

conifer

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burning skies

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CONIFER QUARTERLY

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Cover Photo

Nature's smoke-filled brush paints the sun through the needles of *Cedrus deodara* 'Cream Puff', San Jose, California. Photo by Jack Christiansen

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It's all about the network... *and I'm not talking about cell phone carriers.*

This quarter's message comes to you from a hotel room in Baker City, Oregon, where I'm on my way home from a hugely successful Western Region conference in Denver, Colorado. It's not every day that one gets to rub elbows with a legend, and that's exactly what happened as we paid tribute to legendary plantsman, Jerry Morris. Congratulations to the staff of Denver Botanic Gardens and to local ACS members, Barb Inman and Leslie Hammer-Palen, who hosted guests from all corners of the country.

This meeting came right on the heels of our annual national convention in Raleigh-Durham, North Carolina. Special congratulations go to Jeff and Jennifer Harvey, a veritable powerhouse of logistical prowess. Keep up the great work, Team Harvey! I look forward to attending more of your events in the future.

These events / meetings / conferences and conventions share a couple of qualities that I find irresistible: 1. Having the ability to acquire conifers that are not available for purchase anywhere, and 2. Having the opportunity to learn from and socialize with the great plantsmen and plantswomen who have dedicated themselves to the betterment of conifer gardens nation- and worldwide. If you haven't yet attended one of our events, please consider doing so soon. You'll be much richer for the experience.

Kudos are in order to all of the conference committees and regional officers who are doing exceptional work in putting together these events for you, our members. The long hours and stressful moments are all for the love of the game.

David Olszyk
President, American Conifer Society



David Olszyk with *Pinus aristata* (Bristlecone pine) at Mt. Goliath, Colorado Photo by Sara Malone

Editor's Picks, Fall 2018

text Ronald J. Elardo, Ph.D. photography Wade S. Courtney and Jon Genereaux

Wade Steven Courtney of Maple Grove, Minnesota, son of our National Office Manager, Steve Courtney, graciously sent me the following photos. Wade is becoming quite a photographer with an eye for detail. He's also taken underwater photos of sharks and ocean life and posted them on YouTube under "Captain Had A Hook The Shark". Check those out. They're captivating.



Picea pungens 'Ruby Teardrops' by Wade S. Courtney

"Life reveals itself to those who are looking." Jon Genereaux

Jon is Head Propagator at Hidden Lake Gardens and wrote "Particles of Illumination", Winter CQ 2018 (Volume 35, Number 1)



Nodes of embryonic roots emerging from callus tissue by Jon Genereaux



Xylem and phloem and the beginnings of the vascular cylinder in the epiclinal meristem of a new root working its way out to the soil. Jon Genereaux



A brand new mutation broom Jon found on *Picea glauca*. He calls it 'Ellie Rose' after his granddaughter "because Ellie and the miniature are both the same". Jon Genereaux



Picea abies 'Aurea' by Wade S. Courtney



Recalling Bruce Cunningham's illustrations in *Gymnosperms of the United States and Canada* (CONIFERQUARTERLY Volume 35, Number 3/Summer 2018, pp. 9 – 11). Bruce's correct email is: bruce@c@suddenlink.net. Bruce is also offering a 10% discount on the book containing his illustrations. The code is: GYM2010. Go to www.forester-artist.wm

Having Fun with your Conifers as Bonsai

text and photography Jack Christiansen

Many ACS members today have shown great interest in making bonsai part of their garden decor. Few of us have the room or property to expand our collection of conifers to accommodate all the cultivars available. That's where "trees in pots", bonsai, allow us to expand our collections.

Recently, a fellow bonsai club member and I were asked to find an appropriate *Chamaecyparis obtusa* (hinoki cypress) specimen for our bonsai club's demonstration tree for this year's show. We ended up at a conifer nursery north of us which has the best selection of conifers in Northern California. We did find that special tree for our demonstration. However, as usual, we came home with an additional seven trees apiece that we just couldn't turn down once we saw them! Sound familiar? In addition, my conifer garden space is getting smaller each year as the trees grow. I cannot add any new trees to my garden unless I'm willing to take out some of my existing plants. Many of these trees are very dear to me, and I want to see them continue growing to maturity.

So, where are these additional plants I purchased going? This fall, once the weather cools, I will plant *Cedrus atlantica* 'Hillier's HB' in a training pot as a cascade bonsai. The other six trees are going to make up a "forest planting", a grouping of trees of like specimens. I will plant this grouping on a broad, flat rock I purchased a few years ago. The rock I'll be using is fantastic. I found it at a local rockery, and it is perfect for the planting I envision. The center area is concave for plenty of root depth and soil material. The trees I purchased for the forest planting are last year's ACS plant of the year *Thuja occidentalis* 'IslPrim'/PRIMO™. When I first saw these little gallon-sized plants, my heart



Jack's bonsai tools

almost stopped. They are perfect for such a grouping with their narrow, chiseled-like growth pattern. I'm going to have to wait until this fall to put it all together, but I'm finally getting a chance to use this rock.

It's interesting to see how many of these unique conifers are available to us. Members can, with very little

experience, transform trees quite easily into very nice bonsai. I am personally very fond of the bonsai style called *cascade*, a waterfall-like transformation of a plant that flows with a downward motion, curving and dropping with downward steps. Plants that are perfect for this style and training are cedars, junipers, and various pines. This is a



Jack's bonsai collection



great style of bonsai for beginners.

In professional bonsai, trees are often times hundreds of years old when they are taken from the local mountains and then styled over many years of training. Conifers are some of the best plants available for training and wiring since most keep their foliage year-round.

Many dwarf and miniature conifers already have a natural, tree-like structure. If you're very selective in purchasing your trees, you will come away with a good starter plant. This is where the trained eye is so important. Some trees have physical faults built into them, some of which make it impossible to create pleasing bonsai, even over an extended time. Here are

some tips for picking a good starter bonsai:

- Since most trees we can purchase are cultivars, first check for the graft union. This is a good place to start. Does the graft union make a smooth and even transition?
- Avoid plants that have a wagon wheel type of branching, a spiral of branches that all attach around a central area of the main trunk. You want branches to be attached progressively, all the way up the trunk if possible.
- Look for a good flare at the base of the trunk, as branches transition to the surface roots. This adds good visual tree stability.

- At the main trunk-line, is there movement upwards that adds interest and variation? Does the tree's main trunk-line slowly taper from the ground to the top?

Don't be disappointed if you don't find a plant that has all of these good features. Some bad features can be changed with time and know-how.

Ask how long the plant has been at the nursery. Soil quality will often break down in older containers.

If the season is appropriate, start to repot your selected tree into a bonsai type soil mixture as soon as possible. Healthy-looking plants are a good clue that all is well internally within the container, but this can change rather quickly.

When repotting, never eliminate all the original soil around the roots the first time, proceed gradually and try to untangle unruly roots carefully.

For the first repotting, don't think that your tree must go directly into a shallow bonsai pot. A sizable pot with good soil will keep it safe and healthy for the first year after repotting. Good health for the tree is very important since your plant will eventually be trained by cutting back unwanted branches and wiring others that will control branch placement. This can be very stressful for plants, but a healthy plant will almost always bounce back.

What about the type of soil for bonsai?

True bonsai soils rarely have organic additives like wood chips in their mixture. Some conifers prefer slightly acidic soils. One way to get that is to add fir bark or redwood chips. However, be careful! These chips can eventually break down and create poor soil drainage. Most conifers prefer a good drainage base that allows for a fair amount of water absorption with equal amounts of air retention. This can only be accomplished by using a

good substrate made up of equal parts of volcanic lava, clay particles called akadama, and pumice. This mixture may catch you by surprise, as it initially did me. This medium makes it difficult to overwater, but it also requires daily watering during the heat of summer. For cooler climate conifers like *Abies* or *Picea*, you could substitute fir bark in place of the akadama clay.

Does my newly potted bonsai require fertilization?

Once warmer spring days come around and you see signs of the tree starting new growth, you can begin fertilizing. Organic fertilizers are often times preferred, but I have experienced great results by using fish emulsion along with a healthy dose of Miracle Gro mixed together in a watering can. By feeding the leaves along with the surface soil area every 10 days, I have been able to extend the growing season. I also use a commercial fertilizer called Apex, which I apply to the soil once every year.

Despite all of my experience and care, some of my plants have just died without my knowing what went wrong. ACS members have reported the same results. "I did everything right, but it still died!" Well, yes. It could have had faulty roots, or rotted roots from a blocked container. The possible causes are endless. I'm convinced that fungal issues may be one of the culprits. Ever since I started a regular summer fungus spraying regimen, my plants have been healthier and have experienced tremendous growth. I use products called Cleries 3336 and Daconil, sprayed every two weeks. They really work!

I hope this article will encourage many members to start enjoying conifers more by selecting bonsai as an addition to in-ground planting. This hobby allows your creative ideas to intertwine with your bonsai development decisions. The result will be your own personal living tree art form. I have been creating bonsai for over eight years and still have much



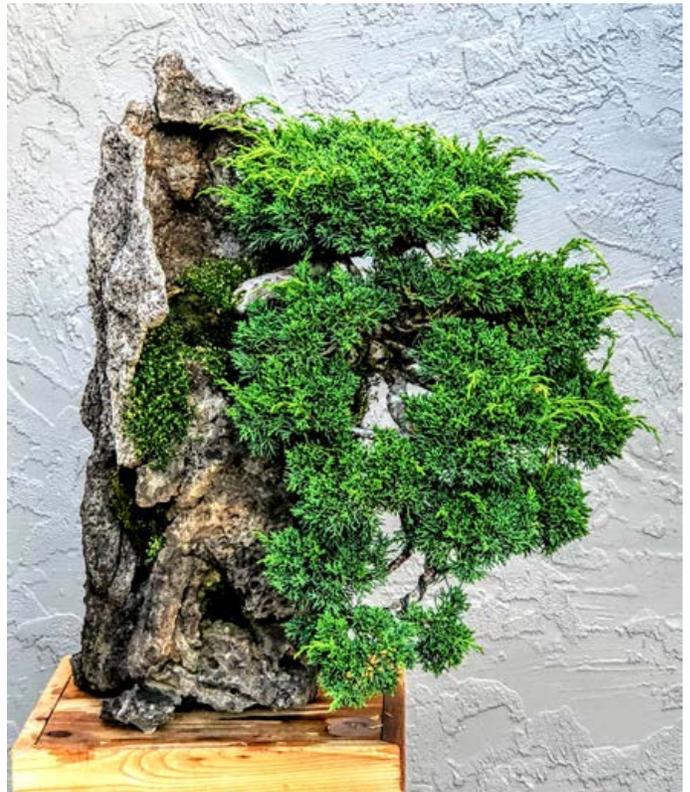
Cedrus atlantica 'Hillier's HB'



Cascade style of bonsai, *Cedrus atlantica* 'Horstmann'



Cascade upright on a rock, *Juniperus chinensis* 'Shimpaku'



Cascade on side of rock, *Juniperus chinensis* 'Shimpaku'

to learn. As I mentioned in my previous article (Summer CQ), there is no substitute for joining your local bonsai club, which will give you the needed hands-on experience and training. I will write follow-up articles that will delve even further into the development process of your bonsai trees. Remember, you're working with a living art form, and patience will go a long way to achieving best results. A great book to get is *Bonsai* by Peter Warren, published by DK.

Good plant hunting and bonsai-creating!



Bonsai medium

2019 Collectors' Conifer of the Year

text Dennis Lee photography Sam Pratt

It's the 14th year for the CCOY program and another great opportunity to add significant enjoyment to your landscape, while supporting the Society's efforts in promoting conifer utilization and appreciation. Historically, we have offered only two or three selections at a time. This year, we have expanded the program to provide access to a greater number of different conifers with interesting and unique attributes. We've selected a group of both old and new cultivars that provides a diversity of forms, colors, textures, hardiness zones, heat tolerance, and genus classifications. On a cautionary note, some of the selections are limited in numbers, so ordering early will increase the chances of getting a particular plant. Please indulge yourself as your desires and passions drive you. Remember, conifer addiction is often said to have therapeutic benefits.

***Abies cephalonica* 'Meyer's Dwarf':** This dwarf selection of Greek fir has glossy, dark green foliage with great vigor, drought tolerance, and insect resistance. In spring, contrasting new



Abies cephalonica 'Meyer's Dwarf'

foliage pushes out a bright, light green. In addition, a multitude of pinkish-red pollen cones are produced for extra delight. The needles are arranged spirally along the branches, imparting a spiky appearance. Yearly growth is typically 3 to 6 inches. In 10 years, a

specimen could easily be 3 feet high by 6 feet wide. Although the form of 'Meyer's Dwarf' is generally prostrate and somewhat irregular in structure, it can take on a more pyramidal form as it becomes more mature. Any upward tendencies are easily subdued, if



Cedrus libani 'Katere'



Chamaecyparis lawsoniana 'Filip's Golden Tears'



Picea abies 'Lemonade'

desired, with occasional pruning. This selection has been around since the early 1960's and has proven to be a very dependable, beautiful, and low-maintenance addition to a landscape. Our offering is grafted onto *Abies firma* (Japanese fir) root stock, which increases its reliability and performance in hotter, more southern climatic zones. 'Meyer's Dwarf' should do very well in USDA zones 5 through 8.

***Cedrus libani* 'Katere':** This dwarf, low-growing selection of Lebanon cedar is a fantastic rockery gem. Sometime in the 2000s, 'Katere' became available in the USA, but it's never been easily obtainable. Its graceful, horizontally mounding form is densely packed with two-inch-long, greenish blue needles. New growth is commonly 1 to 2 inches per year. In 10 years, a fortunate person could have a charming plant of 8 to 10 inches high by 12 to 18 inches wide.



Picea orientalis 'Ferry Creek Prostrate'

A well-drained site with full sun will provide the best growing conditions for optimal growth. It is known to perform well in USDA zones 6 through 9.

***Chamaecyparis lawsoniana* 'Filip's Golden Tears':** The overall beauty and grace of this colorful, upright, pendulous Lawson cypress is

something to cry for. Edwin Smits of Volkel, The Netherlands, developed this cultivar. He crossed selections of the very pendulous 'Dik's Weeping' with the attractive, bright yellow 'Stewartii'. He named and registered it in 2008. Its alluring attractiveness arises from many pleasing attributes. A major draw is its upright, narrow form with lacey, golden yellow, heavily weeping branchlets. This vigorous selection can grow 2 feet per year. In 10 years, it can easily become 15 to 20 feet high and 3 to 5 feet wide. Full sun brings out the best yellow coloration, and there is no need to worry about foliage burn. Our offering is grafted onto disease resistant root stock, so that it is tolerant of *Phytophthora lateralis* fungus in the soil. 'Filip's Golden Tears' has been rated for USDA zones 5 through 8.

***Picea abies* 'Lemonade':** Here's another appealing yellow cross by another great conifer enthusiast. In 2001, Bob Fincham, of Coenosium Gardens fame, cross-pollinated selections of the heavy cone-bearing 'Acrocona' with the yellow weeping 'Gold Drift' to produce a wealth of seedlings with many differing, valued traits of color, habit, and growth-rate. Many years later, Bob named one of the notable seedlings with bright lemony foliage 'Lemonade'. It has a broad, pyramidal form with a more open branching habit than its parents and a color that lights up a landscape, especially in winter. Growth can be substantial at 5 to 10 inches per year. In 10 years, it could be a 5 to 6 feet-wide by 4 to 7 feet-high

beacon in the landscape. This selection will color best in full sun, but it may burn or tarnish until well established. Many conifer lovers would consider this a small, temporary price to pay for a long-term investment of enjoyment. As a relatively new selection of Norway spruce, coning expectations are not yet obvious. Lemonade should give good performance in USDA zones 3 through 8.

***Picea orientalis* 'Ferry Creek**

Prostrate': This new-to-the-trade selection of Oriental spruce is outstanding for its very short, refined, vivid green needles and decidedly horizontal habit. Growth can be 3 to 4 inches per year with a 10-year plant possibly covering a 2 feet-high by 4 feet-wide space. 'Ferry Creek Prostrate' is suited for USDA zones 4 through 8 in a sunny to partially shaded site.

***Picea pungens* 'Blue Pearl':** This Colorado spruce is another true rockery gem. Great hardiness, diminutive growth, and eye-catching, silvery blue coloration is cause for great admiration. In 2001, a dense, bristly looking sport with prominent orange-brown buds was found on 'Fat Albert'. 'Blue Pearl' growth is 1 to 2 inches a year. In 10 years, it could be a globular, tightly compact mound about 18 inches tall and 18 to 20 inches wide. Full sun, well drained soils, and good air circulation are best for this conifer and will optimize performance in USDA zones 3 through 7.

***Pinus parviflora* 'Catherine Elizabeth':**

This dwarf Japanese white pine became available to the trade in 2001. As a young plant, its short, soft, green foliage forms clumps and mounds, growing at 1 to 3 inches per year and producing a sculptured appearance. Mature foliage will take on some brightening blue tones, whereas new growth emerges a fresh green. As the plant ages, the sculptured look begins to round out so that in 10 years a 2 feet-wide by 2 feet-high broad, squatty pyramid may form. Full sun is best for this selection, and it does well in USDA zones 5 through 8.

Ordering: The Collectors' Conifer of the Year program is restricted to active members of the American Conifer Society. Purchases are limited to one of each selection per member. The cost for each offering can be found on the accompanying order form. Each offering comes with a conditional one year/one time replacement guarantee. Accompanying each plant will be an anodized aluminum tag and holder, identifying the plant as a winner of the American Conifer Society's annual award of "Collectors' Conifer of the Year". Shipping is included in the above costs. For ordering, please complete the form in this publication. Orders will be filled by date of receipt until inventory sells out. All orders must be received by February 4, 2019. We cannot ship outside the United States.

Happy *conifering* to all of you!

Dennis Lee



Pinus parviflora 'Catherine Elizabeth'



Picea pungens 'Blue Pearl'

Chilgoza Pine, *Pinus gerardiana*

text Ron Elardo, photography Tracy Blevins

At the 2018 national meeting in North Carolina, this past June, Sara Malone landed the big kahuna. In the freewheeling live auction, with help—or hindrance, depending on your viewpoint—from Tom Cox and Dan Spear, she was the high bidder on the Chilgoza (Afghan) pine.

The story of this tree begins at Holden Arboretum in Ohio, where the pine was grown from seed. But the story of the seed goes back both further and farther. It was received at the Holden in 2000 by Charles Tubesing (Ethan Johnson's supervisor) from Thierry Lamant of the Office Nationale de Forêts in France. Thierry collected the seed in Afghanistan on dry sunny hills in Laghman Province, northeast of Kabul.

Ethan Johnson says, "The *Pinus gerardiana* (Afghan pine or chilgoza pine), was on the list to be planted here at the Holden until I asked my supervisor, Charles Tubesing, to let me take it to the ACS meeting for the live auction.

"My logic was that it would not be hardy in northeast Ohio, since it is listed as a Zone 7 plant (we are in Zone 5b). Our soils are heavy and tend to be very wet from November through April, and it would probably get root rot, even if the cold temperatures did not do it in. *Pinus gerardiana* is native to the high valleys in the Himalayas where annual rainfall is low. The species is threatened in the wild, as more and more of these valleys are used for agriculture.

"I also got a young one that was grafted onto *Pinus strobus* [rootstock] from Larry Stanley", Ethan continued, "so perhaps we will try planting that one once it gets large enough, or maybe, it will be in a future ACS auction. There was another one donated by Larry



Talk about tree-huggers. Sara Malone and *Pinus gerardiana*

Stanley in the ACS Central Region Meeting in Madison, Wisconsin [...this past July]. [It] was a 1 year graft in a 4 inch pot. I did not check what it sold for."

Pinus gerardiana is listed in the ACS ConiferBase, and from Wikipedia we learn this:

"Captain Patrick Gerard, a British army officer in India, discovered the tree, and later, in 1839, it was introduced in England. It grows best in the drier areas of southeast England, with the caveat that 'it is very rarely planted'.

"The word 'chilgoza' in Urdu means 40 nuts in one cone; the tree is also called *noosa* and *neoza*. It is native to the northwestern Himalayas in eastern Afghanistan, Pakistan and northwest India. It grows at elevations between 1,800 and 3,350 meters (5,905 and 10,990 feet). It often occurs in association with *Cedrus deodara* and *Pinus wallichiana*.

"The Afghan pine can reach heights of up to 25 meters [75 feet] tall, with usually deep, wide and open crowns. It has long, erect branches. The bark is flaky, peeling to reveal light grayish-green patches. It is closely related to



Pinus gerardiana inside seed after emergence

lacebark pine (*Pinus bungeana*). The branchlets are smooth and olive green. The leaves are needle-like, in fascicles of 3, 6 – 10 centimeters [1, 2 – 4 inches] long, spreading stiffly, glossy green, with blue-green stomatal lines on the inner face; the sheaths falling in the first year. The [...] pine nuts are 17 – 23 centimeters [7 – 9 inches] long and 5 – 7 millimeters [2/10 - 3/10 inches] broad."

We look forward to hearing how the tree fares in Petaluma, CA, where Sara lives. Petaluma has a Mediterranean climate in USDA zone 9b where she plans to plant it in rocky, well-draining soil. Sara was not able to take the stout, 4 foot plant home on the plane with her (despite her assertions that it is her emotional support tree and that she never goes anywhere without it); so, it will be traveling across the country on its own, thanks to arrangements made by Tony Avent, the keynote speaker and auctioneer at the national meeting in Raleigh. Thanks to Ethan, Tony and Thierry Lamont for providing such an unusual tree and a great story!

Obviously, there will be more to follow.

Elmer Dustman

text Dennis Groh

The Marvin and Emelie Snyder Award of Merit for Dedicated Support of the American Conifer Society was bestowed upon Elmer Dustman at the ACS National Meeting in June in Raleigh, North Carolina.

Elmer has been a dedicated ACS member for more years than any of us can remember. He served two distinguished terms on the Board of Directors. Along with fellow Northeast Region member, Gerald Kral, Elmer organized *two* ACS national meetings and *one* NER regional meeting. His



Elmer Dustman

planning and organizational skills and his unflappable nature make him one of the best meeting organizers in the Society.

Unless you have actually organized a meeting, it is difficult to appreciate the commitment of time and personal sacrifice necessary to make everything come together smoothly. All three of the meetings mentioned were flawlessly executed and well received by the attendees. Those who do it once rarely volunteer to repeat that performance. *Three* meetings is quite an accomplishment.

Thank you Elmer for all you have done and continue to do! Congratulations on this well-deserved award!

Andy Duvall

text Dennis Groh

At the National Meeting in June in Raleigh, North Carolina, the ACS awarded William Andrew "Andy" Duvall the Justin C. "Chub" Harper Award for development in the field of conifers. Andy has a nursery in South Lyon, Michigan, and, over the years, has introduced a number of conifers (and other categories of plants, both patented and unpatented) to the trade. Andy is a longtime member of the American Conifer Society, a steward of The Harper Collection of Dwarf and Rare Conifers at Hidden Lake Gardens, Michigan, a true plantsman, an expert propagator, a gentleman, and a very generous donor of plants.

Perhaps, of all his conifer introductions, Andy's most famous are *Pinus strobus* 'Squiggles' and *Pinus strobus* 'Wiggles'. These plants are sister plants from the same seed batch and both are unusual enough to have merit, not only for collectors, but also for nurserymen. Both cultivars have now been spread

far and wide and live in many gardens in the USA and Europe. What makes them rather special to the ACS members is that they come from the ACS Seed Exchange.

Andy purchased a packet of seed of *Pinus strobus* 'Contorta' from the exchange in the 90's. He germinated all the seeds and observed them for many years before making the two selections in 1999.

Some of Andy's other popular plant introductions include: *Pinus strobus* 'Beal's Starry Night', *Tsuga canadensis* 'Nessie', *Pinus cembra* 'Aristocrat', *Pinus strobiformis* 'Marshall Gulch', *Picea abies* 'Carol's Broom', and *Cupressus nootkatensis* 'Bridal Veil'.

Andy is an avid collector of conifers and has a nice display garden at his



Carol and Andy Duvall

nursery. The plants are arranged artfully and are properly labeled. He has vast knowledge about conifer cultivars. He takes the time to share his knowledge with visitors to his nursery and display garden. Major propagators in the conifer industry recognize Andy for his expertise, and he regularly exchanges plant material and information with them. His skill as a propagator has enabled both his introductions and other quality conifers to become more quickly available to collectors.

We thank Andy for all he has done for conifers and the ACS and congratulate him on his award.

Brandon Johnson, ACS Nursery Discount Manager

text Ron Elardo

Where are you employed?

I am the inventory and Quality Control Manager at Vans Pines, West Olive, Michigan, on the west side of the State. Vans is primarily a wholesale conifer seedling nursery servicing the Christmas tree industry, dealing exclusively with straight species.

Are you a native Michigander?

Yes, I am. I was born in South Haven, Michigan, and educated at Michigan State University, with a Bachelor of Science degree in Horticulture (or as Brandon puts it, his “glorified gardening degree”).

What does your work entail?

I oversee over 40 varieties of conifers, 4.1 million plants in total this year. Everything is grown by seed in Jiffy plugs, then up-potted or transplanted to the field; 215,000 *Pinus strobus* this year alone. Inventory is simple. You just

count (for what seems like an eternity). Quality on the other hand...that’s a bit more complex...(wipes his brow).

How did you become the ACS’ Nursery Discount Manager?

I answered Sara Malone’s ad in *CONIFERQUARTERLY* for a volunteer to run the Nursery Discount Program. Sara told me I could do anything with the program “so long as it’s legal”. I think it’s important to become more involved in something, rather than simply consuming, consuming, consuming.

What is your favorite conifer?

My favorite conifer is *Pseudolarix amabilis* because it has a cone that you don’t see on anything else. I used also to like *Picea mariana*.

I like to propagate genetic mutations which are easy to find in 4 million seedlings. I have several in a corner in one of Vans’ hoop houses. ***I plan to***

propagate dwarf conifer mutations in my apartment! (Article to follow)

At 28 years of age, I’m sure I was the youngest attendee at the Mid-American Christmas Tree Association by twenty years...

What are your plans for the Nursery Discount Program?

I always look for ways to expand the Program. I’ve created a digital map of your membership to find “conifer deserts” in the country. I ask members to reach out to the nurseries where they shop to join our program so we can be sure that, when we buy a dawn redwood from x-nursery, we don’t go home with a bald cypress. Please contact me at 00brandonjohnson00@gmail.com.

This interviewer found Brandon to be extremely engaging and full of energy. He is a bright addition to our membership.



Is It a Miniature?

text and photography Bill Van Kosky

For many years, mature conifers have been attempting to convert the clearing behind our house into a forest. A spongy mat of sphagnum moss there has served as a germination medium. Large trees nearby, primarily *Abies balsamea*, *Picea abies*, and *Tsuga canadensis*, have furnished the seeds. Seedlings have sprung up in such profusion that I have had to mow them down every few years.

One summer afternoon in 2015, as I was walking through this area, I noticed what I considered another typical little conifer, but then realized that it didn't look quite right. It was so small that I had to get down on my knees to

examine it. It proved to be a decidedly non-typical *Picea abies*.

The tree's habit was peculiar in that the limbs (if that term is properly applied to such spindly little things) were inclined upward at acute angles and were very closely spaced. The trunk was somewhat wrinkled and lumpy, giving it the appearance of age that bonsai practitioners strive for. Might it be a genetic miniature? I took a photograph of my find and fashioned a hardware cloth cage to mark its location and protect it from injury.

From experience, the probability of finding a garden-worthy conifer growing in the wild was low. The

likelihood of finding a genetic miniature there was even lower. In fact, the odds are very much against one of them surviving in the wild for more than a few years. Being small puts miniature conifers at the same disadvantage as the runt in a litter of pigs; larger competitors overwhelm it in the struggle to survive.

However, low probability events do occur. There is a winning ticket in every lottery. People are struck by lightning on sunny days. Once in a great while, a genetic miniature conifer is found by chance, growing in a meadow, field or forest.

I wondered where the miniature



2015 Photo of Discovery Tree

conifers in my gardens had originated. Checking my records, I learned that I had thirty-one miniature cultivars. Six species were represented: four *Abies*, eight *Chamaecyparis*, one *Juniperus*, ten *Picea*, six *Pinus* and two *Tsuga*.

By consulting reference books, the ACS website and my boxful of nursery tags, I learned that only two of my miniatures descended from seedlings found growing in a natural setting. Twelve of the thirty-one originated as witch's brooms, and four were from sports. Of the remaining thirteen, many originated as seedlings in mass plantings in nurseries where they were deemed superior to dozens, hundreds or even thousands of others. Origins of the remainder were either unknown to my sources or were described in unhelpful phrases such as "introduced from Japan" and "found in France".

Would the odd little *Picea* eventually be transplanted into one of my gardens to

become miniature number thirty-two, or would its small stature, wrinkled trunk and ascending-limb habit turn out to be a disfiguration caused by something other than genetic programming? I was determined to find out.

Several other small Norway spruce were growing within a few feet of the discovery tree. Among them were two that matched its height. I photographed these trees, recorded their vital statistics and enclosed them in hardware cloth cages. The three trees were exposed to the same sunlight and rainfall and were growing in the same soil.

I took photographs and measurements in the fall of 2017, two years after discovery. Both "control" trees had grown nearly three inches. Over the same period, the height of the discovery tree had increased by only a bit more than an inch.

Knowing the age of the three trees would make growth-rate comparisons more meaningful. Judging by a count of whorls on the control trees, they were both approximately nine years old. Given the discovery tree's curious habit and overall appearance, I felt that I didn't have a reasonable basis for determining its age.

I considered a rather offbeat idea, but didn't act on it: wait for the proper time of year, cut the tree in two with a knife, count the annual rings and then graft it back together. I was curious about the age of the discovery tree — but not that curious.

So is it a miniature, a dwarf or just a little tree that has had a difficult childhood, so to speak? I can think of three ways to proceed. One is to use the template familiar to us from watching television news, stock market and sports channels: find three or four loudmouthed,



2017 Close-up of Discovery Tree



2017 Photo of first control tree, for comparison with habit and height of discovery tree



Photo of second control tree

opinionated commentators and have all of them shout conflicting oracular pronouncements at the same time. A second option would be to expand the pool of guessers to include everyone in the world who has access to a computer, and let them fight it out on the Internet. By the time consensus is reached, the tree, whatever it turns out to be, will have died of old age.

I have a better idea. Each year after the annual growth spurt, I'll continue to take photographs and measurements, and let the accumulation of facts over time answer the question, "Is it a miniature?"

Bill Van Kosky updated the trees' measurements as a suggestion of JD Belanger, CQ editing staff.

Tues., Sep 4, 2018

I asked Bill for updated measurements on the three trees he has been tracking. This was his reply:

"Ron, I just went out and measured the 3 little trees. The height of the discovery tree is 5 1/2 inches. The height of control trees: 9 1/8 and 13 1/4 inches respectively. So, as expected, the two controls trees are putting on new growth at a significantly faster rate than the little guy. In 2015, all three trees were almost exactly 4 inches high."

Marquette, Michigan



Discovery Tree as of August 2018



First Control Tree as of August 2018



Second Control Tree as of August 2018

In the Footsteps of a Legend: Touring with Jerry Morris

text Sara Malone, Western Region President and Webeditor

In August, the Western Region hosted 30 coneheads from all four regions with a two-day event in Colorado. The meeting trifecta featured:

- a tour of Denver Botanic Garden by Mike Kintgen, Curator of the Alpine Collection, and Kevin Williams, horticulturist who works in the Dwarf Conifer Garden
- a visit to the private garden of Mike Kintgen
- a day on Mount Goliath, hiking more than 11,000 feet above the tree line down to a large grove of Colorado Bristlecone pines, *Pinus aristata*.

Jerry Morris, who has seen many of his brooms included in the DBG collection, was on site at both Denver Botanic and Mount Goliath to advise and entertain us. In addition, Kevin Williams and Panayoti Kelaidis, the Senior Curator of DGB, spoke to the group on Friday night following the auction, which featured Rocky Mountain conifers. For those folks able to stay on, Sunday offered a visit to La Porte Nursery, which sells many of Jerry's brooms.

We thank our ACS Reference Garden, Denver Botanic, for partnering with us on this wonderful event. Their horticulturists spent hours with us. The Garden itself is magnificent, and the staff provided us a room for dinner and for the auction.

The ACS also thanks Barb Inman and Leslie Hammer-Palin for shepherding us around and for handling most of the logistics. Nobody got lost, nobody needed the oxygen that they thoughtfully provided "just in case" for Mt. Goliath, and everyone had a blast!

Enjoy these photos and take a virtual trip to Colorado, as you go from mile-high Denver to the foothills of the

Rocky Mountains. The complete photo gallery can be seen on the ACS website. Photo credits: Leah Alcyon, Sara Malone, Lenny Oddo, Holly Reid and Sandy Scott.



Jerry Morris



On the slopes of Mt. Goliath



Denver Botanic



Remnant of Bristlecone pine



Pinus arisitata seedling



Sculpted Bristlecone trunk



Cluster of dead Bristlecone pines

My Day With Jerry Morris

text and photography Donald LaFond

I'm a rock gardener. We like things small: wee little weeds, krumholtz — those twisted, stunted trees that grace inhospitable subarctic and subalpine locales— and the prickly, hairy, parched plants of the deserts. In other words, we like plants from extreme environments.

Early on in my education in rock gardening, my friend talked of taking his kids up north to look for witch's brooms. They would pile into the back of his little pickup and drive the sandy logging trails of northern Michigan. The kids would tap on the roof of the truck when they saw a broom, and my friend would stop to inspect it. Fortunately, we talked our friend into showing us the ropes. A new hobby for us! Most witch's brooms are perfect for rock gardens, as their scale fits our little patches well.

This, of course, led me to the ACS. When I started studying what was available, I was pleasantly surprised to learn of all of the miniature conifers. Reading about the provenance of the various witch's brooms, one name I saw consistently was that of Jerry Morris. Asking around, I learned that he spent a lot of time combing the back roads of the West looking for brooms. Now this was a man I wanted to meet!

It took several years, but, in July of 2007, I was finally able to go out West and do some plant hunting. My family is not interested in driving around looking at plants, so I made a deal that, if I went out West, when I returned, I would take them to Wisconsin Dells. I drove from Michigan to South Dakota and the Black Hills, then on to Wyoming to the Bighorns and finally to Montana for the Beartooths. I had two weeks and visited only the highest elevations. With just two days left before I had to be on the road home, I said to myself, "I'll go to Denver and see Mt. Evans." I drove through the hot night to Denver.

Mt. Evans should be seen by all rock gardeners and coneheads. Ancient bristlecone pines, tiny green mats with jewels sprinkled on top and rocks of every size, that's Mt. Evans.

I started home with only \$90 in my pocket. On the way out of Denver, I stopped at a nursery. I saw rock plants and conifers, and a nice lady asked if she could help me.

I said: "Sure. Do you know Jerry Morris?"

I knew Jerry lived somewhere near Denver. With a sideways glance to see if she could recognize a stalker on sight, she asked if I knew him.

I said: "Only by reputation."

She said: "He's a bit of a curmudgeon, but he only lives 10 minutes from here. I'll check."

Serendipity! I wandered around a bit more waiting for the word (or a police car). Just before I figured she couldn't get a hold of him, she returned and said that Jerry had answered and was willing to see me.

With a bit of direction, I found Jerry's place. I drove into the driveway expecting a greeting something like, "I'm a busy man. What do you need?" However, Jerry walked out, stuck out his hand and said: "Hello, I'm Jerry, welcome to my place."

I explained my interest in conifers and especially witch's brooms.

Jerry said: "C'mon, I'll show you around the nursery."

To my bewilderment, the first thing I saw were four huge bristlecone pines that looked like a giant had pulled them out of the ground and set them on hay wagons. Jerry explained that he

was constructing a private botanical garden in Vail. (Unfortunately, the hay wagons were not worthy of a drive back to Michigan, and I couldn't fit one in my truck.) We started inspecting the long white hoop houses, not full of plants in black plastic nursery pots, but hundreds of seed-grown and grafted conifers propagated by Jerry, growing in tall Styrofoam coffee cups. I saw pines and firs and spruces. There was also a grouping of several dozen seed-grown oaks. Jerry said he thought they were hybrids of *Quercus gambelii* (and something else I can never remember), but that the acorns came from very small plants. Jerry asked if I was interested in oaks—I said that anything small interests me. He told me to pick a few out. I picked one up and reminded him I only had 90 dollars, and he handed me two more. Over to the next house we went.

I like bonsai, and so does Jerry, but he does it a bit differently from the fastidious Japanese. He finds old trees that are going to be in the way of some construction project and rescues them. He has a really impressive collection, all in different-sized weather-worn, homemade, shallow wooden boxes, as I remember.

We then went into a somewhat ramshackle, cluttered, narrow space I assumed was Jerry's office, and he started a conversation. I asked why he thought we have a hard time growing bristlecone pines in Michigan and he had an interesting theory. Jerry thought that bristlecones could only effectively manufacture food at or below about 50 degrees. He said that I should try siting the plant where it would get the first sunlight of the morning at the summer solstice, to ensure that the plant would begin photosynthesizing in the cool morning at what is generally



Part of Jerry's garden

the hottest time of the year. That way, the bristlecone has the best chance of being able to manufacture food during the stress of summer's heat.

Although it's only anecdotal evidence, I kept one of the three bristlecone broom seedlings from Jerry alive for three years in the one spot in my garden with the required siting before a mole tunneled below it and caused its demise. That plant was one I really wished hadn't gotten away.

As we continued our conversation, we embarked upon a more spiritual

discussion. Not about organized religion, but more about synchronicity and the fate of people in the world. I believe that the thousands of miles Jerry has spent traveling the mountains and deserts have had a profound effect on him. Obviously, he was an expert on conifers and the brooms they spawned. Unfortunately, I did not record the words he spoke that day, and memory is a wicked thing. Jerry spoke about the importance of his family; he took joy in naming his finds after his family members and also after cartoon characters. He talked about the people

who had lived on the land before the Europeans. I think that his naming of some brooms after native tribes was his way to honor and remember them. I remember leaving his place with a profound respect for a man who had a deep understanding of people (and also with so many plants that I couldn't have had a passenger if I wanted one.)

All that, and a wonderful afternoon, for a mere 90 bucks!

ACS AWARDS 3 SCHOLARSHIPS

text Gerald Kral

The American Conifer Society is pleased to award three scholarships this year. Not only did we receive several worthy applications, but their geographic spread shows that our mission is reaching all parts of the United States. Applications came from California, Kentucky, Ohio, Pennsylvania and Texas. It is my pleasure to introduce you to our 2018 scholarship recipients.

We awarded \$2,000 to Robert Hammond from Cincinnati, Ohio. Robert's Sponsor was David Gressley, Director of Horticulture at Spring Grove Cemetery and Arboretum, Cincinnati, Ohio. Robert is a junior at Cincinnati State University, working towards his Bachelor's Degree in Horticulture.

This summer Robert is planning to take exams for both the ISA (International Society for Arboriculture)

certification and the Ohio Nursery Landscape Association certification. He is especially fond of the genus *Cryptomeria*, which is not commonly grown in Ohio. His main interest is why conifers are disappearing from Ohio forests. White pine is almost gone, and spruces have canker. The only conifer still thriving in the Cincinnati area is *Juniperus virginiana* (Eastern red cedar). Robert states: "Through studying diseases, I hope to find a solution to canker."

We awarded a second scholarship of \$1,500 to Jessica Rae Bernardine, whose sponsor was Professor David Lemke. Professor Lemke teaches at Texas State University. Jessica earned her Bachelor's Degree in Botany from Oklahoma State University and is working towards a Master's Degree in Biology at Texas State University, where she is conducting research and is also a teaching assistant.

Jessica is currently conducting experiments on a dusty white fungus that is affecting the native *Juniperus ashei* (Ashe's juniper). She is trying to determine if the complex relationship between Ashe's juniper and the fungus is parasitic or commensal. Jessica will use her scholarship to help with her research and tuition.



Robert Hammond



Jessica Rae Bernadine

Abigail credits these meetings and the relationships she developed with conifer-lovers for her inspiration to study insects and horticulture. After graduation, she will continue her education and hopes to acquire a master's degree, perhaps majoring in IPM (Integrated Pest Management) and biocontrol.



Abigail Clarke

.....

We gave a third award of \$1,500 to Abigail Clarke. Her sponsors are ACS Members April and Jeff Clarke (her parents), who own Lund Brothers Nursery in Hatfield, Pennsylvania. Abigail is beginning her junior year at the University of Delaware, majoring in Ecology & Conservation, Agriculture & Resources, with a minor in Landscape Horticulture and Design.

Quoting Abigail from her bio: "Growing up on a plant nursery, I have been interested in plants all my life. My first Conifer Society meeting at age eleven was in Saddle Brook, New Jersey, in 2008. I would get so excited to go on these trips and for many years to follow, asking my parents, 'Where is the next one and when can we go?'"

.....

The American Conifer Society was able to award \$5,000—a large amount for us—in part due to an anonymous donation of \$1,500. We thank that donor and congratulate all of our deserving recipients!

Exciting Variegated Ginkgos

text and photography Tim Nichols, Mr. Maple.com

Propagation and Cultivation

First, I don't think I can talk about cultivation of ginkgo without talking about giving them lime. Ginkgos prefer a more alkaline growing condition. You will notice a big difference in the health and growth of a tree with a more alkaline pH vs. a more acidic pH.

Variegated ginkgos are sought by collectors for their unique character and interesting variegated foliage. Many can prove difficult to propagate while maintaining the variegation. One common tactic is to prune out "reversions". While this method may be effective from time to time, some non-variegated branches may appear variegated the following year, while variegated branching may show no

variegation the following year. It is still important, as with most variegated plants, to produce from plants that display the most stable variegation.

Another method is to give variegated ginkgos more sun. Often variegated ginkgos lose variegation more quickly in shadier conditions than in sunnier growing conditions. At our nursery, we have played around with the idea of rooting variegated selections, but these same problems appear to affect both grafted selections and rooted selections.

Cultivars

While 'Variegata' may be the most common of the striped variegated selections, many other cultivars

exist, such as 'California Sunset', 'Jerry Verkade', 'Joe's Great Ray', 'Majestic Butterfly', 'Sunstream' and 'White Lightning', to name only a few. Some of these may have a white striping variegation, while others may be more a creamy yellow. All of these striped, variegated selections can revert and do so frequently.

Ginkgo biloba 'Jagged Jester' is one of the most unique ginkgos I have seen. While this variegated plant still can revert, it reverts to one of my favorites, 'Jagged Jade', which has thick attractive foliage. Some believe this thicker leaf to be an indicator of a polyploid ginkgo, but I don't know anyone who has tested this in a lab. 'Jagged Jester' was found as a variegated sport on the cultivar 'Jagged Jade' by one of our



Ginkgo biloba 'Variegata'



Ginkgo biloba 'Jagged Jester'



Ginkgo biloba 'Pevé Maribo'

friends, Crispin Silva in Moalla, Oregon. We would expect 'Jagged Jester' to grow to 5 or 6 feet in 15 years. Fall color is a bright neon yellow.

'Pevé Maribo' is a variegated sport that was found on the ever popular dwarf 'Mariken' by Piet Vergeldt in the Netherlands. The creamy yellow variegation gives this dwarf a little extra added flare and makes it unique. While this variegation is just as unstable as other variegated ginkgos, it reverts to 'Mariken', a 2010 ACS Collectors' Conifer of the year. This isn't a very risky plant, as either way it will be beautiful, dense and compact. 'Pevé Maribo' may reach 4 feet x 5 feet in 10 years.

'Beijing Gold' is a uniquely variegated ginkgo that doesn't revert. In the spring, older plants may leaf out completely yellow. As the spring progresses, chlorophyll pushes green into the leaf while the yellow begins to leave. This stage can be seen in the photo on p. 30. By late spring to early summer, the foliage has turned to a solid green. New growth during the summer will often display white striped variegation. While the older growth does not show this variegation, this ginkgo does not revert. Fall color, like most ginkgos, is a bright, neon-yellow. While the name makes one think this tree originated in China, the farthest I can trace this tree back is to the Netherlands in the late 1990's to

early 2000's. 'Beijing Gold' may reach 8 to 10 feet in 15 years.

'Snow Cloud' is perhaps my favorite ginkgo, primarily because it doesn't revert and displays a snow-like frosty variegation. Originally brought over from Japan by our good friend Barry Yinger of Asiatica Nursery, the original name on this ginkgo was 'Frosty'. Years later, as soon as we tracked down a 'Frosty' from one of Barry's customers, we started grafting it and getting it into production. 'Snow Cloud' hit the market, which happens to be the same tree. While 'Frosty' may have been the original name, 'Snow Cloud' is now the more accepted name in the nursery trade. In hot climates, the white frosted



Ginkgo biloba 'Beijing Gold'

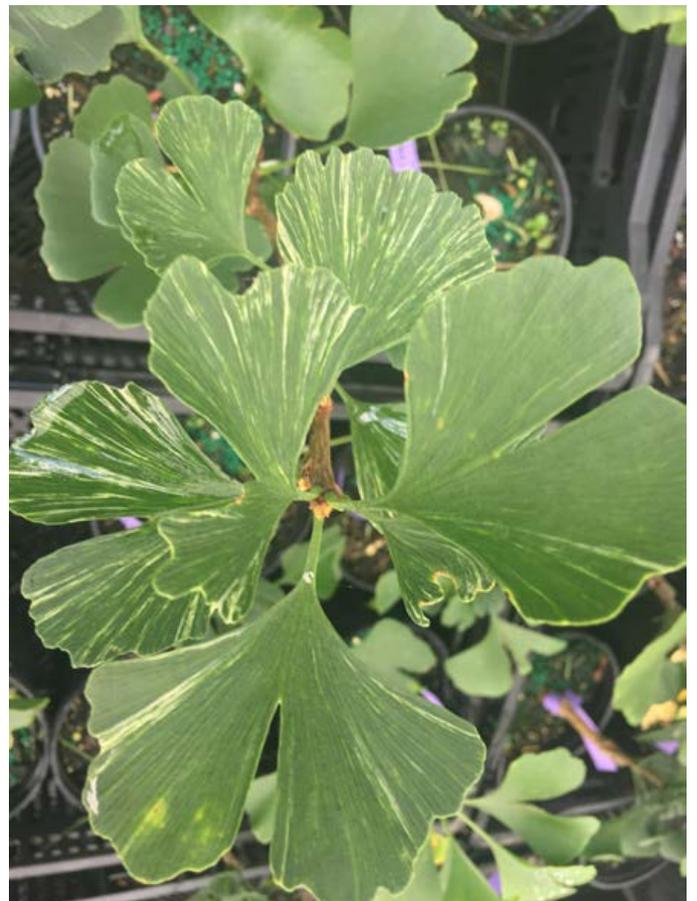
variegation will fade more, but it always puts on a great spring display of variegation. Give 'Snow Cloud' morning sun and protection from the hot afternoon sun for best variegation. Fall color is a bright, golden yellow. We expect 'Snow Cloud' to reach 6 to 8 feet in 10 years.



Ginkgo biloba 'Snow Cloud'



Ginkgo biloba 'Pevé Maribo' showing color



Ginkgo biloba 'Beijing Gold' with Summer Variegated Flush



Ginkgo biloba 'Snow Cloud' during summer

CQ Conifer ID Contest Fall 2018

THIS QUARTER'S CONTEST: WHO CAN NAME THIS?



Contest rules:

Identify the conifer in this photo as specifically as you can. Genus, species, variety, subspecies, cultivar, etc.

Email your answer to president@conifersociety.org, or send a postcard to

David Olszyk
P.O. Box 5631
Lacey, WA 98516

The winner will be drawn at random from all correct answers received. Only one entry per member/quarter will be accepted. Only ACS members in good standing are eligible to take part. ACS Board of Directors and their families are ineligible to take part in this contest. We will announce the winners on this page of next quarter's CQ.

Each quarter, the winning entry will receive a one year extension on his or her ACS membership. In addition, all correct answers will be entered into a yearly grand prize drawing of a voucher granting the winner free registration at an upcoming ACS National Meeting (an approximately \$350 value). **Deadline for submissions is November 21, 2018.**



The winner of the Conifer Summer 2018 ID Contest was Scott Antrim of Lake Wylie, SC. Scott correctly identified the contest tree as *Cupressus vietnamensis*.



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