

ALABAMA WILDFLOWER SOCIETY: BLANCHE DEAN CHAPTER

SPRING IS HERE!

Special Points of Interest:

- *Monday, March 5th meeting at BBG will be out POTLUCK Dinner @ 6:30 — Please join us!*
- *Mike Hardig will speak about Liatris*
- *Saturday, March 31 - Field Trip to Perry Lakes*

MARCH 2012



Bluebells at Linda's house

MIKE HARDIG OUR MARCH SPEAKER FOR POTLUCK DINNER

"Molecular evidence of hybridization between *Liatris oligocephala* (Asteraceae) and a more-widespread congener: a preliminary assessment of the potential for extinction."

Hybridization may increase the risk of extinction for some rare and endangered plant species, either by increasing the rate of random genetic drift affecting populations or by introgression-mediated genetic assimilation. The former may occur when hybrids are less fit than nonhybrids and backcrossing would be less likely to occur, the latter may occur when hybrids are as fit, or fitter, than parents, and backcrossing is fairly common. To assess the risk of extinction by hybridization one must assess whether hybridization is actually occurring, and, if so, whether the hybrids are sterile, or are backcrossing. We analyzed one population each of the rare *Liatris oligocephala* and *L. cylindracea* and seven field-identified hybrids for ribosomal DNA and chloroplast DNA markers, and morphological characteristics to make a preliminary determination of the potential for *L. oligocephala* extinction via hybridization. We found unequivocal evidence that the two species are hybridizing, but no unequivocal evidence of backcrossing.

T. M. "Mike" Hardig, Ph.D. Born and raised in golden California. Matriculated at Humboldt State University (BS and MA) and Washington State University (Ph.D.) Teaching at the University of Montevallo since 1999. Professor in the Department of Biology, Chemistry, and Mathematics at the UM.



Liatris oligocephala
Cababa Torch is abundant in only a single glade and restricted to a handful of populations within an area of less than 1.6 km², located in the heart of the "core area" in the Ketona Dolomite Outcrop in Bibb County.



ALABAMA WILDFLOWER SOCIETY:



2012 Calendar for the Blanche Dean Chapter of AWS

Monday, March 5 - Pot Luck Dinner at the BBG starting at **6:30PM**. Dr. Mike Hardig from the University of Montevallo will speak on: *"Molecular evidence of hybridization between *Liatrix oligocephala* (Asteraceae) and a more-widespread congener: a preliminary assessment of the potential for extinction."*

Sat. March 24th - Bluebell hike at Sinks on Monte Sano – Field Trip led by Rachel Young. meet at the hiker's parking lot atop Monte Sano at **9:30 am**. (go through gate and its at the first fork on the right) There's a \$3 park entrance fee

Saturday, March 31 - Field Trip to Perry Lakes – The Blanche Dean Chapter of AWS has been invited by Dr. Thomas Wilson of Judson College to help identify native plants at Perry Lakes this spring. Since it is approximately a 1 ½ hour drive , We will meet @ **8:00AM** behind the gas station in front of Wal-Mart @ exit 238 (Alabaster, *after* the tank farm exit). We will caravan from there to Perry Lakes . Bring a picnic lunch. Check out their website: <http://www.perrylakes.org/>

Monday April 2 – Meeting at the BBG starting at **7:00PM**- Speaker Kate LeCroy.

Sat. April 21st - Collins Gulf, TN (GREAT PLACE!!!, pretty difficult 3 miles in down hill, three miles back out. 2 huge waterfalls, trilliums/ showy orchids, etc.) – Field Trip led by Rachel Young.

April 13, 14, 15 AWS Meeting in Blount County .

April 27-29, AWS goes to the Wildflower Pilgrimage in Gatlinburg, Tenn.

May 10-13 Audubon Mountain Workshop .

Sat., May 5 – Field trip Mark and Sharon Leader's 40 acre property in Blount County .

Sun. June 3rd (half day) - Keel Mtn. for Morefield's leatherflower – Field Trip led by Rachel Young.

Monday , June 4 –Wendy Jackson from the Freshwater Land Trust will be our speaker for our meeting at the BBG starting at **7:00PM**

Monday , September 10 – Meeting at the BBG starting at **7:00PM**

Minutes of November 7, 2011

SPRING IS HERE!

The Society met @ 7:00p.m. as scheduled at the Birmingham Botanical Gardens. The meeting was called to order by President Linda Sherk.

Business items included: On Saturday, 11-12-11, the Coke Ovens Park in West Blocton will have an introductory festival commencing @ 10:00 a.m. (no fee); on 11-19, the Fresh Air Family group will present a fun/educational program highlighting Ruffner Mountain Nature Preserve's wetlands and the Sand Mountain Trail; and Jan Midgley had various plants for sale, and also announced that of the courses she was teaching, not all were required to be completed for a receipt of recognition.

Treasurer Maryalys Griffis made known that our financial funds were currently in the amount of \$1263.96.

The Newsletter (as herein present) is now available via E-mail. Please inform a Society officer if you wish to receive it in such manner. It will definitely lower overhead postage costs.

Our presentation tonight was focused upon the history of Southern plant habitats (most notably our very own Bibb County Glades) over the last 10,000 years when the Continental ice shelf began the process of retreat. The speaker was Tom Diggs, currently a biology Ph.D. candidate at UAB. He is a native Alabamian and for a young man has much of both academic and in-field experience.

The Bibb County Glades were discovered by Jim Allison in 1992. The primary soil is Ketona Dolomite which is very high in the content of magnesium. While even higher concentrations of magnesium are generally toxic, these glades have a content which is perfectly suitable and necessary for the existence of the so-called prairie clovers. The soil is thin and insufficient for a meaningful display of trees. Water retention is poor. Rock predominates.

The Bibb County Glades have approximately 76 endangered species. Eight are endemic and occur nowhere else in the world. The Glades comprise approximately 500 acres.

Of the eight endemic entities, the emphasis tonight was upon the prairie clover (NOT a true clover) *Dalea cahaba*, the *Dalea* genus being named after the English botanist, Dr. Samuel Dale (1659-1739). The various species of *Dalea* are part of the bean family. All are endemic to limestone glades, and occur in other states, but only the cahaba exists in Bibb County, AL and NOWHERE else.

The *Dalea* genus is likely millions of years old but tonight we explored only that which we have been able to learn since the end of the last Ice Age

10,000 years ago.

Before the beginning of the retreat of the continental ice sheet 10,000 years ago, AL and other southeastern U.S. forests were essentially boreal, i.e., akin to what we now witness in Alaska and other areas of northwestern Canada. With the retreat, change was not instantaneous but rather incremental and gradual. The initial post-ice sheet period has been dubbed the Hypsithermal Period whereupon temperatures began to elevate and tallgrass prairies began to extend east and west. Only herbaceous plants thrived. 4000-8000 years ago, the savannahs or chaparrals began to extensively expand with the presence of some flowers (we yet see remnants of these terrains in the Alabama Black Belt). Following this, and the end of the Hypsithermal Period, the chaparrals began to shrink, followed by the domination of hardwood forests, and ferns.

With the emergence of the hardwoods/ferns, came the understandable diminution of the prairie flora. Isolations, however, occurred in the areas of limestone glades, as in Bibb County, AL. Thin soils and other features remained.

The *Daleas* survived in various western and southeastern U.S. states. Only the species *Dalea cahaba* however, is endemic to Bibb County. Why?

Mr. Diggs has discovered noted the similarity of *D. purpurea* & *D. cahaba*, and hoped that it might indicate that they are closely related (it basically helped him formulate his hypothesis) and, with the assistance of DNA analysis, that the *D. cahaba* is VERY morphologically similar, genetically 97%, to the *D. purpurea*, which occurs in other, including western, states. It is likely that *D. purpurea* is the ancestor to the cahaba. Isolation has probably led to mutations and other alterations, making the cahaba so very unique. Its future?

Mr. Diggs attempted to get assistance from Cornell University with his DNA studies. While graciously willing, Cornell was unable to contribute. Mr. Diggs commendably pursued the matter on his own. With the usage of "phylogenetic trees" (diagrams revealing evolutionary relationships), and "molecular clocks" (time scales suggesting the time frames for species deviating from one another), he independently arrived at his own conclusions/hypotheses. Hurrah for the *Dalea cahaba*!

Tonight, we not only learned of beautiful and "pretty things", we learned of their relationship to our Earth's history, ecology, and evolution. Hats off to Mr. Diggs!

Our next meeting will be in March when we convene for a feast following the winter fast. Hopefully, the Holidays have gone well for all.

Respectfully submitted,
Charles E. Gleaton, Recorder

**ALABAMA WILDFLOWER
SOCIETY - BLANCHE
DEAN CHAPTER**

President - Linda Sherk
Vice President of programs - Marty Schulman
Vice President of field trips, Michelle Reynolds
Treasurer - Maryalys Griffis
Recorder—Charles Gleaton
Editor/Web Site - Karen Hutchinson

Perry Lakes Park &

Barton's Beach

Cahaba River Preserve

AWS will travel to Perry Lakes for a walk on Saturday, March 31 - check out their website <http://www.perrylakes.org/>

BBG—SPRING PLANT SALE APRIL 12-15

Former Mazers location ... 816 Green Springs Hwy...Homewood
Th, April 12 Preview Party 5-6:30...Fri, April 13 Public Sale 9-5&6-8
Sat, April 14 Public Sale 9-5 ... Sun, April 15 Public Sale 11-3



Ruffner Mountain Native Plant Sale and Celebrate Urban Birds event, a joint venture with Ruffner Mountain Nature Preserve, Stoneshovel, and the Birmingham Audubon Society held on **April 14th from 9 to 3** at Ruffner Mountain Nature Preserve
http://birmingham365.org/event/detail/441504635/Native_Plant_Sale

Sad News for wildflower enthusiasts!

I was reading the state AWS newsletter and saw the following information about chapters in the state: The Mobile, Sumter County, Northeast Alabama (Scottsboro), and Wiregrass chapters are no longer active.

Active chapters are the Blanche Dean Chapter (Birmingham), The George Wood Chapter (Tuscaloosa), Cullman, Blount County, Shoals, Huntsville, and Bibb County chapters. Please invite a friend to our next meeting.

Time to Pay your Annual Dues...thank you for your support!

The Blanche Dean Chapter of the Alabama Wildflower Society

Encompasses the Greater Birmingham Area.

Dues: Individual \$10.00 per year Family \$15.00 per year

Make check payable to :
Blanche Dean Chapter-AWS
c/o Maryalys Griffis
2021 10th Avenue South - Apt. 720
Birmingham, AL 35205



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