



# Bonsai Notebook

[www.austinbonsaisociety.com](http://www.austinbonsaisociety.com)

A Publication of the Austin Bonsai Society

November 2021 vol 134

## Our News

**President's Message**  
*page 2*

**Board Meeting Minutes**  
*page 3*

**Your Bonsai and Winter Temperatures**  
**How cold is too cold**  
*page 4 - 8*

**Recruiting Authors**  
*page 9*

## Calendar of Events

- **November 10<sup>th</sup>**  
**Virtual slideshow via zoom**  
**Raffles**

## 2021 Board of Directors

**Roland Lopez**  
President

**Summer Lee**  
Vice President

**Ruwan Perera**  
Secretary

**Gloria Norberg**  
Treasurer

**Morgan Bean**  
Member-At-Large

**Jakob Clark**  
Member-At-Large

**Mike Garza**  
Member-At-Large

## Volunteers

N/A

# President's Message

*By Roland Lopez*

Hello ABS brothers and sisters!

Here it is, the last meeting of the year. It flew by in a hurry! I can't tell you all how thankful I am for having the opportunity to be your club president. I'm looking forward to another year of fun and growth for us all.

I hope you all enjoyed Jonas' presentation last month. It was such a pleasure having him with us. Such a kind and friendly fellow. For me, it's really exciting to learn from experienced practitioners that grow bonsai from start to finish. That has been one of my top goals in bonsai - to make a compelling tree in miniature from the very beginning. I hope you got as much out of the presentation as I did.

Our friend, Brandon Baldauf, will be sharing some wonderful photos of spectacular trees from his visit to The National Bonsai & Penjing Museum in Washington DC and The US Nationals Bonsai Exhibition in Rochester, New York during this meeting! Thank you Brandon!

We will also have some items to raffle away after Brandon's presentation. We encourage you to donate any bonsai related items to the raffle as well if you have anything you'd like to contribute. This will greatly help us raise more money for our club so we can continue to bring you more content.

It is with great pleasure to announce Terry and Sheila Ward will be made honorary members of the Austin Bonsai Society at this month's meeting. Terry and Sheila have long been a part of Austin's bonsai history and a huge part of its health today. We are honored to be able to express our gratitude for their contributions! Thank you Terry and thank you Sheila for being here for us.

On Saturday November 13, from 10-4, we will have some trees for display for the public at Zilker. We will have a few booths set up along with some raffle items. The event will be held outside in the Oak Grove part of the garden. I will need some volunteers and some trees for that day. Volunteers would help keep an eye on our trees and be there to answer any questions from visitors. This is a great opportunity to make more people aware of bonsai and ABS! If you are interested in helping, please reach out to me at [unostarangler@gmail.com](mailto:unostarangler@gmail.com). Please note that trees should be in bonsai containers and be "show ready". Let's really impress our visitors!

Please be sure to register for the 2022 LSBF convention in San Antonio! Registration opens November 6. The convention dates are April 28 -May 1. Let's get out there and support our friends in SA and have some fun!

Please join us this month for the last meeting of the year and try your luck at some great raffle items! Take care until I see you next time.

Warmly smiling,

Roland

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discussion



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## YouTube

<https://www.youtube.com/channel/UCLSknKbNLd3EOYwjkjNlneA>

# ABS Board Minutes

*October 2021*

Meeting starts at 7:05 pm

Attendees: Gloria, Summer, Simon, Mike, Ruwan, and Morgan

Board voted YES to make Terry and Sheila Ward honorary ABS members.

Reviewed 2021 budget.

Meeting back at Zilker was discussed with AAGC requirements. Roland volunteered to set up a meeting with AAGC to discuss requirements to get more clarification about returning to Zilker.

Board discussed Nov 13 show at Zilker. Agreed to see if there is availability at show to participate. Roland will fill out request forms.

Board reviewed and edited proposed budget for 2022. Budget approved by board.

A board meeting in November was discussed. The board agreed to meet in November for last board meeting to discuss changes in policies, duties of at-large members and issues to research.

Update on 2022 program was announced. Summer and Roland are building program. Still waiting for some artist to confirm availability.

Meeting concluded at 8:30 pm.

## Reminder for club membership

### 2021 membership fee (July to December)

Individual	\$16.50
Family	\$19.50
Newsletter monthly advertisements:	\$37.50
Directory advertisement:	\$11

You may contact [payments.austinbonsaisociety@gmail.com](mailto:payments.austinbonsaisociety@gmail.com) for convenient electronic payment options (processing fee included).

## Your Bonsai and Winter Temperatures: How Low Is Too Low?

by J. R. (Bill) Cody

When the subject of over-wintering our bonsai in Central Texas arises, the primary question is: Just how cold a temperature can our bonsai tolerate. To help the guessers, I compiled the results of three studies that have appeared in the horticultural literature, which are designed to aid commercial nurserymen protect their stock during the winter (table 1).

Some species that are native to our bonsai culture do not appear, but I believe that there is enough information for us to make a more educated guess as to where to “red-line” projected greenhouse/cold-frame low temperatures as we over-winter our bonsai. See Figure 1.

Compare the ambient temperature with that inside the clay root ball near the center of the container—they are essentially equivalent. The slightly lower temperature of the containers sitting on the ground is likely due to their position - four feet lower and colder air sinking to the floor, there being no advantage from ground heat. I believe that this information can be easily extrapolated to fit the weather patterns in other parts of the State.

Table 1 - A compilation of average root killing temperatures (Fahrenheit) for some woody plants. All temperatures are killing temperatures except the third column that lists minimum safe temperatures for that species. The values in columns one and two for “immature” and for “mature” roots are combined from two sources. Note that of the 21 species in which a “minimum safe” vs. a “killing” temperature is known, that the average difference is only 4.71F.



Name of Plant	Type of Roots		Temperature	
	Immature	Mature	Min. Safe	Killing
<i>Acer palmatum</i> 'Atropurpureum'			17	14
<i>Acer pseudoplatanus</i>	4	-5		
<i>Buxus sempervirens</i>	27			15
<i>Cornus florida</i>	21	11	24	20
<i>Cotoneaster horizontalis</i>			22	18
<i>Cotoneaster adpressa</i> var. <i>praecox</i>			20	16
<i>Cotoneaster conjesta</i>	19	-1		
<i>Cotoneaster dammeri</i>	23 to 10	-1		
<i>Cotoneaster dammeri</i> 'Skogholmen'	19			
<i>Cotoneaster microphyllus</i>	25	9		
<i>Crytomeria japonica</i>			20	16
<i>Cystus x praecox</i>			20	15
<i>Daphne cneorum</i>			24	20
<i>Euonymus alata</i> 'Compacta'	19	7		
<i>Euonymus fortunei</i> 'Carrierei'				15
<i>Euonymus fortunei</i> 'Colorata'			10	5
<i>Euonymus fortunei</i> 'Graciles'				15
<i>Euonymus fortunei</i> var. <i>vegetus</i>	23 to 16	12 to 3		
<i>Euonymus kiautschovica</i>	21	16		
<i>Hedra helix</i> 'Baltica'				15
<i>Hypericum</i> spp.	23	18		
<i>Ilex</i> 'Nellie Stevens'	23	14		
<i>Ilex</i> 'San Jose'	21	18		
<i>Ilex cornuta</i> 'Dazzler'	25	18		
<i>Ilex crenata</i> 'Convexa'			24	20
<i>Ilex crenata</i> 'Helleri'	23 to 19	5		
<i>Ilex crenata</i> 'Hertzii'			24	20
<i>Ilex crenata</i> 'Stokesii'			24	20
<i>Ilex glabra</i>				15
<i>Ilex opaca</i>	23	9	24	20
<i>Ilex x meserveae</i> 'Blue Boy'	23	9		
<i>Juniperus conferta</i>				15
<i>Juniperus horizontalis</i>				0
<i>Juniperus horizontalis</i> 'Douglasii'			10	0
<i>Juniperus horizontalis</i> 'Plumosa'	12 to 12	-4 to -2	10	0
<i>Juniperus squamata</i> 'Meyeri'	12	-2		
<i>Kalmia latifolia</i>	16			
<i>Koelreuteria paniculata</i>	16 to 16	-4 to -5		
<i>Leucothoe fontanesiana</i>	19			5
<i>Magnolia stellata</i>	21	9	26	23
<i>Magnolia x soulangeana</i>			26	23
<i>Mahonia bealei</i>	25	12		
<i>Pachysandra terminalis</i>				15
<i>Picea glauca</i>				-10
<i>Picea omorika</i>				-10

Pieris floribunda				5
Pieris japonica	16		15	
Pieris japonica 'Compacta'				15
Potentilla fruticosa				-10
Pyracantha coccinea 'Lalandei'	25	18	22	18
Rhododendron 'Gibraltar'				10
Rhododendron 'Hino-crimson'	19			
Rhododendron 'Hinodegiri'	19			10
Rhododendron 'Purple Gem'	16			
Rhododendron (Exbury Hybrid)	18	3		
Rhododendron (P.J.M.Hybrids)			10	0
Rhododendron carolinianum			15	
Rhododendron catawbiense		3	15	
Rhododendron prunifolium	19			
Rhododendron schlippenbachii	16			
Stephanander incisa 'Crispa'	18	0		
Taxus x media 'Hicksii'	18 to 17	-4 to-5		
Taxus x media 'Nigra'			15	10
Viburnum carlesii			20	15
Viburnum plicatum forma tomentosum	19	7		
Vinca minor				15

**Winter Root Tempatures in Containers  
Inside an Enclosure**

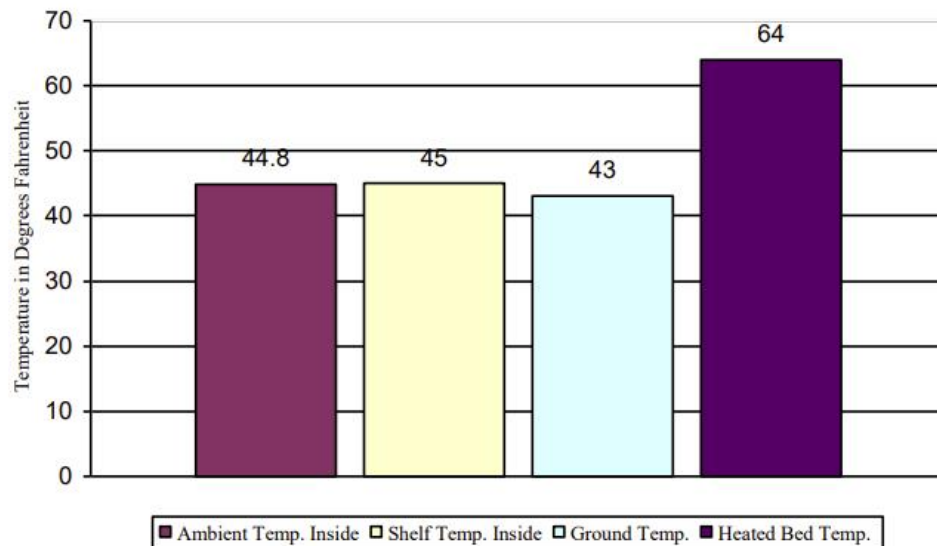


Figure 1. These temperatures were taken during February 2003 within a double-walled room with a woven plastic “insulator blanket” top. The trees were misted using an electronic leaf to activate the misting. The soil thermometer was inserted into the clay root balls of Ashe junipers collected in January and February of 2003. The thermometer was inserted four inches into the growth medium and root ball, making the end of the thermometer about four to five inches from the surface upon which the container was sitting - essentially in the center of the root ball. The “shelf” temps were taken in containers on a shelf four feet from the ground. “Ground” temps were containers sitting on the ground inside the room, and the third group temps were taken in containers buried in a bed of sand, beneath which was an 800 watt system of heating coils. The thermostat was set at 77F.

Since cold hardiness varies among species, between cultivars of a species, and even between various tissues of the same plant (e.g., crown and roots), it is no wonder that there may be confusion as to how to protect our bonsai against the rapidly changing, many faces of Central Texas weather. Temperate zone woody plants develop ‘cold-hardiness’ in response to declining photoperiod (light) and thermoperiod (heat) as the shorter days and longer nights of fall approach. The temperature reduction brought on by cool days and cooler nights contribute to root hardiness by slowing or stopping root growth. However, since temperatures above 60F. tend to slow this hardening process, I’m sure you can appreciate the quandary we face as our plants confront the bouncing-ball daily temperatures of Central Texas. We place our bonsai in enclosed structures to protect them from that surprise blue-norther that is coming through tonight, only to have the enclosure’s ambient temperature reach 70F. the next day even during the dead of winter.

There are two types of cold injury to plants and plant roots: Freezing and chilling. In the case of **freezing**, damage to the roots occurs when ice particles form within the root cells (intracellular water), causing the rupture of cell membranes that is a lethal injury. This type of injury is generally the result of a sudden, rapid fall in the temperature. Ice particles may also form in the water outside the cells (extracellular water). This is a non-lethal and common occurrence in many plants during the winter. However, this

phenomenon may result in damage to cells by shifting intracellular water into the extracellular space, causing cell dehydration with resulting cell damage.

**Chilling** injury occurs when a susceptible plant, especially tropicals, is subjected to temperatures that are actually above freezing. Cooling of the root system and increased viscosity of extracellular water within the plant, as well as changes in the cell membranes between the extracellular and intracellular spaces, interferes with the entry of water into the vascular system. These changes reduce the ability of the plant to move water from the roots to the plant’s tissues at the same rate at which water vapor is being lost into the atmosphere - a desiccation injury ensues much like the wind-chill injury we see during winter windstorms.

Root systems can become acclimated (more resistant) to chilling conditions. Studies show that increased cold hardiness of the root system is related to the degree of unsaturated fatty acids in the membranes of the roots. Increased unsaturated fatty acids result in more rapid water transport through the root tissues at lower temperatures. Phosphorus nutrition seems to be important for root hardiness.

As was mentioned, there is a difference in the cold hardiness of the top of the tree versus the root system. Old roots are hardier than new roots and the latter seem to be unable to acclimate themselves despite the changes in temperature and light of approaching fall. As might be expected, this year’s rooted-cuttings are less able to withstand overwintering than plants that have spent the previous year in one-gallon containers.

Studies show that similar protection is offered root systems of container plants whether they are overwintered in white or clear plastic enclosures—either single- or double-walled. White plastic sheeting for your winter enclosure is of greater value in reducing the accumulation of heat during sunny winter days than clear plastic. Temperatures of 40F above outside temperatures have been recorded inside single-wall clear plastic enclosures and the temperatures were higher when there is a double wall. Double-walled white plastic is the most effective in reducing mid-day heat accumulation. The capability for the ventilation of these enclosures is imperative in those regions which have labile winter temperatures.

The temperatures within containers exposed to high or low ambient temperatures for long periods of time, i.e., all day or all night, eventually approach that of ambient. In February 2003 there were two mornings that the temperature was 23F. Each morning the temperature in all four of the containers was 23F. For this reason the time-honored practice of placing bonsai beneath their respective benches for the winter may not be as safe as we are led to believe. Obviously, the hardiness zone in which one resides and species of plant must be taken into account, but Figure 2 should give the reader some idea of the safety of this practice in his/her back yard.

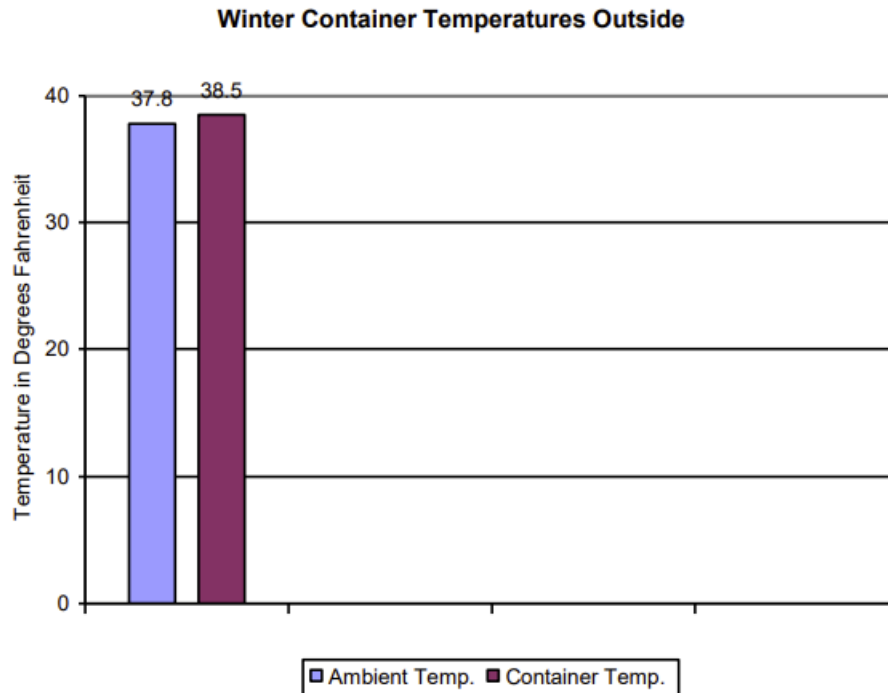


Figure 2. Three large, four inch deep ceramic containers were filled with sharp sand. Two were covered with wind-proof material; the third was not. All had two thermometers inserted two inches deep and two inches from the edge of the container. All were set upon the ground with a northern exposure but without overhead cover. Readings were taken at 0700 CST. On mornings that the wind was 20-30 mph, there would be a 2-3 degree colder temperature in the unprotected container, otherwise all temperatures were equal to or +/- one degree of the ambient reading.

References: Newman, S. E., Root Stress in Containers, Proceedings of the International. Plant Propagation Society, Vol.36:384. 1986.

Good, G. L., et al, Winter Protection of Containerized Ornamental Plants, J. Arboriculture, Vol.2(3):51. 1976.

Ingram, D. L., et al, Effect of Heat Stress On Container-Plants, Proceedings of the International. Plant Propagation Society, Vol. 39:348. 1989.

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## Recruiting Authors

With a nod of respect to John Miller, who has been diligently writing monthly columns for our newsletter, we would also like to take this time to invite interested members with knowledge and experiences of local Austin conditions to write articles for beginners and potential aspirants keen on raising bonsai. The Bonsai Notebook is looking for a new voice to author a column providing helpful reminders and tips dedicated to caring for bonsai. Be it a monthly routine or winter procedures, we'd like to welcome new perspectives and experiences to be shared in this newsletter. If interested, please contact: [webmaster.austinbonsaisociety@gmail.com](mailto:webmaster.austinbonsaisociety@gmail.com).

A warm thank you to John Miller for writing the latest columns. Even I, as the editor, may have taken these last months for granted and have been reminded that life is a charming companion that deserves to be appreciated every day. Thank you for your helpful words!

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# Bonsai Notebook

Austin Bonsai Society  
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## Austin Bonsai Society

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## About Us

The Austin Bonsai Society is a nonprofit organization which exists to help in providing guidance and education for individuals in their desire to learn and expand their knowledge and skill in the arts of bonsai.

The Society holds regular meetings, twelve months a year, on the second Wednesday of each month. Our social period begins at 7:00 pm, followed by our program at 7:30 pm. Normally, unless announced otherwise, these meetings are held in the Zilker Garden Center building, located on Barton Springs Road in Zilker Park, Austin, Texas. We offer a monthly program of interest to the general membership.

The cost of membership is presently only \$32.50 for an individual and \$37.50 for a family membership. For additional information, contact the Austin Bonsai Society at P.O. Box 340474, Austin, TX 78734.