Collin County NPSOT Newsletter

Tour the Heard Gardens and Meadows!
Our Next Meeting – Tuesday, June 2 6:00 pm

The next meeting of the Collin County Chapter of the NPSOT is a Tour of the Heard Gardens and Meadows. Chapter members lead members and guests on a tour of the Heard. Visit seldom-seen areas of the Heard grounds.

We will meet in the big circle area in front of the Heard Museum at 6:00pm on Tuesday, June 2. Wear comfortable clothes and hiking shoes, caps, sunglasses, and perhaps bring a backpack and binoculars. Of course, bring your camera and maybe a note pad and pen to take a few notes.

There will be both long and short hikes – and one of the short hikes will leave late in case you can’t be there at 6:00pm. There will be drinks and snacks for us when we finish the hikes. We look forward to seeing you there.

Note the early start time!

Upcoming Meetings

Tue. July 7: Plants of North Central Texas. Presented by Ricky Linex from the Natural Resources Conservation Service and author of Range Plants of North Central Texas as well as NPSOT State Vice President of Advocacy.

Tue. August 4: The NPSOT Texarkana Symposium with Previews of Austin. Presented by Collin County Chapter member Betsy Farris. Ms. Farris will present photos from the 2014 Symposium held in Texarkana and preview of the 2015 Austin symposium.

Tue. September 1: Garden Show and Tell. The program features photographs, videos and plant commentary from our own member’s and guest’s gardens, botanical outings, favorite plants or plants of interest. This is one of the most interesting meetings of the year!

Please send your pictures and information to John Worley at worljm@yahoo.com.

Fourth Saturday Workdays at Heard

We really need help at the workdays at Heard. We begin at 9 am and work until around noon. There are many things to choose from. With rain threatening this month, some worked inside, sorting plant information signs used at the Heard Native Plant Sale while (😊 the brave 😊) others worked around the Butterfly Garden or pulled grass from the beds along the road in front of the museum.

There’s always things to learn while we work; there’s a lot of fun, too. Come on by, get Master Naturalist service hours, learn about the Heard plants, and provide a much needed service to our hosts. (Remember that we are not charged to use the Heard facilities. These workdays are our way to pay them back.)

See photos on page 6.
12th Annual Stiff Creek Walk

Text and photos below by Bill Woodfin.

Carol Clark led the walk and we had just over an hour of good botanizing before taking shelter at Brigette Laplante's. The greatest challenge might not have been the rain but to stop eating. Several of our members are accomplished chefs and it showed. Among the culinary delights were a salad from Mary Ann Lynch coming fresh from her garden and a blueberry cobbler from Lisa Miller served a la mode.

The above photo shows us leaving on the trailer for the Buckner's and the photo below shows us fleeing from the Buckner's as the rain came pouring down.
The kids in the butterfly house always asked to see the Painted Ladies, but for some reason we never seem to get them. I wanted to find and raise Painted Ladies, a popular butterfly especially with children. Painted Ladies, like monarchs, have been used in classrooms for years to show the life cycle of a butterfly.

Like many butterflies, Painted Ladies have specific host plants that they lay their eggs on. For the Painted Lady, this list is quite large and includes thistles, mallows, common sunflower, nettle, lamb’s quarters, basket flower, hollyhock as well as others. I had planted globe mallow, common sunflower and lamb’s quarters, yet I had never found even a single caterpillar.

Advice from local lepidopterist, Dale Clark, indicated that thistles were preferred in this area – and if I just looked on them, caterpillars would be easy to find. When a Nodding Thistle, Carduus nutans, showed up in the Heard Butterfly Garden, I was ecstatic. It is a large biennial thistle that puts out a large rosette the first year followed by tall 6’-8’ stalks with large purple composite flowers the following year.

As I watched it grow, it attracted countless swallowtails, bumblebees and even hummingbirds. Visitors as well as me would enjoy watching them nectar and we took picture after picture. I had even discovered that the goldfinches use thistle to line their nest and eat the seeds.

I thought all was well until one day I came and found it chopped down by one of our own, Dr. Bill Woodfin. This was when I learned about how invasive the plant was and how it covered fields, producing thousands of seeds displacing our native plants.

Nodding Thistle or Musk Thistle is a biennial herb of Europe and Asia and a member of the Asteraceae (or Sunflower) family. A single flower head can produce 120,000 seeds that are disbursed in the wind and can stay viable for up to 10 years.

Bill promised me that he would bring me a replacement thistle: a Texas native thistle, Cirsium texanum. He said the butterflies loved this one as well and that it was much better behaved in our native prairies. It did bloom the first year it was planted, and although the flower was not as large, it was a native plant without all the negative attributes.

Fast forwarding to this year, I’ve found several offspring of the original Texas thistle and now have about 8 plants. I have been a very protective mother, trying to ensure they are not pulled accidently as a weed by the many volunteers that help in the gardens.

While doing this, I’ve come to find that like me, many people do not know the difference between the native and the non-native thistles. As Bill had discussed, if it is white on the underside of the leaf, then you know you have the native Texas thistle. Most of the thistle growing along the roadside and that pops up in your yard you will find is not native. but are invasive varieties.

On May 21st, I was at the Heard checking on plants, and to my surprise, I found caterpillars on the Texas Thistle. I had never found any on the other thistles, but low and behold, I had spotted 3 caterpillars. I knew they had to be painted ladies, but couldn’t be sure until I got home to ID my pictures. And YES…. I had finally gotten my Painted Ladies on the native Texas thistle.
So next time you are outside, take notice of what thistles you see. Most of them along the roadsides and in vacant lots will be the non-natives. Then come to the Heard to check out the native Texas Thistles and look for the white undersides of the leaves. If you are lucky you too will see the Painted Lady caterpillars.

**Musk Thistle**

**Nodding Thistle**

*Carduus nutans*

- **Non native** – invasive and can take over sites
- Extremely thorny
- Single seed head can produce 120,000 seeds
- To control, cut flower head off after blooming

**Texas Thistle**

*Cirsium texanum*

- **Texas native plant** – works well in prairies
- Less thorny
- Native habitat for our native insects and birds

Photos marked “cc” were taken by Carol Clark
Photo marked “ls” was taken by Lor Stierlen
All other photos were taken by Melanie Schuchart
There was a question or two asked at the month meeting that I didn’t spend enough time answering. And then at this month’s Heard Workday, Carol Clark asked me to try to get a photo of a bird in a far away tree so she could identify it. So I took the photo below. Let’s discuss it.

The above shot is handheld using a 300mm zoom fully extended (almost 10X enlargement). The lens is set at f20, so everything beyond about 100’ is “in focus”. The ISO was set to 800, resulting in a 1/200th second shutter speed.

A higher shutter speed is advised for that much zoom. But, thank goodness that my brand new 16mm – 300mm zoom lens has Image Stabilization to compensate for vibration due to being handheld. (Yes! I’m shamelessly bragging about my latest acquisition. It’s my baby!)

The abundance of the white, overcast sky “fooled the meter” and forced the photo to be too dark. I should have used the camera’s Exposure Compensation control to brighten the scene by 1 to 2 stops.

- I say this with the thought that it is always better to “fix” as much as possible in the camera. I knew brightness would be a problem and I decided to try to fix it with my PC rather than try to remember what menu and buttons I would need to press to use Exposure Compensation. Let’s look at some versions of the image after I played with them on my PC. In this series, I concentrate on the bird, cropping and then brightening the image.

Before we try to blame the camera for the lousy bird image, let’s look at a different photo for detail possible.

This image shows that the camera has the capability to capture the bird image. The camera settings were almost identical. So, what’s the difference?
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There are two differences in these pairs of photos: in the Heard photo, the distance to the subject is maybe 30% more and the weather is very humid (actually drizzling).

Let’s look at detail in a different area of the bird photo. Do you see the turquoise fringing around the leaves? That finally explains what went wrong in the Heard photo. (At least to this old nerd.)

In my May photography presentation, I noted that the sky looks blue because light from the sun bounces off of ozone in the upper atmosphere. Blue light is affected the most due to the size of the ozone molecules. The blue light appears to come from the sky in general rather than the sun directly, and the sky looks blue. (With some of the blue removed from the direct sunlight, the sunlight retains a yellow tint. And with no atmosphere on the moon, the sky there was black, even during the “day”.)

If I remember correctly from college 40 years ago, the size of water molecules affects blue-green light the most. The presence of turquoise image artifacts is an indication that light traveling from the subject area to the camera lens was refracted (or bent) as it bounced off of water molecules and ended up showing in another area of the photograph.

So, (in my opinion), the bird photo appears blurry with loss of color because it was taken in the drizzling rain and was several hundred feet away. It is very probable that another photo from the same location on a clear day would at least not be (as) blurry.

I want to return to my earlier statement that I should have used the camera’s Exposure Compensation to brighten the scene by about 2 stops. (Ooh! More nerd stuff coming!)

A Digital Cameras Sensor is typically a 12-bit Analog-to-Digital Converter. (Some of the more expensive cameras use 14 bit devices.) What this means is that the camera can discern light levels over a ratio of $2^2*2^2*2^2*2^2*2^2*2^2$ (12 times), or $2^{12} = 4096:1$ from full black and full white. Anything beyond that range cannot be recovered with a PC.

- Most people can discern 10 of these 2X steps. Most computer monitors can show 10 of these 2X steps and most prints can show 8 – 9 steps.
- Luckily, the detail in most scenes only covers maybe 6 of the steps, leaving plenty of room for error for the camera to capture the image well enough to be modified as needed on a PC.
- If the scene uses 8 of these brightness steps and if the camera can record 12 of the steps, that leaves room for a 2 step camera exposure error either way and the image can be “fixed” with the PC.
- If the scene has a lot of contrast, like a backlit scene (a bright sky with the subject in shadows in the foreground), it might take the 12 steps (or more) available in the camera to record the scene. Any exposure error in the camera cannot be “fixed” with the PC.
- Photographers use a technique called “Bracketing” to capture images like this. The camera records 3 to 5 images as fast as possible with a step difference in exposure between each one, some overexposed and some underexposed. (At least one of those images should be usable.)
- Check your camera’s instruction book and see if it has automatic Bracketing – and if it is not too complicated to figure out how to use. (I will if you will!) Digital images are free. You can always delete the unusable images later.
Photos from our 2014 Tour of the Heard Gardens and Meadows – to Whet your Appetite!
Photos from May 23 Heard Workday

Collin County NPSOT General information
The Collin County chapter of the Native Plant Society of Texas meets the first Tuesday of January through October, in Laughlin Hall at the Heard museum. Unless otherwise noted, doors open at 7:00 and the program starts at 7:15.  (Remember: 6:00 for June.)
The Native Plant Society of Texas is a non-profit organization with the goal to promote the conservation, research, and utilization of the native plants and plant habitats of Texas, through education, research, and example.
Thanks for your support.
email: collincountynpsot@gmail.com
website: http://www.npsot.org/CollinCounty/

One Last Story

Whereas I find the Heard Workdays to be fun and educational, I feel like I must relate a story that concerns our Carol Clark from our recent workday. While Carol and friends worked inside, she asked if I would want to remove grass from the front bed. The work would be interesting and I wasn’t going to let a little light drizzle deter me. However, just as I was leaving the building, she asked me not to disturb the Copperhead Snake who lives in that bed. Wait! What?

At home, the occasional Texas Rat Snake doesn’t bother me. (They aren’t poisonous.) In my blackberries, the snake keeps me from competing with critters for the berries. In fact, the only time my Texas Rat Snake needs to worry is when he comes on to my patio, climbs straight up the brick wall, out onto the ledge on my patio ceiling, and tries to eat my baby Barn Swallows or my baby Cardinals in the nearby Yaupon Holly. (If he does that, he’s toast!)

My problem is that poisonous snakes scare me. If I actually saw her Copperhead, you could have heard my (blood-curdling, little girl) scream for miles around. I was so nervous that my eyes were batting like a toad in a hailstorm. We might want to keep our eyes on Carol.

Thanks for making my Saturday so much fun, Carol!

We’ll see you at the Tour of the Heard Gardens and Meadows!

John Worley
May 2015