

pfm bonsai studio ramblings



March 2013 Volume I

Spring is Around the Corner

I love wandering around the greenhouse this time of year. So many species have leafed out and are growing madly. As a result I am trimming all the time. This winter I left some of olives on my Gumi Olive bonsai to mature. The contrast in



in color is amazing. The reddish olives against the silvery green leaves is amazing. This is a great species for bonsai. I have made it

my species of the month later in the newsletter. Give it a try this year.

Did you get your wiring done this winter?

If not this month is the last chance up here in the Northeast before the serious task of repotting starts. Check on each of your bonsai in storage and get the wiring done.

The hornbeam I wrote about last month is now wired and you can see the results at the studio this spring.

POTTING SEASON WILL BE HERE SOON. NEED SOIL? WE ARE FULLY STOCKED. Call or email to reserve your supply today.

Spring is around the corner and we have much to do in our bonsai world:

- Bringing our bonsai out of winter storage hopefully in good condition.
- Repotting: not only to give the roots of our bonsai room to grown but to consider if it needs restyling/refronting.
- Creating new bonsai from stock: See the article in this newsletter about cutting branches to promote maximum healing.
- Collecting stock from the wild or urban settings

Yes there is too much to get done in too short a period of time. Getting all the Spring work done is a great challenge but the hard work of spring will present us with bonsai we will appreciate more as the growing season continues.

MAKING THE CUT

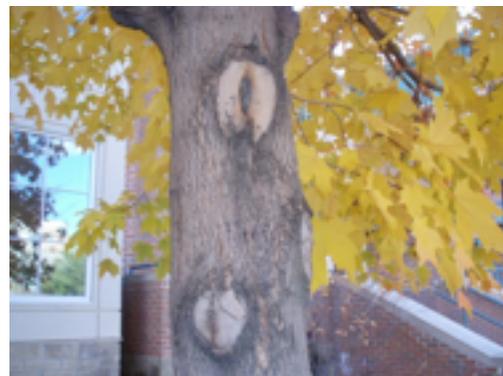
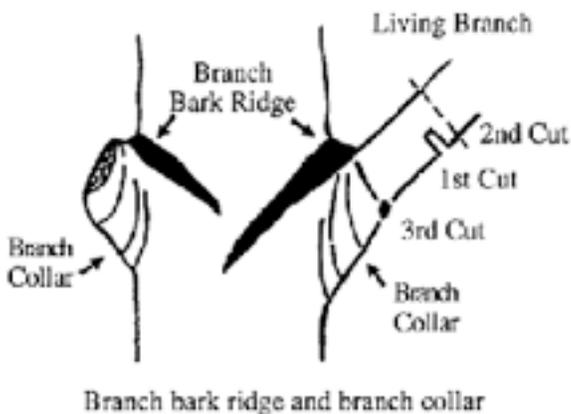
I received an email today from a good friend on Long Island. He questioned my hint about eye shaped cuts being the best for removing branches from a trunk. So I thought it was time to explore the topic in depth.

Traditionally, tree surgeons have promoted and used round cuts when removing a branch from a tree. The resulting healing can be seen in the photograph. Notice how the wound has healed. Note the bunching up of the bark around the wound. This is fine for the needs of the tree surgeon but for the art of bonsai, this is a poorly healed wound. It is an ugly wound. It is by no means fully healed



Most of time, our objective is to have a wound heal over completely over time. There are occasions that we use an old wound as part of the design, but for most cuts we work to have the wound disappear over time.

When working on landscape trees to cut off a branch the cut is made on the branch so as to not disturb the collar. The collar is a layer of cells at the base of the branch that prevents dieback from occurring deep into the trunk when a branch dies or is broken off. The diagram from the Virginia Cooperative Extension illustrates this method.



This results in healing as seen in the photograph.

To understand how to accomplish a “beautifully” healed wound, we need to understand some basic botany. First let us look at part of a study from USDA:

“The key is wood grain, the neat, parallel packaging of the many tiny hollow tubes and cells that make up the wood itself. Since these tubes conduct water from roots to leaves, the maintenance of a continuous grain pattern is critical to the survival of the tree. Grain pattern has also evolved to make the tree strong and durable. When a tree is injured, these cells regenerate in a pattern that appears to "flow" around the wound, producing the characteristic knots on the plant's surface.

The question that has plagued plant scientists is how these cells reorient in order to flow around the wound. If the cells point into the wound, the tubing hits a dead end, effectively cutting off the supply of water and nutrients to the tree.

"When the tree is injured, the cells have a sophisticated decision to make," said Eric Kramer, associate professor of physics at Bard College at Simon's Rock, MA. "By diverging around the wounded area, the cells can continually supply nutrients and water to other parts of the tree."

Kramer and colleague Jennifer Normanly at the University of Massachusetts at Amherst, discovered that the hormone auxin plays an essential role in the coordination, growth, and reorientation of cells as the tree heals.

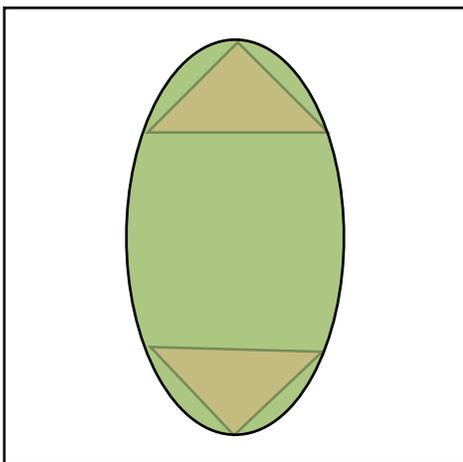
Auxin is a plant hormone responsible for cell growth and development. The scientists discovered that an auxin gradient develops around the wound. The gradient develops because auxin moves *down* the trunk of the tree. So, the concentration of auxin is high above the wound and low below the wound.

The auxin gradient triggers the reorientation of wood-forming cells. Thus, the water and nutrient conducting tubes of newly formed wood divert around the wound.

To better understand how the cells reorient as a tree wound heals, the scientists developed a computer model to animate cell growth and rotation. The model results support the auxin gradient idea and the resulting growth and orientation of cells as the tree heals."

(<http://www.csrees.usda.gov/>)

What does this mean for bonsai? It means that, as usual, we need to trick Mother Nature if we desire a cleanly healed wound. The rerouting of the vascular tissue that conducts materials up and down the trunk is key. When we cut off a branch with an elliptical cut as seen in the drawing, we remove the vascular tissue that would die in the triangular areas above and below the round cut. We aid the plant in healing the wound by removing this tissue. According to several studies, the most important is the tissue above the cut. The auxins produced in the leaves are transported down the trunk and are used to direct cell division at the wound. Of course we must make a very clean and sharp cut.



A number of studies have shown that an elliptical cut heals cleanly.

The time it takes the cut to heal is dependent on several factors:

1. The health of the tree. The healthier the tree, the faster it will grow. The faster a tree grows, the faster a wound will heal.
2. The season the cut is made. Since a tree grows at the greatest rate in temperate zones during April through June, it is best to make the cuts early in this time period. It is best to avoid large cuts as winter nears since freezing can open up healing wounds do to frost expansion of water in the tissues.

3. The neatness of the cut. Use very sharp tools and if needed to make the cut perfect, trim the edge of the cut with a razor or X-exacto knife. Cut at an angle so that you are removing a tiny bit more of the cambium layer than the bark.

4. Although there is much discussion about the use of a sealant over a cut, I prefer to use a sealant that keeps the cambium from drying out as the wound heals. From my experience and the experiences of many bonsai friends, I prefer to use Preparation H (yes really) on deciduous trees and one of clay like products on evergreen conifers. (If I need to disguise a wound for a while, I press pieces of bark of the same species as the bonsai into the sealant)

One more thing to consider. **What if you have a prior wound that is ugly?** Recut the wound. Do not go any deeper than necessary. Keep the top and bottom of the would rounded. Nutrients will move easily around the wound and allow healing to occur.



If the damaged area is less than 25 percent of the circumference of the trunk, the wound should gradually heal over and no permanent injury should result. If the damage involves more than 50 percent of the circumference, the tree may be seriously reduced in vigor. It may lose branches and become quite unsightly. However, the corrective procedures of pruning, irrigation, and fertilization should be practiced until the tree recovers. <http://www.ces.ncsu.edu>

Of course, there are times when we must respect Nature. Some species of trees protect themselves from losing sap by pulling back and killing off vascular tissue in the trunk near a severed limb. So for these trees we must do our bonsai limb removal in two steps. During the first year, we cut off the limb leaving a stub that is the same length as the diameter of the branch we are removing. During the next year, we can make a normal cut into the trunk and the would will heal well. I use this method with trees that produce a great deal of sap in spring like pines. (for branches wider than a pencil)

Since this defense of the eye shaped wounds has gotten rather windy and long, I hope that it helps rather than confuses. When the bonsai are out of storage, I will take some pictures of the wounds.

Your ccmments , experiences and photographs would be appreciated on this topic. Let's get a discussion going.

Pauline

Featured Species of the Month

A Bonsai Close Up on *Elaeagnus pungens*

Gumi Olive Tree by Pauline F Muth of pfm bonsai studio

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Kingdom [Plantae](#) - Plants

Subkingdom [Tracheobionta](#) - Vascular plants

Superdivision [Spermatophyta](#) - Seed plants

Division [Magnoliophyta](#) - Flowering plants

Class [Magnoliopsida](#) - Dicotyledons

Subclass [Rosidae](#)

Order [Rhamnales](#)

Family [Elaeagnaceae](#) - Oleaster family

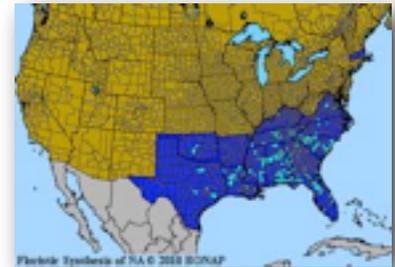
Genus [Elaeagnus L.](#) - oleaster

Species [Elaeagnus pungens Thunb.](#) - thorny olive

from <http://plants.usda.gov>

Origin and hardiness

In China this plant occurs on hillsides and in thickets. In Japan it grows in scrub. This plant was introduced to the United States from Asia in 1830. In the southern USA it can be an invasive species. It tolerates light frost but in general it needs to be frost free.



Description



In nature *E. pungens* is a dense, branching shrub which can reach over 7 meters (23 ft) tall by 4 meters (13 ft) wide. It sprouts prolifically from its stem, spreading out and twining into adjacent vegetation. Parts of the stem are covered in thorns which can be up to 8 cm (3.1 in) long. The evergreen, alternately arranged leaves are up to 10 cm (3.9 in) long but under 5 centimeters (2.0 in) wide. In bonsai culture, the leaves reduce to 2 to 3 cm long in cultivation. The undersides are silvery white with brown flecks. The leaves curl downward.

The stems are a reddish color when young and develop a darker aged bark with time.



Flowering and Fruiting

The small tubular flowers are borne in clusters of up to three. The flowers are yellowish or white and are sweet-scented. This is especially wonderful in winter in the greenhouse or indoors. By tapping the pot each day during the flowering period, you can insure pollination and fruit development.



In the Northeast, it blooms in early winter in the greenhouse or under lights. The olive fruit is a drupe up to 1.5 cm (0.59 in) long which contains one seed. It is reddish with silver scales and develops during the winter. The reddish olive contrast well with the green of the plant. If you do not remove the fruit as it matures, it will fall off on its own.

Growth

The plant grows quickly, with shoots growing over one meter per season. The growth has been described as "aggressive."

In bonsai culture, therefore it requires frequent pruning. Allowing the twigs to grow out 3 or 4 sets of leaves and then cutting back to one set will insure good ramification and allow for branch girth development. It develops very quickly. Leaving extra branches near the base of the trunk helps develop girth. Be sure that these branches are grown in the back or side of the trunk so that the bonsai will not have unsightly scars when they are removed in the future.

Shaping of the trunk and branches must be done before the wood hardens. The earlier the better but watch for wire damage as the plant grows so quickly. When arranging the branching with wiring, position the leaves with the green top side upward.

The first bonsai shown is from the Art of Bonsai website and the second one is in the NBF collection at the National Arboretum.



Cultivation

It tolerates varied environmental conditions, including heat, cold, wind, coastal conditions, shade, and full sun. It is very drought-tolerant. It can grow in varied soil types.

In bonsai cultivation, it works well in medium grade bonsai medium that is well drained. A good general fertilizer, either organic or manufactured works well. An addition of super phosphate each month results in excellent following and fruiting. For bonsai development, grow in full sun. Once developed, it can easily tolerate eastern exposure with dappled shade for the afternoon.

It is best repotted once a year in early spring. In the Northeast where it is grown indoors for winter, this should happen in early January. In the greenhouse it often sheds some leaves as fall transits into winter. It shows aggressive growth starting in January and needs trimming throughout January to August.

Problems

The only insect problem I have experienced is scale in winter which is easily controlled by picking them off. If you wait too long, a leaves will become heavily infested and will need to be removed. Keeping yellow sticky tabs among the bonsai indoors, under lights or in the greenhouse will trap the flying stage of the scale and reduce the problem. (The tabs will also help control other flying insects in your growing area. These can be found for purchase by searching for " yellow sticky tabs" on line.)

Information from <http://plants.usda.gov> and experiences of the author.

Comments and suggestions on the article and experiences with this bonsai material are appreciated.

Pauline@pfmbonsai.com



Help BCI celebrate its 50th Anniversary

Only 50 of these special kusamono pots have been created. Come to the studio to purchase one.





What is Happening in the Bonsai World?

These events were covered in the January and February issues. See their websites for more details.

April MABS *

<http://midatlanticbonsai.freesevers.com>

April BCI in China <http://www.bonsai2013.org>

June International Bonsai Colloquium *

<http://www.internationalbonsai.com/index.html>.

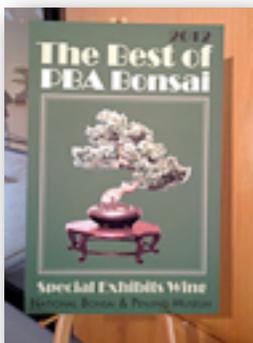
September ABS Love of Bonsai Learning Seminars * www.loveofbonsai.com

October Artisans Cup *

<http://www.artisanscupofportland.com>

I hope to see you at the * events.

Potomac Bonsai Festival & Sale



May 3-5 9AM-5PM

Join this regional group at the National Arboretum in Washington DC for a weekend of bonsai fun:

Demonstrations

Exhibitions

Vendors

Free Admission

<http://www.usna.usda.gov/Education/pbaworkshops2012.html>

Additions to the ABS Love of Bonsai Learning Seminars Schedule



Due to the great response to some of the classes, ABS has added in more courses. They have opened up a second section of the filled make a scroll course from Jonathan Maples. Also because of the overwhelming interest in shohin bonsai, we have added another set of shohin bonsai classes and workshops. They will be taught by Frank Mihalic and Pauline Muth. See the www.loveofbonsai.com web site for the updated brochure.

NBF Japanese Pavilion Fundraiser



Time passes quickly and all things age. The bonsai section of the National Arboretum needs your help and your club's help to raise funds for the Japanese Pavilion.

See

<http://www.bonsai-nbf.org/site/projects.html>

for details and tax deductible donation forms



pfm bonsai March Events

ALL BONSAI CREATED MAY BE LEFT IN THE GREENHOUSE UNTIL MAY

Please register by email or by calling 518 882 1039 Send your check for the workshop to the studio to secure your place at the event.

pfm bonsai 7 Western Av, W. Charlton, NY 12010

MARCH 2nd - 3rd 10AM WS OR OPEN WS

A GREAT DAY TO CELEBRATE THE WEARING OF THE GREEN by creating EITHER a Grewia or Dwarf Gardenia Bonsai. \$50 including tree and lesson. Starts at 10AM. Bring tools, wire and your lunch. Work one day or both days. **Not interested in either? Bring your trees and work on them in a free open session.**



MARCH 9 10 to 1 free open sessions and/or at 1 PM CREATING ACCENT PLANTS



CREATE ACCENTS FOR YOUR BONSAI USING A VARIETY OF MATERIALS AND INTERESTING CONTAINERS PAY ONLY FOR MATERIALS AND CONTAINERS

MARCH 16- MARTIN SCHMALENBERG DESIGN COURSE

BRING A GOOD NUMBER OF BONSAI THAT YOU WOULD LIKE SEE THEIR DESIGN IMPROVED. WORK ONE DAY OR TWO. YOU WILL SEE A WONDERFUL IMPROVEMENT IN DESIGN AND LEARN A GREAT DEAL ABOUT THE DESIGN PROCESS. \$100 . REGISTER PLEASE

MARCH 17 Free open workshop...10-5

MARCH 23 OPEN WORKSHOPS or possibly BLENDED TREE BONSAI.10-1

IF OUR NEW STOCK ARRIVES, WE WILL DO BLENDED TREES WORKSHOP....IF NOT WE WILL HAVE AN OPEN WORKSHOP. THIS MAY BE A GOOD WEEKEND FOR REPOTTING YOUR BONSAI...DEPENDING ON THE WEATHER

MARCH 23 FIRST CLASS MEETING OF INTERMEDIATE COURSE 2 PM

FIRST MEETING AND ORGANIZATION OF THE NEW INTERMEDIATE 20 SESSION COURSE. EMAIL FOR DETAILS ON THIS WONDERFUL LEARNING EXPERIENCE. PARTICIPANTS WILL DETERMINE THE MEETING DATES FOR THE COURSE



MARCH 24 MHBS MEETING AT PFM BONSAI at 11 AM

Repotting workshop and back by popular demand making poo balls
11 AM PLANNING MEETING FOR CONSTRUCTION OF ABS PEDESTALS

COMING THIS SPRING: marble tray land and water penjing; forests; rock plantings ; blended tree bonsai. rock over rock bonsai & a special set of mame/shohin workshops with great new materials. www.pfmbonsai.com

pfm bonsai studio supports

Mohawk Hudson Bonsai Society <http://mohawkhudsonbonsai.org>

MidAtlantic Bonsai Societies - www.midatlanticbonsai.freesevers.com

American Bonsai Society - www.absbonsai.org

Bonsai Clubs International - www.bonsai-bci.com

National Bonsai Foundation - www.bonsai-nbf.org

Artisans Cup in Portland <http://www.artisanscupofportland.com>.

please visit www.pfmbonsai.com for current happenings at the studio

Pauline F Muth
pfm bonsai studio
7 Western Avenue
West Charlton , NY 12010