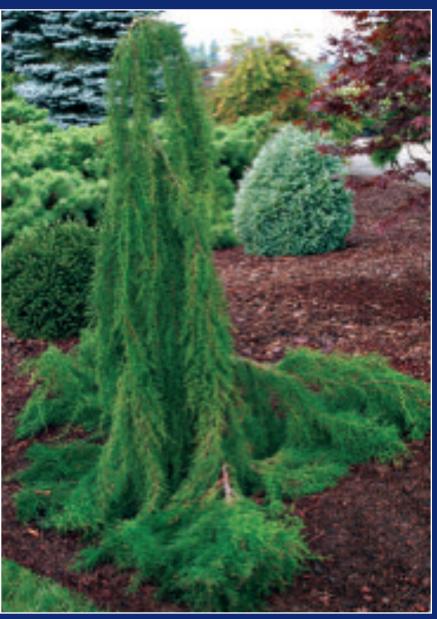
Conifer Quarterly

Vol. 27 No. 1 Winter 2010



Lagarostrobus franklinii 'Pendula' Photo credit: Randall C. Smith, courtesy of Iseli Nursery



Athrotaxis cupressoides
Photo credit: Randall C. Smith, courtesy of Iseli Nursery

The Conifer Quarterly is the publication of the American Conifer Society

Contents

- 6 A Vulnerable Species by Anthony J. Malone
- **Book Review**by Aljos Farjon, FLS
- **Two Rare Californian Pines that Live in the Wind**Text and Photos by David Rasch
- 19 Developing an Evergreen Evergreen: Winter Browning in Japanese Cedarby Ryan Contreras and John Ruter
- 27 Conifer CornerThe Forgotten Conifers: Intermediate Conifersby Bert Cregg, Ph.D.
- 33 Search for Rare Conifers by Tom Cox
- 39 Notes from the Czech Republic by Jaroslav Kazbal

American Conifer Society Voices

- 2 President's Message
- 4 Editor's Memo
- 16 ACS 2010 National Meeting
- 25 The Answer Guy
- 43 2010 International Trip
- 45 2009 Southeastern Regional Meeting
- 47 Regional News

Conifer Quarterly

Winter 2010 Volume 27, No 1

The Conifer Quarterly (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.

You are invited to join our Society. Please address membership and other inquiries to the American Conifer Society National Office, 175 Charisma Lane, Lewisville, NC 27023-9611. Membership: US \$30 (indiv.), \$35 (joint), \$30 (institutional), \$50 (sustaining), \$100 (corporate business) and \$130 (patron). If you are moving, please notify the National Office 4 weeks in advance.

All editorial and advertising matters should be sent to: Evelyn Cox, 1621 N. Lake Dr., Canton, GA 30115, (770) 772-9747 or email coniferquarterly@bellsouth.net.

Editor Evelyn Cox

Technical Editors Ethan Johnson Susan Martin R. William Thomas

Advisory Committee Ellen Kelley, Committee Chair Marvin Snyder ex officio: Tom Cox ex officio: John Martin

Copyright © 2010, American Conifer Society. All rights reserved. No material contained herein may be reproduced in any form without prior written permission of the publisher. Opinions expressed by authors and advertisers are not necessarily those of the Society.

Note: Hardiness Zone references in the Conifer Quarterly are USDA classifications unless otherwise specified.

MUSINGS...

"At its heart a garden is a relationship between people, plants, and the place in which they both live and grow."

From *Plant-Driven Design* by Scott Ogden and Lauren Springer Ogden, 2008

Thave recently been reading the above ▲book by Scott Ogden and Lauren Springer Ogden. Both are well-known garden writers, designers, and lecturers. In this book, they turn traditional architectural landscape design on its head, proclaiming that structure-driven gardens "fall short" by forcing plants into a plan that "utterly defeats nature." Though some of these traditionally-designed gardens are often beautiful, over time the plants lose their sense of importance as they are pruned or sheared or grow together. Instead, the authors argue that a plant-driven garden should be a home for plants in relationship with people and place, creating a more natural environment.

This makes lots of sense to me, especially as a collector of plants. When we built our house 20 years ago, our lot was mostly shade, created by dozens of walnut trees and scrub elms. What grows under walnuts? Why, hostas, of course! After the first 200 or so of those, we were ready for something else. That something else, thanks to Chub Harper, turned out to be conifers.

Yes, our garden is a collector's garden. For some people, that may be a polite way of saying a haphazard, random collection of plants. Although I have attended many a workshop and a course or three on garden design, I've never found much sympathy for the collector who, like me, could use some guidance but seldom works with a detailed plan.

The detailed design plan has never made much sense to me for several reasons. Plants die. Plants outgrow their space, sometimes sooner than we thought. Plants don't perform as advertized. They become unruly. Plants "thrive", that is, they spread themselves all over the garden. The garden we pictured in our minds or on paper is not necessarily the garden we have.

In their book, the Ogdens posit what really should be obvious—our gardens are naturally not static. Now that the deciduous trees and conifers have shed leaves and needles, I walk about the garden or view it from a window, and I look critically at various spaces and vignettes. Already I'm revising some spaces in my head. Plants that I thought I loved will come out. This includes a *Gingko biloba* 'Saratoga' that was probably wrong from the beginning. A beautiful *Pinus cembra* 'Glauca' is colliding with a 'Taylor's Sunburst' and will have to come out. And 'Hillside Creeper' is out of control.

Next year's garden certainly will not be the same as last year's garden. There will be a national meeting, as well as regional meetings with many, many tempting plants. And then today, December 1st, I received the first plant catalog, *High Country Gardens*, and an e-mail notice from Klehm's Song Sparrow Nursery saying that their list of new plants was on their Website. I noticed that some of the plants marked "NEW!" were already sold out. The most recent issue of *American Nurseryman* contained their list of best new plants.

Over the winter, I will keep studying and rethinking our garden, looking for places that need a spot of color or will highlight a new specimen conifer. I'll keep pouring over the nursery catalogs and their many dazzling photos. I'll read through—again—back issues of the *CQ*, looking for suggestions of conifers that will probably survive in our heavy clay soil. By March, I'll be excited and ready to accept the opportunity to partner with some new plants to create and energize, I hope, a better home for us all.

Ellen Kelley



2010 is our 64th year in business. We offer dwarf and unusual conifers and Japanese maples.

Please call ahead (717) 486-5142

816 Holly Pike Mt. Holly Springs, PA 17065 www.suncrest-gardens.com

EDITOR'S MEMO

Dust of Snow

The way a crow
Shook down on me
The dust of snow
From a hemlock tree
Has given my heart
A change of mood
And saved some part
Of a day I rued.
Robert Frost

While half-watching television recently, I was reminded of a few lines from this poem. The words that caught my attention were dust of snow, hemlock tree, and Robert Frost. I wanted to find the whole poem to see if it was something I might want to share with you in the upcoming winter issue.

Way back in my school days, this could have involved a trip to the library and a good bit of my time. Now the internet makes it so easy to learn things such as who said what. So that is where I started, typing in the words "Frost dust of snow." Soon pages of information appeared. The process took only about two minutes.

This ability to find what you want when you want it online has greatly enhanced the spread of plants. A decade or so ago, we could learn about a plant previously unknown to us if we had plenty of time to research it. For the less esoteric among us, chances are we would have forgotten a new plant name almost immediately upon hearing it. Now with-



out leaving our home or even our desks, knapsacks of knowledge are available in a few clicks. We can see the plant and if it looks like something we can't live without, we can have it in our garden in short order.

Much of this knowledge spread by the internet originates from those who venture out looking for lesser-known plants and/or for aberrations in the plant world. Two such people are David Rasch and Anthony Malone who point out some lesser-known conifers in this issue. They both are adventurous plant lovers and they have the pictures to prove it. Another adventurer, Jaroslav Kazbal from Czech Republic, shares a secret (now that he can) about a plant aberration he and others discovered in the Bulgarian Pirin Mountains.

For those of you who could not attend the 2009 National Meeting or those who have asked for copies of the presentation made there by Ryan Contreras on non-winter browning of Japanese cedar, we include a paper done by Ryan and

John Ruter Ph.D. as part of Ryan's own Ph.D. work.

If you haven't embraced the internet as a resource for plants and plant knowledge, make a resolution to give it a try in 2010. Start with this issue. Look up one of the lesser-known conifers or one of the cultivars you read about in Dr. Cregg's article on intermediate-sized conifers. If

you find something you can't live without, please remember our advertisers. Many of them have fantastic Websites.

Happy New Year.



Next Issue: Spring 2010

Share with us your garden successes in combining non-coniferous plants with your conifers. We are also interested in hearing about other ways you accentuate your conifers such as planting in raised beds, containers, troughs, etc., and which conifers go well with other conifers. Your photos will enhance your story.

We welcome news alerts about conifers or about our members. Contact Evelyn Cox (evcox@bellsouth.net) to discuss your ideas.



Rare, miniature, dwarf and unusual conifers

Pembroke, Massachusetts 02359

www.coniferconnection.com

781-789-7647

A Vulnerable Species

by Anthony J. Malone

The California native cypresses are a diverse and fascinating group of conifers that include a wide variety of 10 to 12 species whose entirety extends from the far north of the state (Baker or Modoc cypress) to the far South (Tecate and Cuyamaca cypress). Most of them are endemic to the state of California and though evidence seems to suggest relatively recent evolutionary divergence, the individual tolerance and adaptations to different sites, soils, and climates varies from species to species across the genus.

Without touching upon the recent controversy that suggests creating an entire new genus for the North American cypress species (a.k.a. "New World Cupressus") that would separate them from the Eurasian cypress species due to recent DNA analysis, I would like to spend some time addressing a species of North American cypress that I feel has received far less attention than it deserves. As was stated before, many of the cypress species in California share a wide variety of



Timbered Crater population

growing requirements. For example, Monterey cypress struggles in areas of high heat (such as the California Central Valley and the American southeast), and many species of New World cypress are not reliably hardy below USDA zone 7, with the obvious, but not sole, exceptions of Cupressus arizonica and Cupressus nootkatensis (formerly Chamaecyparis nootkatensis but recently placed in the genus Cupressus due to a difference from its former genus Chamaecyparis in cone morphology and cone maturation time. One more cause for this is its ability to hybridize with three other species of Cupressus, something that would not be possible if indeed it was in a separate genus).



At Timbered Crater Rare and endangered Baker cypress

There is, however, one species of New World cypress whose tolerance for both extreme heat and extreme cold, as well its superb ornamental quality, have made it worthy of the attention of propagators and collectors. This species is Cupressus bakeri, also known as the Baker or Modoc cypress. (The name Modoc comes from the name of the indigenous tribe that once inhabited the barren lava beds of northeastern California where this

species is known to grow.)

Growing in as few as ten or eleven separate and scattered localities mostly in northeastern California but also with one or two in southern Oregon, this species appears to be clinging on to an existence in mere pockets of what was a few millennia ago a much more widespread range. The areas where it currently grows are desolate and remote places, ranging in elevation from 3500 feet at the Timbered Crater Wilderness Study Area in Shasta County, California all the way up to 6500 feet within the red fir forest in Plumas County, California.

The largest single population of this species occurs on a relatively recent (last few thousand years) lava flow in Shasta County, in northeastern California. The terrain here at Timbered Crater is mindboggling and unique—acres of rough volcanic boulders that resemble rubble piles of condensed and cooled lava. Temperatures fluctuate in both extremes—exceedingly hot and dry in the summertime, and cold and wet in the winter. Annual precipitation is estimated at or near 13 inches. Oak and cypress and the occasional Juniperus occidentalis are the dominant species on this no-man's land, and they seem to be thriving where many other species wouldn't stand a chance. In areas where the rubble pile is absent, the ground almost looks as though it has been paved—the lava flow is flat and even, and this is primarily where the cypress are able to take root into a very thin bed of soil. A history of frequent fire is evident from the brittle remains of burned stumps and the plethora of seedlings of seemingly all the same height and age. (Cupressus bakeri needs fire to open its cones and regenerate.) Cupressus bakeri stands at other locations have trees that reach heights of 90 feet, but not here. Due to the low amount of annual precipitation and the challenges of growing on piles of cracked lava with barely inches of soil here and there within which to put down roots, few trees here reach heights taller than 10 to 15 feet.



At Goosenest Mountain Peeling bark of *C. bakeri*

Ornamentally, this species is promising because of the beautiful hues in its foliage of gray, blue and bright green as well as the gold-dotted appearance of the male pollen cones. The female cones are less than 1 inch in diameter and resemble tiny, gray-speckled armored helmets. The bark is also extremely notable. The bark on the trunks of mature trees is mahogany-colored, sometimes speckled, smooth and at times peeling, almost resembling the bark of the madrone tree. Looks are not all that Cupressus bakeri has to offer, however-the smell of the foliage alone is over-powering. Smell is one of the definitive ways to tell apart many species of New World cypress, and in my opinion the smell of Baker cypress foliage is the most beautiful of all (McNab cypress is a close second). A written description cannot do it justice except to say that it sometimes brings to mind the smell of clean desert air after a rain—alive, nutrient-rich, and fresh.



Young C. bakeri

It must be noted that the cold-hardiness of Baker cypress is something that sets this species apart from its relatives. There are specimens of this tree growing reliably in USDA zone 5. Both the Denver Botanic Gardens and Chicago's Morton Arboretum have specimens of this tree in their collection in relatively unprotected areas. The specimen at Denver Botanic Gardens, 35 feet tall and just under 30 years old, appears the healthiest, most likely due to Denver's dry summers. However, the specimen at Chicago's Morton Arboretum has been planted out since 1996 and survived over 12 winters and 12 humid summers, including lows at times of -28 F (-33 C). This specimen is not doing as well as Denver's, most likely because it is in somewhat of a low-lying area and does not receive full sun.

Baker cypress is drought-tolerant, cold-tolerant, heat-tolerant, and wind-tolerant, but one thing it will not tolerate, in addition to poor drainage, is shade. Trees



At Goosenest Mountain Straggling seedlings being crowded and shaded out by red and white fir

in even partial shade begin to drop foliage and become leggy from the bottom up. An unfortunate reality that Baker cypress shares with quite a few other species of California cypress is a native range that is much reduced from what it was in the recent past due to human activity and fire suppression. It is known that one or two



At Timbered Crater C. bakeri male cones

entire stands have been extirpated in the past century. Baker cypress requires fire to shed seed, and it grows slowly in the wild, where in some places it receives as little as 13 inches of precipitation annually and grows on only the most nutrient-poor soil. It is easily out-competed by other species of conifer, such as red fir, which shed viable seed every year without the requirement of fire to open their cones.

Being that humans are partly responsible for the reduction in range of this species, it is up to humans to help bring this species back up to a state of grandeur. Through proper forest-management practices and the actions of the Bureau of Land Management, Forest Service ecologists, and the Forest Service, populations of this species in the wild can be protected from being crowded and shaded out by competing tree species such as red and white fir. Allowing the controlled burning of low-intensity wildfires once again is yet another way to help this species survive into the future. Fires both clear the surrounding red and white fir encroachment as well as inducing seed-drop in Baker cypress. Adequately protecting this species and spreading awareness of its existence to logging companies and lumbermen should also be considered as an important step in preventing the destruction of any trees in a stand. One of the populations of this great species is within 50 yards of a clear-cut and pine plantation on a mountain in Siskiyou County, California. Who knows how many cypresses were accidentally or inadvertently felled by unknowing loggers clearing the surrounding pine forest?

One group that can also play a hand in the preservation of the genetic stock of



Timbered Crater in the distance. It smelled really good here. In summer, temperatures exceed 90-100F. It was a perfect 60F on this October day.

this species is conifer propagators, collectors and arboretums. This group can aid in a form of ex-situ conservation of a vulnerable species and help nudge it along into the future. By spreading awareness of the existence of this species, we are preventing it from slipping into oblivion. Once mature, trees produce a large amount of viable seed that remains closed in cones until the death of the parent tree or the circumstance of fire. These cones can be pulled off the tree at any time once maturation is complete (it takes a little under two years for the cones to mature and the seeds within to become fertile) and the 20 to 40 seeds per cone can be emptied out, stratified, and grown on. Baker cypress is not entirely absent from the nursery trade-Seven Oaks Native Nursery in Albany, Oregon as well as Oikos Tree Crops in Michigan sell this species through mail order. It is up to

human beings to help right the wrongs of the past and preserve this wonderful and widely-adapted cypress species for generations to come.

About the author: Anthony J. Malone became interested in conifers--among the longest-lived and largest organisms on Earth--after seeing California Coast Redwoods for the first time in 2001. He has studied and propagated many rare and endangered species, and has traveled to many remote locales throughout the state of California to collect seed and data to share with botanic gardens and arboretums such as UC Santa Cruz, Quarryhill, and UC Berkeley. He is a volunteer at Strybing Arboretum in San Francisco. He has a special affinity for Siskiyou County, in the Northern part of the state. He currently resides in Oakland, California.

Nominations Sought for 2011 American Conifer Society Awards of Merit

Every year the American Conifer Society honors its members with Awards of Merit. Nominations for next year's recipients must be received by November 30, 2010.

Marvin and Emelie Snyder Award of Merit for Dedicated Support of the ACS

This award recognizes those who have made outstanding contributions to the American Conifer Society through their service, enthusiasm, commitment and promotion of membership in the Society.

Also, this award acknowledges those who have been deeply involved in the activities of the Society, organizationally or otherwise.

Award of Merit for Development in the Field of Conifers

The criteria for this award include the collecting and displaying of conifers, a willingness to share knowledge of plants, and the enthusiasm and drive to discover and develop noteworthy cultivars.

Also taken into consideration are published articles, books, or texts as well as new or improved propagation techniques and designs for the use of conifers.

To be considered, your nomination must be accompanied by an outline of the nominee's contributions in the appropriate category. If you wish to nominate a member for either of these awards, include your candidate's name, address, and phone number as well as a brief description of why the person is deserving of the award.

Please send your nominations to:

Don Howse

41370 SE Thomas Road

Sandy, OR 97055

Phone/FAX: 503 668-5834

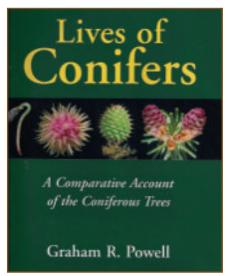
Email: don@porterhowse.com

Book Review

by Aljos Farjon, FLS Honorary Research Associate Royal Botanic Gardens, Kew

n this page I wish to draw attention to an unusual and remarkable new book [1] on conifers. It was written by an emeritus professor of Forestry and Environmental Management from the University of New Brunswick, Canada, Graham R. Powell, after his retirement (as one does), but of course drawing on a long career of research and teaching. Its title, Lives of Conifers would perhaps not reveal its contents to everyone immediately; while its subtitle [1] seems to tell us mainly which conifers this book is about. The images on the dust jacket front give away a little more, but not much. One has to go inside to appreciate what I mean by "unusual and remarkable," and the first that is striking is the profuseness of the illustrations, all in color and of excellent quality. The book has a handsome dimension of 28×22 cm (11×9 inches) and is hard-bound (in black, a funeral color I don't particularly like; in such cases I keep the more colorful dust-jacket). It describes the development and growth from seed to senescence of the 12 conifer species indigenous to northeastern North America: these are (I list botanical names: the author uses them only once in the Introduction and henceforward only the common names) Abies balsamea, Tsuga canadensis, Larix laricina, Pinus strobus, P. banksiana, P. rigida, P. resinosa, Picea mariana, P. rubens, P. glauca, Juniperus virginiana and Thuja occidentalis. For each of these species, all life phases are

described in detail, with numerous illustrations (standard distance, macro- and microphotos, but not SEM), diagrams and tables. One thereby learns, in much detail, how a conifer grows and develops, how it produces pollen cones and seed cones, and how these develop, how seeds grow and germinate; and for all these phases in the life of a conifer, the 12 species are compared. Hence the "Lives of Conifers" in the book's title. The text is well written, as are the captions to the illustrations, and supplemented with boxed texts (on a toned background) on details or experiments that might otherwise distract from the main topic under discussion. Both trees in the natural forests of the region and in cultivation (tree nurseries, plantations) are used as examples to illustrate



their growth. Senescence and death are treated much more briefly at the end, while pathogens and their effects are not the subject of this book. The Appendix contains a dichotomous key using leaves to the 12 species, a fairly brief glossary and a "Literature Cited" list of references. A subject index completes the book, giving it a total of 276 (+xi) pages. Are there any shortcomings? Perhaps one could feel some disappointment at the limited taxonomic scope of such a detailed, professional account of the lives of conifers. Of the eight families I recognize (6-7 for others) only two are included and the majority of species (10 of 12) are in Pinaceae. Of these, the pines show some appreciable variation (two subgenera) but the three spruces are very closely related and hence similar. In an ideal world, we could have had some Araucariaceae, Podocarpaceae, and Taxaceae instead, which are now missing out on this marvellous descriptive work. But of course, it is no use moaning about what might have been; that ideal world does not exist. I think this book must be of much interest to all who grow conifers, and for a mere 50 Canadian dollars (+ shipping), who could resist it?

Reference

[1] Powell, Graham R. (2009). Lives of Conifers. A comparative account of the coniferous trees indigenous to northeastern North America. Fitzhenry & Whiteside Ltd., 195 Allstate Parkway, Markham, Ontario, Canada L3R 4T8 (www.fitzhenry.ca) ISBN 13: 978-1-55041-869-9

Rich's Foxwillow Pines Nursery, Inc.

Dwarf conifers

Japanese maples

Ginkgos

Beeches

Hostas

Stunning specimen trees for collectors.

Rich & Susan Eyre 11618 McConnell Rd. Woodstock, IL 60098

Phone: 815-338-7442 Fax: 815-338-7446

www.richsfoxwillowpines.com email: coniflora@richsfoxwillowpines.com



Two Rare Californian Pines that Live in the Wind

Text and photos by David Rasch

California is a superlative state in terms of exceptional conifers. It is home to one of the tallest trees, Hyperion the Coast Redwood (Sequoia sempervirens); one of the largest trees, General Sherman, the Giant Sequoia (Sequoiadendron giganteum); and one of the oldest trees, Methuselah, the Great Basin bristlecone pine (Pinus longaeva). California is also home to some very special rare and endemic conifers, namely the foxtail pine, (Pinus balfouriana), and the Torrey pine (Pinus torreyana) also known as the Del Mar or Soledad pine.

To see natural groves of these two rare pines you must travel into the wind. They seem to thrive in the wind without competition from other trees that apparently shy away from blustery situations. Both foxtail and Torrey pines are manicured by predominant breezes into beautifully sculpted natural bonsai-like forms and groves of multiple trees bend harmoniously as a result of their burden.

Foxtail pines

In the southern Sierra Nevada Mountains, the foxtail pines are beaten by icy blizzards at timberline. Beautiful examples of these pines can be experienced after strenuous hikes uphill. My favorite groves are on Alta Peak above Giant Forest in Sequoia National Park on the western slopes of the Sierra Nevada Mountains. There are a few ancient trees there that have confronted centuries of cruel winters. After even steeper climbs



Foxtail pines on Sierras western slope

on the eastern slopes of the Sierras at Kearsarge Pass above Independence, one can find more windswept foxtails.

Foxtail pines are five-needled white pines related to the Great Basin bristle-



Torrey pines

The Torrey pines are swept by salty gales on ocean bluffs north of San Diego. Torrey Pines State Natural Reserve preserves the most photogenic groves (photo 3) where easy walking trails wind along the sandy bluffs and visitors have taken their portraits since the early tourism years in the 1920s.



Torrey pines on coast bluffs

Torrey pines are a relict species from once wider distributions. Besides this coastal enclave near Del Mar, they naturally occur only in one other location on Santa Rosa Island off the Santa Barbara coast as subspecies *insularis*. Torrey pines are five-needled persistent-coned pines

related to the digger, grey, or foothill Pine, (*Pinus sabiniana*), and the Coulter or bigcone pine (*Pinus coulteri*), both also living mostly in sunny southern California, but in less windy circumstances between the sea and the summits.



How my favorite pine has died back over 20 years



Witches'-broom on Torrey pine

About the author: David Rasch, the sole member of ACS in New Mexico, is the head of historic preservation for the City of Santa Fe. In his spare time, David has planted more than 100 conifers in his garden, frequently travels throughout the west seeking large, old, rare, and individually beautiful conifers, and collects photographs, prints, and paintings of western conifers. During summer months, you'll find him at timberline.

ACS 2010 National Meeting to Be Held June 17–19 in Charlotte, North Carolina

The Southeastern Region cordially invites members to join us in Charlotte, North Carolina, June 17–19, as we host the 2010 National Meeting. Charlotte is known as the "Queen City," and members will enjoy the royal treatment as they tour Charlotte's lovely gardens, take in a one-of-a-kind educational opportunity, and receive a good dose of Southern hospitality.

Thursday evening starts with good food, topped off with two amazing presentations. Chad Husby of the Montgomery Botanical Center (Coral Gables, Fla.) presents A Truly Jurassic Garden: Expanding the Palette of Warm Climate Conifers through International Collaboration and Horticultural Innovation, giving members a glimpse at the often overlooked Southern Hemisphere conifers. Next. our keynote speaker **Jorg Kohout** from Wohla, Germany, gives members a look into his plant explorations and the witches'-broom collection of all witches'-broom collections (see side article about this amazing plantsman).

After a hearty breakfast Friday morning, members are off to tour some remarkable gardens. First stop is the garden of **Brandon and Melissa Sleigh**. With more than 700 species and cultivars, a fantastic array of conifers plays an integral part in this beautiful garden. With one look, it is obvious to see the passion the Sleighs have put into their garden. Subscribing to Sir Peter Smithers' axiom

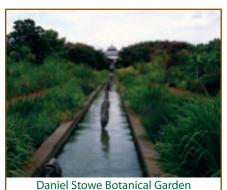
"I consider every plant hardy until I've killed it myself," there is an incredible collection of plants living in perfect harmony with surprises around every corner. Next comes the garden of **Thomas Nunnenkamp and Lib Jones**. Located not far from the hustle and bustle of busy streets, this peaceful woodland garden is an oasis of fantastic horticultural treasures. As members take a stroll down the shaded paths, an incredible diversity of horticultural gems awaits. Rare exotics mix with wonderful natives to make the garden gorgeous in all seasons. With so much to see, it will be hard for members to leave.

Leave we must, though, for a fantastic lunch at Freedom Park, one of Charlotte's loveliest parks. Members can dine by the lake and amphitheater and get a little rest before boarding the buses for one of the south's finest public gardens, the Daniel Stowe Botanical Garden. Named as one of the nation's 20 Great Gardens by HGTV, DSBG's 110 acres boast stunning water features, lush gardens, and the new Orchid Conservatory. The striking beauty of DSBG will melt even the most jaded gardener's heart within moments of arrival. Go to www.dsbg.org for more on this exquisite garden.

After our first day of touring, members are back at the hotel for the night's banquet, award presentations, and full-contact bidding in the ever popular plant auctions. Often an event unto itself, the auctions promise an evening of wild entertainment.







Saturday guarantees an unforgettable experience as members visit the arboretum at **Bartlett Tree Research Laboratory**. As outlined in the last *Conifer Quarterly* (Fall 2009), this truly is a remarkable arboretum that seems to be a secret, even here in the South, but now the secret is out. After touring this incredible arboretum, members will be treated to an education session that should not be missed.

Taking full advantage of the experts at Bartlett, the nation's leading scientific tree and shrub care company, members will learn the latest in pruning techniques. Instead of learning from a diagram or small container plant, members will learn on actual specimens in the arboretum. The Bartlett experts will also teach members the basics of Integrated Pest Management (IPM) and how they can be used by the home gardener.

But wait, there's more! Connie Cottingham, Publicity and Special Event Coordinator for the State Botanical Garden of Georgia, will present Conifer Communication: Writing Tips and Techniques for Aspiring Garden Writers. Todd Lasseigne, PhD, executive director of the Paul J. Ciener Botanical Garden will present Musings and Thoughts on Rootstocks for Conifers: What We Can Learn from Observations of Nativity and Plant Performance in Cultivation.

After filling minds with so much knowledge, members will be able to rest and relax and enjoy dinner under the big top. A tented dinner will cap off a meeting you will not want to miss. Make plans to come to Charlotte this June and receive the royal treatment in the Queen City!

Accommodations - ACS 2010 National Meeting

Our host hotel is the Embassy Suites Charlotte (704-527-8400). Members will enjoy their own spacious, two-room suite (for the special meeting rate of \$99/night). Convenient to interstate travelers, the hotel also offers a free shuttle to the Charlotte/Douglas International Airport.

I met Jorg Kohout some time ago via Harald Neubauer, a mutual friend and my master grafter go-to guy from Hidden Hollow Nursery in Belvedere, Tenn. A telephone conversation from East Germany, followed by a faxed list of conifers he had, led to an exchange of scion wood.

It was not until I was able to visit his nursery years later that I was able to understand the scope of his obsession. By day, he works at the family business—a propagation, landscape, and retail nursery. His time off is spent amassing one of the largest—if not the largest—collections of witches'- brooms in the world. Surrounding his house are several thousand cultivars of brooms planted like a miniature forest on 2-foot centers. High grafts, low grafts, and medium grafts. Tiny needles, long needles, green, silver variegated, and gold needles. You name it, he grows it. Traveling the world, he collects from the Alps to the Caucasus, the United States and beyond. If ever there was an interesting conifer nut, he's the one!

Ozzie Johnson



Jorg Kohout's broom garden

Developing an Evergreen Evergreen: Winter Browning in Japanese Cedar

by Ryan Contreras and John Ruter

I had the honor of receiving one of the two scholarships awarded in 2008 by the ACS. In addition to the scholarship, the Society was gracious enough to support my attending the 2009 National Meeting in Hauppauge, N.Y.; for which I am greatly appreciative to all members. Between trips to some of the most amazing and historic gardens in the U.S., I was afforded the opportunity to share a portion of the research that I conducted at the University of Georgia Tifton Campus with Dr. John Ruter. The following is a summary of that presentation and discusses an evaluation of Japanese cedar cultivars for performance in USDA Zone 8a as well as development of induced polyploids in an effort to develop a nonwinter browning form of cryptomeria. -Ryan Contreras

Tifton, Georgia is a hot place; period. It is located in the coastal plain region (USDA Zone 8a) and is strategically located far enough away from both the Gulf of Mexico and the Atlantic Ocean such that it receives little of the moderating effects of either. We experience over 100 days per year at or above 90 °F. However, we also have freezing temperatures and reached a low of 17 °F during the winter of 2008-09. Winter skies are often clear with little cloud cover and low temperatures; a perfect combination for photoinhibition which will be discussed below.

The general dogma has been that most conifers are not adapted to USDA

Zone 8a; however, the conifer collection in Tifton is helping to dispel the misconception that conifers can't be grown in the Deep South. Other collectors such as Ron Determann, Tom Cox, and the late J.C. Raulston also have shown that there are more coniferous options for the south than Leyland cypress. Japanese cedar (Cryptomeria japonica) is one species that has received attention as an alternative for Leyland cypress due to its excellent form, dense foliage for screening, rapid growth, and reduced susceptibility to bagworm infestation. However, as we are all aware, there is no such thing as a perfect plant and cryptomerias are no exception. One major problem during the winter is that Japanese cedar turns an unattractive reddish-brown color which causes gardeners who are unfamiliar with this characteristic to think they have a dead plant on their hands.

Winter browning occurs due to a phenomenon called photoinhibition that takes place under periods of high light and low temperature. Research has shown that browning only occurs in sun-exposed leaves and that the pigment responsible for the off color is the carotenoid rhodoxanthin. Pigments such as rhodoxanthin reduce damage from excess light energy and provide a protection for the photosynthetic apparatus. Plants have a number of other mechanisms for protection such as reduction of chlorophyll and increasing antioxidant enzyme activity. The latter mode of protection is where we have the

greatest opportunity for manipulation and development of new plants.

Damage during photoinhibitory conditions occurs because the enzymes in downstream reactions (Calvin Cycle) are slowed due to low temperatures resulting in the production of free radicals. Free radicals cause oxidative damage and can destroy DNA, proteins, and lipids. Antioxidant enzymes, such as superoxide dismutase (SOD), protect plants by interacting with free radicals to ultimately return them water and oxygen. Increased levels of SOD have been shown to reduce damage to the photosynthetic apparatus and tetraploid forms of Japanese cedar were found to have a six fold increase in SOD activity.

Tetraploids are plants with four sets of chromosomes instead of the "normal" diploid condition of two sets. These individuals were identified in the forest nurseries of Japan by their thickened and twisted leaves and by their non-winter browning character; our trait of interest. Unfortunately, polyploids do not make useful timber trees and have been discarded in favor of individuals that yield more board feet.

At the University of Georgia Tifton Campus we conducted quantitative evaluation of 16 clones of cryptomeria including 15 cultivars and var. sinensis. The goal was to identify superior individuals for the deep south by measuring the amount of chlorophyll and carotenoids and assigning a color rating based on visual observation (1 = brown/red/yellow; 5 = green). Redfire (Phyllosticta aurea) is also a problem on cryptomerias in the Deep South; particularly on slow growing/dwarf forms, and incidence on cultivars was noted. We also performed

experiments to develop tetraploids in hopes of producing a non-winter browning form. Comprehensive results will not be presented here for the sake of brevity; however, a brief description of performance of the 16 taxa will be included followed by findings of the experiments to induce polyploidy. For a more complete description of most taxa included here, see Rouse et al., HortTechnology 10(2):252-266. Synonymy among cultivar names are indicated in parentheses after the cultivar name the plant material was received under.

'Araucariodes': Does not handle summer heat well; exhibits substantial branch death. After 11 years in the ground has reached a height of 4.0 m (13.1 ft).

'Barabit's Gold': Yellow foliage form that never turns the attractive golden color in Tifton. Planted in 2006, after two years in ground 2.0 m (6.6 ft).

'Ben Franklin': Vigorous growth. Poster child for winter-browning; turns rust-brown. 8.3 m (27.2 ft) after 11 years.

'Black Dragon': Approximately 80% dieback due to redfire. Sports readily; must have pure material for propagation. 3.3 m (10.8 ft) after 11 years.

'UGA5-15': New selection made by Tom Cox for rapid growth; Tom indicated that it remains green during winter in Canton, Ga. (USDA Zone 7a) and is 16.8 m(55 ft) after 14 years. Planted in Tifton evaluation in 2008 and has performed as well as the industry standards thus far with no incidence of redfire.

'Cristata': Unique cockscomb branches; interior dieback prevalent. 4.0 m (13.1 ft) after 11 years.

'Gyokruga' (= 'Giokumo', 'Gyokruyu'): Best performer of the slow growing forms. Remains green in winter with less interior dieback than other slow growing cultivars. 2.5 m (8 ft) after 11 years.

'Radicans': Newly planted in 2008; along with 'Yoshino' it has become the industry standard in southeast U.S. Slower growing than 'Yoshino' but remains greener during winter.

'Rasen' (= 'Spiralis', 'Granny's Ringlets'): Novel twisted foliage, very dark green foliage in summer. Intermediate growth rate. 6.1 m (20 ft) after 11 years.

'Sekkan': Yellow foliage form that has a chlorotic appearance in summer and is brownish in winter. 5.6 m (18.3 ft) after 11 years.

'Tansu': Moderate growth rate with short, stiff leaves; shrub-like appearance. Dark green in summer; fair winter appearance with limited interior dieback and redfire. 5.5 m (18 ft) after 11 years.

'Tarheel Blue': Excellent form and attractive blue foliage in summer; poor winter appearance. 8.3 m (27.2 ft) after 11 years. 'Tarheel Plum': Newly added to the trials; thus far has not been impressive. Does not develop the reported purplish foliage in Tifton.

var. sinensis: Similar to 'Yoshino' with longer leaves and more open growth; does well in Tifton. Has ground layered in our trials. 6.4 m (21 ft) after 11 years.

'Yaku': Only uppermost branches are surviving due to redfire. 6.2 m (20.3 ft) after 11 years.

'Yoshino': Industry standard for fast growing, conical form. 8.2 m (26.9 ft) after 11 years.

From the trials in Tifton the recommended cultivars for USDA Zone 8a are 'Gyokruga', 'Yoshino', and var. sinensis. 'Radicans' has remained greener than many cultivars; however, it appears to be highly susceptible to redfire. It has only

been in our trials for two years and is already showing a large amount of dieback. 'Tansu' also has utility as a moderately slow growing form, although winter color is not as desirable as 'Gyokruga' and the form is not as good. Other slow growing cultivars have exhibited extensive branch death due to redfire. UGA5-15, the selection from Cox Arboretum and Gardens, has also shown potential but requires additional evaluation to determine if its performance in Zone 8a will be similar to that seen at Tom's. Other cultivars that were planted in 1997, but died prior to the current evaluation due to redfire include 'Rein's Dense Jade', 'Ikari', 'Globosa', and 'Vilmoriana'.

To induce polyploidy, nine different experiments were conducted. These experiments included treating stem cuttings, seed, and seedlings with various combinations of colchicine, oryzalin (Surflan®), DMSO (an adjuvant), and various surfactants. After numerous ineffective treatments, a long-term treatment (30 days) of oryzalin in combination with a surfactant was applied to approximately 600 seedlings at the cotyledon stage. Two-hundred thirty-seven seedlings that had thicker, twisted needles were transplanted and evaluated for induced polyploidy. Of these seedlings, 219 had cells that were tetraploid, 197 of which were solid tetraploids. Five months after treatment, a subset of the tetraploids were reevaluated and found to contain only tetraploid cells; indicating that over that time they were stable. However, evaluation over numerous years is necessary to determine their long-term stability and ornamental potential. Overall, tetraploids exhibit morphology similar to previous reports, including thicker and twisted needles than the wild-type; however, there was a range of habit and growth rate among them. Ultimately, we hope that this results in a series of various forms from the very dwarf, to vigorous specimens that remain green in winter and help promote what a great plant Japanese cedar is.





'Ben Franklin' and 'Tarheel Blue' exhibiting winter browning, var. sinensis and 'Radicans' do undergo somewhat of a color change, but have a much better winter presentation.





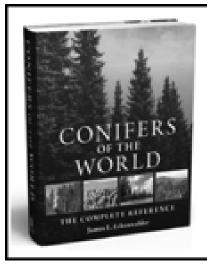


Two leaves of induced tetraploid (left) developed at the University of Georgia Tifton Campus and diploid (right) Japanese cedar with wild-type leaves



Range of habit and growth rate exhibited by induced tetraploid Japanese cedars developed at the University of Georgia Tifton Campus.





Conifers of the World

THE COMPLETE REFERENCE By James E. Eckenwalder

978-0-88192-974-4 • \$59.95 www.timberpress.com

- The first comprehensive update of conifer taxonomy in nearly a century
- Definitive, up-to-date descriptions of more than 545 species
- Hundreds of illustrations and black and white photos

Vol. 27 No. 1 Conifer Quarterly 23

Conifers for Gardeners

A 1-Day Symposium on how to grow and use conifers in the mid-South

Saturday, February 27, 2010 8:30 - 5:00

Location: University of Tennessee Visitor Center and the UT Gardens 2712 Neyland Drive, Knoxville, TN, 37996 For directions: http://admissions.utk.edu/undergraduate/visit/directions.shtml

American Conifer Society Members \$40; UT Gardens Members \$40; Non-members \$45. Register on line at https://web.dii.utk.edu/agStore/pc-2709-2412-conifers-forgardeners-symposium.aspx or call 865-974-8265.

Come and learn about some of the most beautiful and low maintenance plants you can have in your garden. The day includes educational seminars teaching you how to grow and design your garden with conifers combined with a guided walk through the UT Gardens conifer collection. This exciting symposium will conclude with an exclusive conifer plant sale of some of the most beautiful and choice selections for the mid-South.

- Symposium includes lunch, education, tour and sale. 8:30 a.m. 5:00 p.m.
- The UT Gardens are an official American Conifer Society Reference Garden
- An ACS Reference Garden Grant provides funding in support of this symposium
- For more information call 865-974-7972 or e-mail sueham@utk.edu or http://utgardens.tennessee.edu/

8:30	Welcome – Duane Ridenour
8:45	"Go Cone Crazy: A Craving for Conifers" - Flo Chaffin
9:45	Break
10:00	"Great Conifers Worth Knowing from the ACS West TN Reference Garden" – Jason Reeves
10:45	"Great Conifers Worth Knowing from the ACS East TN Reference Garden" – Andy Pulte
11:30	Buffet lunch
12:30	"Hiding From the Neighbors: Green Privacy Screening" – Hugh Conlon
1:15	"How To Use Conifers and Companion Plants in the Landscape" – Sue Hamilton
2:00	Break
2:15	Guided walk thru the UT Gardens Conifer Collection – Sue Hamilton, Andy Pulte, Jason Reeves and Duane Ridenour
3:00	Conifer Plant Sale

Optional on-your-own tours for Sunday to ACS members' private gardens of Alan Solomon and Sue Hamilton

The Answer Guy

I would like to establish a dwarf conifer garden in Grand Forks, North Dakota., which is not the best place for conifers since they like acid soil. What is the minimum number of conifers needed to be a public display garden? Do you have any plans, information, or guidelines for starting a conifer garden?

Karon Miller President, Grand Forks Horticultural Society

Hello Karon.

I see that you are a fellow ACS member, so that is a step in the right direction. There are plenty of other members who can help ensure this project of yours becomes a reality—people with plants, for one. I don't see any problems in starting a collection in your area.

First off, let's start with your soil type. If your state has an extension service, they would be the first people I'd contact to get info about a soil test. However, a good indicator of how well conifer species do in your area is to see what already is in local yards, public and private properties, and what already is native to your area. These are good indicators of what has been tried and proven for your Zone, which I see is either a 2 or 3 from the map I have here. I have never been to North Dakota, but I know you are close to the native range for black and white spruces and some pine species, so dwarf cultivars of those is where I'd start to collect. And since they are going to be growing (forever, we hope) in whatever soil type you have there, I wouldn't worry about amending planting holes, as most plant root systems are eventually going to be well beyond their starting location. We have about a thousand conifer specimens and they are in 8.0 ph soil. They adapt well.

One thing that founders of the Rowe Arboretum (where I am arboretum manager) did was to have the mindset to try and grow just about anything. We have some specimens here that, according to the books, shouldn't be alive, but they are! Your collection, as far as your mission statement and your collection policy, should state that the collection is also an educational opportunity to experiment with conifers. That way everyone gets to benefit by learning what the garden has trialed over time. We've had a sort of three-strikes-and-you're-out kind of program, and there are times I have extended that even further. Our plants give something to the visitors by which to learn, to see if they are doing well, not so well, or even poorly enough to not consider them. We show the good and the bad but only to a point.

In answering your question of what is a collection, my take is that one item is a specimen, two make a collection. With that in mind, I wouldn't worry about the number. I'd focus on collecting whatever I could get my hands on and go from there.

As for design plans, the most common one is a design that incorporates rocks. They just seem to go hand-in-hand with conifers. Raised beds with undulating surfaces make for interesting small scenes—dwarf versions of natural sites where conifers are found. Send me some

pictures of the planned location, if you'd like, and I can maybe sketch some ideas. Keep in mind access for maintenance personnel and, of course, the visitors.

Is this garden going to be part of an already public garden or green space, or is this idea going to be a starting from scratch location-something fresh and new? I ask because there are a few things to consider when you are starting a public garden, and it doesn't matter whether it is a privately owned entity, a public property, or even a non-profit organization. I was fortunate to have been here long enough to experience all the above and help organize the Rowe's private estate into becoming a fully open-to-the-public collection. I can offer advice once I know how simple or involved your project is. Don't let this scare you; it's just I haven't much to go on at this stage. The American Public Gardens Association is also a very helpful organization when it comes to all the particulars of running a PG; check them out www.publicgardens.org.

I hope this helps in getting you started. Feel free to contact me again if you wish. Good luck.

Chris Daeger answerguy@conifersociety.org

Correction previous issue Fall 2009:

In the Peter Gregg article the photo on page 11 was cropped, unintentionally eliminating the pollen cones. Here is the photo showing the cones on the left and right of the photo.

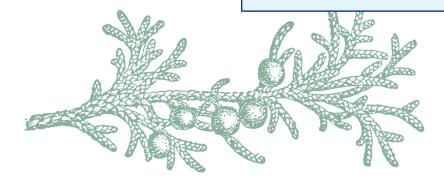


A *Tsuga canadensis* 'Kelsey's Weeping' with pollen cones on the left and later in the fall ripening cones to the right

Don't miss your Conifer Quarterly!

Contact the Society with your new address.

John Martin American Conifer Society 175 Charisma Lane Lewisville, NC 27023-9611



Conifer CornerThe Forgotten Conifers: Intermediate Conifers

Text and Photos by Bert Cregg, Ph.D.

Michigan State University,

Department of Horticulture and Department of Forestry

This article was originally published in the October 2007 issue of The Michigan Landscape magazine, a monthly publication of the Michigan Nursery and Landscape Association (www.mnla.org). It was the third of a fourpart series in the Conifer Corner section of the magazine. The last part will be published in spring 2010 issue of the Conifer Ouarterly. We had arranged to reprint this series prior to the passing of our friend Chub Harper. The references to Chub point to his significance in the world of conifers.

In the two most recent installments of Conifer Corner, I've been discussing outstanding conifers in each of the four size categories recognized by the American Conifer Society (ACS), beginning with the smallest size category (Miniature conifers) and working up to larger conifers. In this edition of Conifer Corner, I continue this discussion by considering Intermediate conifers. The ACS defines intermediate conifers as those that grow 6-12" per year and reach a height of 6' to 15' at age 10. I refer to intermediate conifers in the title of this article as "the forgotten conifers" because we often define intermediates by what they are not. They are not adorable little miniatures or dwarfs that can fit into a container or rock garden. Conversely, intermediates won't dominate a landscape as a specimen, like a large conifer. Nevertheless, intermediate conifers are an important group of trees because they fulfill an important function in landscape design and development. Unlike their smaller cousins, miniature and dwarf conifers, intermediate conifers are less likely to get "lost in the shuffle" in a busy landscape design. Unlike large conifers, intermediates are less likely to interfere with power lines or other overhead obstruction and are better suited to planting closer to houses and allow greater flexibility in site selection.

Here are intermediate conifers worth considering for Michigan.

Swiss stone pine, Pinus cembra

Conifer expert Chub Harper has a passion for plants that is matched by few and few plants get him as excited as Pinus cembra. Just mention Pinus cembra and Chub goes all Will Rogers. "I've never met a cembra I didn't like". Chub enthuses. "This is one of those plants I just don't understand why we don't use more." Indeed, it's easy to understand Chub's swooning for Swiss stone pine. This species maintains a tight compact form with a straight single leader, giving it a stately elegance without pruning. Moreover, Pinus cembra has beautiful blue green needles that often take a silvery sheen. Cembra is fairly tolerant of a range of sites and is variously listed as zone 3 or 4, so it is hardy in most of the Lower Peninsula. Pinus cembra is one of those plants that even the straight species is distinctive enough to make an impression.

In addition, there are a number of cultivars on the market. Note that some of the cultivars included here fit into the Dwarf size class.



Pinus cembra 'Silver Sheen' Swiss stone pines are reliable performers in Michigan landscapes.

Pinus cembra 'Silver Sheen'

A striking cultivar of *P. cembra* with silvery blue needles. Zone 5.

Pinus cembra 'Chalet'

A pyramidal to upright form of *Pinus cembra*. There is a terrific specimen in the Harper Collection. Zone 4, though also reported to Zone 3.

Japanese white pine, Pinus parviflora

A solid performer in Michigan. There are a variety of cultivars of Japanese white pine, some of which I've mentioned in earlier Conifer Corners.

Pinus parviflora 'Bergman'

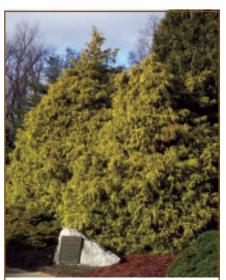
This is one of the more striking forms of Japanese white pine, with twisting bluegreen needles. Variously listed as a dwarf or an intermediate.

Pinus parviflora 'Fukuzumi'

The form on this plant can be variable, but its recurved blue-green twisted needles give it consistent appeal.

Golden thread false cypress, Chamaecyparis pisifera 'Filifera Aurea'

Yes, the Latin name is a mouthful, but this plant is a show-stopper like few others. 'Filifera Aurea' generate interest from a distance due to their bright yellow color and upright weeping form, as well as up close due to their impossibly long threadlike foliage.



Striking gold. The color and texture of Chamaecyparis pisifera 'Filifera Aurea' make it a show-stopper. Golden thread falsecypress (Chamaecyparis pisifera 'Filifera Aurea') welcome visitors to the Harper Conifer Collection at Hidden Lake Gardens. Photo: Jack Wikle.

Abies concolor 'Conica'

Continues the theme of color – this time striking blue. Abies concolor 'Conica' also continues the theme of underused conifers. This tree's stately upright form makes it a prime choice as a specimen plant. Put one of these in your yard and you're guaranteed to have all of the neighbors asking "Whatzzat?"



Abies concolor 'Conica' is a striking upright form of concolor fir that is well adapted in Michigan.

Picea glauca 'Pendula'

Technically this is listed as an intermediate, but on better sites it may push toward the large category. Also, this cultivar has been around long enough that it's possible to find some decades-old larger specimens. The tight form and drooping branches make it easy to envision this plant in a snow-blanketed mountainside.

Abies koreana 'Silberlocke'

Gets double marks for showmanship. The needles on this cultivar of Abies koreana are highly recurved, that is, they are turned upward to reveal their silvery underside. While that alone is enough to give the tree tremendous ornamental appeal, 'Silberlocke', like most Korean firs, also produces prodigious amounts of colorful cones. Although cones on firs make Christmas tree growers cringe, in this case it adds to the plant's landscape appeal.

Corkbark fir, A bies lasiocarpa var. arizonica

An argument for the lumpers and splitters. Some references list this as a variety or even sub species of Subalpine fir (A. lasiocarpa) while others (for



Need a break from "blue spruce burnout"? Abies lasiocarpa 'Arizonica Compacta' has outstanding form and color.

example, the Gymnosperm database www.conifers.org) list corkbark fir as its own species (A. bifolia). In the nursery trade, var. arizonica holds sway. Another high elevation conifer from the mountain southwest, corkbark fir is a striking tree that can often match Picea pungens for blue color.

Larix kaempferi 'Pendula'

Deciduous conifers always make a unique contribution to the landscape and this weeping larch is no exception. This plant commands interest anytime during the growing season, but especially in the early spring when the new bright green needles are just begining to flush. According to the ACS, this tree is widely mislabeled as Larix decidua 'Pendula'.



Larix kaempferi provides a dramatic contrast in form and color.

Walnut Glen Colorado blue spruce Picea pungens 'Walnut Glen'

Is an interesting twist on the old standby, Colorado blue spruce. This P. pungens cultivar has a golden cast to its needles, which often make it look like the sun is shining on it even when it's in the shade. Reportedly adapted to a fairly wide range of site conditions though the variegated yellow needles may suffer scorch under stress.



Bright spot. The yellow highlights of *Picea pungens* 'Walnut Glen' can brighten up even a dreary fall day in Michigan.

Bristlecone pine, Pinus aristata

We can't really recommend bristlecone pine as an outstanding grower in Michigan, but it's a fascinating tree and it will grow on suitable sites here in Michigan. In their native habitat, bristlecone pines are among the oldest living things on earth. The Rocky mountain form (*P. aristata*) can live to nearly 3,000 years old and specimens of the Great Basin form (*P. longaeva*) have been found that are over 4,800 years old. Although we don't expect a Bristlecone pine to live thousands of years in Michigan (and, in any

case, we won't be around to see it), this makes an interesting specimen in the right spot. Look for a site with good drainage and relatively good air flow. Like many trees adapted to the arid west, these pines don't like wet feet or high humidity.

Thuja occidentalis 'Degroot's Spire'

In general, arborvitae are the kinds of plants that don't usually get people too excited. However, this upright columnar form makes a great accent and can add a formal appearance as a border or can be grouped for effect.



Columnar conifers such as *Thuja occidentalis* 'Degroot's Spire' are especially dramatic when grouped for effect.

Thuja occidentalis 'Hetz Wintergreen'

Another upright form of arborvitae. 'Hetz Wintergreen' is noteworthy for a couple of reasons. It tends to maintain its green color throughout the winter when many other conifers turn off-color and it tends to maintain a strong central leader, whereas many columnar arbs can develop multiple leaders or bend over under snow loads. Excellent for a year-round

screening hedge and windbreak.

Weeping Serbian spruce, *Picea omorika* 'Pendula Bruns'

It's always hard to go wrong with a Serbian spruce. 'Pendula Bruns' is a little slower growing and has a little tighter form than 'Pendula' and 'Berliners Weeper' – more on those two in the next Conifer Corner.

Black hills spruce, Picea glauca 'Densata'

Depending on the reference, Black hills spruce is listed as either a true botanical variety (var. *densata*) or simply as a cultivar. Regardless of the taxonomy, this is a

versatile tree that we'll likely see more of in the future. As the Latin name 'Densata' implies, Black hills spruce has a tight, dense growth habit and maintains a nice pyramidal form. Its growth rate is slower than the straight species or blue spruce so it's less likely to get out of hand and provides more flexibility in site selection. With its uniform compact growth, Black hills spruce also shows promise as a table top Christmas tree.

Dr. Bert Cregg is an Associate Professor in the Departments of Horticulture and Forestry at MSU.

CHUB'S CHOICES.

Chub Harper lists his "top five" favorite plants in the ACS Intermediate conifer size class.

<u>Intermediate Conifers</u> - Growth per year: six to twelve inches. Size at age ten years: Six to fifteen feet.

1. Abies concolor 'Conica'

Upright Concolor fir

2. Chamaecyparis pisifera 'Filifera Aurea' Yellow Thread Leaf false-cypress

3. *Larix kaempferi* 'Pendula'

Weeping Japanese Larch

4. Pinus cembra

Swiss Stone pine

5. Pinus parviflora 'Bergman'

Bergman's Japanese White pine

Bethlehem Nursery

66 Jackson Lane, Bethlehem, CT 06751

Propagators and growers of rare dwarf and miniature conifers, witches' brooms and rare *Sciadopitys* cultivars. Catering to the most serious collectors and gardeners.

Owner: Dennis Dodge www.bethlehemnursery.com

Phone/Fax 203.266.7783 graftforyou@aol.com

Search for Rare Conifers

by Tom Cox

In October, Evelyn and I took a trip to ■ California and Oregon. A significant portion of the trip was devoted to the discovery and documentation of previously unseen conifers as well as to visiting several new gardens. While we have visited these states on numerous occasions, our prior focus has been on coastal conifers. On this trip, we decided to move into the interior in search of some of the more obscure species.

Oregon

In Roseburg, we visited ACS members Elena and Ken Jordan, whose home was featured in the Spring 2009 (Vol. 26, No. 2) of the CQ. We spent quite a bit of time in the Jordans'outstanding conifer garden. They also introduced us to one of America's travel treasures, Crater Lake, located in the southern Cascade Range in Oregon.

Our trip up to Crater Lake from Roseburg took us along the banks of the north fork of the Umpqua River, resplendent with fall color. As we climbed, I began to notice that this was a successional forest. At the lower elevation (around 4,000 feet) were ponderosa pine (Pinus ponderosa), which gave way to Lodgepole pine (Pinus contorta). Next in elevation were mountain hemlock (Tsuga mertensiana), which continued to the crest where we found white bark pine (Pinus albicaulis). Other conifers seen in the area were Shasta red fir (A. magnifica var. shastensis), subalpine fir (A. lasiocarpa), and white fir (A. concolor).

At Crater Lake, we discovered several rarely seen conifers in their natural

habitat around the summit (elevation 8,000 feet), all high mountain plants that survive in the harshest conditions. The first was white bark pine (Pinus albicaulis), which is a timberline species. Various authorities report that the species can attain heights of 60 feet. Those we saw were rather squatty with a windswept appearance. They appeared in clumps, which is likely attributable to a bird named Clark's Nutcracker. You may remember from a book review in the Fall 2006 (Vol. 23, No. 4) issue of the *CO* that there is a symbiotic relationship between this tree and the Clark's Nutcracker because the cone never opens on its own. The bird has a specially designed beak to open the cone and is the only known



Pinus albicaulis



source of seed dispersal. After opening the cone, it caches seed and sometimes does not retrieve all that were buried. The pines sometimes germinate in clumps.

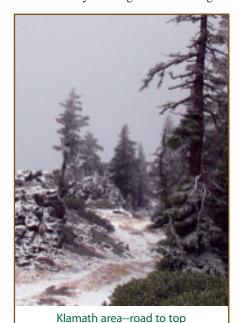
The next rarely seen tree was mountain hemlock (Tsuga mertensiana). While I have seen the species in collections at various arboreta, nowhere do they match the beauty observed on the crest surrounding Crater Lake. As the photo reveals, this hemlock forms a picture-perfect, narrow conical form. The needles spread around the twigs, as opposed to the typical two-ranked arrangement found on T. canadensis and T. heterophylla. When I first observed the cones, I wasn't sure that I was looking at a hemlock because the cones appeared twice the size of those on any other hemlock species.

Back in Roseburg, the Jordans also made sure we were treated to a tour of Jack and Sharon Ayers' conifer garden plus a tour of Maplewood Nursery and

the private garden started by the late J. D. Vertrees. It was special to see the Ayers' garden and the historic Vertrees maple collection, now owned by Stewart and Sharon Wilson. Dr. Wilson generously shared his time with us on a Sunday, and we enjoyed learning about his work with maple propagation.

California

We wound up our trip by driving down the coast of Oregon and over to an area previously unknown to us, the mid-Klamath mountain region around Yreka (pronounced Why Reeka), California. This turned out to be one of the most unusual and exciting trips in which I have ever participated. On the morning of October 26, we joined two retired foresters (Jim Benson and Jerry Cone) for a day journey to study and photograph rare conifers. Jim's wife Alma came along with us, much to Evelyn's delight. The first leg of



While fall color was in full stride back at our arboretum in Georgia, the temperature on this mountain was hovering around the freezing mark. As we climbed, it got noticeably colder, and suddenly we were in snow and ice. As we approached a clearing at the very top, through the mist we spotted a small grove of foxtail pines (Pinus *balfouriana* subsp. *balfouriana*), easy to identify by the closely set, slightly pendulous needles, strongly resembling a fox's tail. The only other conifer I have ever seen that looks like these is the Rocky Mountain bristle-



Pinus balfouriana subsp. balfouriana



cone pine (*Pinus aristata*), which I have observed only in collections. Foxtail pine occurs as two subspecies, subsp. *austrina* in the southern portion of its range (southern Sierra Nevada) and subsp. *balfouriana* in its northern range (Klamath Mountains) with some 300 miles in between.

Too soon it was time to move on in search of more rare conifers. The next stop involved a brisk walk up a rather steep grade to see Baker cypress (*Cupressus bakeri*). As I walked toward it, I cautioned myself, "Don't try this at home," as years ago I planted a Baker cypress that never performed well in north Georgia and finally went on to conifer heaven. The area we were in receives winter snows of more than 6 feet. I wondered how a true cypress could ever survive in this harsh environment. I later learned

that it is the most northern species of cypress in the Western Hemisphere As the photo shows, it has an irregular branch pattern and the silvery-grey foliage is finely dissected. From a distance, I thought it would not win any beauty contest, but up close it made an attractive plant in cone.



Cupressus bakeri

One other conifer of note that was a first for me in the wild was Brewer spruce (*Picea breweriana*). These well-formed specimens left an indelible impression. I'll let the photo speak for itself. Other conifers that we documented in this area were western white pine (*Pinus monticola*), Jeffrey pine (*Pinus jeffreyi*), sugar pine (*Pinus lambertiana*), ponderosa pine (*Pinus ponderosa*), mountain hemlock (*Tsuga mertensiana*), Shasta red fir (*Abies magnifica* var. *shastensis*), white fir (*Abies concolor*) incense-cedar (*Calocedrus decurrens*), coast douglas-fir (*Pseudotsuga menziesii* var. *menziesii*),

western juniper (*Juniperus occidentalis*), and the elusive Pacific yew (*Taxus brevifolia*).



The Klamath Ranges support some of the most diverse plant communities in North America, and there is likely no place on Earth with more conifer diversity. One of the learning points for me while in the area is related to various soil types in which the different conifers we observed grew. Jim and Jerry kept referring to serpentine soil, which I had never taken the time to study. They informed me that there were at least four distinct soil types in the region. We were fortunate to have these two foresters lead us on our journey because one would have to know

specifically where to search, as the area is so vast. Also, a portion of the trip involved travel on restricted roads.



Calocedrus rupestris

On a closing note, we have in our collection a number of rare conifer species. We recently received a species of incense cedar from northern Vietnam (*Calocedrus rupestris*), which was only discovered in 2004. It will undergo hardiness evaluation this winter. Another seldom seen conifer we have is *Fokienia*

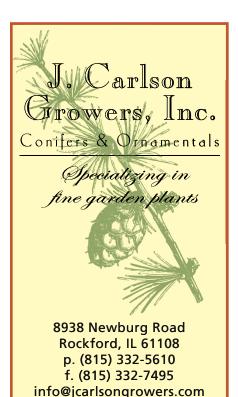


hodginsii, often referred to as a "relict" conifer, meaning a remnant or survivor. It is easy to look at this unusual tree and envision a time when dinosaurs munched on its foliage.

As the year winds down, I have come to the realization that lovers of conifers are TREEmendous.

About the author: Tom Cox and wife Evelyn own a private arboretum in Canton, Georgia, Zone 7a. Its mission has expanded since its founding in 1990 and now includes evaluation and preservation of rare conifers. The current living collection contains plants from 44 genera and 156 distinct species. The arboretum is open to ACS members by appointment.







You are cordially invited to join the

American Rhododendron Society

Annual Subscription of \$40 (USA) Benefits: quarterly journal, seed exchange, chapter affiliation, conventions

Dues may be sent to: Laura Grant, Executive Director P.O. Box 525 Niagara Falls, NY 14304-0525 USA

ARS Website: http://www.rhododendron.org

Rare And Dwarf Conifers For Serious Collectors

Featuring "the collection that never stops growing."

PORTERHOWSE FARMS $_{\oplus}$

41370 SE Thomas Road • Sandy, OR 97055 503.668.5834 phone/fax EMAIL: don@porterhowse.com www.porterhowse.com

Notes from the Czech Republic

by Jaroslav Kazbal

Ed. Note: Jaroslav served as local botanical expert for the ACS tour of the Czech Republic, Austria, and Germany in August 2008.

Emergency operation

(Short story of perspective cultivar of Pinus peuce 'Banderica')

It was in 1993 when three Czech alpine gardeners and dwarf conifer lovers went to the northern range of the Bulgarian Pirin Mountains to collect the seeds in rich bonanza of local alpines. Having reached their destination, tired by long car ride, they stopped for rest with coming twilight at the lay-by under the canopy of the old *Pinus peuce* trees by Banderica chalet. There is nothing as bright as watching glistening stars in deep velvet darkness of southern skies in the mountains. Gorgeous look! As we chatted, we noticed dark shade of a witches'-broom right above. The following morning, the youngest of us climbed the tree and reached for it, but it was fiercely defended by the squirrel who leisured there in her nest. Its surprising attack caused our poor friend to break off the branch with it, and both fell down to the ground.

Only then we were able to make better inspection of broom and measure it it was dense, flat (how else, when dwelling of a squirrel), 90 cm (3 feet) in diameter with less than 30 cm (1 foot) in height, and, to our surprise, coning! There were several dwarfed cones, smaller than those of normal species trees. At these times of high computer technology, you might have come across its picture on the Website of Czech conifer nut Mr. Balatka. If you missed it, here is the photo of original WB and the three discoverers.

As I write this piece, there are not many Pinus peuce dwarf cultivars known



Three discoverers (from left to right) Mr Kapitán, author, Mr Elman

(I know only of two, both found by Czechs), but it is the story that follows, reminiscent of the history of another famous Czech cultivar Pinus leucodermis 'Smidt', that fascinates me.

Story of single graft that took from many grafted:

It was hot August weather when we transported the witches'-broom hidden in lowest part of Skoda's car boot. It was heavily damaged by rinsing in chemical

Photograph of *Pinus peuce* original WB cv. Banderica, made in the late eighties of last century

disinfection bath at the boundaries between Bulgaria and Romania. When we arrived home, the broom had already that unhealthy off-green color of dying conifer, with which I'm sure you all know. It signaled the end of its chance of being introduced into the gallery of perspective dwarf cultivars, and I, in spite of sending some scions here and there to my conifer contacts (with no response), was convinced of its extinction. Thus, with passing time, it came out of my mind, and this might have been the end of its story.

Thus, imagine my surprise when, years after, Mr. Balatka revealed the true

end of the story. He told me that two years ago, Mr. Kapitán gave him a scion of *Pinus peuce* cultivar called Banderica under condition that he shall not tell me of its existence before he dies. One year later he died, and my good friend Balatka was freed from his promise given. It was in 2007. He told me at last.

Karel Kapitán made the impossible, managing to graft perhaps the single living branchlet. Well, miracles happen! I am glad that the sortiment of our dwarf lovelings got another addition. Of course, it takes its time before finding its way in commercial sortiment. But the cultivar lives, and Jiří Balatka, the conifer man with green thumbs, seems to be its guarantee.

This year, he told me that his severalyear-old plant grew 11 reduced cones. In the meantime, I managed to contact the grandson of Mr. Kapitán, finding the original rescued plant is growing in his garden.

Jaroslav Kazbal

P.S. This contribution is dedicated to the two friends who passed away. The story should be written, and by whom else than the last living of the trio...



Karen & Mark Priebe

610-779-5717

Toll Free 877-779-5715 Fax 610-779-0555 29 Klappenthal Road Reading, PA 19606

E-mail: landscapes@wolfrunnursery.com

wolfrunnursery.com

EVERGREEN GARDENS

ornamental evergreens, trough gardens, alpine & unique garden plants

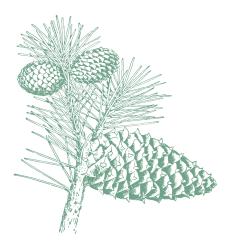
www.evergreen-gardens.com pam@evergreen-gardens.com

Ames, IA 515-232-7633 The 2010 Application Form and Eligibility Form may be downloaded from the Conifer Society Website after January 1st, 2010. It may also be obtained by mail and e-mail using the contact information below. Please use "ACS Application and Eligibility" as the subject if you choose email.

ACS Scholarship Committee Gerald Kral 900 Winton Rd., N Rochester, NY 14609 Email: gkral1@rochester.rr.com

Want to learn more about conifers?

Go to the ACS Web site www.conifersociety.org







The Jean Iseli Memorial Award

Applications Now Being Accepted and Must Be Received By June 1, 2010

The American Conifer Society, which supports the development, conservation and propagation of conifers with an emphasis on dwarf or unusual varieties, awards a \$3,000 grant to a public garden, arboretum or horticultural institution.

The award was established in 1986 in honor of the memory of plantsman, Jean Iseli of Boring, Oregon. Jean Iseli was an ACS founder and conifer propagator.

Proposals must contain the following:

- a. Name, full address, and phone number of the applicant/institution
- b. Brief description of how ACS funds will be used
- c. List of plant materials (if the request involves conifer purchases)
- d. Budget
- e. Short overview of mission statement or horticultural background of your institution

Send Applications to:

Ethan Johnson ethjohnson@yahoo.com (Microsoft Word documents)

or by regular mail c/o The Holden Arboretum 9500 Sperry Road Kirtland, OH 044094

Ethan Johnson chairs a three-person committee that reviews applications and makes its recommendation to the ACS Board of Directors at the annual summer meeting.

Announcements of the award recipient will be made by August 1, 2010.

2010 International Trip to the **United Kingdom**

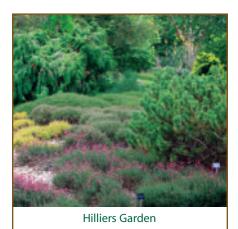
The American Conifer Society is currently studying the feasibility of offering a two week trip to England in late summer 2010. We only plan these in years where no post tour will be offered following our National meeting.

As currently envisioned, individuals would fly on their own to London and then be escorted by coach to some of the most exciting gardens in England. We are looking at a mix of larger gardens such as Windsor, Bedgebury and Hilliers as well as a number of smaller private gardens and nurseries that specialize in conifers. Several days would be devoted to cultural sites. We would also have a botanical expert from the host country accompany us.

As this is currently in the planning stage, much will depend on member participation and approval by the board of directors.

If you have an interest in receiving

details as they develop, please contact Tom Cox at coxarb@bellsouth.net 770-772-9747. Tom will put you on an update list. If sufficient interest is manifest, complete details will appear in the next CQ. You can also check our website www.conifersociety.org for updates.



Corrections previous issue Fall 2009:

In the Aljos Farjon article captions for the photographs on pages 12 and 16 were transposed. Below are the photographs with correct captions:





Cupressus sempervirens



Nursery & Landscaping

10 Acres of Container Plants

Conifers, Hosta, Ornamental Grasses, Perennials 10 Acre Arboretum and Water Features Specializing Field Grown Specimens, Grafts in the rare &

Family Owned since 1849

unusual

8:00 am till 8:00 pm - 7 days

Gary, Kaye & Kary Gee 14928 Bunkerhill Rd., Stockbridge, MI 49285 PH: (517) 769-6772 or 1-800-860-BUSH FAX (517) 769-6204

Visit our Web site @ www.geefarms.com for our plant list

Publication Dates

Issue	Calendar Quarter	Deadline to submit articles	Publication Date (approx. mailing)
Winter	Jan/Feb/Mar	Nov 22	Jan 15
Spring	Apr/May/Jun	Feb 15	Apr 15
Summer	Jul/Aug/Sept	May 15	July 15
Fall	Oct/Nov/Dec 31	Aug 15	Oct 15

Submit articles/photos to:

Evelyn Cox, Conifer Quarterly Editor • 1621 N. Lake Dr., Canton, GA 30115

PH (770) 772-9747 • E-mail: ConiferQuarterly@bellsouth.net

Vol. 27 No. 1 44 CONIFER QUARTERLY

Southeastern Regional Meeting September 2009

History and Conifers in Richmond, Virginia

by Scott Burrell



It's been a few months now, and the "party" Lis over, but it was a good one—two days long! The Southeastern Regional meeting held in Richmond, Virginia, put history as well as conifers and great gardening front and center. Eighty attendees from Indiana down to Georgia and points in between came together at the Sheraton Richmond West Hotel. Included among those attendees were representatives of and presenters for the Reference Garden Program—J. Sargent Reynolds Community College, Richmond; the University of Tennessee Gardens, both Knoxville and Jackson: the East Tennessee State University Arboretum; and the Atlanta Botanical Garden. Also represented were Lockerly Arboretum, the Smith-Gilbert Arboretum, and the Cox Arboretum, all from Georgia; the Schnormeier Gardens, Ohio; and a number of regional nurserymen. Of course, there were conifer enthusiasts from all over, including past ACS presidents Jordan Jack from North Carolina and Tom Cox from Georgia. Absent but not forgotten was past Southeastern ACS President Flo

Chaffin, who was presented in absentia the Award of Merit by former president Jordan Jack. Congratulations, Flo!

Member nurseries donated a bounty of rarities that were auctioned off both verbally and silently on Saturday (see sidebar).

The weather was just fine for a Saturday of field trips that followed fine morning presentations by educators and nursery business owners John Wise from Richmond and Brent Heath from Gloucester. Brent is owner, with wife and business savant Becky Heath, of Brent and Becky's Bulbs. Our first bus stop was at Agecroft Hall where Executive Director Richard Moxley gave us a synopsis of how a 16th century English house gets transplanted to the shores of the James River and 80 years later is no longer a family home but a thoroughly English house complete with 16th century furnishings, paintings, and armor. It's quite a story.



Agecroft's horticulture staff led us on tours through their many gardens and on over to the next-door neighbor, Virginia House (daily domain of ACS board representative Scott Burrell). A gourmet box lunch was served on the terrace overlooking gardens, the river, and the distant hills—quite intoxicating! After lunch tours continued through the gardens at Virginia House, the Lewis Ginter Botanical Garden, and Scott's own home gardens. Saturday evening was spent with plants, plants, and more plants as dinner led to the silent and live auctions, which led to a good night's sleep.

Following a great meeting, checks for \$1,000 were presented from the Southeastern Region to Virginia Historical Society at Virginia House and Lewis Ginter Botanical Garden to make improvements to the conifer gardens at both sites. Many thanks to Scott's committee and volunteers for putting this program together. A good time was had by all!

Thanks to the following for their generous donations of plants for the auctions:

All Things Acer

Appeldoorn Landscape Nursery

Bethlehem Nursery

Camellia Forest

Cox Gardens

David Verkade

Don Shadow Nursery

Duane Ridenour

Eastwood Nurseries

Gary Handy Nursery

I Palatana I I alliana Kirana

Hidden Hollow Nursery

Mountain Meadows Landscape &

Nursery

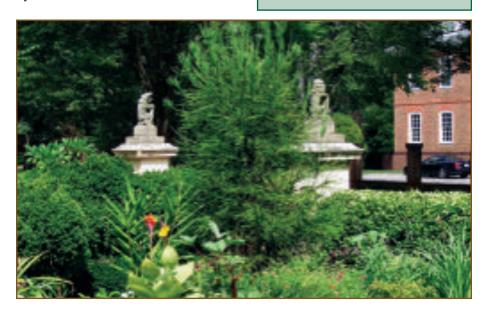
Peter Jones

Robert Wilson

Specialty Ornamentals

Stanley & Sons

University of Tennessee



Northeastern Region News

The Northeastern Region has a number of activities planned for 2010 to satisfy your desire to learn about conifers. We start on January 10 with the annual Pot Luck Brunch in Hanover, Massachusetts. On the Saturdays February 13 and 27, Nancy Vermuelen will host grafting seminars in Neshanic Station, New Jersey. On February 27 in Rochester, New York, there will be a grafting seminar hosted by Oriental Garden Supply. Complete details and contact information will be found on the ACS Website, or you can contact me via phone.

In April, Ridge Goodwin and friends are planning a Pennsylvania Rendezvous along with a rare conifer sale. Details are still being formulated, but the event will be announced on the ACS Website. This will be an event you will not want to miss!

On March 20, the NE Region Advisory meeting will take place in Binghamton, New York. Any NE Region member is invited to attend this meeting to help plan for the upcoming year. Lunch will be provided.

The big event will be on September 24-26 in Danbury, Connecticut for the NE Region Annual Meeting. On this year's tour, we will visit Peter Rostenberg's garden plus several other magnificent gardens. We are doing our best to make this meeting a good value yet provide education and, yes, lots of conifers to add to your collection.

It is still possible to place your name in nomination for the NE Director's position. All nominations must be submitted to NE Region President Larry Nau by January 31, 2010. Elections will be held

in the spring of 2010. The NE Region would like to thank Jerry Kral for all his time and service to the ACS Board representing the NE Region and the ACS. In particular, Jerry has championed the ACS Scholarship program, which continues to grow and sponsor conifer-related research.

I am also pleased to announce the formation of the "Rochester Chapter" of the ACS. Special thanks to Elmer Dustman, Jerry Kral, Dave Swinford, and Merton Bohonos for taking the time to sit down and lay the foundation for this group. We had a great breakfast that morning. We plan to meet formally four times during the year rotating between rendezvous, park, and nursery visits and other day trips. Our goal is to expand ACS membership in the Rochester, New York area and educate the numerous home gardeners on the value of conifers in their landscape.

Lastly, several members of the NE Region along with Flo Chaffin, the past President of the SE Region, are members of the social networking site Facebook. We would like to invite other ACS members to join us on this site and to become a fan of the ACS page on Facebook. We hope to gain additional exposure for the ACS and to regularly suggest our excellent Website as a reference for information about conifers. Of course, we also hope to gain additional members for the ACS.

Larry Nau, President Northeastern Region

Directorate

Officers

President Ellen Kelley, 3445 Oakory Ln, Bettendorf, IA 52722-3938

PH (563) 650-2212

Vice President Ridge Goodwin, P.O. Box 310, Holicong, PA 18928

Treasurer PH (215) 794-3216

Kathleen Pottratz, 42438 SW Vandehey Rd., Gaston, OR 97119 Secretary

PH (503) 985-7561, E-mail: kpottz@highstream.net

Past President Tom Cox, 1621 N Lake Dr., Canton, GA 30115 PH (770) 772-9747, FAX (770) 663-4063, E-mail: coxarb@bellsouth.net

Directors

Term expires 2010 Scott Burrell, 428 North Boulevard, Richmond, VA 23221

PH (804) 339-0873, FAX (804) 354-8247, E-mail scott@vahistorical.org

Christopher Daeger, Stanley M. Rowe Arboretum, 4600 Muchmore Rd, Cincinnati, OH 45243 PH (513)-561-5151, E-mail: cdaeger@ihill.org Joe Harris, III P. O. Box 518 Boring OR 97009-0518 PH (503)-663-3822, E-mail jharris@iselinursery.com Gerald Kral, 900 Winton Rd. N, Rochester, NY 14609 PH (585) 288-5082, E-mail: gkral1@rochester.rr.com

Regional Presidents

Northeastern Region Larry Nau, 25 Knollwood Dr., Churchville, NY, 14428

PH (585) 202-1815, E-mail: lnau@frontiernet.net

Central Region Bill Barger, 3200 Rohrer Rd, Wadsworth, OH 44281

PH (330) 336-9695, E-mail: billb@conifergarden.com

Western Region Brian Jacob 13455 SE Lafayette Hwy., Dayton, OR 97114

PH (503) 868-7941 Email: bjacob@monrovia.com

Southeastern Region Duane Ridenour, P.O. Box 361, Jacksboro, TN 37757

PH (865) 310-1026

Conifer Society Staff

National Office John Martin, 175 Charisma Lane, Lewisville, NC 27023-9611

PH (336) 945-0483, FAX (336) 945-0484, E-mail: conifersociety@aol.com

Editor. Evelyn Cox, 1621 N. Lake Drive, Canton, GA 30115

Conifer Quarterly PH (770) 772-9747

E-mail: ConiferQuarterly@bellsouth.net

Graphic Design & Monya Barnes, 2255 Barrett Drive, Cumming, GA 30040 Printing

PH (770) 888-0434, E-mail: monya@mindspring.com

www.conifersociety.org



Dacrydium cupressinum
Photo credit: Randall C. Smith, courtesy of Iseli Nursery



Diselma archeri
Photo credit: Randall C. Smith, courtesy of Iseli Nursery