

Williamson County Master Gardener

Journal

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Dedicated to growing with Williamson County

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Spring Blooms in Texas



Photos submitted by Winola Van Artsdalen

The President's Corner

Winola Van Artsdalen



Does spring lift your spirits and make your soul sing? This gardener is so happy in springtime I can hardly contain myself. I cannot decide whether to sit on the front porch or the back, so I have to take turns! Early in April, Wayne Rhoden, Carol and Walter Hoke, and myself attended the TMGA annual conference in Dallas with the opportunity to hear many excellent speakers. One of my favorite classes was “The Contemplative Garden” taught by Dr. Joe Novak of Texas A&M University. It was about the research done showing the benefits to children and adults of being in contact with nature. I came home determined to find time to “sit a spell” in the garden, and I strongly and lovingly recommend the same for you. Tell the family it's the president's orders!

Catch your breath after the show! We did ourselves proud this Spring 2010! After fantastically successful plant sales in March, we followed in April with our major event of the year, our Master Gardeners Spring Garden Fair. This first ever attempt was highly successful in that we plastered our name all over Williamson County, and the public now knows we are here and where to find us! Bob teased about our letting out the secret, but he is pleased. All information, demonstrations, and classes were well received with comments from guests that they will definitely return next year. Give yourself a huge pat on the back! We are fulfilling our mission as the volunteer horticulture education arm of Texas Agri-life Extension.

And the work goes on! We have solicited your suggestions and are now compiling “Lessons Learned.” Mark your calendars, because we have set the date for next year—Saturday, April 16th, 2011! Juanita James, JMG Chair, has been busily getting plans in place for Pioneer Days May 6-8 and the teachers' training class July 20-22. With the help of Carol Hoke, Brigid Mejia and Master Gardeners who are JMG teachers, principals and school administrators have been contacted to invite as many teachers as possible to join us for this experience. Please talk with parents and teachers in your community to spread the word encouraging teachers from your area to become a part of this class, so that more children can benefit from the JMG experience.

JoAnne Dieterich, Class Facilitator, has assigned speakers and, with the help of others, is busily making plans for the new Master Gardeners class to begin in August, and we need you to spread the word in your community to help us reach potential students. Every effort will be made for current Master Gardeners to get to know and have an opportunity to encourage these interns. Many exciting new ideas are being considered. Stay tuned, as you will be involved!

Spring gardening tips

Finally, it's spring—time for the fun to begin! If you have not already done so, cut back all those dead branches. You do not want to wait until the plant has used all that energy to put out new growth, and then cut. Take a good look after the dead branches are removed to see if it needs gentle shaping.

Hopefully, you have already spread some compost with mulch on top for insulation. Since I spread a thin layer of bio-matter such as Dillo dirt or cow manure under the compost, (pine bark or cotton burr compost recommended for acidity), often I do no fertilizing. Last fall, I tried compost tea for the first time and was so impressed with the plants' response, that I used it for foliage and soil drench this past week. If you plant non-native annuals, you will have to fertilize them on a regular basis. The deer have assured that this work detail is no longer needed in my yard.

The time to prune is after spring blooming plants have completed their bloom so they can set bloom buds for next spring. Fertilize amaryllis after they have bloomed. Fertilize and water your June blooming agapanthus now.

Harvest blackberries when fully ripe; then cut off all canes that produced fruit to near-ground level. Leave new canes for next year's crop. (Advice from Tom LeRoy, Vegetable Specialist class)

As I think must have been suggested every month, do keep up with pulling or digging those weeds. Do not let them get out of hand! In preparing to leave for a trip, the last thing I do is make sure no weeds are in sight. When I get home, I carry things in to put in refrigerator, but I do not even carry in clothing, etc. until I go around the house to dig weeds!

If aphids show in large numbers, spray first with strong water stream. If that does not work, use insecticidal soap. If caterpillars are a problem, use BT. Remember to avoid watering plants in evening, as wet matter gives perfect environment for fungus.

Remember that after the lawn has been mowed twice, you can begin your grass fertilization program. Most experts recommend a 3-1-2 or a 4-1-2 ratio of slow release fertilizer. The county extension office has an excellent leaflet with schedule for each type of grass. Remember to never cut off more than 1/3 of the grass height. Plants are like people. When they get stressed, they get sick!

Last, but not least, enjoy! Take time to enjoy the beauty of spring blooms in your yard and find time for a drive to enjoy the wildflowers. What a fantastic display we have this year!

Junior Master Gardening in Hutto

Kristana Aleman, JMG Student

Did you know that there is a kind of bug that lays its eggs in Fire Ants, and then the baby eats the ant's brain? Did you know that you can grow new plants without any seeds? Did you know that pioneers and Native Americans used Lambs Ear leaves as band aids? I learned all these things and more in my JMG class.

JMG stands for Junior Master Gardener, which is a youth gardening project modeled after the Master Gardener program. In our classes we learned about many things relating to plants and caring for nature. We learned what plants need to be healthy, plant propagation, bugs, landscape design, recycling, composting, water conservation and much, much more.

Learning about the different plants the pioneers and Native Americans used was Kaylah's favorite presentation. Every couple of weeks, a certified Master Gardener would come to our class and give us a lesson on a topic related to gardening. One was on worm composting, another on recycling, and another on bees. That was Maya's favorite (and mine, too.) And everyone especially liked the presentation about insects.

Behind the building we have a big garden. We've planted beans, radishes, onions, carrots, lettuce, broccoli, jalapeno peppers, and lots of herbs and flowers. We even planted two apple trees! We all get excited when it's time to harvest and eat something from our garden. Even vegetables taste better when you grow them yourself. Rylee even discovered she likes green onions.

We also planted things to take home. From seeds we grew Hyacinth Beans and Watermelon Radishes. From stem cuttings we grew Butterfly plants and Philodendrons. We also divided clumps of Aloe into new plants.

If you love nature and the outdoors, and want to learn more, JMG is a great way to do it. To learn more about JMG, go to www.jmgkids.us.

The Redbud Tree

Beth Blankenship

After seeing redbud trees with trunk blooms in both Zilker Park and a neighborhood near my home, I was curious to know why some trees have blooms on the trunk while others do not. Unfortunately my research on the internet did not provide a definitive answer to that question--but I did learn some interesting things about this beautiful tree.

The redbud is a small tree up to 25 feet tall and wide, and is suitable for diminutive spaces. It provides spring flowers, summer shade, and fall color. The Eastern Redbud is native to the eastern United States, and there are varieties native to our west coast, to China, and to southern Europe and Asia. Redbuds are hardy in Zones 4 to 9, and are the state tree of Oklahoma. Often redbuds have multiple stems; these can be trimmed so that there is one trunk for a more traditional tree shape. Other than this early shaping, pruning should not be required except for removal of crossed branches or weak V-shaped forks.

Redbuds have a long tap root, so one must be careful when transplanting not to break this root. They are easily grown from seed and are readily available in containers from local garden centers. The flowers are best in full sun, but in the south will do well in part shade. In many parts of the country, redbuds grow naturally in the shade of much larger trees. Although tolerant of many soil conditions, they need a well drained location and will not tolerate soggy soils.

The redbud blooms in early spring. Flower colors range from white to a deep magenta-pink color, with the seeds that follow being formed in flat structures that resemble pea pods. The leaves are heart shaped and appear after the blooms. There are several varieties including Forest Pansy with small purple leaves and flowers, Alba with white flowers, and Silver Cloud with leaves variegated with white. Hearts of Gold have golden leaves and pink flowers, whereas Covey is a redbud with weeping branches. Avondale grows more like a shrub than a tree, and is a double-flowered Chinese redbud. Another Chinese variety is *Cercis racemosa*, or Chain Flowered Redbud—its flowers hang from the branches in chains. Some of the more exotic varieties are said to be less hardy than the common Eastern Redbud. Some varieties are also grafted, and severe cold or other adverse conditions may cause the plant to die back below the graft.

Redbud trees are commonly attacked by two different diseases--canker and verticillium wilt. Cankers are found along the stems and cause the area beyond the wound to die. Cankers should be pruned so that the cut is into healthy, viable wood. The pruned branch should be burned, and the equipment sterilized between each cut. There is no cure for verticillium wilt (a fungal disease of the vascular system which can cause parts of the tree to suddenly wilt); and although it can be managed it will kill the tree over a period of years. The County Extension Office should be consulted for a definitive diagnosis because this disease can remain in the soil for many years and is easily spread to other species.



Redbud tree with trunk blooms



Redbud tree in spring bloom

Returning to the original question that prompted my research, several web sites noted that flowers appear on the trunks of some trees but not on others-- but offered no explanation. Others suggested that older trees have trunk blooms. In looking at the photos I took, it does appear that the trees with this type of bloom are older. However, it also seems that they have been damaged (or perhaps are infected with some type of disease), and I have to wonder if health factors somehow contribute to the unusual blooms. I would be very interested in any information you can share to solve this mystery!

Monthly Meetings

Williamson County Master Gardeners hold monthly meetings at the Williamson County Extension Office, 3151 SE Innerloop Road, Suite A, Georgetown on the second Monday of each month at 6:30pm. Master Gardeners and the public are welcome to attend.



JUNIOR MASTER GARDENER TEACHERS TRAINING

July 20- July 22, 2010

Williamson County Agrilife Extension Service

Williamson County Extension Office

3151 Inner Loop Road

Georgetown, TX 78628



This intensive, two and one half day, training class will familiarize you with the Junior Master Gardener Program. Throughout this training, you will be given all the tools necessary, including mentor support, to establish a JMG program at your school.

All JMG curriculum cover a broad range of horticulture and environmental education topics. Science process skills, observation, taking measurements and problem solving are naturally integrated into the curriculum through both group and individual learning experiences. All JMG curriculum are correlated to academic standards for science, math, language art and social studies.

Seventeen teachers attended this class in 2008. There are 9 new registered JMG groups as a result with several more pending.

Registration Cost is \$75.00

Your registration includes:

A JMG Teacher Leader Guide Book

Please join us for this training and help to continue the JMG program in Williamson County. You and your students will be amazed at the activities included in the course.

Registration will be limited to the first 20 who respond.

For more information

Call (512) 943-3300, Donna Colburn

Or email her at: dmcolburn@ag.tamu.edu

Bring your own lunch.



**JMG® Teachers Training
Registration Form**

Williamson County Extension Office
3151 SE Inner Loop Road Suite A
Georgetown, TX 78626

July 20-July 22, 2010

Please print clearly:

Name: _____

Title: _____

Address 1: _____

Address 2: _____

City: _____ **State:** _____ **Zip:** _____

County: _____

Phone : _____ **E-mail:** _____

Please complete the registration form and return to the above address with your check or money order payable to WCMGA.

Agenda
Teachers Junior Master Gardener Training
July 20, 2010

Day 1 – July 20

8:00-8:30 –Welcome and Introduction to JMG - Bob Whitney, CEA Williamson County, WCMGA Sponsor

8:30 - 9:00 Activity Fruit Toss – JMG Committee

9:00 – 10:15- Botany I – Winola Van Artsdalen

10:15 -10:30 – Break

10:30 – 12:00- Botany II –Winola Van Artsdalen

12:00 – 12:30 - Lunch

12:30 - 1:30 – Propagation Workshop; Activity - Self Watering Propagator, Soda Bottle Propagator, – Brenda McIndoo

1:30 - 2:30 - Basic Soil - Bob Whitney, CEA

2:30 - 2:45 – Break

2:45 – 3:15 - Vermiculture – Jeanne Barker

3:15 – 3:45 – Compost – Jeanne Barker

Adjourn

Day 2 - July 21, 2010

8:30 - 9:15 - Construction of Raised Beds – Patsy Bredahl; Square Foot Gardening – Hank Belopavlovich

9:15- 9:45 - Fundraising – Carey Thornell; Tina Bertucci

9:45 - 10:15 - Activity Grow Cards – JMG Committee

10:15- 10:30 – Break

10:30 – 11:30 – Butterfly Gardening – Wayne Rhoden

11:30 - 12:15 – Lunch

12:15 - 1:00 - Activity Suck a Bug – JMG Committee

1:00- 1:45 - Health and Nutrition from the Garden – Lyn Brown

1:45 - 2:15 - Activity - Know and Show Sombrero – JMG Committee

2:15 – 3:15 - Plant Diseases – Wayne Rhoden

Adjourn

Hutto Discovery Gardeners

Patsy Bredahl



There isn't much more that I can say about our JMG program at Discovery United Methodist Church of Hutto that Jr Master Gardener Kristana Alleman hasn't already said. What a great young writer and gardener.

Kristana along with nine other students in our class received their JMG certifications Wednesday, April 28th. Everyone of them were always excited to learn about gardening, nutrition, and our environment.

I want to thank all of the speakers who came to talk to the children about gardening and related topics. I especially want to thank Sherry Miller, Bonnie Sladek, and JoAnne Dieterich for helping me present the program. We won't know what to do on Wednesday afternoons now!



Children visited the farm next to the Church owned by the Hanson Family who donated the land for the Church. Ronnie Hanson showed the kids some farm equipment he made for making rows, seed planting, and covering the seeds. Of course the kids had to check out his John Deer!

Newly certified
Junior Master
Gardeners

Learning about farm
equipment

BOOK REVIEW

An Excellent and Useful Field Guide to Cacti

Texas Cacti

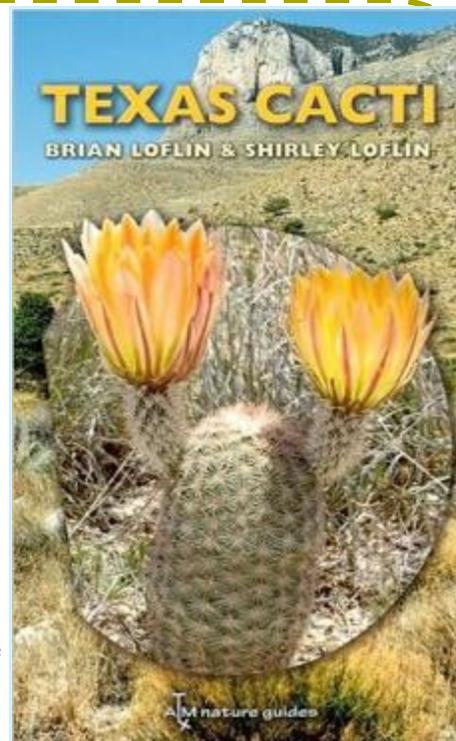
Brian Loflin and Shirley Loflin

College Station: Texas A&M University Press, 2009.

A Review by Christine Powell

The latest volume in the Nature Guide series from Texas A&M Press follows the path of the Loflins' *Grasses of the Texas Hill Country*. It couples clear narrative descriptions aimed at a lay audience with stunning photographs of each one of the nearly one hundred and fifty species found in Texas. The book is small enough to easily carry as a field guide, and even has a ruler printed on the inside cover to take measurements. The fifty pages of introductory matter include descriptions of the diverse vegetational areas of Texas that allow our wide variety of cacti, overviews of cactus anatomy and each of the cactus genera found in Texas, and even a description of the "cactus critters" that interact with the flora. At the end of the volume are a table of species synonyms, a map of Texas counties, a bibliography, a glossary, and a complete index.

However, the two-page species accounts are the meat of the book. They are grouped into eight sections by the predominant cactus stem shapes. These sections are marked by color-coded page edges and a shape icon. It is not entirely clear how the varieties are ordered within each group, but the index and photographs make it easy to identify the species of interest. The page spread for each variety presents a full page close-up photograph of the plant on the left side of the spread, with insets showing the blossoms and spine pattern. The narrative is on the right page, with a map showing the range within Texas and another photograph showing the plant in its natural setting within the environment. Each narrative includes sections on features, spines, flowers, fruits, seeds, habitat, flowering season, common names, synonyms, and look-alike species. There is also a code for each species identifying it as secure, apparently secure, vulnerable, imperiled, or critically imperiled, and an icon showing whether it is day- or night-blooming. The Loflins fit a lot of information within a limited space. Obviously, there are other books with longer descriptions and more information, but it might be hard to carry them on a hike. This provides almost everything that most of us would want for use in the field. As with the earlier book on grasses, the magnificent photographs are the main draw for this book. It will be very useful for anyone with even a limited interest in cactus.



Left, the Loflins were gracious enough to lead us on a native grass field trip last year.

Special Mission

Christine Powell

We were all curious why we had been summoned to an emergency seed cleaning “party” at the Lady Bird Johnson Wildflower Center on Saturday, February 27th. Was Flo Oxley drowning in seeds, had she been overwhelmed by the fall harvest, or was it something more sinister? Questions bubbled to the surface as we all settled down, and we were right, it was sinister, in fact, downright dangerous and very, very ugly!

Flo had emailed me earlier that week and asked me to get as many workers together as I could for a special emergency seed cleaning party, but she had keep the mission secret. The undertaking was only to be revealed when we were all assembled and ready for action. The turnout was good, and we were ready. Tweezers in one hand and rearing to go, the assignment was revealed—more ash seeds than you could shake a stick at. There were mountains of them, and all the same species, *Fraxius texensis*. Why so many and, lets face it, what is so special about ash seeds? Had Flo invented an excuse just to have a pizza party?

We all stood firm as we knew Flo must really have a good reason. She did and, yes, it is dire. I know many of you think these seed parties are just good clean fun—and they are—but this really was a special mission. Kew (not Q; pay attention, Miss Money Penny is not in this story) had given a time extension to all its partners to try and get as many different kinds of ash seeds stored as possible. The ugly truth was revealed that there is a new enemy out there, and it is fast moving up the most-wanted list: the Emerald Ash Borer, *Agrilus planipennis*, or *Agrilus p.* for short.

A native insect of eastern Asia, *Agrilus p.* has been one of the most significant new pest introductions in North America in recent memory. Since the first detection in Michigan in 2002, the beetle has killed millions of ash trees in parts of the United States and Canada. Although still in the northern states and Canada, the infestation is moving fast and is generally spread by the transportation of infested nursery stock, unprocessed logs, firewood, and other ash products. Tens of millions of trees have already been killed and we all need to be on the look out for any signs of *Agrilus p.* or of damage to ash trees.

Larva feeding in the tissue between the bark and sapwood disrupt the transportation of nutrients and water in the tree. Eventually the branches die, and this is followed by the death of the entire tree. Kew and its partners are stockpiling as many ash seeds as possible as a firebreak against the possible extirpation of the species in the wild. *Agrilus p.* is that serious a threat, so keep your eyes peeled for this sinister villain.



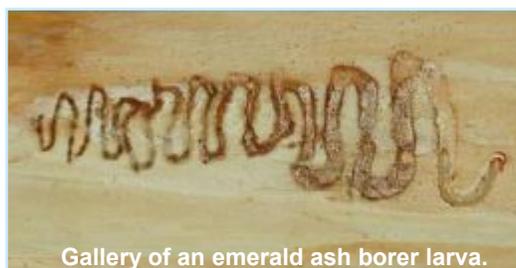
Adult emerald ash borer.



Purplish red abdomen on adult beetle.



Second, third, and fourth stage larvae



Gallery of an emerald ash borer larva.



Useful websites:

http://www.na.fs.fed.us/spfo/pubs/pest_al/eab/eab.pdf
the site that the images on the previous page came from.

[http:// www.emeraldashborer.info/index.cfm](http://www.emeraldashborer.info/index.cfm)
You can download seminars on your computer to hear the basics and more complicated seminars.

Texas Ash, *Fraxius texensis*

A Penny for a Sting

Submitted by **Susan Blackledge**

This information may be something to remember, as this season will soon be here again...

A friend of mine from Fulton, NY sent this to me. It might be wise to carry a penny in your pocket while working in the yard BEE STINGS !

A couple of weeks ago, I was stung by both a bee and hornet while working in the garden. My arm swelled up, so I went to the doctor. The clinic gave me cream and an antihistamine. The next day the swelling was getting progressively worse, so I went to my regular doctor. The arm was infected and needed an antibiotic. The doctor told me, " The next time you get stung, put a penny on the bite for 15 minutes".

That night, my niece was stung by two bees. I looked at the bite, and it had already started to swell. So, I taped a penny to her arm for 15 minutes. The next morning, there was no sign of a bite. We decided that she just wasn't allergic to the sting.

Soon, I was gardening outside. I got stung again, twice by a hornet on my left hand. I thought, here I go again to the doctor for another antibiotic.

I promptly got my money out and taped two pennies to my bites, then sat and sulked for 15 minutes. The penny took the sting out of the bite immediately.

In the meantime the hornets were attacking, and my friend was stung on the thumb. Again the penny. The next morning I could only see the spot where the hornet had stung me. No redness, no swelling. My friend's sting was the same; couldn't even tell where she had been stung. She got stung again a few days later upon her back---cutting the grass! And the penny worked once again..

Wanted to share this marvelous information in case you experience the same problem. We need to keep a stock of pennies on hand..

The doctor said that the copper in the penny counteracts the bite.

It definitely works!

WCMG Field Trip to San Antonio Botanical Gardens

Mary Hargita

On the morning of April 21st a small group of Williamson County MGs hopped on a van driven by our fearless leader, Mr. Bob Whitney. Due to a lot of pleasant conversation that went on and due to Mr. Whitney's expert driving, before we knew it, we were on the parking lot of the San Antonio Botanical Gardens.

Soon we were exploring the park with our guide, Evelyn. She told us that the ground was broken for this project back in 1967, and there is a total of 33 acres.



Master Gardeners prepare for garden tour.



One of the Texas ecosystems visited on the tour

The many facets of our state are cleverly represented here: the first area we went through was the central Texas Hill Country, which we know so well. Next we enjoyed the Piney Woods or East Texas region. Here we saw a beautiful cypress-lined lake with an adobe house, Red Buckeye and Montezuma and Bald Cypress trees with their “knees” which are above ground roots. Native ducks were frolicking in the water.

Experiencing the South Texas area, we noticed the gently rolling savannah with sandy soils giving life to mostly thorny brush with scattered Wild Verbena, Native Wild Gaura, Clinging Bedstraw, Snailseed and the Mexican Buckeyes. We saw the Children's Gardens with lots of strawberries growing and tomato plants wrapped with white landscape fabric on the sides against the wind, but open on the top for letting the sunshine in.



The Conservatory, the Desert Pavillion, the Tropical Pavillion, the Palm and Cycad Place with the various Bromeliads and the Fern Grotto with a waterfall, were all amazing and they offered many treats to our plant-loving eyes. We walked through the many gardens: the roses, the poppies, the tall, blue Delphiniums and many more of our favorite plants and those that were not familiar to us.



One of the most interesting areas was the Japanese Garden. We bumped into a young lady there who was very knowledgeable and told us how a Japanese man designed the garden and incorporated both Japanese and Texan plants. The fence around it is made of 4 different woven patterns of bamboo, because he offered those to the people here, and they insisted using all four of the designs. There are water structures built into the garden and stones and pebbles of all sizes. It was a really peaceful place.

We enjoyed our lunch at the Carriage House Restaurant, and before starting back home, we sat under the shade of the giant Wisteria Arbor.

The trip offered us enjoyment, good company and Master Gardener education the way we like it best: through experience.



TMGA Conference 2010

Wayne Rhoden

As your representative to the Texas Master Gardener Association (TMGA), I attended the annual TMGA conference in Dallas on April 8 – 10. Each Master Gardener association that belongs to TMGA has two representatives called directors that attend three meetings a year and vote on relevant changes or additions to by-laws and other programs as well as choosing when the next conference will be held. Previously we awarded the next TMGA Conference to two counties for 2011. Granbury and Glen Rose in Hood and Somervell Counties will be the two cities that will be holding the conference. The cities are about 15 miles from each other. It will be April 27 – 29 2011. At this years meeting, Bexar County and the city of San Antonio petitioned to hold the meeting in 2012 and were awarded the right to have the conference. The date has not been set for this conference but probably will be the first week of May, 2012.

This year there were not as many attendees as in previous years. Around 350 members attended and participated in the tours and training sessions as well as the JMG awards and TMGA awards. Past conferences have had as many as 650 attendees. Perhaps the economy caused the reduced member participation. By the way, the Marva E. Beck JMG Leader of the Year was Mary Kniffen from Menard County. Mary is the wife of our Rain-water Harvesting Class instructor, Billy Kniffen.

The most important part of the conference, in my opinion, is meeting other members throughout the state and finding out that we share many of the same problems and successes. Many return each year, and we have become friends just through attending the meetings.

As usual, Galveston won most of the large category awards, but more small and medium counties submitted awards this year. The winners in each category will be posted to the TMGA web site later. You may want to plan ahead and attend next year as you will surely enjoy it.

Newsletter Submissions

Thank you to those Master Gardeners who submitted articles, pictures, and ideas for this newsletter issue. If you would like to contribute to the *Williamson County Master Gardener Journal*, please send your submissions to Jane Williamson at jawilliamson516@yahoo.com by the 25th of the month. As you garden, volunteer and learn, take a moment to share with other gardeners.

WHAT A GREAT DAY!

Winola Van Artsdalen

Mother Nature may have tried to intimidate us with that downpour at 5:30 a.m. on the west side of Georgetown the morning of April 17th, the day of our first ever Master Gardeners Spring Garden Fair, followed by threatening skies continuing through the day, but the show did go on! Those of us who heard that downpour had visions of setting up tents in the pouring down rain and then spending the day by ourselves, totally miserable. That was not to be! It was dry on the east side of town, and those tents were hurriedly assembled and secured. By 8:00 a.m., we were indeed ready!

Yes, it was a great day! The crowd of shoppers arrived, the classes began, MGs manned their stations throughout the grounds by 9:00 a.m., and it was a grand success. Just enjoy the event through the following pictures Grace Bryce took to share with us .



The plant sale was a huge success.



Attendees learned about rain barrels and rain barrel construction.



The Country Store was a shopper's destination.



The Vegetable Garden was a big attraction.



Classes were interesting and informative.

Kindergarteners Enjoy Berry Springs

Claire Hall

Seventy-two kindergarteners from Village Elementary School in Georgetown recently spent a balmy spring day at Berry Springs Park and Preserve learning about wildflowers, butterflies and Tonkawa Indians. Four classrooms of children along with their teachers and parent volunteers traveled between 4 separate learning centers to listen to Master Gardeners and other volunteers tell the story of Berry Springs Park.



Students listen to their teachers give instructions prior to visiting.

Park Ranger Susan Blackledge and her assistant Mark Pettigrew led the volunteers who included Master Gardeners Edgar Nefflen and Claire Hall, Master Naturalists, and two spouses of Master Gardeners: Pat Hooper (Marlyn's husband) and Terry (Claire's husband).

At the first station, Terry and Claire told the children about John Berry's life and the improvements made to the property under Admiral Mann when 1,000 pecan trees were planted. The children then each fed carrots to the two resident donkeys, Poco and JJ. Next stop was with Master Naturalists who explained about the kinds of butterflies that could be found on the property. There were plenty of butterflies flying about for the children to observe in action. Mark and Pat then spoke to the groups about aquatic life found in the pond on the property. The children were able to see some of the fish as they peered into the water from the fishing pier. Finally, Susan and Edgar showed artifacts from earlier times. Susan has a great collection of arrowheads that were found on the grounds. They also showed a recent find: a rat snake killed the previous day.

The children capped off the day with a picnic lunch in the pavilion and playground time. Berry Springs is looking grand just now. The work put in by Master Gardeners on "Clean-up Day" has definitely paid off. It's too beautiful to wait for a reason to visit Berry Springs.



Feeding Poco and JJ their favorite treat: carrots.



Susan Blackledge shares artifacts with the students.

The Case of the Shrinking Birds

Christine Powell

An interesting side-effect (and confirmation) of global warming has recently been described by Dr. Josh Van Buskirk and associates in the journal *Oikos*: migratory birds in the United States are getting smaller. There is a well-known tendency, known as “Bergman’s Rule,” for populations of endothermic animals (birds and mammals) from colder climates to be larger than those from lower latitudes and elevations. This is often attributed to the fact that volume, and therefore heat generation, increases in proportion to the cube of the size of the animal measured in one linear dimension, while surface area, and therefore heat dissipation, increases only in proportion to the square. For example, a bird that is twice as tall has four times the area, but eight times the volume. Thus, the bigger an animal is, the more likely it is to stay warm in a cold climate, while the smaller it is, the less likely it is to overheat in a warm climate. This may not be the true explanation, however, as it appears that the tendency to grow bigger in colder climates also holds true for exothermic animals, even fruit flies. In any case, one would expect that if climate were growing warmer, the size of animals subject to the new climate would be smaller than those subjected to the old one. This proves actually to be the case.

Almost half a million birds from 102 species have been trapped, measured, weighed, and released at the Powdermill Nature Reserve in Pennsylvania since 1961. Dr. Van Buskirk and his coauthors found that over the past 49 years, 51 of the 65 species breeding in the Reserve have grown smaller, as have 60 of the 83 migrating north and 66 of the 75 migrating south. Among the local birds, there was a statistically significant correlation between warming average local temperatures and the decline in average size. The difference in size, while significant, was not very big—only 1 to 4% in most cases, but that is quite a large change over less than evolutionary time. A similar study of 517 bird skins collected in Australia between 1860 and 2001 also shows a decline in size over that period of 1.8 to 3.6%. The average size of birds now found near Sydney is similar to those once found near Brisbane, 7 degrees closer to the Equator. Other studies have shown even faster changes in the wild Soay sheep of the Outer Hebrides and in some fish. The shrinkage may benefit some species and harm others, but we may not learn which is which until the changes are irreversible. The authors of the *Oikos* study note, “Particularly salient and sobering, however, should current trends continue unabated, is the immense biological scope and geographic scale of changes that are taking place compared with the limited information and resources we presently have for measuring, understanding, and mitigating those changes.”

Wildflower Alert: Watch Your Step

Submitted by: **Susan Blackledge**

Please be careful if you are taking pictures of the little ones in flowers

It is bluebonnet time in Texas, and this year the flowers are very beautiful.

The following pictures were taken around Bastrop, Texas. It is probably a good idea to be careful when taking pictures of children sitting among the flowers.



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