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Gardening for me has always been a passion. However, it wasn’t until eight years ago that I decided to change up my flowers and fruit trees for what most people would call a Japanese-influenced garden. I found a small side area next to our fence in the backyard that seemed like a good place to start my new garden project. After researching various publications available on Japanese gardens, I sat down and drew a layout of what would eventually become the backbone of my endeavor and that would consume my whole backyard.

We now have fountains, a koi pond, dry creeks, and a dual-flowing creek which is accompanied by a collection of dwarf and miniature conifers throughout the rock garden, all within a track-home-sized backyard. In the early stages of this renovation (that went on for nearly five years), I met a vendor at a local bonsai show. He had miniature conifers for bonsai. These little plants really got me excited.

These minis were the type of plants I had envisioned for my garden. They were not available at local nurseries; nor did anyone seem to have any information about them. A few weeks later, the vendor invited me over to his home-nursery, where he had hundreds of plants he had been growing in pots and in the ground. They were dwarf and miniature conifers he had collected and sold. These plants came from trips he had made to nurseries in the Pacific Northwest.

Needless to say, I was instantly hooked. From then on, I became an
avid collector and would spend many 
hours sharing information with Dave-
the-vendor, who was glad to share his 
stories of these plants with me.

At this same time, with new plants 
coming into the yard and loads of wired 
cages with tons of rock delivered onto 
our driveway, my wife wanted to know 
what was going on. All I could share 
with her at the time was that I had a 
vision for our new garden and that she 
needn’t worry about the money I was 
spending. This project would take me 
and my son many years to complete. 
There were the cost of plants, rocks, soil 
amendments, and trips up to nurseries 
in the Pacific Northwest. I had to spend 
judiciously since I was now reaching 
retirement.

As the garden took shape, more ideas 
emerged. The garden continued to 
circle more and more around the 
yard. You could say I truly had a bad 
conifer collector’s addiction. My wife 
was starting to see the garden come 
together, more and more. Plants started 
filling in the gardens where 20 tons of 
rocks had been set. I was also fortunate 
at the time with having a son who had 
a strong back and was excited to be a 
part of my garden vision. He was my 
go-to man for the really heavy work 
involved. Mark, my son, is the reason 
that this garden even exists today.

Years later after the completion of my 
conifer garden, I never get tired of 
spending time outside, seeing how it 
grows and has evolved, especially after 
a beautiful, short, morning rainfall. That 
makes me feel as if I’ve been living in 
a very special, miniature forest. Only 
a few people in the world can have 
what grows here in the city of San Jose, 
California.

As if being consumed with garden
I have 70 bonsai. 18 are now show quality trees, and all the rest are in training pots in various stages of development. If you truly want to gain greater appreciation for your conifer plants, I can’t emphasize enough the joy that comes from shaping them into another level of appreciation.

Getting to know bonsai principles, along with good horticulture skills, will help you gain the joy that comes with that hobby. Much can be gained from the many books and videos that are available today on the internet. However, that experience will never compete with the hands-on experience you get from joining a local bonsai club in your area.

CONIFERQUARTERLY asked me to do a few articles about bonsai so as to help our conifer readers with ways to get started, to work with their plants and to utilize their creative ideas. Starting a collection of bonsai over a period of time will help gain greater confidence in making those certain appropriate
The garden is a joy. Bonsai and container conifers. Since joining the American Conifer Society five years ago in the Western Region, I have seen a growing interest in many of its members in bonsai. Many of the programs we have attended on our various ACS trips have included having bonsai demonstrations and stopovers at bonsai-related nurseries. Hopefully, these articles will satisfy this interest and answer many questions about ways of getting started with your own collection.
With humble honor and great enthusiasm, I accept the ACS’ Board of Directors recommendation to become our organization’s 19th National President. Many thanks to Neil Fusillo, our 18th president, who presided over the Society for the past two years. I wish him all the best in his future endeavors. Don’t be a stranger, my friend.

While scanning through the list of past presidents on the ACS website, I am impressed by the achievements of those who have preceded me. Their accomplishments loom large over our field of study, pastime and enjoyment. They are true “legends of the game” and provide exceptional examples for me to follow. With a bit of luck and a bunch of determination, I hope someday to be worthy of inclusion in their company.

Going forward, I hope to define my leadership through two simple words: “communication” and “fun”. The first part is fairly straightforward; let’s talk. If you have questions or need clarification, don’t be shy! Nothing frustrates a member, particularly a novice, more than an unanswered question or an unresolved concern. Further, if your leadership is blissfully ignorant, we have no reason to act. We have a myriad of communication channels – phone, email, Facebook pages, and our fully interactive website. The more our members communicate, the closer we become, which leads to my next watchword, “fun”.

I strongly believe that you cannot have an organization without being social. I challenge each and every one of you who are reading this message to get involved – attend a conference; mingle with your fellow Coneheads. Over the years, I’ve forged some of my strongest life-long friendships through our events. In fact, I know that many of you maintain enviable landscapes of your own. Volunteer to host an ACS-sponsored garden tour. With enough lead-time, one never knows who may show up.

Change is inevitable. Personally, I find change refreshing and motivating. We have many changes on the near-term horizon. Examples include: an updated and more easily navigated website; giving the ACS a larger voice in the field of conservation; and exploring, exploiting, and creating new revenue streams. I am opposed to ongoing deficit spending, but I strongly believe that, at times, one needs to spend money to make money, especially when investing in the future.

Go forth, hug a tree, and let us know how much fun you’re having. We want to hear from you!
In 1909, the Handbuch der Nadelholzkunde was published in Germany (Berlin, Verlagsbuchhandlung Paul Parey). This Handbook of Conifer Knowledge was beautifully illustrated by the author, L. Beißner. In pen and ink, in a method that was required of botanists and dendrologists, Beißner provided one of the best manuals for the study of conifers, ginkgos and the family of gymnospermous tropical plants. Even today, the information is accurate. In the pages provided, you see drawings of Abies pectinata, which has been growing in Wörlitzer Park, near Dessau, The Federal Republic of Germany. In synchronous fashion, Bruce Cunningham has reawakened this lost art of illustration in the book under review here.

The mission of the American Conifer Society is to educate the public about conifers. That education comes through the ACS’ website, CONIFERQUARTERLY, meetings, newsletters and rendezvous. It also happens through books. Tom Neff of the Southeast Region graciously sent me the link to a marvelous educational tool, Gymnosperms of the United States and Canada, by Elray S. Nixon and illustrated by Bruce Lyndon Cunningham.

Highly touted by reviewers, Gymnosperms, six years in the making, is an expertly written and beautifully illustrated manual of the plants, the vast majority of which include the objects of interest of our Society, namely conifers.

I consider this book an excellent teaching-tool for those familiar with conifers and also for the novice. Indeed, this is a primary example of what Marshall McCluen coined “the medium is the message”, not to speak of the old adage that “a picture is worth a thousand words”.

Everything in the book is designed to educate. From plant classification to family, to geographical domain, Emeritus Professor of Biology (Stephen F. Austin State University, Texas), Elray Nixon, does a marvelous job of providing scientific nomenclature and common names along with descriptions. Each gymnosperm receives a lettered guide and an illustration of its parts: profile, pollen cones, leaves, trunk, tree rings, seeds, and buds. Professor Nixon also provides a “Key to Genera” for each of the gymnosperm families. There is a “Key to Species”, describing leaf characteristics, location of the plants in North America, seed cones and the seeds themselves. In total, there are 115 gymnosperms depicted.

One of the other highlights is an alphabetically Illustrated Glossary, briefly defining terms from “abscission” all the way to “xylem”. All of these are artistically illustrated as well. References are listed, and an “Index of Vernacular (Common) Names” rounds out everything Professor Nixon includes in the book.

When you look at the cover and page included with this review, you see, in my opinion, what is the overall impact of the book, its visual presentation.

Tom Cox, ACS Past President from the ACS’ Southeast Region, once told me that 60% of our perception is visual. He couldn’t be more right. Bruce Cunningham co-creates this masterpiece of visual education with his incredible illustrations. In and of themselves, they are what grabs you.

My review cannot do what seeing the book with its illustrations first hand will achieve. This book could well serve as an academic textbook and a valuable, library addition. It is priced very well both in paperback and hardcover. Bruce Cunningham is the publisher and an ACS member. He sells direct and ships free. He can be reached at bruce@suddenlink.net. He is a very engaging person and a wealth of information.

These days in our society and in education, the visual and the quick and easy garner the lion’s share of the attention of the consumer, whether
that consumer be an adult or a child. This book could well serve to introduce people to conifers and then to recruit them into the ACS.

EDITOR’S NOTE: If you are a member of another plant society, we’d like to hear from you. Consider writing a short article with your choice of content regarding your other society connection(s). Thank you. Ron

(from the Beißner Book)
Juniperus virginiana L. (includes var. virginiana and var. silicicola [Small] E. Murray) – Eastern redcedar.

TREES to about 30 m tall; LEAVES (a) to 6 mm long; POLLEN CONES (b) to 3 mm long; SEED CONES (c) to 6 mm long; SEEDS (d) to 4 mm long; SEED X-SECTIONS (e); SEED LONGITUDINAL IMAGE (f); BARK (g).

(from Bruce Cunningham’s illustrations)
Ever wonder why the ACS and similar organizations are granted tax-exempt status by the IRS? It’s because our mission is to educate the public, a job that today would be nearly impossible without a website. When the Central Region’s Bill Barger started the ACS website in the 1990s, websites were in their infancy, and the purpose of ours was as a resource for members. In fact, that’s likely still how most members view the site: as a way to register for meetings, or get the latest information about events and awards. In reality, the website will be a regular and significant source of revenue for the Society.

The ACS may only have about 1,500+ members, but the website currently has almost 30,000 visitors per month! The vast majority of website users are non-members. Since our charter is to educate the public, this is wonderful news, as it fulfills our mission and cements our tax-exempt status. This traffic is almost certainly orders of magnitude higher than any similar plant society site enjoys. Why does our site have so many visitors?

Our traffic is high for three reasons.

- It is chock-full of information that is relevant to its title. People wanting information about conifers see our site with “conifer” in its title and the site delivers. It is a source of very focused and specialized information.

- The conifer database (ConiferBase) is one of the best, most complete, most accurate and easy to use plant databases on the Internet. 80% of the visitors to our site go right to a specific page in the ConiferBase.

- We have a secret weapon in the person of Eric Smith, a member in the Southeast Region, who is an SEO specialist. What is an SEO specialist? Someone who optimizes the site so that search engines, led by Google, rank our site high in the results when someone searches for information about conifers. In the search engine world, success breeds success. The higher our site ranks in search results, the more people click on it, which means that it ranks higher and higher due to more traffic. We have real momentum and can look for increased traffic going forward.

This brings us to the reason for the website upgrade that we have just begun. By modernizing the site we will be able to attract even more traffic, as well as make the site much more user-friendly for logged in members. While the website feels “new”, this version is now five years old, which is a lifetime in the world of cyberspace. Here are some of the benefits that you will enjoy with the upgrade:

- A vastly simpler login
- Much easier viewing on mobile devices, such as smartphones and notebooks
- A redesigned home page with simplified navigation
- The ability to personalize the ConiferBase information (ability to create “my conifers” and share as desired with other members)
- Centralization of information so that members can find all events, for example, in one place and not have to search all over the site
- Improved ease of use overall (we have kept lists of all of the problems that members have encountered and will strive to correct them)

Even though the site is largely “external”, we want it to be used and enjoyed by our members. Don’t forget about the forum – a great place to solicit advice and information from some of our most knowledgeable coneheads.

How will the website generate revenue for the Society? With the traffic numbers that we enjoy, we will soon be able to sell ads on the site. Since the majority of the visits go to the ConiferBase records, we will advertise on those most heavily trafficked pages, thereby minimizing the annoyance to members. We also have plans for an online store once the upgraded site is up and running. (For anyone curious about what we would sell, take a look at the Camellia Society’s site for an example.)

Thank you to Eric Smith, to incoming ACS President Dave Olszyk for his tireless curatorship of the ConiferBase and to Bill Barger, who all those years ago began a site and a database that have grown into the most effective way to “educate the public”, as well as serve as an ongoing source of financial stability for the ACS.

We welcome any questions or suggestions: webeditor@conifersociety.org or 707-486-0444. We’d love to have volunteers help with the online store, or any other aspect of the site that interests you.

Once the improved site is up and running, we’ll send out a note with navigation tips and information.
Come to Washington in October! The heat and humidity of summer will be gone, and so will the throngs of tourists. Washington will be downright pleasant. Sit back and relax on the tour bus as it navigates around the D.C. area. Just 2 ½ miles from the U.S. Capitol, we will be stopping at the US National Arboretum, a USDA research institution, and its 446 acres of gardens, research plots, and wooded areas. Conifers are found throughout the Arboretum, and the centerpiece is the Gotelli Conifer Collection, an assembly of hundreds of dwarf and slower-growing conifers in every shape, size, and color.

Washington is a city where north meets south, and the Gotelli Collection is no exception. Located on 7 acres, the collection features specimens from around the world, and conifers native from USDA Zone 2 to Zone 8 grow side-by-side. In addition, dozens of crape myrtles and Japanese maples, which complement the collection, will be getting ready to put on their fall display. Don’t forget to check out the “newest” conifer species, the wollemi pine, Wolleria nobilis, and the Ulleungdo hemlock, Thuja ulleungensis, just described in 2017.

While at the Arboretum, take a tour of the National Bonsai and Penjing Museum. Among the 150 miniature trees, there are many fabulous conifers. The oldest bonsai in the collection, a Japanese white pine, has been in training for almost 400 years. A Japanese red pine was in the Imperial household for 200 years and was part of the initial gift of 53 bonsai masterpieces given to the American people for this country’s bicentennial. Be sure to see the bald cypress and the California redwood expertly crafted in miniature. The maples, as well as many other deciduous trees, will be starting to
show their fall colors.

We’ll be having lunch at the Arboretum, and you just might have time to visit the National Herb Garden, the Fern Valley Native Plant Collection, or the Asian collection with dozens more conifers featured.

For a special treat, we will be visiting two suburban gardens in northern Virginia. Joe Hallal is a certified conifer nut and has conifers artfully arranged throughout his property. Joe claims to love Japanese white pines, but it is obvious that he loves all conifers. (It’s a condition perhaps you can relate to.) Joe’s love of conifers is so infectious that he got his neighbor, Larry Peters, hooked. Larry is incorporating his own unique design style into his garden, including a beautiful water feature in the backyard. Both gentlemen are excited to show you around.

It’s always exciting to visit a conifer nursery, and Susanna Farm will not disappoint. Susanna Farm Nursery is the largest conifer and maple nursery in the Mid-Atlantic area. They specialize in dwarf and unusual evergreens and hard-to-find Japanese maples. The rolling hills of Montgomery County, Maryland, are a beautiful backdrop for the thousands of conifers offered for sale. Be sure to leave enough time to walk through the large specimen collection where so many one-of-a-kind plants will be discovered. Warning: you will not leave empty handed!

Our guest speaker on Friday night will be Dennis Groh. He will present “Fall Color Lottery”, during which he’ll discuss combining evergreen conifers with the fall color of deciduous trees to create spectacular visuals. Those living in New England likely take fall color for granted, but this remarkable phenomenon does not occur everywhere; colors can vary both in intensity and quality,
depending on your geographical location. Dennis will explain the many factors impacting fall color occurrence and quality and dispel many myths and misconceptions. He will give recommendations for conifer companion plants with reliable fall color and maintenance techniques necessary to improve your odds of “hitting the Fall Color Lottery”. He will also provide insight into the color seen on new conifer cones. The presentation features outstanding images to illustrate both the concepts and amazing fall color plants.

We are staying at the Hilton Hotel & Executive Meeting Center in Rockville, Maryland. Rooms are only $109 plus tax. Based on availability, these great rates are available 2 days before and 2 days after the meeting. Come early, stay late. Hilton’s Executive Chef and his internationally trained culinary team have created our menus, including a Southern buffet and Maryland crab cakes. The Hilton is located across the street from the Twinbrook Metro Commuter Station on the Red Line, so getting down to the National Mall to visit the Smithsonian museums and the US Botanic Garden will be easy.

By the way, the NER team has been working hard and will be staging an awesome conifer auction that is not to be missed. Come to Washington in October…a great meeting is planned for you!
Tony Avent of Plant Delights Nursery spoke to the assembly on "Landscaping for Collectors." He emphasized that landscaping is all about form, color, and structure with an eye for contrast. I have selected the following photographs to highlight this concept.

**Cedrus:** A great combination of contrasting colors between three conifers in the Sarah P. Duke Gardens in Durham, NC, with the focal point being Cedrus atlantica ‘Horstmann.’

**Floral:** A picture from Sandy Horn's garden in Cary, NC, of a perfect color contrast in her garden between Eryngium aquaticum, otherwise known as rattlesnake master, and a bed of yellow flowers.

**The Big Easy:** A 2017 sculpture in the Sarah P. Duke Gardens in Durham, NC, by Patrick Dougherty, made from red maple and sweetgum branches that contrast and highlight the surrounding gardens.
Cone: A picture from Sandy Horn’s garden in Cary, NC, of a cone from a Japanese white pine known as *Pinus parviflora* ‘Bergman.’

Conifer: A picture of contrasting conifers in the JC Raulston Arboretum in Raleigh, NC. These are *Picea pungens* ‘Thuem’ (compact Colorado blue spruce) in the foreground and *Juniperus chinensis* ‘Echiniformis’ (hedgehog Chinese juniper) behind the spruce.

*Nelumbo*: Contrasting structural elements of the *Nelumbo lutea* plant, commonly known as the yellow lotus growing in the Virtue Peace Pond of the Sarah P. Duke Gardens in Durham, NC.
A Second Look at John Lyons’ Garden, “Evolution of a Conifer Garden” (Spring CQ)

2007 Lower Path

2017 Lower Path

2017 Lower Path with shadows
“Form follows function” is a principle associated with 20th century modernist architecture and industrial design, which says that the shape of a building or object should primarily relate to its intended function or purpose. The term easily fits for designing a conifer garden, or any garden for that matter. You need only ask yourself what you want to accomplish before starting your project.

Before we begin on how our garden came together, a few background notes are in order. It has been approximately seven years since we started this project. We moved to Ann Arbor from Detroit, bought a house, gutted it and put it back together; an almost two year effort which allowed landscaping ideas to present themselves.

Our lot is a non-uniform shaped, subdivision plot on a cul-de-sac. The lot size is a little less than 14,000 square feet with a 4-6 foot high berm along the 130-foot length of the property. Take away footage for the house, garage, driveway, patio and potting shed, and there isn’t a lot of land left for a conifer collection, yet we soldiered on. To date, we have over 100 different varieties of conifers for a total of approximately 150 trees and brooms.

Some of the principal design functions were:

1. Provide a screen to road activity along the 130-foot south side length of the house, where the berm is located. In addition, on the north side of property, our goal was to develop an attractive privacy screen to other neighborhood houses.

2. Install a closed loop geothermal system.

3. Allow access to the city bus stop without having to climb over the berm.

How and what was accomplished:

1. It didn’t take much thought to decide that conifers were the best choice.

Modest wishes!!
for screening road activity, especially in the winter when deciduous have lost their leaves. We used the same concept for establishing a pleasing privacy screen from other houses in the subdivision. With that basic function defined, one would think it would be a simple task to go ahead and plant. Unfortunately, to a novice, it opened a vast array of options as to which conifers to select and purchase ... thus began the journey.

2. The geothermal heating/cooling system was a straightforward process to install. It was necessary to cut back the berm along the entire length of house so that a large drilling rig could be brought in to drill the geothermal vertical lines. That accomplished, it left us with a dramatic cut along the entire length of the berm. To maintain the effect, it was necessary to do something to retain the dirt. A boulder wall seemed a sensible answer.

After doing the math, it became apparent that it would take a lot of stone to complete this task. Researching stone sources and cost, we found we could purchase the stone directly from the source instead of going through a middleman and at quite a reasonable cost because we were buying over 200 tons of boulders. In fact, we were able to go out into the fields where they were excavating the boulders and choose the actual stones we wanted. Over several weeks, as new boulders were dug up, we would go out again and again to select our stone. In choosing the rocks, we didn’t want a wall with stacked round boulders and opted for flat and broken faces.

3. Getting to the city bus system on the other side of the berm without climbing 6 ft. up and down, was accomplished by cutting a 5 ft. wide snaking path through the berm. Both sides of the path were reinforced with more large boulders to hold the two sides of berm in place. The snaking path was also designed to avoid a straight line view into the yard from the street.

Beginning the design and our process:

1. Look, read and look some more!! We had to develop some sense of the types of landscape designs that appealed to us. We searched online for garden pictures, borrowed books from the library, and, when we were out driving, keeping our eyes open for landscape ideas, both residential and commercial. We also visited nurseries and surveyed what was available. We understood that this was not going to be a one season event, so we developed a “don’t panic” attitude.

2. We took photos from different locations inside the house, looking out the widows in order to locate key views. From the photos, we set up markers for planting sites. If we were to ever advise others, it would be
to take your time establishing your views because you will be looking out those windows for many years to come. This is doubly important for us in the north who spend so much time during the winter indoors.

3. Selecting trees overview:
   Our approach to tree selection encompassed very basic concerns: color, texture size and shape.

**Color and texture**

To any beginner, collecting conifers is a fascinating discovery that conifers come in a large variety of colors. Once you can get over the presumption that yellow-needled trees aren't sick or dying, you can begin playing with the many shades of blues, greens, and yellows. Everybody loves conifer cones, and a unique aspect of some conifer trees are the cone colors which can equal the excitement of any flower in bloom, for example -- *Picea abies* ‘Acrocona’, *Picea abies* ‘Pusch’, *Abies koreana* ‘Cis’, *Abies koreana* × *lasiocarpa*.

**Size and Shape**

Because of our limited space we approached the aesthetics of size in three ways. First, we concerned ourselves with the shield/barrier to the road on the back side of the berm. Our choices emphasized, for the most part, full/dense evergreens. Included in this group were: three *Cupressus nootkatensis* ‘Pendula’ and three *Tsuga canadensis*, *Picea abies*, *Picea pungens* ‘Moerheim’, and *Juniperus chinensis* ‘Mountbatten’.

Second, we wanted to continue with tall trees, but cut down on the width. We maximized the tall and narrow with mixed conifers and deciduous trees: *Cupressus nootkatensis* ‘Green Arrow’, *Thuja occidentalis* ‘DeGroot’s Spire’, *Juniperis communis* ‘Lemon Spire’, *Liquidambar styraciflua* ‘Slender Silhouette’, *Acer saccharum* ‘Newton Sentry’, and *Quercus robur* ‘Crimson Spire’.

Third, brooms and conifer miniatures worked well for maximum use of ground space. Some of our favorites
are: *Abies concolor* 'Hosta la Vista', *Taxodium distichum* 'Gee Wizz', *Pinus Strobus* 'Squiggles' and 'Wiggles', *Pinus mugo* 'Mops Top South' and 'Mops Top North', *Pinus mugo* subsp. *rotundata* 'Maja' [SS #26], *Picea abies* 'Chub', *Abies cephalonica* 'Meyer’s Dwarf', *Larix kaempferi* 'Nana'.

Once you start collecting different conifers, they all become special, though some do seem a little more special for no particular reason. For us it’s *Picea pungens* 'Ferrance Skirt', *Pinus heldreichii* 'Green Bun' and *Picea schrenkiana* 'Nana'.

In summary, "Form Follows Function" can be simply viewed as: what do you want your garden to do? Is there a necessity or problem to solve such as water control, privacy, views from windows or an outside patio? List your wants and issues, do your homework by visiting other gardens, review garden books and talk to experts. Then have fun designing your garden.

Ed & Colleen Weiss' Garden is open to Conifer members. Check the ACS member directory for contact information.
In the last two issues of CONIFERQUARTERLY, we have discussed some invasive species that are firmly established in wide-spread areas of the US, such as hemlock wooly adelgid, *Adelges tsugae*, and emerald ash borer, *Agrilus planipennis*; as well as some that are not well established, such as Asian longhorned beetle, *Anoplophora glabripennis*.

This time I would like to discuss an invasive species, oak wilt, which was first described in North America in the 1940’s.

Oak wilt (*Ceratocystis fagacearum*) was first reported in red oak in Wisconsin in 1944. It has now spread to at least 24 states. The red oak group is most severely affected by oak wilt, but oak wilt has been found in 16 native oak species. Through inoculations, it has been learned that over 35 native and exotic oak species are susceptible. Other susceptible species include both American and European chestnuts, *Castanea* ssp., chinquapin, *Chrysolepis* ssp., tanoaks, *Lithocarpus* ssp. and some cultivars of apple, *Malus*.

Members of the white oak group are susceptible to infection, but appear to be more resistant to the effects of oak wilt, although sporadic limb death can be common. There is also concern that white oaks can appear to recover yet remain infected and serve as a reservoir of the disease.

Oak wilt fungus grows quickly within infected red oaks and plugs the xylem tissues, causing death of the tree in as little as two months. In some cases, death can take up to a year or more. First symptoms in red oak are wilting leaves that turn dull green or brown and curl around the midrib, often mimicking drought stress. Leaves will drop from the tree, usually starting with branch tips. Even what appear to be healthy green leaves can be shed. Dark streaking under the bark is often found in red oaks that have recently shown symptoms where the fungus has plugged the xylem tissues. If collecting samples for submission to a diagnostic lab, freshly cut twigs or small branches 15 to 20 centimeters long (approx. 6 to 8 inches) should be placed in zipper style plastic bags and kept cool until examined by a diagnostician.

The oak wilt fungus, *Ceratocystis fagacearum*, can overwinter under the bark of living trees and as fungus mats under the bark on dead trees. These fungus mats can grow and cause the bark to split and emit an odor sometimes described as smelling like apple cider. A variety of beetles feeds on the sap and/or fungus mats, picking up spores that then get spread to other trees during feeding or egg-laying.

From early spring to mid-July, the fungal spores are spread by beetles from infected trees to other trees, especially trees that have been wounded or pruned. Do not prune once spring temperatures reach 50 degrees Fahrenheit, as a few fifty degree days can get beetles moving and cause the fungus in infected trees to form fruiting structures, leading to the spread. Pruning can resume in mid to late July. In the event a tree is wounded through pruning, equipment damage, another tree falling and damaging bark, or climbing with spurs, immediately paint the damaged area with tree-wound paint or latex paint. That will help keep beetles from feeding on the sap and introducing spores to the damaged tree.

Oak wilt can also be spread with movement of firewood from oak-wilt-killed trees to new areas. Don’t move...
infested wood. If oak wilt infected trees are cut and kept on site for firewood, the firewood should be completely covered with a tarp with no holes in order to prevent beetles from feeding on the wood and picking up spores.

Oak wilt can also be spread tree to tree through root grafting. The only currently recognized way to prevent the spread through root grafts is to root-prune the infected tree(s), severing all roots that can connect to surrounding oaks. Root pruning is typically done using a vibratory plow pulled behind a large tractor. Root pruning should be done in the dormant season and requires a blade that penetrates the ground five feet deep. Once again, do not move firewood.

Now, for the potentially invasive species not yet known to be in North America:

Siberian moth or Siberian silk moth (Dendrolimus sibiricus)
In its native range, the Siberian moth is found in the Urals, Siberia, and other areas of the Russian Far East. The larvae feed on needles and occasionally on the bark of branch tips and cones of most conifers in the Pinaceae family, showing a preference for *Abies sibirica*, *Larix* spp., and *Picea* spp.

Adult moths fly from late June until early August and lay eggs on needles or branches, commonly on branch tips.

The population of Siberian moth in its native range can remain at levels tolerated by forest trees for many years, but as populations build, rapid outbreaks can occur. Such outbreaks in coniferous forests frequently result in the death of virtually all trees in the infested forest due to a weakening of the trees through defoliation and/or fire.

As noted on www.BugwoodWiki.org: “The length of the life cycle varies from two to four calendar years depending on population density. The larvae of the males have 5 to 9 instars, those of females 6 to 10; typically males have 5 and females 6. The larvae are up to 110 millimeters (four inches) long. Moths fly from the end of June to the beginning of August and lay eggs on needles and branches. Commonly two winters are spent in the larval stage; second to third instars and fifth to sixth instars overwinter coiled up, under the forest litter. Pupation occurs from mid-June to late-July in cocoons in tree crowns.” Because of the variability of the number of instars, those years when a large number of larvae emerge, the result is an overwhelming population and extreme defoliation. The resulting death of a high percentage of forest trees can result in widespread fire.

You can help in monitoring for invasive species by being aware of what is happening in your garden. If you see something that looks suspicious, take a photo and then contact a Sentinel Plant Network member garden, your local extension agent, or your state Department of Agriculture for help in identifying the insect or disease. The USDA provides additional information and educational modules and trainings at https://firstdetector.org/

*Photo credit BugwoodWiki, and the University of Georgia, and the USDA.*

**UPDATE!!!**

Since the last article about invasive species, in the Fall 2017 edition of the CQ, the State of Ohio has announced the discovery of hemlock woolly adelgid in three additional counties: Lake County, Geauga County and Athens County. In addition to threatening the native hemlock in those counties, these discoveries will certainly impact the nursery industry in those counties, and probably adjacent counties. As we have discussed, PLEASE be on the lookout in your area and report anything that is out of the ordinary. It is better to report something that proves to be inconsequential rather than not to report something that can devastate our environment.
Final Presidential Message from Neil Fusillo

As my term as your national president comes to a close, I’d like to look back on the things I accomplished, and, more importantly, the things I didn’t while in the seat up here.

But first, for those who don’t fully understand the role -- something I certainly didn’t understand before I came into it, I’ll explain mostly what the national president does.

The ACS has, for perhaps too long, been split up into regions, each with their own governments and elections. The idea of breaking the ACS up into manageable regions makes sense in an abstract way. It allows more local representation for members of the Society, as well as offloading some of the work from the National Office.

It could likely be accomplished in a better and more adaptable way by simply breaking areas up into committees that handle dealing with members on a local level -- this would allow statewide committees, as well as allowing a more ad-hoc method of getting volunteers in when needed for the appropriate tasks; but the founders of the Society thought it should be three distinct regions and that it should be handled in a more formal way.

There are distinct disadvantages to four distinct regions in the way we handle communications to members as well as in the way representation is done. For instance, if you live in Louisville, KY, and there’s an event in Cincinnati, OH, you may not hear about it because it’s in a different region. While you’re mere miles away from the Ohioans, your representative is completely different (and may well be much farther away).

At the end of the day, there are four regions, and you have a chance to elect representatives in each. Those representatives then go to a national board meeting twice a year and wade through a variety of decisions from what budget items are the most important this year, to whether or not to approve the scholarships or awards we give out yearly. As a national president, I don’t really make those decisions. I don’t get a vote on the Board of Directors. I mostly just set the agenda and try to referee the meetings to ensure we can get things done in our very limited timetable.

Being ACS president is not the most glamorous job in the world, but it’s essential in any organization to ensure that things run smoothly. It also affords me a little bit of leeway in that I can set agenda items that I feel are important for the Society.

During my term, we’ve seen some great things come to pass: a new, larger format Conifer Quarterly is now being printed at a lower cost than the older, smaller one was. You have no idea how contentious a battle that was. Believe me, it went on for years, despite the monetary savings and the more magazine-like appearance. We also have begun work on a website redesign we feel will better meet the needs of our members and further our mission to educate the public. We’ve seen a huge increase in social media use by the Society, and that’s been great for getting newer members in, as it allows a faster and more flexible way to communicate with our membership. These are all, I feel, absolute boons to the Society and its future.

I have, however, not managed to gain as much traction in certain areas as I would have liked: I came in wanting to see more social meetings in more areas. Most of us joined this society because it is a society. Societies, by definition, are social, and many of us are here so we can meet up and chat with like-minded people who love conifers in all forms and fashions. I wanted to see impromptu meetups in local cities, and in states flourish, as not everyone has the money or opportunity to go to the big national meetings, and the size of regions is such that it can often be quite a journey. It also only happens once a year, which is hardly a way to keep members engaged and give them a social outlet.

I’ve called time and time again for regional officers to work with others in their regions to have more activities and more social gatherings, and the Western Region has taken this to heart and done some wonderful things in that area. The Central Region is on its way to figuring out the logistics of this and working hard toward getting more events happening. The other regions have just continued to rely on their Regional Meeting as the sole real social outlet. It’s been a disappointing failure.

I also wanted to see more emphasis on conservation in the Society. We are a society that is filled with experts in the field of conifers and other plants. We have collectors, growers, academics and researchers, hobbyists, and a host of die-hard conifer lovers, but we sorely lack in the area of pushing conservation efforts. There are dozens of conifer conservation groups that could benefit from our expertise and, simply, our manpower, and I feel we are letting them down. We’re, by and large, an older Society in age demographics, and conservation is often being fought by the young.

I believe we could be bringing in some fresh faces if we helped in those areas. Beetles and pathogens are
destroying pine ecosystems; poachers are destroying redwood ecosystems; insects are destroying the hemlock ecosystems, and there are groups out there struggling to make sense of it and halt the destruction via treatments, education, outreach, and other efforts. We could be helping them coordinate. We could be assisting their projects. We could be helping them have louder and clearer voices. Sadly, we're not. I was able to get a tiny amount of budget money set aside for conservation efforts, but it was barely enough to support a single outing for a single effort. We can and should be doing more.

Two years on, however, I am very ready to pass the reins on to someone else. I will not lie -- my experience as president has been dually eye-opening and wildly frustrating. There is a core of members, some with a good amount of clout, who are determined that nothing ever should change. The most dangerous phrase for any organization is: “But we’ve always done it this way!” That this phrase governs far too much of the Society’s behavior, often to its detriment. There is also a pervasive feeling that the Regions are more important than the ACS as a whole -- something I feel misses the entire point about being part of the ACS, and something I’ve fought against to little avail. My time is done, and there are those with bright ideas and boundless energy waiting in the wings to move things forward once I’m gone. I urge you, as members of the Society, to become as involved as you can in helping them, as it only benefits you in the long run.

Please remember: “In most cases, those who want power probably shouldn’t have it, those who enjoy it probably do so for the wrong reasons, and those who want most to hold on to it, don’t understand that it’s only temporary.” -- John C. Maxwell

Neil Fusillo, ACS President (2016-2018)
If you check in on social media, as many of us like to do, whether it be Facebook, Foursquare, Instagram or some other platform, you can find Ken's Conifer Garden at the GPS coordinates of 42°00'34"N, 87°41'06"W. It's a very small city garden. I was given the authority by the condo board to reimagine the front and back yard gardens in 2006, four years after we purchased the condo from my brother. The building is six-flats, with three units on each side, facing south.

The front yard consists of a 50 by 23 plot of land (1,150 square feet), trisected by a curved sidewalk. For most of its existence, the yard was covered by grass with a strip of yews across the front foundation. In the semicircle bed in the middle, various unit owners had planted a few bulbs and numerous daylilies. The center bed was beautiful during the summer when the pastel yellow and peach daylilies blossomed, but that was it. The few bulbs were dwarf irises and tulips. The yews were so badly managed over the years that they looked awful when I moved in. The backyard is slightly larger at 1,500 square feet.

After getting permission to reimagine the plot, I proceeded to draw up plans for the southeast segment of the yard, which included conifers, flowering shrubs and natural hardscaping. One of my specialties, wherever I move, is to add hardscaping using rocks to create gardens. I typically hunt and find rocks from nearby forests and lakes, creating gardens with rich habitat full of niches for both flora and fauna. I immediately planted my first design, leaving about half of the plot grass and the rest filled with a beautiful variety of trees, shrubs, and perennials. This garden began with *Pinus cembra* 'Blue Mound', *Picea abies* 'Layne's Globe', *Pinus mugo* 'Slowmound', *Chamaecyparis obtusa*, *Abies koreana* 'Horstmann's Silberlocke', *Picea pungens* 'Globosa', and an unidentified conifer at the sidewalk.
approval, I was left hungry to envision and plant more gardens.

I had always been interested in conifers for their year-round interest, even drawing them when I was a young adult experimenting with various art forms. The first landscaping season at the condo left me with a greater interest in conifers. I spent a lot of time at our local Gethsemane Garden Center searching out the most beautiful conifers I could find that would grow slowly. They had a wide selection available, so picking out more for the next plot was easy. I turned to the plot under my front windows - the southwestern plot - and designed a garden there for planting the next spring. When the weather warmed enough, I planted conifers in four focal points for interest to the new plot, including *Pinus parviflora* ‘Fukai’, *Picea pungens* ‘Globosa’, *Abies koreana* ‘Horstmann’s Silberlocke’, with numerous smaller conifers, shrubs, hostas, and grasses, including *Miscanthus sinensis* ‘Strictus’, *Picea abies* ‘Pumila Nigra’, *Pinus mugo* ‘Winchester Compacta’, and *Berberis thunbergii* ‘Monlers’.

The garden beds expanded over time with Japanese maples and many more dwarf and miniature conifers. After many years of growth, I decided there was no longer any place for grass in my life. I teach Environmental Biology at Roosevelt University, and know about the dangers of monocultures. That was a great excuse for getting rid of the grass in the front yard, which I proceeded to do in all three beds, as the gardens expanded. At this stage, the southwestern plot is completely landscaped, the south center plot just took on its next look with a lot of miniature and dwarf conifers and no grass, and the original southeastern bed will lose the remaining grass skirt during the next growing season. Our yard now contains approximately 60 conifers, 3 ginkgos, and 5 Japanese maples. The backyard is now fair game for my imagination, and I am working on it, plot by plot.

This past summer I experimented with adding more dwarf and miniature
conifers into a newly de-grassed 60 square foot plot, and I decided to try using leftover chunks of sidewalk debris to build elevation. Included is a series of pictures highlighting the creation of that garden segment, from laying out the spiral walls of the mound to planting conifers, ferns, dwarf hostas and thymes, to the final mulching stage. The conifers in this newest plot include *Platycladus orientalis* ‘Morgan’ (the featured conifer at the top of the mound), *Juniperus horizontalis* ‘Blue Pygmy’, *Thuja occidentalis* ‘Golden Tuffet’, *Chamaecyparis pisifera* ‘White Pygmy’, *Tsuga canadensis* ‘Jervis’, *Chamaecyparis obtusa* ‘Butterball’, *Picea abies* ‘Tompa’, and *Chamaecyparis obtusa* ‘Bassett’. I cannot wait to see how the newest bed survives the winter, and how the specimens grow together.

I have many favorites in this collection, but the one that I check on every single day, is *Abies koreana* ‘Cis’. I absolutely love the Korean firs, but this particular cultivar is my pal.

You know you are doing a good job when passersby, dog walkers and other neighborhood residents and business owners stop and exclaim how beautiful your garden is and how it seems so natural, with the merging of one specimen to the next. The real reward is watching your garden grow, year after year, and to see how each specimen adapts to its environment and adds its own unique imprint to the design.
Member Profile:
Sara Malone, Sonoma County, CA
ACS Website Editor
Western Region President
2015 National Meeting Organizer
ACS Member since 2012
Life Member
Quote:
“When in doubt, plant a conifer”

Q: What made you join the ACS?
A: When I was searching for specific cultivars, the ACS ConiferBase kept coming up in my results. That led me to the website, and I joined. I wanted to connect with a group of people who shared my passion for trees, and I sure did!

Q: How long have you been involved with plants?
A: I made my first garden at the age of nine and have a degree in botany. Then I worked in business for 30 years, but, thankfully, now I’m back to the plants, although I still get the occasional acid flashback.

Q: What’s your favorite garden, and why?
A: That’s impossible to answer…so many wonderful gardens out there.

Q: What’s your biggest conifer challenge? What can’t you grow that you wish you could?
A: I love Tsugas. I mean really adore them. I cannot grow them in my Mediterranean climate and slightly basic soil. But it’s like an abusive relationship: I am seduced by the soft, tender needles and undulating shape. I stroke it, I pet it, and I have to have it. All is well until one day it looks like it was in a draft and caught a cold. (Now, after many repeats, I recognize this as a death rattle.) It is not long before it is dead, dropping its needles in a fit of rage. I exclaim that I will never, ever go back to Tsugas, not after being treated like that. And, then, one appears one day at a nursery, and I am seduced again…will I ever learn? It’s been suggested that I join a Tsuga Support Group. Every time I try to buy a Tsuga, they’d talk me out of it.

Q: What’s your favorite conifer?
A: I love pines, especially the “hard pines”. I guess I’d say Pinus ponderosa. Or Pinus jeffreyi, Or Pinus monophylla. Or Pinus pseudostrobus var. apulcensis. Or Pinus…

Q: Do you have any thoughts to share?
A: I’ve had many flirtations, even romances, with other plant groups (there was that inexplicable sweet-pea phase that I went through about 20 years ago…) but with conifers I know that it will be for life.
There was no winner in the Spring-2018 Conifer Identification Contest. Correct ID: Abies concolor 'Děčín'
You are cordially invited to join the
American Rhododendron Society
Benefits: quarterly journal,
seed exchange, chapter affiliation,
conventions

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

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