



The Tree Shrinker

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A MONTHLY BULLETIN

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East Bay Bonsai Society

November Meeting: November 12, 2014

President's Note

Our 53rd Annual Bonsai Show was successful, once again! Thanks to Michael Hylton's hard work in chairing the show production! And, special "tip of the hat" go to all of you! You know who you are and rest assured that you are so very appreciated. Over 50% of our membership participated to make this show a success. Albeit, there are those individuals within this number that volunteered a great deal of their time and energy over the weekend. For those members who weren't able to contribute in some small way to the effort of the show undertaking, keep a thought as to how you can do so in the future. As a member, your contribution of service in even a small way, begets a 100% pay back in club ownership, pride, and friendship.

Very special kudos goes to Dennis Hawkins, a past member of EBBS and an expert in running Sales. Dennis cannot be thanked enough for his effort and service. Tim and Emma Kong, honorary members, did not sit back either. They were involved with exhibiting, putting on the lunch and other contributions.

As Board members and I are getting to know our newer members, we are discovering the rich experience and varied talents that each of you possess. You have much to offer to the planning and leadership of the East Bay Bonsai Society. Please think about participating with and sharing your strengths and interests without having to take a position as an officer. Read further about the plan to expand the number of Directors on the Board in this newsletter.

Finally, I hope each and every one of our members and their family will participate in our East Bay Bonsai Society Holiday Celebration on December 10th, the night of our regular meeting. Good food and cheer will be shared as well as reflections on the many wonderful events and experiences of 2014 and the introduction of the 2015 Board of Directors.

With anticipation,

Your President, Linda

November Meeting

Mike Pistello will demonstrate how to make a splendid bonsai with a juniper. Mike is a relatively new member of EBBS but has been active as a fine bonsai artist for many years. His presentation should not be missed. This meeting will be the third annual celebration of the Juniper Jubilee which focuses on a celebration of the humble juniper. Many of us started our journey in bonsai with a small juniper. Junipers are good place to start as they are very forgiving of our misguided attempts at horticulture and are amenable to being twisted and shaped, for better or worse, into amazing styles. The humble junipers we start with can become spectacular bonsai in time, and it this metamorphosis as well as their resiliency to abuse that makes them deserving of a special night. Come join us in the celebration of the Juniper Jubilee. You can add to the festivities by bringing in a juniper for the show and tell table.

Once again, an appeal is made to those of us who have enjoyed refreshments at the meetings to bring something. It is your turn. At this meeting, a signup list for refreshments for future meetings will be circulated.



Wire Workshop

EBBS is sponsoring a workshop on wiring on November 15. The workshop is full, but if you missed out, contact John Nackley at jnackley@gmail.com to be put on the waiting list in case of a last minute cancelation. EBBS is pleased to offer this workshop because wiring is probably the most important skill needed for budding bonsai artists. It is the only way to arrange the branches of our trees to make fine bonsai out of starting material.

EBBS hopes to offer similar workshops on bonsai basics in the future.

Show

The show was one of the best in recent years. Particularly gratifying was the welcome participation of the newer members of the club. Without new members, the club will wither as older members drop out. The presence of so many new members bodes well for the future of the club.



Thanks are in order to all the many people who volunteered to help with the show. "It couldn't have happened without you" may be a bit trite, but none the less it is certainly true. Willing help is what makes it all go smoothly. Special thanks are in order to all the committee chairs who had the job of organizing and supervising help in the many areas needed for a successful show. A special thanks to Dennis Hawkins who spearheaded the plant sales even though he is no longer a member of the club.

Michael Hylton deserves a pat on the back for not only serving as the show chair but also contributed a great deal of work behind the scenes in publicizing the show.



The show headliner is expected to be the star of the show and Matt Reel delivered in spades. His critique of the show trees on Sunday morning was instructive and his comments will lead to improving both our trees as well as how to best display our trees as a

composition. Thanks Matt for all your efforts which were above and beyond just what was needed to make our show a success.

Each year the show is the major financial venture for the club. Major expense is the cost of the headliner followed by food, both pizza during the show set up as well as augmentation of the hospitality lunches. Most of the income is derived from plant sales, the silent auction, raffle of the demonstration tree and workshop fees. In past years the income pretty well balances the expenditures. For example the net income for the show in 2011 was \$9.



This year our treasurer, Pat Cahill, was broadly smiling. The show was very successful financially thanks particularly to the silent auction and the sale of donated plants. Also, special mention must be made of the number of commercial nurseries that made donations, and these contributions figured strongly in the success of our show. The list of these donors is quite long and includes Flowerland, 1330 Solano Ave., Albany, Orchard Nursery and Florist, 4010 Mount Diablo Blvd. Lafayette, Broadway Terrace Nursery, 4340 Clarewood Ave., Oakland, Mount Diablo Nursery and Garden, 3295 Mount Diablo Blvd., Lafayette, Grand Lake Ace Hardware, 4001 Grand Ave., Oakland and Moraga Garden Center, 1400 Moraga Blvd., Moraga. In addition to commercial nurseries, John Doig donated a three hour private wiring workshop. He can be reached at 415-407-7984. Each of these donators has gone out of their way to make our show a success and in response, when you have needs for nursery plants or supplies, remember their names. They all deserve our support.

The show was well attended by members of other clubs in the area. This presents an obligation for each of us to attend their club shows. The *Events by Others* section of the newsletter gives the essential when and where of these shows. At these shows, you get to see other trees and how they are displayed for better and sometimes for worse. Most important of all, going to other shows reflects the adage that if you want people to come to your show, you better go to theirs.

Holiday Dinner

The annual holiday dinner will be held on our regular meeting night, December 10. Circle your calendar for this date as the holiday dinner is a festive occasion that should not to be missed. It is a potluck dinner with the club supplying ham and turkey as the main course and beverages. Members bring the trimmings. Michael Hylton is in charge of entertainment and is currently planning a presentation of images from the club show, as well as others taken throughout the year.

You are aware of the many fine people who comprise EBBS membership. If you looked at the splendid bonsai exhibited at our recent show you also know that in the membership there are many fine bonsai artists. What you may not know is that in the club there are many superb cooks, and the holiday dinner is where they showcase their skills. The great food and fellowship makes the dinner special. See you there!

Legal Stuff

EBBS has two bodies of literature that govern how the club is run. First is the constitution which defines the basic principles which guide the club. Any change in the constitution requires a vote of the membership. The second document is a set of by-laws. The by-laws represent a day to day interpretation and implementation of the constitution and may be changed by the Board as needed to reflect current practice. Needless to say, current practice also sometimes needs to be revised to reflect the by-laws.

A committee was recently appointed by the Board to review the by-laws for the first time since 2008. In the interim there have been operational changes, and the by-laws were revised to accommodate the changes. The revisions have been approved by the Board. The hard working committee for this unglamorous, but necessary task was composed of John Nackley, Pat Cahill, Janet Smith and Janet Nelson. The leader of the group was Janet Nelson. The club owes each of these members a big thank you for doing a much needed job.

A suggestion was made at the recent Board meeting that the number of directors specified in the constitution be increased above the current number of four. The concept is that serving as a club director is not only a very satisfying experience but may interest new members into serving in a higher office in the club. Your Board endorsed this change which requires a change in the constitution which, in turn, requires approval of the membership after formal announcement of the change in the newsletter. Accordingly, the change in wording of the constitution is "to at least four directors" from the current statement that there will be "four directors". This will be voted on at the November meeting. The change is small but is worthy of your support.

The November meeting is also the time when new officers of the club are elected for the coming year. Directors are elected for a two year term and Tom Colby and Bob Gould are in the middle of their terms,

so these two positions are filled. The office of Past President is obviously not an elected position. The remaining positions are open for nominations. If the change of the constitution is approved, additional directors may be also nominated. The newly elected board members for 2015 will be formally welcomed at the holiday dinner.

New Members and Roster Update

We have four new members in the club. Please introduce yourselves to them at our next club meeting. Their names, phone and e-mail addresses are:

Stefan Klein (703) 380-0368 stefancklein@gmail.com
Jason Koob (773) 910-1285 jasonkoob@mac.com
Brinda Lee and Ryan Johnson (530) 574-6729
brindaless@gmail.com

Also, please add Don Jerabek, a current member of the club, to your roster. His phone number is (510) 831-1150. His e-mail address is don.jerabek@hotmail.com.

Bonsai Soil

Part 3 – The Science of Potting Soil

In Part 1, Don Meeker provided an introduction to bonsai soil and brief excerpts from Bonsai literature to give some history on the subject. In Part 2, Don reviewed the major components now widely used for bonsai potting soil. Here in Part 3, Don reviews some of the science, physics, chemistry and biology involved in potting soil composition and the culture of living trees in pots.

Soil Chemistry

An important aspect of bonsai soil is soil pH, or the acidity or alkalinity of the potting mix. A tested pH level of 7 is neutral, less than 7 is acidic and greater than 7 is alkaline. For most plants the optimum is slightly acidic. A generally acceptable range is 6.1 to 7.8. Outside of this range, i.e. below 6.1 and above 7.8, would be too extreme for most trees.

Soil pH (the following is from *Wikipedia* on soil pH)

"Plants grown in acid soils can experience a variety of symptoms including aluminum (Al), hydrogen (H), and/or manganese (Mn) toxicity, as well as potential nutrient deficiencies of calcium (Ca) and magnesium (Mg).

Nutrient availability in relation to soil pH

Nutrients needed in large amounts by plants are referred to as macronutrients and include nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg) and sulfur (S). Elements that plants need in trace amounts are called trace nutrients or micronutrients. Trace nutrients are not major components of plant tissue but are essential for growth. They include iron (Fe), manganese (Mn), zinc (Zn), copper (Cu), cobalt (Co), molybdenum (Mo), and boron (Bo). Both macronutrient and micronutrient availability

are affected by soil pH. In slightly to moderately alkaline soils, molybdenum and macronutrient (except for phosphorus) availability is increased, but P, Fe, Mn, Zn Cu, and Co levels are reduced and may adversely affect plant growth. In acidic soils, micronutrient availability (except for Mo and Bo) is increased. Nitrogen is supplied as ammonium (NH₄) or nitrate (NO₃) in fertilizer amendments, and dissolved N will have the highest concentrations in soil with pH 6–8. Concentrations of available Nitrogen are less sensitive to pH than concentration of available Phosphorus. In order for P to be available for plants, soil pH needs to be in the range 6.0 and 7.5. If pH is lower than 6, P starts forming insoluble compounds with iron (Fe) and aluminium (Al) and if pH is higher than 7.5 P starts forming insoluble compounds with calcium (Ca). Most nutrient deficiencies can be avoided between a pH range of 5.5 to 6.5, provided that soil minerals and organic matter contain the essential nutrients to begin with.

Calcifuge plants (those that prefer an acidic soil) include Erica, Rhododendron and nearly all other Ericaceae species, many birch (*Betula*), and Scots Pine (*Pinus sylvestris*). Calcicole (lime loving) plants include ash trees (*Fraxinus* spp.), honeysuckle (*Lonicera*), Buddleia, dogwoods (*Cornus* spp.), lilac (*Syringa*) and Clematis species. (also the Needle Juniper, *Juniperus rigida*).

Testing for pH

- Use of an inexpensive pH testing kit based on barium sulfate in powdered form, wherein a small sample of soil is mixed with water which changes color according to the acidity/alkalinity.
- Use of litmus paper. A small sample of soil is mixed with distilled water, into which a strip of litmus paper is inserted. If the soil is acidic the paper turns red, if alkaline, blue.
- Use of a commercially available electronic pH meter, in which a rod is inserted into moistened soil and measures the concentration of hydrogen ions."

Fertilizers

Many commercial fertilizers are available in a broad array of mixes and strengths. Because of the rising interest in the soil microbiome, many professionals are now recommending or using organic fertilizers with the belief that chemical fertilizers weaken or destroy the living biomass in the soil. Finding the right sources for specific trees can be time consuming. I have a rather large and varied collection and don't want a large collection of fertilizers, so I look for as few as possible to meet the various needs. The Japanese use rapeseed as their fertilizer of choice and it seems to work quite well. Rapeseed cake has N-P-K values of 5-2-1. It is available from most bonsai nurseries and, of course, Amazon.

When looking at commercial fertilizers, check for micronutrient content. Many have iron, zinc and copper. Few offer calcium, sulfur or magnesium.

Greensand for micro nutrients is cheap, but not necessarily the best source. If you use it, use great care and only very tiny amounts for potted plants. Excessive use will result in root and leaf burn.

Greensand supplies a variety of nutrients to improve plant health and is a good source of potash, silica, iron oxide, magnesium, lime, phosphoric acid and 22 trace minerals.

Soil Structure

As noted before, the potting soil for most bonsai should be quite porous and fairly coarse, not fine clay. Azaleas and rhododendrons do require more organic material. The presence of organic material changes not only the soil structure but also the chemistry.

The most important concern of structure is the capacity of the soil to allow water to drain through and to hold nutrients available for the tree. A common test for water drainage/retention is to lift or weigh the tree right before and after you water, noting the difference. Check the weight again 24 hours later. At least 40% of the water weight should have been lost. If water weight loss is less than 40%, the soil is retaining too much water. If higher, say 50% or more you may need remedial action. Remember, most trees that die, die from too much water.

Pot drainage

Pot drainage is as critical as the ability of the soil to drain water. There is a well known physical issue, water surface tension. Under circumstances such as with soil in a pot, water tends to resist gravity and rise above the base level. In pots, this is about a half inch. If you have a very shallow pot it will have very poor drainage since the bottom half inch is almost permanently wet. Even with deeper pots, the bottom roots will nearly always be quite wet.

I had a very nice large black pine in a very shallow round pot. I thought because the pot was shallow it would dry out in full sun in the summer heat of the Diablo Valley. Wrong! I lost a wonderful tree to root rot. Lesson learned the hard way! Solutions, if you have a shallow pot, don't overwater! I am experimenting, using lantern wicks from the bottom of my pots through the drainage holes to wick away bottom water.

Bottom layers

Using coarse material such as pumice, lava rock, gravel, etc., does not change the physics, they won't drain any more water. A study done at U.C. Berkeley in the late 1950's or early 60's demonstrated the ineffectiveness of bottom layers. But there are other issues. Screening is commonly used to cover the drainage holes with two functions – keep the soil from draining out of the pot, and keeping insects and their larvae from entering to feed on your tree roots. Needed is a screen that is fine enough to keep out the invaders, but coarse enough so it doesn't clog with soil particles in the draining water.

My personal position is that some relatively fine mineral material, lava rock, pumice, and crushed granite

will augment the screening effect in helping to keep insect invaders out, but it still won't help with the drainage issue.

Be sure the pot holes are large enough. Many commercial pots have small holes, so I grind out larger holes in my pots. Also, more holes are better.

New Soil Science - The power of the 'microbiome'

A microbiome is "the ecological community of commensal, symbiotic, and pathogenic microorganisms that literally share our body space." Microbiomes are being characterized in many other environments as well, including soil, seawater and freshwater systems.

The August 2014 issue of *Scientific American* has a brief article in the *Advances Department*, pp 17 & 18, *Foliage Friendships*, by Peter Andrey Smith. Here in part –

"The Human Microbiome Project revealed tens of trillions of microbes residing in and on humans. Now scientists are taking a census of plant microbes – and not just the hundreds of billions found in soils. Distinct microbial communities live inside roots, on leaves and within flowers, and all in all have an estimated three to six orders of magnitude greater genetic diversity than their plant hosts. This second genome, much like the human microbiome, provides plants access to nutrients and helps to suppress disease."

For an example the author notes that one research lab found one plant with a resident bacteria which determined its bloom times.

The microbes being discussed are generally non-pathogenic (i.e., they do not cause disease unless they grow abnormally). They exist in harmony and symbiotically with their hosts.

One of those microbes we know about, Mycorrhize is part of the plant microbiome, of particular value to pines and junipers, but also of value to other trees. They assist the root systems in extracting the needed nutrients from the soil. We have much more to learn.

From Wikipedia

"A mycorrhizas is a symbiotic (generally mutualistic, but occasionally weakly pathogenic) association between a fungus and the roots of a vascular plant.

In a mycorrhizal association, the fungus colonizes the host plant's roots, either intracellularly as in arbuscular mycorrhizal fungi (AMF or AM), or extracellularly as in ectomycorrhizal fungi. They are an important component of soil life and soil chemistry."

Summary and Conclusion

So where does all of this leave us, the non-scientist, hobbyist, enthusiast? My conclusion is, go with what works. Look at those around you who have grown bonsai in your local environment for a number of years and learn what they use. You will probably find a number of differing opinions and will have to use your judgment, keeping in mind what you have read about the species and varieties of trees represented in your collection and your local climate.

As noted from the extracts from bonsai literature, the Japanese traditionally used garden soil. Perhaps more importantly for collected trees from the wild, they used local soil from that area. Now we can see that that local soil will have the nutrients and soil microbes that the tree has adapted to, making the transition to pot culture that much more likely to be successful. But be mindful that those soils present drainage issues in a pot and care in water management must be exercised. There are other ways to achieve the desired results.

We may note that the Chinese and Japanese used garden or collected soil to grow their bonsai for several hundred years with success. The use of more restrictive soils with less organic material has only been practiced for the past thirty years or so. Whether these relatively recent changes provide the needed microbial and nutritional basis for trees to thrive through a longer life in a pot, time will tell.

I've collected and grown bonsai for about fifty-six years. Originally I used common garden soil, mostly because I didn't have a lot of spare change hanging around. Later I found I had to use commercially available potting soils, modified with sand, pumice or lava rock and perlite. I have continually modified the mixes and contents as well as fertilizers. I found ways to augment the soil microbes to hopefully sustain the health of my trees. Your decisions about the soils for your trees and investing the needed extra effort will be critical to their well being.

Don Meeker

Bonsai Calendar

- Sun – Move deciduous trees into full sun. Rotate all trees at least once a month.
- Watering – Adjust watering for winter.
- Fertilizing – Use low or zero nitrogen fertilizers.
- Repotting – Best done when plants begin their dormant period and continuing warmth encourages root development, often this month.
- Styling/Pruning – Shape both evergreens and deciduous trees.
- Insect and disease control – Remove dead plant material. Watch for and treat insect infestations.
- Propagating/Collecting – Continue root cuttings.

Refer to the EBBS Bonsai Calendar for more details on seasonal care.

Bonsai Instruction at Merritt College

These workshops are a splendid opportunity to learn about how to develop your trees into first class bonsai. In these workshops you work on your own tree under the guidance of an experienced bonsai artist. These classes are open to all experience levels. The workshops are held at 7:00 pm on the fourth Monday of each month

when the college is in session. The meetings are in the Landscape Building at Merritt College which is located in the Oakland hills off Redwood Road. Leading the workshops are two members of EBBS, Bill Castellon and Randall Lee. Interested parties can contact Bill at 510-569-8003 or Randall at 510-846-0841 for more information. The workshops are free (except for a nominal parking fee) and are a wonderful experience. All you need to take advantage of them is to just show up with tree in hand.

Matt Reel to visit BSSF in November

An interesting new talent to the Bay Area bonsai world, Matt Reel, will conduct a styling demonstration at our member meeting on November 13th. This is a unique opportunity, because Matt recently returned to the United States from an eight year apprenticeship with Shinji Suzuki. Matt became aware of bonsai when at 14 years of age when he came across some "Mall-sai" and was captivated by the uniqueness of a living art. His first teacher, Robert Guitron, hosted Boon Manakitivipart for a workshop in Portland. After observing Boon's work Matt knew Japan was the place he needed to be. With the help of Boon and Michael Hagedorn, Matt became the third apprentice of master Shinji Suzuki. During his apprenticeship, Matt learned all facets of the art and is happy now to be creating good Bonsai in America!



On November 13th Matt will style the Japanese Black Pine in the photo. There will be an auction at the end of the meeting to

send this tree home with a new owner. The meeting is at 7:30PM in the Garden Room at the SF County Fair building.

Thanks,
Catherine Wolf
Master of Programs and Board Member
Bonsai Society of San Francisco

Events by Others

GSBF's Bonsai and Suiseki Garden: open Wed., Thurs., Fri. 11:00 am–3:00 pm, Sat. 10:00 am–4:00 pm, Sun. 12:00 noon–4:00 pm Enter at gate across from Boat House.

December 6, Fresno, Fresno Bonsai Society: Seventh Annual Bonsai Yard Sale at 736 West Browning. Set up begins at 8 AM. Everyone is welcome to buy, sell or trade. Sales include pre-bonsai, finished trees, pots, supplies, stands, books, suiseki and accent plants. Lunch will be available. Great bargains and great fun! If you need a table or more information, contact Ralph Schroeder at ralSch@sbcglobal.net or Peter Schaffert at peteschaffert@gmail.com.

Articles or Services for Sale (or give-away)

Expanded Shale soil, less than 6mm size, for sale at 5 gal container for \$10. A good inorganic ex-pander for bonsai soil. Contact John Nackley, at 510-693-2420 if interested.

Wanted to Buy (or for free)

Each membership household, free of charge, may place a five-line ad related to bonsai in two newsletters each year. Send a copy of ads to your editor by the fourth Monday of the month to appear in the next publication. To place an add call (925) 458-3845.

East Bay Bonsai Society—Schedule for 2014 - 2015

Regular Meetings: Second Wednesday, every month (except August and October) @ 7:30 pm
Place: Lakeside Garden Center, 666 Bellevue Avenue, Oakland.
Visitors welcome—for more information: call: (925) 431-0452
Website for Bonsai Garden Lake Merritt: <http://www.gsbf-bonsai.org/lake-merritt/NewHome.html>

Meeting Program

- Nov 12** Juniper Jubilee – Mike Pistello
- Nov 23** BGLM Introduction to Bonsai – John Nackley
- Dec 10** Holiday Dinner
- Jan 14** Hornbeams – Kathy Shaner
- Jan 25** BGLM Introduction to Bonsai – Janet Nelson
- Feb 11** Shohin Hinoki Cypress – Randall Lee
- Mar 11** Pines – Gordon Deeg
- Mar 22** BGLM Introduction to Bonsai – Tom Colby

Special Event

- Nov 15** Wiring Workshop – John Doig