SHORTIA

NEWSLETTER OF THE

WESTERN CAROLINA BOTANICAL CLUB

SUMMER 2016

Shortia galacifolia

Oconee Bells
MEMBER NEWS

Field Trip Cancellations: Occasionally, field trips must be cancelled or changed either for weather conditions or other reasons such as road closings. Such changes are sent out by email to all members by 7:00 AM the day of the field trip. If you do not have email access, please call the leader, co-leader, or recorder (whose phone numbers are listed on the schedule) to be sure that the walk is going to go as planned. Indoor programs are cancelled when Henderson County Schools are closed (see http://www.hendersoncountypublicschoolsnc.org) but NOT necessarily cancelled because of delayed opening.

For any change of address, email or telephone number, please inform Alan Graham, 544 Tip Top Road, Brevard, N.C., 28712. 828-884-3947 adgraham@comporium.net

President's Message

by Penny Longhurst

If you've ever been the WCBC President (and this is a warning to those who aspire to be) you'll remember that sinking feeling that occurs four times a year when you get an email that says, “SHORTIA is ready to go to press. Have you written the President's Message yet?” Then you think WHAT can I say this time? I was going to write about the wildflowers I saw blooming in Yellowstone during my hiking trip there last week. But fortunately, while browsing the pile of mail that had accumulated while we were away, I saw an article by Janet Marinelli entitled “Native, or Not So Much?” in the June-July 2016 issue of National Wildlife Magazine.

We all know that native plants are important for creating a wildlife-friendly garden, but they can be hard to find. “Nativars” (cultivars of native species) are increasingly being sold as decorative alternatives to true native plants. Last month Bonnie Arbuckle and Frances Jones gave a presentation at College Walk in Brevard entitled “Natives in Suburbia” based on Doug Tallamy’s books “Bringing Nature Home” and “The Living Landscape” which explain the ecological interactions between native plants and wildlife. After the talk there was a wee discussion among attending WCBC members about nativars, and Jean
Woods said, “They just don’t work the same.” So the timing was right for me to look into that and come up with something to hopefully make the Editor happy.

Nativars result from selective crosses between native plants in order to enhance some characteristic that’s thought by the breeder to be desirable, such as leaf or flower color, habit, berry size, and/or disease resistance. However, there are several drawbacks to their use. For instance, most nativars are mass produced or cloned using vegetative methods; by cuttings, by division, or by tissue culture. Therefore they have less genetic diversity than open-pollinated or straight native plants. Furthermore, it’s been observed that some of these so called desirable modifications reduce or prevent interactions between the plants and the wildlife that feed on them. For instance, sterile cultivars produce no seed for birds, fancy flower shapes may prevent bees and butterflies from gathering pollen or nectar, or changes in flower or leaf color may cause the plants to be less attractive to insects than native plants.

In the summer of 2014, Drs. Doug Tallamy, Deborah Delaney, and their graduate students at the University of Delaware started two research projects in collaboration with the Mt. Cuba Center, a non-profit botanical garden located near Wilmington, Delaware. They are studying whether nativars support the transfer of food energy from plants to insects in the same way that native plants do. One of Dr. Tallamy’s studies compares the ability of straight native shrubs and trees with nativars to see how well they attract and support insects. In addition to directly observing interactions between insects and the plants, three times during the summer they collect and identify caterpillars and beetles from the 160 test plants and then use vacuums to collect and identify all other insects on the plants. Preliminary results show that insects are less attracted to purple and highly variegated leaves, preferring trees and shrubs with a more normal green leaf coloration.

In the second study, Dr. Delaney and her grad student are monitoring the influence of color, nectar, and pollen quality and quantities in cultivars of Coreopsis and Monarda to see how well they attract pollinating insects. They have set up beehives in their test areas to collect pollen, identify on which plants the bees are feeding, and determine which have the greatest nutritional value.

We eagerly await the results of their studies. In the meantime we should, of course, try to plant straight species natives grown from seed or plant divisions rather than nativars. Personally, I love the looks of our local natives and see no reason to search out “showier” plants. Don’t forget you can obtain native plants at the plant swap to be held after the WCBC Annual General Meeting to be held at Bullington Gardens on Friday July 15th.

Welcome to our New Members!

Eleanor Claycomb—Eleanor moved to Hendersonville in June, 2015 from the small town of Pulaski, WI (near Green Bay.) The natural beauty of the area attracted her. She retired in January 2015, from a very long career as a clinical social worker in Wisconsin. She has three children and one grandchild. She enjoys cycling, hiking and camping. She is looking forward to many new adventures in retirement.

Marianne Mooney—Four years ago, Marianne Mooney moved with her husband Joe Sasfy to Asheville from Arlington, VA. Having retired from life as a chef many years ago, she spent 20 plus years in northern Virginia doing volunteer work. Most notably, Marianne served as president of the Potowmack Chapter of the Virginia Native Plant Society for ten years. She also volunteered for 19 years at Huntley Meadows Park, a 1,400 acre nature preserve with beaver-created wetlands. There she led wetland plant walks, helped on the weekly Monday morning bird walk, and served on their friends’ board. At Green Springs Gardens, a horticulture education park, Marianne served on their friends’ board for over ten years. At Green Springs she volunteered in children’s education and gardened in the VNPS propagation beds. Since moving to Asheville, she's joined the board of the Elisha Mitchell Audubon Society, has volunteered in elementary schools, and worked as a volunteer Healthcare navigator for Pisgah Legal Service. She and her husband Joe Sasfy are part-owners of the acclaimed All Souls Pizza.

Arabidopsis

by Lucy Prim

This Spring we had a wonderful presentation on Gray’s Lily by Dr. Frosty Levy. After the talk was over, we went outside, and Dr. Levy started looking down on the ground right in the dirt area where we’d all parked our cars and he pulled up a little weed and excitedly showed it to us and informed us that it was a very interesting plant. It was Arabidopsis, a member of the Mustard Family!

I don’t think any of us had heard about this plant before. Dr. Levy told us that extremely important plant genetic studies are done on this little plant. He said it was to the plant world what Drosophila melanogaster is to the animal world.

I looked at the little plant he showed to us. It looked alarmingly familiar. In fact it looked very much like, and is a close relative of, Cardamine hirsuta, the familiar little weed that many of us gleefully pull up by the thousands each spring, in a frantic effort to get them all before they spray their seeds explosively all over the ground.

As soon as I got home I looked it up on the Internet and learned that this plant was useful with genetic studies because of the short time it takes to grow and set seeds, the large number of seeds, the plant’s
small size, and its small nuclear genome. How intriguing all this was! I was aware that this world of genetic studies and genomes exists, especially when a plant’s name mysteriously changes and we have to learn the new name. Usually in our Botany Club, that is the extent of our contact with this other world and we don’t give it much thought as we merrily go out on our walks in the woods with identification books and plant lists in hand and magnifying glasses hanging around our necks. But here at the Bullington Garden these two worlds came together for a moment as we listened to Dr. Frosty Levy and passed around the wonderful little plant, *Arabidopsis*, whose genome has been fully sequenced!

Western Carolina Botanical Club Web Site

Remember to look at our new website from time to time. You can find it by typing in “Western Carolina Botanical Club”. If you click on “Posts,” you can find pictures from the walks we have been on this year (see [https://wcbotanicalclub.org/posts/](https://wcbotanicalclub.org/posts/)). It is great to see pictures of the flowers we came upon and our friends, and remember the happy times spent together. Thank you Penny and Ken for doing this!

Heuchera

by Lucy Prim

With summer soon upon us, I thought it would be interesting to learn a little more about the genus *Heuchera*.

The English name for these plants is Alumroot. A reason for this name is that the roots of *Heuchera* contain a lot of tannin, and this makes them a possible substitute for alum, a chemical that had traditionally been used in the pickling process to preserve crispness.

There are many species of *Heuchera*, thirty seven or more, and all of them are native to North America. Many of these are found in the western states, and one of them is endemic in canyons in the Channel Islands off the coast of Southern California. According to Weakley’s Flora, there are only three *Heuchera* species that we are likely to see on our walks here in the mountains of North and South Carolina: *Heuchera americana*, *H. villosa* var. *villosa*, and *H. parviflora*. The first two grow in similar places, but the leaf shape and color of the calyces allows us to tell them apart. Heucheras have a great ability to hybridize, so we will want to remember this if we find one that doesn’t fit any description in our plant identification books.
**Heuchera americana**, American Alumroot, is the most common Heuchera on the eastern side of our continent and the one we are most likely to see on our walks. It grows in woods and in areas on and around rocks. It blooms earlier than the other Heucheras, starting in April and continuing on through June. The calyx is green, and the leaves have rounded lobes. The flowers are not showy and because the petals are shorter than the calyx; the flowers never seem to really open. I have waited and waited for the buds to open, but now I realize that the flowers may be open but just not look like it. If you look closely at an opened flower you can see the bright orange, protruding anthers and the little petals, just barely peeking out from behind the green calyx.

**Heuchera villosa var. villosa**, Rock Alumroot, is endemic to the Blue Ridge area, a common plant on high elevation rock outcrops, cliffs, and summits. The leaves tend to be more sharply lobed than those of the American Alumroot. The little calyx is white or pink, often with little green tips on the lobes, and it is extremely hairy. The wispy petals reach out and curl about in odd ways, so tiny you can barely see them at all.

**Heuchera parviflora**, Cave Alumroot, is a rare plant for us here in the Blue Ridge. It grows in deep shady areas such as the base of cliffs, in wet caves, and under ledges, areas that have very little sunlight. The flowering period is from late June to October. The calyx is white or pink, and the leaves are sticky. This is an uncommon plant for our area, so whenever we are out exploring around a waterfall, we should peek amongst the rocks, into little caves, and under ledges to see if we can find this lovely little Heuchera.
Many times I have been out with the club and we’ve seen a plant that looks like either *Tiarella* or *Heuchera*. Without the flowers it can be hard to tell. Weakley’s Flora tells us that one way to make a good guess is to look at the leaves and notice whether they are longer than wide. If so, it is probably *Tiarella*, and if the leaves are as wide as they are long, (measuring the midvein), it is likely to be *Heuchera*.

It is not just a coincidence that the leaves of these two plants look so similar. Both *Tiarella* and *Heuchera* are in the Saxifrage family and are very closely related. They have been artificially crossed to create hundreds of cultivars that have come to market in the nursery trade, amazing plants of all sorts of colors. These crossed plants are called Heucherellas.

Interest in the Heucheras as garden plants started in the 1600s, when Europeans sent *Heuchera americana* back to Europe. For centuries this plant has been valued for its use in the garden. Over the last 15 or so years this interest in breeding Heucheras has exploded, and now we can just marvel at all the colorful hybrids and tissue culture creations that have come to market. There seems to be no end of fantastic colors and leaf patterns that can be created. The science around Heucheras and their ability to hybridize makes a fascinating story all in itself. How amazing to think all this came from our native North American *Heuchera* species! But, keeping in mind what we learned in Penny’s article about Nativars, our own native Heucheras will remain my favorites.

Can You Spare a Tuesday?

The Bullington Botanical Bunch (Juanita and Larason Lambert, Wes Burlingame, Frances Jones, and Bonnie Arbuckle) have plans for the Western Carolina Botanical Club's Native Woodland Garden at Bullington. With our grant from the North Carolina Native Plant Society, we will turn our sparsely decorated garden into a *strikingly* beautiful garden. We want visitors to be impressed and understand as never before the value of planting natives.

We've begun to plant evergreen shrubs to break up the open space and create “rooms.” We have wildflowers on order and will plant them as soon as they arrive. We'll enlarge our patches of plants such as heuchera, geranium, phlox, and trilliums; add new wildflowers and rearrange to create a showier garden.

*Can you spare us a Tuesday morning from 9:30 to 12:30?* Our project will last from May to October, and we'd love your help. You could offer just one Tuesday or several Tuesdays or one Tuesday a month—whatever is feasible for you.

Let Juanita (685-0180, nitalambert@gmail.com) or Frances (696-2730, fthorjon@hotmail.com) know on which Tuesday(s) you'll join us. We hope you will. We have lots of fun. At noon, after working hard, we stop and eat a lunch we've brought and enjoy each other’s company.
How to Use Weakley’s Flora of the Southern and Mid-Atlantic States

by Lucy Prim

There is a very good resource for identifying plants called "Flora of the Southern and Mid-Atlantic States" that we can download for free onto our computers or mobile devices. I have known about this resource for a few years now but I never actually knew how to use it. I could download it, but I couldn't figure out how to get to the index or the pages inside the enormous document without flipping through the 1,500 pages. But I have learned how to use it, and it is all thanks to Penny! She and I walked up Big Glassy at Carl Sandburg's and saw some sort of Robinia blooming beside the path. I had looked it up before in my identification books and thought I knew what it was. But Penny, when she got home, looked it up on Weakley's Flora and thought it was a different Robinia, and sent me a page number to refer to in Weakley's Flora. I, of course, didn't know how to get to that page number! But this time, instead of giving up, I downloaded the entire "Flora" onto my computer and noticed for the first time that it had a "slider" to the side of the screen that allows going through the document very quickly. That is how I was able to look up the Robinia. I was delighted! When I talked to Penny some time later, she said that another, even better way to look things up is to push the key that says "control" and at the same time hold down the "F" key and that will make a little "Find Box" appear on the screen and you can type in the name of the plant you want to find and it will right away take you to that page. That method worked on my Windows computer. If you have an Apple device, there will be a built in Search function to use, an icon of a magnifying glass which you can click. If you go to our WCBC website and look at the section called "Plant Identification" you will see that Penny has put in a link to Weakley's Flora for regular computers (http://www.herbarium.unc.edu/flora.htm) and other links for downloading it onto mobile devices. Penny has put the Flora on her phone and says it works fairly well.

There is a wealth of information in Weakley's Flora, with maps telling where the various plants can be found, and identification keys and information about whether a plant is native or not, and if not native, where it comes from. It is definitely not written in an easy to understand, friendly style, and in my case it takes a lot of slow, careful reading to make sense of the descriptions, and lots of looking up of unfamiliar words. But with patience, I was able to find very good information about Heuchera for this SHORTIA, and I felt so delighted to have finally figured out how to find my way around in Weakley's Flora.

So, if any of you want to use this resource, give it a try. It seems so difficult at first, but after a little trying, it is not so impossible after all!

Georgia Botanical Society Spring Wildflower Pilgrimage

by John Harrison

(Our new club member, John Harrison, has been a long time member of the Georgia Botanical Society, and I asked him if he would write a little description of his weekend pilgrimage this year, so we in the WCBC could get an idea of what they did).

The Georgia Botanical Society has a long weekend get-together each Spring, changing the location and timing each year, depending upon what's blooming. The focus this year was 'bogs' in south-central Georgia, with 22 separate half and full day field trips with diverse habitats plus a workshop with sedge expert Dr. Richard Carter. Many of these trips were on private lands. There were evening programs at Valdosta State University (VSU). Friday, Dr.
Carter gave a talk and tour of VSU's herbarium (70,000+ specimens!). It was very impressive to see and hear about Dr. Carter's passion and lifework. Saturday, Lisa Kruse of GA Department of Natural Resources presented a program on the Manassas Bog in southeast Georgia, and Dr. Debbie Folkerts of Auburn University presented a program on "Fascinating Pitcherplant Bogs."

My trips:

1) Climax Cave, near Climax, GA, sinkhole—-evening trip—-saw cat-tongue liverwort (Conocephalum salebrosum) lining cave entrance; highlight was 25,000 southeastern bats exiting cave at dusk.
2) Lost Creek, Thomasville, GA, hardwood slope forest—-lots of old growth beech, Magnolia grandiflora, spruce pine, oak, hickory; notable plants included: beechdrops, squaw root, Indian pipe, crane fly orchid, green fly orchid, sarsaparilla vine (Smilax pumila), and the rare Florida milkvine (Matelea floridana).
3) Greenwood Plantation, Thomasville, GA, a premier old growth longleaf pine forest—-very diverse plant community—-notable plants: wiregrass (Aristida stricta) of course, ground oak (Quercus pumila), orange milkwort (Polygala lutea), candyroot (Polygala nana), Osceola's plume (Stenanthium densum), and Treat's rainlily (Zephyranthes treatiae)—-notable carnivorous plants: dwarf sundew, blue butterwort, yellow butterwort, and hooded pitcher plant.
4) Quail Ridge Plantation, Norman Park, GA, longleaf pine, active quail hunting plantation—-notables: rare chaffseed (Schwalbea americana) and three pitcher plants (Sarracenia flava, S. minor, and S. purpurea).
5) Dixie Bog, near Dixie, GA, longleaf pine, quail hunting plantation—-similar to above, but also notables: dewthreads (Drosera capillaris) and rose pogonia (Pogonia ophioglossoides), one of my favorite plants.

Andrew Hamilton sent a lovely poem for inclusion in SHORTIA, with these comments: “While we were walking with Betty Jones, this poem by Robert Frost came to mind, and I thought the members of the WCBC might enjoy it, perhaps as a poem that describes our own frame of mind?” Thank you, Andrew, for such a perfect poem suggestion!

**Time Out**

by Robert Frost

It took that pause to make him realize
The mountain he was climbing had the slant
As of a book held up before his eyes
(And was a text albeit done in plant.)
Dwarf cornel, gold-thread, and maianthemum,
He flowingly fingered as he read,
The flowers fading on the seed to come;
But the thing was the slope it gave his head:
The same for reading as it was for thought,
So different from the hard and level stare
Of enemies defied and battles fought.
It was the obstinately gentle air
That may be clamored at by cause and sect
But it will have its moment to reflect.
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The purpose of the Club is to study the plants of the southern Appalachian Mountains and the Southeast through field trips and indoor meetings. Membership is open to all. Individual/family memberships are $15. New members joining from the period July 1-December 31 pay $8. All memberships are renewable on January first of each year. Send dues to Alan Graham, 544 Tip Top Road, Brevard, NC 28712.

Please send me Botanical Articles or stories or tips on plant identification that you think would be good to include in one of our SHORTIAs. If you see anything that needs correction or if you have additional information about a subject or perhaps a personal experience related to a subject, send that in too, and I can include it in a future SHORTIA. Please try to get this to me by August 25 to get it into the Fall issue.