THE BONSAI Wire

The Newsletter of The Greater New Orleans Bonsai Society

January 2023

FROM THE President

Happy New Year! Here's to an even better year of bonsai! I would like to thank all that helped make the Christmas party a success by bringing a dish and sharing your time with fellow club members. I would like to thank Cheryl for supporting the club by being hall manager for more than a few years. She has done an outstanding job keeping the monthly meeting papers and snacks in order for us to run our meetings smoothly. She also handled a good variety of raffle items for members to win at each meeting. I would also like to welcome Tina as our new hall manager. The club and board thank you for taking on the reins.

Historically the January meeting has been the GNOBS annual silhouette show. Members would bring in their choice deciduous tree(s) to show their structure. Being in their leafless state it is easy to see the good and not so good aspects of the tree. The club would go through the members trees and discuss the pros and cons of the trees brought in. Dormancy is a great time to see what parts of a tree needs work. Heavy pruning is easier and less stressful to the tree as well. Collecting and repotting are optimal right now for deciduous trees. This year we have Jennifer Price doing a demo on a trident maple. We are fortunate to have Jennifer come visit us again as she is a very sought after bonsai artist and teacher. You can still bring in a deciduous tree if you like, however we won't be focusing on individual member trees for the duration of the meeting like usual. If you did not get to be in the workshop on Saturday you can

President ***cont. pg 5***

MEETINGS & Events

Reminder - our new home for meetings is:
American Legion Hall 1225 Hickory Ave, Harahan, LA 70123

Friday, January 27, 2023

Program: Lecture/demo on Trident Maples by Jennifer Price 7:00pm

One of the new rising stars in bonsai, Jennifer Price discovered bonsai after retiring from the stage as a professional ballerina. For the last several years she has been involved in an intensive study program with Walter Pall from Germany and Jim Doyle from Pennsylvania. She has taught workshops and given demonstrations worldwide and last year was in Germany to be a part of Generation Bonsai and went on to represent America at an international bonsai convention in Shanghai, China. Jennifer was our guest last year for a demo and workshop and she is both talented and an excellent teacher!

Saturday, January 28, 2023

Program: Trident Maple workshop with Jennifer Price 9:00am

Cost for the workshop is $125 for some large trunked trident maples and is currently full. ***Members not in the workshop are invited to attend as silent observers.*** You can learn a lot by watching multiple trees designed and worked on.

Monthy study groups begin in January

1st Saturday - Randy Bennett, 2nd Saturday - Kathy Barbazon.
(Dawn Koetting will be doing a quarterly group and Dennis Burke is doing a Black Pine group as needed)

Tuesday, February 14, 2022

Program: Potting Lecture/Demo by Dawn Koetting 7:00pm

Dawn, for those who do not know, is one of our most experienced and talented members and has displayed and won awards at multiple bonsai competitions. She will discuss all the proper procedures and timing of potting/repotting trees as well as pot selection including the difference between masculine and feminine pots and selecting the appropriate pot based on characteristics and color to complement different trees. Members are invited to bring in trees that either need

Meetings ***cont. pg 5***

Bald Cypress as Bonsai: *Knee Formation and Function*

By Randy Bennett

I got my first bald cypress to grow as a bonsai in 1972. Since that time, I have dedicated myself to learning everything I can about this wonderful species. When I joined the Greater New Orleans Bonsai Society in 1980, I began studying with Vaughn Banting and David DeGroot. Vaughn was a pioneer in bald cypress design in bonsai and spent years studying and documenting their growth patterns. His love for and dedication to this unique species was what catapulted me on my journey of discovery. I have tried to continue what my mentor and friend began, paddling the bayous, lakes and waterways, trudging on foot through swamps to photograph, collect and study cypress trees.

As I began reading about bald cypress, one of the first things I learned is that there is quite a bit of conflicting information out there. Most articles and books are in agreement on the basics; things like their physical characteristics, the areas of the country where they are found growing, their climate range and the types of soil they will accept. However, you will not find consensus on information like how high they grow and how long they live. You would think those things would also be included in the basics that are common across all articles, but you would be wrong. However, the biggest areas of conflicting information centers around the cause for cypress knee formation and their purpose or function.

Knee formation is the easiest (and safest) to deal with. So, I'll address that first. As you read the research, there is little disagreement on what causes cypress knees to form – water. When the soil is dry and the water table is well below the soil surface, knees will not form. When the soil is dry and the water table is somewhere around 8 to 12 feet below the surface, knees will form only rarely. When the water table is around 6 feet or less below the surface, knees will form, but they will be relatively short – 3 to 8 inches or so. With a water table at, or just above the surface, knees will get about 12-20 inches.

In times of extended water inundation, knees will grow taller. Studies have borne out the fact that the deeper the water during periods of extended inundation, the taller the knees will grow. They will grow so that the top of the knee is always above the typical high-water mark. Obviously, there are times during flooding or severe rain events that the knees may be completely submerged, but as long as such events are short-lived, the knees will survive. The tallest knee recorded to date is 14 feet high along the banks of the Suwannee River, which runs through Georgia and Florida.

However, cypress knees will only grow so tall. And you will read that they do not grow at all in deep water. However, I would amend that statement to say that they do not **survive** in deep water. Knees will only form under two conditions: first, if the water table stays close to the soil surface and second, when inundated land has alternating periods where the soil surface is exposed. Knees will not survive where the soil constantly remains below a few feet of water and its knees are submerged. That is why you will see large cypress growing in lakes and no knees present.

There are cypress swamps around New Orleans that have been 'boxed in' by levees as new subdivisions have been built around them. The results are large parcels of swampland that no longer have bayous and creeks running through them. As a consequence, the soil surface is never exposed. The water level will fluctuate somewhat, depending on the weather and time of year, but there is no longer periodic inundation. It is constant. The results? Seeds cannot sprout to generate more trees. In addition, knees are not very prevalent. And in areas where there was once shallow streams, bayous and ponds, the water is deep and there are no knees at all.

It is not because knees do not form in deep water, but rather they do no form under water. Moreover, in sustained inundation event, they will die if the top of the knee remains below the water surface. In the situation I have just described, the building of levees has changed the water depth in these areas and done so very quicky. Without time to grow taller and without exposure to the air, only the tallest knees survived. They need air to form and air to grow. This is an important point to understand.

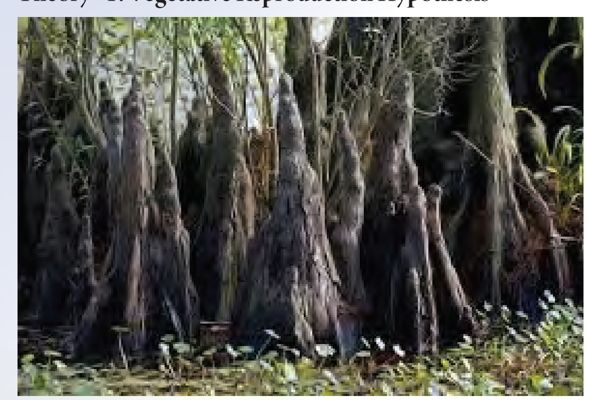
When it comes to the function or purpose of cypress knees, the theories become quite complex. Over the years, I have read and studied every article and research paper on bald cypress I could get my hands on. Some of the research papers have required additional study on my part to learn and understand some of the scientific jargon. Others have required me to learn more about botany, cell structure and function, as well as chemistry and molecular biology. Some of them have required multiple reads to digest the content. Some have helped put me to sleep. Some of the authors have conducted research that is pretty sketchy, by that I mean that their methodology is suspect. And most offer no concrete conclusion at all, only what their study would "suggest".

So, when it comes to understanding the purpose of the knees, for years I have taken the position of most authors – that we really don't know what their function is. But a number of recent scientific research studies conducted during the last few years has pushed me to begin leaning in a particular direction.

I have debated with myself as to whether or not to write this article. After all, such knowledge is of little value or concern to most bonsai artists. Mostly I have hesitated to avoid the hate mail and angry comments that will undoubtedly come my way for espousing a view which is sure to be in conflict with other views. But now that I have sufficiently steeled myself against the "slings and arrows of outrageous fortune", I am prepared to write about it.

Before I begin, allow me to quickly run through the various theories on the function of bald cypress knees.

Theory #1: Vegetative Reproduction Hypothesis



It was initially believed that knees were the mechanism by which cypress trees reproduced. That theory was debunked in 1890 by R. H. Lamborn. The fact is that cypress knees lack adventitious buds. After all, one has only to spend a short time in the swamp looking at cypress knees to notice that one never sees any vegetative growth on them.

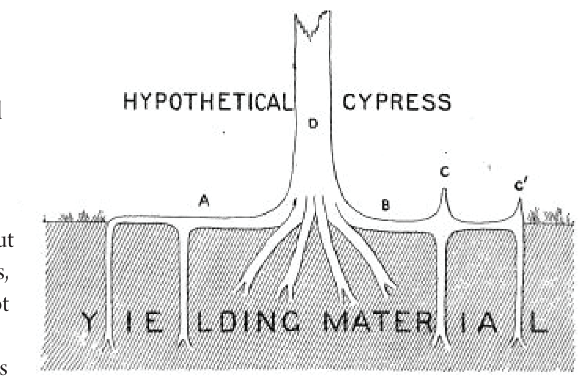
Theory #2: The Nutrient Acquisition Hypothesis

This theory, originally put forth by Lamborn in 1890, was supported by a study in 1991 by Hans Kummer in Zurich. Both men postulated that the knees acted as "drift catchers" for organic nutrients to feed the roots. Their theory stated that the knees would help accumulate organic nutrients during periods of water movement in the swamps and bayous. The problem with this theory is that if cypress trees need knees to provide nutrients in water environments, why do cypress in deeper water not have knees? And consequently, hoe could they survive?

Theory #3: The Mechanical Support Hypothesis

Notice the vertical root structures beneath the knees

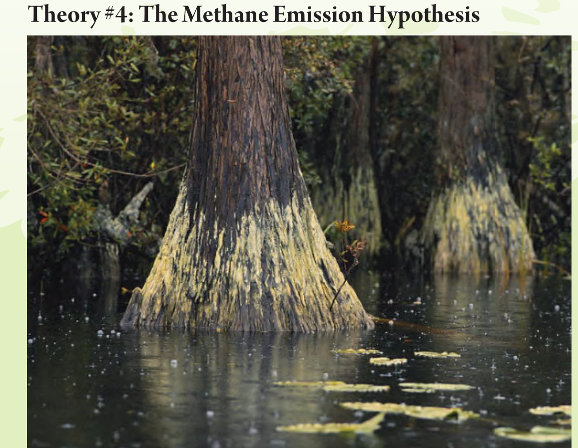
The idea here is that cypress knees form as support mechanism for the trees in soft, silty soils. Several facts have led to this theory. Cypress knees form along horizontal surface roots and you may have multiple knees forming along a single horizontal root. What is significant to this theory is that there are substantial vertical root structures below cypress knees. As the roots spread out in all directions, the vertical root structures beneath the knees form additional point of anchor in the soft silty soils. This theory was supported and written about in 1915 by Mattoon, who worked for The United States Forest Service.



From "Garden and Forest." Copyright, 1890, by the "Garden and Forest Pub. Co."

There are several problems with this theory. The first is that apparently Mattoon did not excavate very many cypress knees before developing his theory. If he had, he would have discovered that not all cypress knees have vertical root structures at their base. In addition, not all junctions between vertical roots and horizontal roots have knees above them. This was discovered through the research of Brown and Montz in 1986. Moreover, in a forest setting of cypress, the roots intertwine and fuse together, collectively forming greater basal support. In addition, the question arises as to why cypress growing in deeper water along rivers and lakes do not have knees? After all, wouldn't trees in those locations also need additional support?

Theory #4: The Methane Emission Hypothesis



It's not raindrops on the water. It's methane rising to the surface

Methane, or "swamp gas" is commonly present in cypress swamps. The theory is that it is the knees that emit this gas. Methane is not harmful to the cypress, but neither is it something that they can use. The idea is that the roots of cypress trees absorb the methane as they take in nutrients through the decomposing organic matter in the soil beneath the waters' surface. Since the methane is not used by the trees, the knees form as a mechanism to release the methane into the atmosphere.

This theory was originally debunked by Pulliam in 1992, who conducted experiments on bald cypress knees by placing airtight boxes over individual knees and measuring the amount of methane emitted and comparing that to the amount of methane emitted by surface water. He found that the amount given off by the knees was insignificant.

However, a study in 2020, by Ward and his team found that methane emitted by cypress knees was 2.3 to 3.7 times higher than the surrounding surface water. The study was conducted at several locations in the Big Cypress National Preserve in southeastern Florida. Methane samples were analyzed at multiple levels of the soil and water as well as from the cypress knees.

This raises a serious question as to the validity of the studies since they are in conflict with one another. Who is right and who is wrong? Personally, I lean toward the more recent study, if only from the standpoint that technology and our ability to more accurately measure outcomes has improved over the past 30 years since Pulliam conducted his study.

So, articles that you read that were written prior to 2020 will all state that this theory was debunked. But has it been? You can choose to either believe one or the other. But to my way of thinking, the latter holds more merit.

Theory #5: The Carbohydrate Storage Hypothesis

Studies supporting the theory that cypress knees function as additional storage for carbohydrates have been proposed since 1984. This is due to the fact that iodine tests on slices of cypress knees showed the presence of starches. However, starch is naturally stored in the roots and the knees are part of the roots, so it is logical that starches would be present in the knees. To say that the sole purpose of knees is to act as starch storage vessels does not make sense. I would agree that knees store carbohydrates, but no more than any other root that does not produce knees.

Part of the theory states that extended inundation puts the root systems under stress and that the formation of the knees is a reaction to that stress. It is theorized that the knees then provide additional stores of food for times of need. But why do trees in deeper water not have knees, if indeed they need them to store starch for future use in times of stress by inundation? And if the trees in deep water once had knees, but those knees died because the water never receded, how is it that the trees are able to survive? Would their root systems not be under constant stress from perpetual submergence? And if stress plays no part in knee formation, and knees form simply as vessels for starch storage, why do cypress growing in wet conditions need these extra storage vessels but not trees on dry land, where the water table is well below the surface of the soil?

Theory #6: The Aeration Hypothesis

Cypress growing in deeper water year-round with no knees on the Dead Lakes in Florida

This idea was first proposed in 1848, by Dickenson and Brown. Three years later, Nathaniel Shaler wrote that the knees were responsible for aerating the sap, with "air entering the knees through newly formed bark at their apex." And in 1889, yet another researcher stated categorically that the knees were for the aeration of the tree.

In 1934, Kurz and Demaree again suggested that cypress knees are formed when cypress roots are exposed to periods of air, then inundated with water. This inundation requires the roots to send up knees to take in additional oxygen

This theory was again supported in 1956, when Whitford, a researcher out of North Carolina said that "the formation of cypress knees seems … to be a response of the cambium of a root growing in poorly aerated soil or water to chance exposure to the air during the spring or early summer."

In 1991, Yamamoto noted that the deeper the water in which cypress trees grew, the fewer the knees that developed. This is interesting in that if knees develop to provide air to the roots, how can trees live in deeper water without knees?

All plants need air to perform cellular respiration. Because of this, some researchers in the past suggested that the knees functioned as Pneumatophores (specialized roots that enable specific plants and trees to grow in poorly aerated soils and water, such as in swamps or tidal zones). Mangrove trees are example of a species that possess pneumatophores.

Pneumatophores either grow entirely above the highest water level or at a position on the roots so that they are exposed during low tide. They contain lenticels and aerenchyma. Lenticels are microscopic pores in the bark of the roots that allow the exchange of gases. You will find a couple of writers who state categorically that bald cypress do not have lenticels. The fact is that ALL trees have lenticels and they exist in the leaves, twigs, branches, trunk and roots. Aerenchyma are cells that are elongated and form hollow spaces around them. They provide the means of transportation for gases within various tissue of aquatic plants and trees.

This still begs the question, if knees are needed for aeration, why are they not present on trees in deeper water? And how can those trees then survive? Moreover, the big problem with the pneumatophore theory is that bald cypress do not possess aerenchyma, the elongated hollow cells that transport gases within the plant tissue.

Therefore, the big hurdle for some of these theories, including this one, is the fact that there are large bald cypress growing in deep water without the benefit of knees. But how did those cypress find themselves growing in deep water? The answer is a simple one; at the time that the seed sprouted, there was no deep water. There had to be dry land, or at least land that was only periodically inundated, in order for the seed to sprout and the seedling to take root. It had to have the opportunity to grow for many years before the growing environment changed to one of constant inundation, such as the creation of an oxbow lake. The fact that bald cypress can live for thousands of years would easily allow them to survive such environmental changes. So, let me state again how I think writers should address the fact that knees are not present on cypress growing in deep water; **it is not that cypress knees do not form in deep water, but rather cypress knees do not survive in deep water.**

I would contend that the large cypress that now inhabit lakes without benefit of knees, had them at one time and as the water continued to rise to the point that the knees were permanently inundated, they simply died and rotted away. And the most important thing to note is that cypress trees do no need knees in order to survive. What research has shown is that cypress growing in deep water, while not needing knees to survive, grow much more slowly without them.

The woody tissue that comprises the knees is very fibrous and very light weight. It does not develop the same resistance to rot as the trunk wood and would certainly not survive for hundreds of years under water. It should be pointed out that knees are growth extensions that form from cambium tissue on the upper surface of horizontal roots and that the growth of the horizontal roots go well beyond the knees that develop on top of them. So, the death of a knee does not mean the death of the root. The cambial layer simply forms callous tissue where the knees previously existed.

On a side note, I should relate one of my experiences growing knees on cypress bonsai. When I first began experimenting with growing knees on my cypress bonsai, I was concerned about keeping the knees in scale with the tree. I grew the trees in tubs of water, knowing that it is water proximity to the soil surface that causes the knees to form. When the knees developed, I removed the trees from the water receptacles to prevent the knees from growing too high. To my surprise, many of the knees died and rotted away.

When the stimulus that caused the knees to develop was removed, the tree signaled that it no longer needed the knees. One cypress growing in a 32" bonsai pot formed 23 knees in a single growing season. The water level in the mortar tubs was kept about an inch below the rim of the bonsai pot. After removing it from the container of water, 13 of the 23 knees died within a year. When I realized what was happening, I changed the soil composition and made sure that the soil stayed saturated 365 days a year. I have not lost any knees since even without placing the bonsai pot back into a mortar tub filled with water.

An examination of the roots where knees had died showed that the subsurface roots were still there and healthy. They had simply calloused over where the knees had been, but no longer needed the knees.

Theory #7: The Randy Bennett Hypothesis

Now that I have provided a brief presentation of the various theories on the function of cypress knees, allow me to state my own opinions. I have two. The first is this; fossil records of bald cypress date back to the Mesozoic era, 245 million years ago. Both plants and animals that existed then and have survived to our world today have all evolved and changed in different ways. Therefore, it may be possible that the original function of cypress knees has evolved over the Millenia. And it is possible that they are vestigial. By that I mean that 245 million years ago, they had a function that is not evident today. If such is the case, we may never know the answer.

That being said, let me relay my second opinion. I believe that the most recent research would support the theory that cypress knees do not serve a single function, but rather serve several functions.

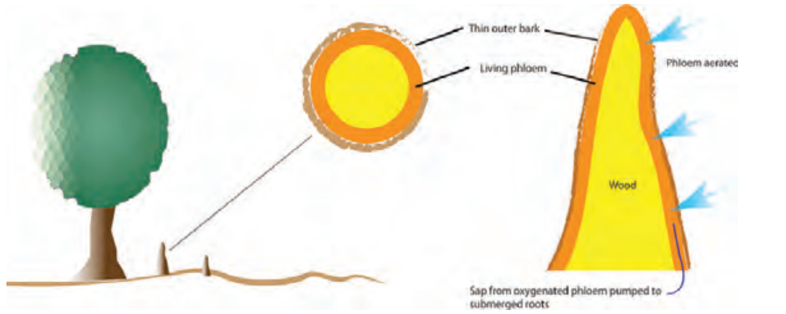
First, having studied the research performed by Ward and others in 2020, I think it is clear that cypress knees do emit methane gas, and do so 2 to 3 times as much as the surrounding soil and water. In terms of a percentage, their study revealed that cypress knees account for between 34 to 44% of all methane emissions in swamps where cypress knees are present. In addition, it was discovered that cypress trees emit methane from the lower portions of the trunk as well. As the submerged feeder roots absorb methane, it is transported through the xylem tissue, upward. Research has shown that pressure becomes greater in the xylem during periods of inundation, forcing the gases to be expelled through the thin outer bark of the phloem through the lenticels.

Second, research clearly shows that knees store starch for the tree. However, in my opinion, acting as storage vessels for starch is not a primary function, but rather an incidental outcome simply because the knees are an extension of subsurface roots. I found no research that indicated starch stored in the knees was of a higher concentration than subsurface roots.

Third, current research does in fact, support the theory that cypress knees function as mechanisms to provide needed oxygen to subsurface roots during periods of inundation. Detractors of this theory point to the fact that bald cypress knees lack aerenchyma. However, aerenchyma is not the only mechanism used by plants and trees to transport gasses.

Recent studies reveal that there is indeed a relationship between the knees and oxygenation of subsurface roots. In a study by Martin and Francke in 2015, oxygen was measured in submerged, underground roots when the knees were under water and when the knees were above water. They found that oxygen in the roots was almost three times higher when the knees were above the waters surface than when the knees were underwater. This is incredibly strong evidence that cypress knees, in some fashion, diffuse oxygen to the submerged attached root.

In 2021, Rogers conducted a study the confirmed Martin and Franckes' work. He theorized that, since cypress knees lacked aerenchyma to transport gases, the logical conclusion is that the knees function to aerate the phloem, which dissolves the oxygen and transports it down to the roots.



Bradford, in 2014, postulated that the knees act as "pumping stations" that oxygenate the phloem, thus rejuvenating it on its way to the outermost submerged feeder roots. This process requires oxygen and "oxygen is in short supply under water and wet mud. Knees rising periodically and exposing the phloem (and associated cambium) at the knee surface to a periodic breath of fresh air may keep the sap flowing."

R. H. Lamborn, ***The Knees of the Bald Cypress: A New Theory of Their Function***, 1890
Hans Kummer, ***Nutritional Exploitation of Dead Trunks: Another Function of Cypress Knees***, 1991
W. R. Mattoon, The Southern Cypress, 1915
C. A. Brown and G. N. Montz, ***Bald Cypress, the Tree Unique, the Wood Eternal***, 1986
W. M. Pulliam, ***Methane Emissions from Cypress Knees in a Southeastern Floodplain Swamp***, 1992
N. D. Ward, et.al., ***Pathways for Methane Emissions and Oxidation that Influence the Net Carbon Balance of a subtropical Cypress Swamp***, 2020
H. Kurz and D. Demaree, ***Cypress Buttresses and Knees in Relation to Water and Air***, 1934
L. A. Whitford, ***A Theory on the Formation of Cypress Knees***, 1956
F. Yamamoto, ***Effects of Depth of Flooding on Growth and Anatomy of Stems and Knee Roots of Taxodium distichum***, 1991
M. W. Dickenson and A. Brown, ***On the Cypress timbe of Mississippi and Louisiana***, 1848
N. S. Shaler, Notes on the Bald Cypress, 1887
P. Snyder, ***We Speak for The Knees***, 2020
K. T Covey and P. Megonigal, ***Methane Production and Emissions in Trees and Forests*, 2018**
J. A. Villa and W. J. Mitsch, *Methane Emissions from Five Wetland Plant Communities with Different Hydroperiods in the Big Cypress Swamp Region of Florida Everglades*,
C. D. Vann and P.Megonigal, E***levated CO2 and Water Depth Regulation of Methane Emissions: Comparison of Woody and Non-Woody Wetland Plant Species***, 2003
T. Kimmerer, ***What Good are Knees to a Bald Cypress?***, 2015
J. Bradford, et al., ***Cypress Knees – What Are They Good For? (Absolutely Nothing)***, 2014
Unknown Author, ***Pond Cypress, Island Ecology***, 2012
L. Bjorn et al., ***Ventilation Systems in Wetland Plant Species***, 2022
T. Entwisle, ***Can Bald Cypress Breathe Through Its Knobby Knees?*** 2017
J. Parillo, Bald Cypress Knees – ***Oxygen Access Points***, 2019
C. E. Martin and S. K. Francke, ***Root Aeration Function of Bald Cypress Knees (Taxodium distichum)***, 2015
G. Rogers, ***Bald Cypress Knees, Taxodium distichun (Cupressaceae): an Anatomical Study, with Functional Implications***, 2021
T. Wang and H. Wei, ***Response of Taxodium distichum to Winter Submergence in the Water-Level-Fluctuating Zone of the Three Gorges Reservoir Region***, 2019
J. V. van Dongen, U. Schurr, M. Phister and P. Geigenberger, ***Phloem Metabolism and Function Have to Cope with Low Internal Oxygen***, 2003
D. W. Stahle et al., T***ree-Ring Analysis of Ancient Bald Cypress Trees and Subfossil Wood***, 2012
Z. Qian, L. Wu and l. Tang, ***Effects of Flooding and Endogenous Hormone on the Formation on Knee Roots in Taxodium ascendens***, 2022

Improving Ramification in Deciduous Bonsai Using Partial Defoliation

By Harry Harrington www.bonsai4me.com

Defoliation is a well-known technique for improving the ramification and density of the branches of a deciduous bonsai. Defoliation of the leaves on a branch results in new shoots appearing where previously there were individual leaves.

This method of improving the density of the branch structure is not without its limitations. Some trees and tree species react poorly to complete defoliation with dieback of weaker branches. Others will typically return fewer but larger leaves.

Over the years I have found that partial defoliation can give far more satisfying and predictable results with a large number of tree species used for bonsai. Partial defoliation, as the name suggests, involves leaving some of the leaves remaining on the branches as 'sap drawers' to allow the tree to continue to photosynthesise and protect its vigour while it responds to the removal of others, leading to better, more predictable results.

Defoliation is traditionally carried in the lull of active growth at midsummer, **(Editors Note: In New Orleans area April, May and June)** - where deciduous trees 'rest' after the initial Spring flush. During this time, a deciduous tree will be harvesting the sugars produced by the process of photosynthesis in Spring, repairing damage and growing new roots (hence this is also the ideal time for creating new air-layers). By removing the leaves at midsummer, we spur the tree into a second 'mini' Spring when it returns to vegetative growth.

To find the ideal timing, look for a lack of new shoots on the tree, all leaves will have turned to their Summer colour. Although this should occur at Midsummer (last week in June), there can be a variation of a few weeks depending on the tree species, the weather and individual specimens.

Leaves can be removed using scissors where the species has a petiole, that is a stem that connects the leaf to the branch (as seen on Maples (Acer species) or Tilia (Linden)). Where the leaf connects directly to the branch as seen on Elm (Ulmus) or Privet (Ligustrum), the leaf can be pulled off the branch by hand, pulling backwards to ensure a clean break.

After defoliation, unless sun damage in your location is a real possibility, place the tree in a position with plenty of direct sunlight. The more light given to the tree as it returns into leaf, the smaller they will be. Be aware that the tree maybe very thirsty for a few days after defoliation.

Although relatively gentle in comparison to complete defoliation, Partial Defoliation is still taxing to a tree and it is important to ensure that the tree is healthy and has vigour. Defoliation of any kind on a weak or sick tree should be avoided.

Partial Defoliation involves leaving a terminal leaf, that is, a leaf at the very tip of a branch in place and removing all other leaves behind it on the branch. The remaining leaf acts as a 'sap drawer' continuing to pull sap along the length of the branch and ensuring its health. Where there are multiple leaves at the tip of the branch, remove all but the smallest one.

As the tree comes back into leaf, the tree does not simply replace the leaves that have been removed with another leaf, rather, they are replaced with a new shoot that in itself can carry multiple leaves, greatly increasing ramification.

A number of species such as hornbeam (Carpinus), oak (Quercus) and beech (Fagus) react poorly to complete defoliation, often producing a smaller number of larger leaves. However, with partial defoliation they react very positively and I believe this is an essential technique on these species to create good ramification and allow light into the branches to encourage growth of inner branches.

Partial Defoliation of Weaker Species

Some species and individual specimens require defoliation to ensure that light can reach the interior of the branch structure. As a for instance, without some defoliation, heavily ramified and congested maple bonsai (Acer species) will begin to lose weaker, interior branches as light fails to reach them. However, complete defoliation on some specimens can be too taxing on their vigour and defoliation of the weaker inner branches can cause them to die-back.In these cases, it is recommended that the leaves on the interior branches are left in place and all of the leaves on the strongest branches are removed.

Meetings *cont. from pg 1*

pot selection advice or already potted trees for evaluation of pot selection. You may also bring an empty pot if you have questions of what type of tree would be appropriate for that pot.

Tuesday, March 14, 2023

Program: Crepe Myrtle Presentation and Open (Crepe)Workshop by Randy Bennett 6:30pm

Randy is a past GNOBS president and has done bonsai as both a professional and gifted amateur for decades, beginning in 1971. Over the years, he studied with various bonsai artists such as John Naka, Ben Oki, Vaughn Banting, David DeGroot, Dennis Makishima and many others. He will do a powerpoint presention on the care and styling of crepe myrtles. Members are encouraged to bring in crepe myrtles from raw stock to developed bonsai to discuss and then work on in an open workshop. Randy and other experienced members will be available for consultation and assistance.

President *cont. from pg 1*

and are encouraged to attend as a silent observer. The members who have paid to be in the workshop get the opportunity to have Jennifer help them design a trident maple. One aspect of Jennifer's teaching method is to have all participants aware of issues and remedies on all of the trees in the workshop. If you come as a silent observer then you may pick up some tips and techniques to use on your trees.

Dennis Burke
GNOBS President

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