

GILA NATIVE PLANT SOCIETY

A CHAPTER OF THE NATIVE PLANT SOCIETY OF NEW MEXICO



B U L L E T I N

JULY, AUGUST, SEPTEMBER 2012

Editor: Charles Holmes

PROGRAMS

All programs are free and open to the public. Meetings are usually the third Friday of the month at 7:00 pm at WNMU's Harlan Hall, with refreshments following the program.

Activity updates and further details will be posted on our website www.gilanps.org. You will also receive a reminder before the date of the program.

Friday, September 21st – Our own Richard Felger will present “The Trees of the World”.

Deserts, by many, are considered to be treeless wastelands; but in reality there is quite a diversity of desert trees in the world. Dr. Felger will be exploring the realm of desert trees and will include those in the Sonoran Desert, which has one of the greatest number of desert tree species in the world.

A research associate in the Department of Soil, Water, and Environmental Science at the University of Arizona, Richard has conducted research in deserts worldwide and has published extensively in the fields of botany, ethnobiology, and new food crops.

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FIELD TRIPS

Hikers meet at 8:00 am in the south parking lot of WNMU's Fine Arts Theatre on the morning of the hike to arrange car pooling. Participants must sign a release-of-liability form at that time, and will receive a list of native plants in the hiking area. Bring water, lunch, a hat, sunscreen and good hiking shoes. For more information, call Deming Gustafson, 575-388-5192. Destinations may be changed because of weather conditions; activity updates will be posted at www.gilanps.org.

July 15th. The group will be going to Lake Roberts where the list of native plants to be seen in the area "would fill a small book," according to Deming. In addition, we earnestly hope that the monsoon will have gotten started by this date.

August 19th. We will explore Pancho Canyon and then proceed to the Gila Birding Area. Both of these locations are located a little to the west of Bill Evans Lake. *Juniperus arizonica* and *Trichostema arizonicum* will be among the more unusual plants we expect to see.

September 16th. Heading north again, the Cherry Creek Campground area will be our destination. We hope to see some fall color in the *Rhus glabra* and *Parthenocissus quinquefolia*.

REPORTS

MOSS IDENTIFICATION WORKSHOP

This spring the Gila Native Plant Society sponsored a beginner's Moss ID Workshop. The group met in Silver City each Wednesday for five weeks. With seven participants and three instructors, there was lots of time for personalized attention.

We are very grateful to Professor Kelley Allred who was able to come to most of the meetings and share his great expertise. At the conclusion of the workshop, the group put their collective knowledge to work during a delightful field trip to the Black Range. With so much more to be known about mosses in New Mexico, it is wonderful to have seven more people with the knowledge to identify them out there looking for them.

On May 20th, Deming led a field trip to a couple of locations along the C Bar Ranch Road to have a look at the spring crop of new growth in this rather dry, near-desert area at the southeastern end of the Burros.

We had three of our experts with us and about ten other enthusiasts finding stuff right and left. I have 13 especially noteworthy native plants on my cursory list; we found many others. Among the more outstanding, not-often-seen examples were *Myosurus minimus* (Mousetail), *Thelypodium wrightii* (Wright's Thelypodium), *Oenothera albicaulis* (White Evening Primrose, usually single blooms), *Delphinium wootonii* (Wooton's or Organ Mountain Larkspur). There is only a single plant of this species. Finally, we found *Hesperidanthus linearifolius* (Slimleaf Plains Mustard). What a time we all had!

On June 17th, a group of 14 with three expert botanists and a couple of herbalists made great success of a trip on Signal Peak. The north side of the peak and the last half mile before the last gate to the Lookout, was lush and blooming nicely, having been an area that received quite a bit of precipitation that was missed far below in Silver City.

Quite a bit of *Geranium caespitosum* (Purple Geranium) and *Geranium richardsonii* (Richardson's Geranium) were blooming profusely as were some *Polemonium flavum* (Yellow Jacob's Ladder) as well as *Aquilegia desertorum* (Desert Columbine).

There was also a profusion of *Valeriana arizonica* (Arizona Valerian), *Heuchera novomexicana* (New Mexico Alumroot) and *Holodiscus dumosus* (the shrub known as Mountain Spray).

This turned out to be a very good day with many other plants to enjoy and hopefully identify. We had a great time on these expeditions.

SPECIAL FEATURE

MY "AHA!" MOMENT FOR THIS WEEK

Russ Kleinman

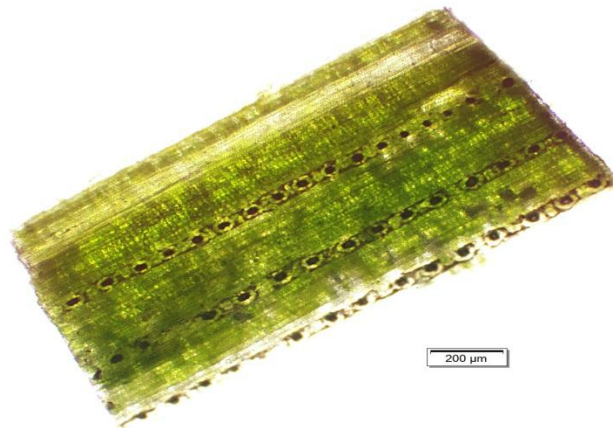
Sometimes what seems like a simple question can lead me down all kinds of paths and yield lots of new insight. That happened to me today when I thought about the stomata that most plant leaves have on their undersurface – microscopic pores with adjustable openings that let oxygen, water vapor and carbon dioxide move in and out of the leaves so that photosynthesis and transpiration can take place. The question that came to mind was, "What about pine needles?" Pine needles, after all, are just modified plant leaves. Shouldn't they have pores with guard cells to adjust the size of the openings too?

I could have gone to the internet, or opened a book to answer this basic question. Instead, I decided to go to the source. I walked outside and grabbed a twig from a Piñon. With twig in hand, I went back inside and used a razor blade to make thin longitudinal and cross sections of a Piñon needle. What would I see?

I was surprised! The stomata look like neatly arranged rows of dark holes along the needles. The needles are covered with a thick layer of waxy, waterproof material called cuticle. The stomata are channels through this cuticle. Another surprise to me was that the stomata are not on the surface of the needle, but sunken in so that they each lie at the bottom of a pit. These dark-appearing, vase-shaped sunken pits are actually what one sees from the surface of the leaf. This less-exposed position of the pores reduces water loss from them. The sunken pits, low pine needle surface area, and thick cuticle are all adaptations for life in an arid environment such as New Mexico.

Then I got to thinking about sunken pores. I've seen them before on certain mosses. Finally, I did a quick check on the internet and found that sunken pores are also common in other arid-adapted plants and in fig species. This adaptation must have evolved independently in these different plant lineages.

What is the take-home message here? Yes, I did learn a lot about pine needle anatomy and sunken stomata. The REAL message is that sometimes you just need to go inside to explore answers. I love books and wouldn't give up my library for anything, but things "stick" a lot better when you put in a little effort to find that answer hiding in your own backyard.



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