor's Sunburst' is like a spotlight in the landscape. As the growing season progresses, the extraordinary new foliage gradually fades to a mellow, creamy yellow and finally becomes as green as the rest of



*Pinus koraiensis* 'Morris Blue'.



*Pinus contorta* var. *latifolia*  
'Taylor's Sunburst'.

this somewhat open-growing tree. Annual growth is 6 to 8 inches and sometimes more. In 10 years, an outstanding specimen could be 12-feet high by 8-feet wide. This stunning selection will provide a spring to summer wow factor in zones 3 through 7. Grafted onto *Pinus Sylvestris* (Scots Pine) rootstock, this cultivar is very adaptive to a diversity of soils and has good hardiness and good heat-tolerance. *Pinus contorta* can be grown in higher zones, but may be susceptible there to sequoia moth larval damage, which does not hurt the tree, but can cause it to become unsightly.

***Pinus mugo* 'Paul's Dwarf'**

This very unusual, fine-textured, dwarf selection of mugo pine stands out for its exceptionally short, medium-green needles that grow perpendicularly around the stem, resulting in a skeleton-like look. Combined with open branching and a globose form, this ground-hugging gem is in scale with diminutive alpine plants. It is great in containers and in rock gardens and holds its color throughout the seasons. Growth is only 1 to 3 inches per year,

and a bit of pruning will keep it in check. If left on its own for 10 years, it will generally be about 1.5-feet high by 2-feet wide. This rugged-appearing, small conifer will give you delight in zones 2 through 7. You should plant it in full sun. Iseli Nursery in Boring, OR, selected it as a seedling in 1986. The name honors Paul Halladin, the long-time propagation manager at Iseli. Paul has been a strong supporter of the ACS and has contributed much assistance to the CCOY program. We have reports of this dwarf mugo growing successfully in Mediterranean zone 9 climates.



*Pinus mugo* 'Paul's Dwarf'.

***Pinus thunbergii* 'Shirome janome'**

Here is another outstanding beacon of color that serves as a bold focal point in the landscape. This vigorous, Japanese black pine is spectacular with its 4.5-inch-long, dark-green needles with golden, yellow bands. According to Bob Fincham of Coenosium Gardens fame, this selection arrived in the USA when prominent plant collector Barry Yinger traveled to Japan and Korea in the mid-1970's and sent many ornamental finds to Brookside Gardens in Wheaton, MD, which then shared the plant with the National Arboretum



*Pinus thunbergii* 'Shirome janome'.

in Washington, DC. This not-often-seen conifer has an open, upright, conical structure with an annual growth that may be up to 2 feet. It is also known for good cone production. In 10 years, this attention-grabbing garden feature should at least be 12-feet high by 6-feet wide. It does best in full sun in zones 5 through 9.

The Collectors' Conifer of the Year program is restricted to members of the American Conifer Society. ACS members may only purchase one of each selection. Each plant comes with a conditional one year/one time replacement guarantee. An anodized aluminum tag and holder accompany each selection. The tag identifies the plant as an American Conifer Society Collectors' Conifer of the Year. For ordering, please complete the form in this publication. We will fill orders by date of receipt, until the inventory sells out. All orders must be in to the National Office by February 1, 2020. We cannot ship outside the United States.

Happy *conifering* to all of you!

# American Conifer Society 2020 National Convention

## Clinton, Iowa

text Randy Dykstra, Margo Hansen, and David Speth



The backyard of Jeff and Lora Rathje. Photo by Jeff Rathje

A century ago, Clinton, Iowa was the lumber capital of the world, buzzing with sawmills processing huge rafts of *Pinus strobus* (eastern white pine) logs that were floated down the Mississippi River from Minnesota and Wisconsin. For a few days in June 2020, Clinton will become *conifer capital*, when the American Conifer Society meets there for its National Convention.

Clinton once boasted more millionaires in the 1880's and 1890's, 13 in number to be exact, per capita than any other place in the country. It is now a bucolic, Midwestern city of 25,000, featuring beautiful gardens, more than a dozen buildings listed on the National Register of Historic Places, and a world-class arboretum. The National Convention will include a lunch at Eagle Point Park, which sits atop a 200-foot bluff that overlooks the widest point on the Mississippi River. We will enjoy another lunch on a paddle-wheel river boat. There will also be the attractions normally

associated with an ACS national gathering: wonderful garden tours, interesting speakers, connecting with old friends, making new ones, and, of course, the auctions. In addition, for those interested in furthering their conifer knowledge, the Central Region is hosting a 16-session Conifer College on Thursday, June 25.

Our hotel and base of activities will be the Wild Rose Casino and Resort in Clinton. A full listing of area hotels offering conference attendees a special rate is available on the ACS website. The Quad City International Airport is located less than an hour from the conference hotel and is served by American, Delta, and United Airlines. While there is no shuttle service from the airport to our hotel, car rentals are available.

The conference will begin at 5:00 pm on Thursday, June 25 (after Conifer College), with check-in and social hour followed by dinner and two entertaining and informative

speakers. After breakfast Friday, we will board buses for a tour of three private gardens and the Bickelhaupt Arboretum. Lunch will be served at the Eagle Point Lodge. Two conference speakers will share their experiences following Friday dinner. Saturday, after breakfast, we will head to the Quad City Botanical Gardens and two nearby private gardens. We will enjoy a buffet lunch cruise on the 750-passenger Mississippi paddle-wheel riverboat, Celebration Belle II. Dinner will be followed by the always-exciting plant auction. The auction will include a fantastic selection of rare and unusual conifers, many of which meet ACS dwarf and miniature criteria. Companion plants often seen with conifers will be offered, too.

### Here is what to expect from the convention speakers:



A view into the Randy and Karen Dykstra Garden. Photo by Randy Dykstra

Panayoti Kelaidis, Denver Botanic Gardens Senior Curator and Director of Outreach will speak on *Trees and Men to Match our Mountains and Western Conifer Discovery: the Stephen Long Expedition Bicentenary*.

The expedition of Lewis and Clark was so momentous that it has somewhat unfairly overshadowed the many subsequent travelers who were responsible for finding and naming most of the Rocky Mountain conifers. 2020 is the 200-year anniversary of the next most important western exploration, the Stephen Long Expedition, which can fairly be said to be the first scientific expedition to the West.

Dr. Jeffery Iles, Professor and Chair of the Department of Horticulture at Iowa State University, and Dr. Laura Jesse Iles, Director of Iowa State University Plant and Insect Diagnostic Clinic, will speak on *The Doctors Are In...And There Will be a Second Opinion. Diagnosing Woody Plant Problems Ain't Easy*.

Oh my! This could get ugly. Two plant doctors, related through family ties, both with strong opinions about common (and not-so-common) plant maladies, trying to teach the finer points of woody plant problem diagnosis? Plant pathogens, destructive insects, and abiotic stressors beware. You *will* be exposed in this session!

Bob Fincham, a driving force in the formation of the ACS and its first president, will speak from his book, *Gone But Not Forgotten*.



One vista of the Bickelhaupt Heartland Collection. Photo by David Horst

*Gone But Not Forgotten* is a history lesson about my friends from the generation of conifer collectors who have passed on. Their names constantly appear attached to the older conifer cultivars, as well as whenever the history of the ACS is discussed. Their importance to the conifer world cannot be overstated. I will discuss my interactions with them and some of the plants they introduced. Spend an hour or so learning about Jean Iseli, Elemér Barabits, Joe Reis, Dennis Dodge, Layne Ziegenfuss, Al Fordham, and Gunther Horstmann.

Martha Smith, University of Illinois Extension, will speak on *Colorful Conifer Craze – Beyond GREEN!*

Conifer lovers are constantly reminding fellow gardeners that our trees are not just green. Many go through seasonal color changes that provide additional interest in the winter landscape. In spring, some conifers feature

lighter shades of new growth that contrast with the darker older foliage, while others display a bright yellow or red new growth, rivaling any floral display. Think beyond the foliage, and you will find bright colors in cones (including berry-like cones) that provide additional decoration during certain seasons.

**In addition to the trip up the river bluff to Eagle Point Lodge, the Friday bus tour will include the following stops:**

**Bickelhaupt Arboretum:** The Bickelhaupt Arboretum includes over 2,000 named trees and shrubs. Numerous plant collections are scattered around the grounds. In 1990, Chub Harper approached the Bickelhaupt and suggested replacing a struggling shrub and lilac collection with a waterfall and conifers. Chub helped design the beds and donated the first significant plantings for this collection. The Heartland Collection of

Dwarf and Rare Conifers showcases this spectacular collection of over 510 conifers. In 2012, the Heartland Collection was designated as an ACS Reference Garden.

**Rathje Garden:** The home garden of Jeff and Lora Rathje displays a wide variety of interesting trees, conifers, shrubs, and perennials. Members who toured this garden during the 2008 ACS National Convention will discover it has changed significantly. Gone are a number of larger trees, with replacements focusing on intermediate and dwarf conifers. The Rathjes have also added numerous troughs and a rock garden as a fun way to display miniature plants.

**Dykstra Garden:** Randy and Karen Dykstra were bitten by the conifer bug in the late 1970's. After meeting Chub Harper in the early 1980's, they found themselves traveling throughout Iowa and Illinois, searching for and collecting witch's brooms. Randy also worked with scion wood from Jerry Morris. Many of these original brooms are still growing in the Dykstra garden, along with other rare and unique conifers. Wander through the garden and also see companion plants: perennials, ornamental shrubs, and trees. Trough gardens are scattered along the brick path. Three ponds are home to water lilies (Nymphaeaceae) and goldfish of various sizes. You will see metal artwork throughout the landscape and vegetable garden.

**Grantz Garden:** Jenni and Scott Grantz have lived on their farm in rural Bryant since 2004. In the early 2000's, Jenni was an intern at the



The Pribble Garden. Photo by Lona Pribble

Bickelhaupt Arboretum and became interested in conifers. In 2013, she began a collection of dwarf conifers and small trees and created a number of display beds. The landscape around the house and an area under a large, old sycamore tree are home to a number of other unusual plants. The Grantzes used large and small boulders from the surrounding fields to build retaining walls and a dry creek bed.

**In addition to the river cruise lunch, the Saturday bus tour will include the following stops:**

**The Quad City Botanical Gardens:** Opened in 1998, adjacent to the Mississippi River in downtown Rock Island, IL, this garden includes yet another rare conifer collection donated by the late Chub Harper.

**Jepswood Gardens:** From the street, the home of Gene Penner and Jim Salesman, looks like all the other homes in the neighborhood, but there is a secret garden in the backyard. The owners call it Jepswood Gardens. The two-acre garden is home to approximately 150 conifers, 50 different hostas, an old hedge of osage orange trees

(planted in the late 1930's by the Civilian Conservation Corps), and a variety of other interesting plants.

**Pribble Garden:** Lona and Ray Pribble created a 1/2-acre, park-like backyard in Geneseo, IL, which has been their labor of love for many years. It displays a variety of conifers, but also contains hostas and fairy gardens. Two ponds contribute the soothing sound of water, and a pavilion with a fire pit provides an entertainment area. There is also a playhouse for the grandchildren and great grandchildren. The entry to the garden has a brick patio made up of 8,000 bricks that the owners installed themselves.

Registration material and more details are available on the ACS website [www.conifersociety.org](http://www.conifersociety.org) and will be included in the Winter CQ. Be sure to see the convention promotion video at <https://youtu.be/2hjfgPhmGeU>. The drone shots of the Bickelhaupt Arboretum alone are worth it!

Please save the dates: June 25-27, 2020. We hope to see you there.

# American Conifer Society 2020 Conifer College

text Dennis Groh and David Speth



*Pinus strobus* plugs. Photo by Ron Amos

If you heard about the 2012 National Convention in Ann Arbor, MI, then you know that it was an outstanding event with 301 attendees. That convention hosted the first-ever Conifer College, and we had almost 200 participants! The Central Region has developed an even bigger and better version of Conifer College for June 2020 in Clinton, IA. This time, we are managing the Conifer College and the National Convention as separate, but complementary, events. Members eager to learn more about plants from experts, exchange ideas with other conifer lovers, and have fun in the beautiful Mississippi River Valley are sure to enjoy Conifer College 2020.

Conifer College will take place at Clinton Community College, a

short distance from the National Convention host hotel. Classes start at 7:30 am on Thursday, June 25, with an hour allocated for check-in, and end at 4:30 pm, just in time to gather for the National Convention, which starts at 5:00 pm. The ACS will provide lunch for all College attendees.

The theme of Conifer College 2020 is **Conifers and Companion Plantings**. In addition to timely, conifer-related topics, CC will offer classes on companion plantings, which enhance our conifer gardens by adding diverse color, texture, and size.

The curriculum is designed to provide interesting information for everyone, from beginner to expert, and from collector to keen gardener.

Conifer College will consist of two parts: Part 1, which includes four 75-minute sessions, in which attendees will be able to select one of four concurrent classes, and part 2, which is a moderated question and answer session, open to all college attendees. The Q&A session will include a panel of highly knowledgeable CC speakers and ACS experts. Panel members will share their biggest challenges and answer questions from the audience.

Summaries of the class sessions:

**Dr. Bert Cregg**, Professor of Horticulture and Forestry at Michigan State University, will conduct two sessions: one about spruce decline and the other about conifer winter injury and protection strategies.

**Bob Fincham**, founding member of ACS, its first president, former Coenosium Gardens owner, and author of five books on conifers, will explore such topics as apical dominance, pendulous growth habits, golden foliage, and propagation, to help explain why conifers grow the way they do.

**Dr. Jeffery Iles**, Professor and Chair of the Department of Horticulture at Iowa State University, will explore where woody plants have a place in our managed landscapes.

**Panayoti Kelaidis**, Denver Botanical Garden Senior Curator and world plant explorer, will share how the collections at the Denver Botanical Gardens evolved from fewer than a dozen conifer species to the hundreds it boasts today.

**John Amdall**, owner of a 23-year-old garden with perfectly sized conifers, will speak on how pruning keeps them that way.

**Don LaFond**, a rock gardener for more than 30 years and former officer of the North American Rock Garden Society (NARGS), will explore integrating conifers, herbaceous plants, and, of course, some rocks, into the garden.

**Dr. Martin Stone**, Professor of Horticulture at Western Kentucky University and Director of the Baker Arboretum, will speak on small Asian maples with a focus on evolution, bio-geography, global migration, and the current status of the genus *Acer*.

**Gary Wittenbaugh**, well-known and popular ACS and NARGS

personality and lecturer will share his knowledge of and enthusiasm for rock gardening with a focus on woody plants such as conifers and *Daphne*.

**Ron Amos**, owner of Evergreen Nursery, which grows over 4 million liners per year, will talk about his methods of conifer seed collection, handling, and propagation and how they have applications for small nurseries and hobbyists.

**Bob Ilames**, a member of both the ACS and the Ohio Valley North American Rock Garden Society, current president of the Miami Valley Hosta Society,

and groundskeeper at the 173-acre Lange Estate in Ludlow Falls, OH, will speak on use of color, texture, shape, and form to create a cohesive look in our gardens, so that we can have 'one of everything' and still have a garden that is beautiful and harmonious.

**Alan Craig**, Iseli Nursery hardy garden tree expert (who has been with Iseli for 32 years) will reveal the potential and progress being made at Iseli to cross the hardy Korean maple (*Acer pseudosieboldianum*) with the beautiful Japanese maple (*Acer palmatum*). The primary goal is to develop a line of beautiful, hardy trees.

Asian Maples as Companion Plants. Photo by Dennis Groh



**Glenn Herold**, retired Professor of Horticulture at Illinois Central College and a well-known speaker at conifer and hosta events, will talk about flower bulbs that are perfect for the spaces between conifers.

**Dr. Tony Reznicek**, Research Scientist at The University of Michigan Literature Science and the Arts Herbarium, who has many interests, including rock gardens, will examine rock garden plants that make suitable choices in many parts of the US and that are both available and can coexist well with conifers.

**Don Wild**, former ACS president and a 30-year hobby gardener, will conduct a journey through the wonderfully diverse world of conifers.

**Dennis Groh**, former ACS president, organizer of the 2012 Conifer College, and avid plant collector for more than 40 years, will share his knowledge, experience, and enthusiasm — including both successes and failures — growing species and cultivars of Asian maples in Michigan.

But wait—16 lectures in only four sessions? Narrowing it down to one class per session will present a difficult challenge for most coneheads.

Fortunately, every class should be interesting and informative. To benefit from more than one of the four concurrent classes, we encourage students to network and exchange information. For those of you who also attend the National Convention, you will have additional opportunities to interact with each other.



Rock Garden Woody Plants. Photo by Gary Wittenbaugh

When registering for Conifer College, you will be able to indicate first, second, and third preferences for the classes available in each session. We will make every effort to honor the first choice of each participant. Once a class registration reaches the maximum capacity, we will use second and third preferences to assign classes. In fairness to everyone, we will use the order of registration, with earlier registrations receiving higher priority for their first choices. We will also give class preference to those who register for both Conifer College and the National Convention.

We will cut off registrations when the maximum number of 300 has

enrolled, or at the cut-off date, Wednesday, May 27, whichever comes first.

Registration materials and more details will be available on the ACS website in October and in the Winter CQ.

This promises to be a one-of-a-kind educational opportunity for coneheads, and we hope to see you there!



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