



# WILD NEWS

## Prince William Wildflower Society

A Chapter of the Virginia Native Plant Society

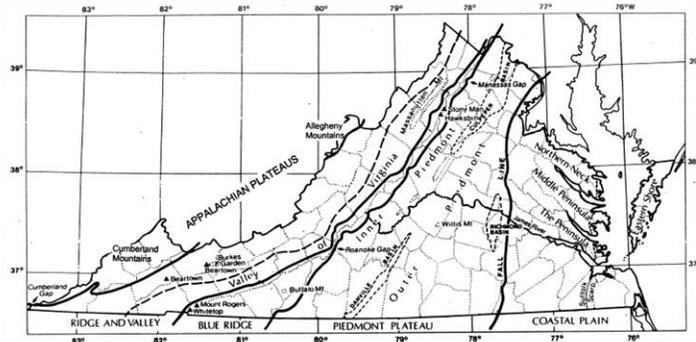
Number 2015-02

March-April 2015

**Monday, March  
16, 2015, 7:30 p.m.  
Membership  
Meeting, Prince  
William  
Wildflower  
Society  
“Virginia’s Five  
Physiographic  
Provinces,” with  
Gary Fleming  
Bull Run Universalist Unitarian Church  
9350 Main Street Manassas, Va. 20110**

From the Atlantic coast to the spruce-fir forests at more than 5,700 feet elevation on Mount Rogers, the landscape of Virginia encompasses an extraordinary range of landforms, topography, and biological habitats. Gary Fleming, using spectacular photography, will explore five physiographic provinces that intersect the state and touch on natural area protection management issues in these regions.

Gary P. Fleming is senior vegetation ecologist at the Virginia Department of Conservation and Recreation’s Natural Heritage Program with more than 35 years of experience. With his colleagues, he has done field inventory of natural communities in all regions of Virginia and developed a state-wide vegetation classification. Mr. Fleming was a contributing writer for the recently published *Flora of Virginia*, producing two introductory chapters and all the habitat information in the species accounts. He is also a long-time member and current president of the Virginia Botanical Associates, and a co-author of that group’s *Atlas of the Virginia Flora III* (1992) and online *Digital Atlas of the Virginia Flora*. In 2011, he and two collaborators described a new species of Hedgenettle (*Stachys*, Lamiaceae) endemic to southern Virginia and North Carolina, which was published in the *Journal of Botanical Research Institute Texas* (5:9-18). He



has also published in *Castanea*, *Banisteria*, the *Virginia Journal of Science*, and other scientific journals.

You will not want to miss Gary Fleming’s spectacular photos and presentation! All are welcome. Our meetings

are free and open to the public; refreshments will be served and doorprizes awarded. **Please note the one-time change of venue to Bull Run Universalist Unitarian Church** in downtown Manassas. Free parking is available on the street, at the train station, and in the Manassas municipal parking garage. (We will move back to our usual location at Bethel Lutheran Church for our May meeting).

### FROM OUR PRESIDENT

“When will it be spring?” we ask plaintively as yet another snowfall blankets our area the first week of March. Perhaps by the time you read this, the snow and ice will be but a distant memory. The cold, snowy winter should make us appreciate the blooms of spring all the more. And we don’t want to hear any complaints about the heat at the height of summer.

Christmas is long over, but the season of giving continues with PWWS. Two years ago we were making the rounds distributing copies of the *Flora of Virginia*, and this year we have been distributing copies of the charming children’s book *Isabella’s Peppermint Flowers*. Your PWWS board decided that we would donate copies of this intro to the world of botany to all the elementary schools in the local area as well as each library – 78 copies in all. Charter PWWS member Nicky Staunton illustrated this lovely book that features spring beauty, *Claytonia virginica*, as the peppermint flowers. Dr. Susan

Leopold, who presented a program to us about ethnobotany of Bull Run Mountain, is the author.

While a couple of the presentations were to the school board and library foundation, respectively, the one for the City of Manassas Park was more personal. The city's school superintendent, Dr. McDade, invited Harry and me to a presentation at Cougar Elementary School of the two donated books. The principal, Mrs. Terry, knew the value of a good photo op and invited a cute and precocious first grader to participate. She was entranced with the book and proceeded to read it silently as we posed for photographs. The school librarian promised her that she could see it on her next class library day. The principal of Manassas Park Elementary School, Mrs. Mamon, with whom PWWS has collaborated about the native plantings at the school, participated in a separate presentation.

We are very pleased to have Gary Fleming, Virginia's chief vegetation ecologist, to present the March 16 program. In addition to his wealth of knowledge about the natural world, he is a superb photographer. We will enjoy viewing special places from around the Commonwealth with Gary as our guide. He also developed the restoration plan for Bull Run Mountain Natural Area Preserve. This month's meeting is being held at a different church to take advantage of its sound system. Bull Run Unitarian Universalist Church also has a bigger meeting room, so we can accommodate a bigger crowd. Don't worry about parking in old town Manassas. While street parking is not always open, surface parking is available at the nearby train station and the parking garage is just a short walk away.

Be sure to participate in some of our annual spring rituals, such as the Bluebell Festival at Merrimac Farm on April 12, as well as our garden tour and plant sale. Proceeds from the plant sale make it possible for us to fund worthy projects and purchases. ~ Nancy

**Prince William Wildflower Society  
Membership Meeting Minutes  
Monday, January 19, 2015, Bethel Lutheran Church**

President Nancy Vehrs welcomed all and thanked Carol Thompson and Janet Wheatcraft for bringing refreshments. **Announcements:** Nancy announced Rich Darke's talk, "The Living Landscape" will be February 15 at 2 p.m. It will be held at the Manassas Community Center, and she

invited all to register with the information listed in *Wild News* or in the flyers.

- Lois Montgomery asked for help from PWWS membership with an upcoming nature field trip with her church's youth group. Date and details will be finalized later.
- Harry Glasgow said the Merrimac Farm bird walks are the last Sunday of each month, not the first Sunday as listed in *Wild News*.

A clipboard was passed around with 3 sign-up sheets; Nancy asked members to sign up to help with Rich Darke's February 15 presentation, the April 19 PWWS garden tour, and the May 9 PWWS plant sale.

**Annual Member Slide Show:** Thank you to the members who showed slides from their travels, as well as plants and animals found in nature or in gardens. Dee Brown and Glen Macdonald showed spring wildflower photos taken at Kentucky Shaker Village, the Lake Cumberland area near Jabez, Ky., Montreat and Asheville, NC, and the Great Smoky Mountains. Karen Waltman showed pictures taken by a friend, Laura Hall. The plants and animals were from the C & O Canal, Sky Meadows Park, G.R. Thompson Wildlife Management Area (Trilliums and Lady's slipper orchids), McKee-Beshers Sunflower Fields and Suitland Bog in Maryland (Pitcher plants), Harpers Ferry, Bull Run Regional Park (Bluebells), Occoquan Bay National Wildlife Refuge, and Shenandoah National Park. Nancy Vehrs showed slides from Wisconsin, where she and Harry Glasgow visited Aldo Leopold's Shack and Aldo Leopold Center, as well as Horicon Wildlife Refuge. Then Nancy showed slides from her visit to Green Swamp Preserve, a Nature Conservancy property near Wilmington, NC; it is a longleaf pine savanna/pocosin.

**Doorprizes:** Lois Montgomery, *Men and their Gardens*; Barbara Deegan, *Native Shrubs and Woody Vines*; Rose Breece and Janis Stone, a copy of the new book, *Isabella's Peppermint Flowers*; and Dee Brown, *Native Trees*. [Karen Waltman donated the two copies of *Isabella's Peppermint Flowers* in appreciation of Laura Hall.]

**Those in Attendance:** Nancy Vehrs, Harry Glasgow, Judith McDaniel, Rose Breece, Glen Macdonald, Dee Brown, Amy Hamilton, Janet Wheatcraft, Jeanne Fowler, Stan Fowler, Tamie Boone, Brenda Hallam, Beverly Houston, Jeanne Endrikat, Barbara Deegan, Rita Romano, Lois Montgomery, Christy Thomas, Suzy Stasulis, Janis Stone, Tom Attanaro, Carol Thompson, Nancy Arrington, Karen Waltman.

~~ Karen Waltman, PWWS Secretary

**WELCOME NEW PWWS MEMBERS!**

Prince William Wildflower Society extends a hearty "welcome aboard" to recent new members: **Lea Wolf, Haymarket; Susan Caudle, Chantilly; Lois Montgomery, Manassas; and Suzanne Foster, Fairfax.**  
~~ Janet Wheatcraft, Membership Chair

# Prince William Wildflower Society

## SPRING 2015 EVENTS



### MARCH

**Thursday, March 19, 2015, 7:30pm, Archeology and Historic Sites of Interest in Prince William County** by Justin S. Patton, RPA, Archaeologist for Prince William County. McCoart Administrative Center, Room 107 A&B in the Developmental Services Building, Prince William, Va. 22192. Sponsored by Meetings of Historic Prince William. Historic Prince William meets in the evenings several times a year. Meetings are free and open to the public; please come and join us. For more information and directions, see <http://www.historicprincewilliam.org>.

**Saturday, March 21, 2015, 9:00 a.m. to Noon, Volunteer Native Plant Planting: The Wildlife Garden at Merrimac Farm**, 15020 Deepwood Lane, Nokesville, Va. Prince William Conservation Alliance. We'll have bare root seedlings, grasses, and wildflowers to plant between the Wildlife Garden and floodplain wetlands. The Wildlife Garden is a four season greenscape of native plants that creates a high quality area for families to watch wildlife in a public area that is easy to access. We recently added a Pollinator Palace, a habitat for beneficial insects that adds some nature art to the garden. Please join us to help plant more plants and see for yourself. All ages are welcome. Lunch is provided. For more info and to RSVP, email [alliance@pwconserve.org](mailto:alliance@pwconserve.org) or call (703) 490-5200.

**Monday, March 23, 9:15am (coffee and networking) to 1:45pm. Oh Deer! Strategies for White tail Deer Management. Capital Region Invasive Pest Symposium** sponsored by PWCA. Prince William Cabin Camp 5 (Happy Land), Mawavi Road, Triangle, Va. Join us to get up to date information regarding deer management issues within the Capital region. The program begins promptly at 9:45; lunch is provided by Good Grubbin for \$10 (paid on site) enter your choice when you register online. Registration is free. For program, speakers, and registration information, please see <http://www.pwconserve.org/events>. PWWS Conservation and Education Chair Charles Smith will be part of the panel discussion; the event includes a field walk.

**Monday, March 23, 7:00 to 8:30 p.m. (Kickoff Meeting) for Virginia Cooperative Extension (VCE) Prince William Drinking Water Clinic**, 9248 Lee Avenue, Old Courthouse, Manassas. Do you know what's in your drinking water? While public water supplies are tested daily for contaminants, most private water supplies, like wells and springs, are rarely tested. It is recommended that well owners test their water at least annually for bacteria, nitrates. Basic well testing can cost over \$250, but through the Virginia Household Water Quality Program (VHWQP),

an array of tests only costs \$49. The goal of VHWQP is to improve the water quality of private water supplies by offering low cost water sampling and information about possible treatment options. The kick-off meeting introduces water quality concerns in our area; kits will be provided. The **Results Interpretation Meeting on May 6, from 7:00 to 9:00 p.m.** will explain the report and answer questions on dealing with water problems. The cost of this program is \$49. Fee will be collected at the Kickoff Meeting. Water samples must be dropped off between **6:30 am and 10:00 a.m. March 25**, at the VCE Prince William Office, 8033 Ashton, Suite 105, Manassas, 20109.

**Saturday, March 28, 10:00a.m., Minnieville Road Buffer Restoration**, Minnieville Road, next to K9 Gunner Memorial Dog Park. Sponsored by PWCA. Please join us in our continued efforts to restore the buffer next to K9 Gunner Memorial Park on Minnieville Road. We will be planting native plants, trees, and shrubs. More info and RSVP (appreciated) to PWCA, (703) 499-4954 or [alliance@pwconserve.org](mailto:alliance@pwconserve.org).

**Sunday, March 29, 8:00 a.m., Bird Walks at Merrimac Farm Merrimac Farm**, Stone House, 15020 Deepwood Lane, Nokesville, Va. (This walk is scheduled for the *last Sunday* of every month). We'll look for birds as we travel through the uplands to the edge of the floodplain, covering a variety of habitats, including open fields and woodland edges. Everyone is welcome. To view the bird list, see <http://www.pwconserve.org/wildlife/birds/lists/merrimacfarm.htm>. More info and RSVP (appreciated, not required) to PWCA, (703) 499-4954 or [alliance@pwconserve.org](mailto:alliance@pwconserve.org).

**Sunday, March 29, 2:00 to 3:30 p.m. Volunteers needed to monitor 2015 Bluebird Trails.** Meet in front of Chinn Library entrance. Thanks to the many people who install and tend nesting boxes, Bluebird populations are growing. We need volunteers to help monitor the Bluebird Trails at Volunteers follow a protocol to ensure birds nesting in the boxes are not disturbed. This is a great activity for families! RSVP appreciated. Call PWCA at (703) 499-4954 or email [alliance@pwconserve.org](mailto:alliance@pwconserve.org).



### APRIL

**Thursday, April 2, 7:30 p.m., A Virtual Tour of Virginia American Water's Clean Water Farm in PWC**, Bull Run UU Church, 9250 Main St., Manassas. Speaker is Terry Miller, the Plant's Manager. Join us on April 2 to learn how a clean water farm operates and why we look at it in the same way someone may understand gardening or farming.

**Saturday, April 11, 9:00 a.m. to Noon, "Saturday in the Garden: Companion Planting."** Discover which plants, grown side by side, benefit each other and result in healthier plants and better garden yield. Join the Cooks' Garden Master Gardeners for planting potatoes and

turning cover crops. Teaching Garden at St. Benedict Monastery, 9535 Linton Hall Road, Bristow, 20136. All programs are free. Registration is requested: Call (703) 792-7747 or email [master\\_gardener@pwcgov.org](mailto:master_gardener@pwcgov.org).

**Sunday, April 12, April 12, 2015, from 10:00 a.m. to 4:00 p.m., Bluebell Festival at Merrimac Farm.** PWCA. Please join us to welcome spring and view the spectacular display of Virginia Bluebells that carpet the floodplain along Cedar Run for nearly a mile. Bring binoculars, cameras, and the kids! Tours to the floodplain led by local naturalists depart every 20 minutes. For a list of the walks and more information on the Bluebell Festival, please see <http://www.pwconserve.org/merrimacfarm/bluebellfestival/index.html>, or contact PWCA at [www.pwconserve.org](http://www.pwconserve.org).

**Sunday, April 19, Noon to 5 p.m.,  
Prince William Wildflower Society's  
Annual Spring Native Garden Tour.**

The event everyone looks forward to! This year's tour will feature three local gardens that showcase native plants in creative landscapes. Please join us for this annual outing that is free and open to the public. Stroll three mostly shady gardens featuring spring ephemerals and native shrubs and trees, enjoy refreshments, and share your enthusiasms with other nature lovers. PWWS members opening their gardens for this year's tour include **Barbara Deegan**, whose woodland garden on 5 or more acres is new to the tour, **Janet Wheatcraft**, whose town garden with its steep, tumbling hillside covered by masses of Bluebells and Claytonia is a sight not to be missed by all winter-weary folk, and last, a return to the garden of our own president, **Nancy Vehrs**, whose shady backyard features ferny paths interwoven with Bluebells, Green and Gold, and many other spring ephemerals.

We need volunteers to make the tour a success. If you can donate baked goods or other snacks to offer as refreshments or can serve as a host at one of the gardens, please contact Nancy Vehrs at [nvehrs1@yahoo.com](mailto:nvehrs1@yahoo.com) or (703) 368-2898. There will be a signup sheet at our March 16 meeting.



MAY

**Saturday, May 9, 9:00 a.m. to Noon, "Saturday in the Garden: Good Guys and Bad Guys."** Learn about the many insects that help us in the garden and tips and tricks in the organic vegetable garden. Teaching Garden at St. Benedict Monastery, 9535 Linton Hall Road, Bristow, 20136. All programs are free. Registration is requested: Call (703) 792-7747 or email [master\\_gardener@pwcgov.org](mailto:master_gardener@pwcgov.org).

**Saturday, May 9, 9:00 a.m. to Noon, PWWS Annual Native Plant Sale, Grounds of Bethel Lutheran Church,** 8712 Plantation Lane, Manassas. Sun- and shade-loving native wildflowers, shrubs, and trees; great prices, lots of variety! Bethel Lutheran Church, 8712 Plantation Lane, Manassas.

PWWS members: We need your plants! It's time to start potting- up and planning for our **May 9** plant sale. Think about what natives you can contribute as your plants begin emerging this spring. I have compiled some suggestions and instructions for potting, which I will have at the March membership meeting or I can email them to you. We have labels and pots for you if you need them to pot up your plants. Let me know if you have any questions. Thanks in advance for helping with the sale. Even if you don't have plants to contribute, there are many ways you can help out and we need all the help we can get! Please let me know if you'll be available: (703) 408-7446 or [narrington1@verizon.net](mailto:narrington1@verizon.net).

~Nancy Arrington

**Saturday, May 16, 9:00 a.m. to noon. Prince William Wildflower Society Workday at Manassas Park Elementary School.** This is the Saturday after our plant sale. Join us in Manassas Park to work alongside MPES elementary school children and their parents. Bring gloves, tools, or wheelbarrow. More details available closer to the date: Contact **Nancy Arrington** at [narrington1@verizon.net](mailto:narrington1@verizon.net) or (703) 368-8431.

**Saturday, May 16, 2015, 8:30 a.m. to 3:30 p.m.** The Master Gardener Association of the Central Rappahannock Area presents the **3rd Annual Living in the Garden: A Plant Lover's Symposium**, Lee Hall, University of Mary Washington, 1301 College Avenue, Fredericksburg, Va. 22401. The Symposium will feature presenters **Nancy Vehrs**, "Attracting Birds and Butterflies with a Beautiful Native Plant Garden," **Colston Burrell**, "The Art of Perennial Combinations," **Cindy Conner**, "Grow a Sustainable Diet," and **Guy Mussey**, "Plant Tour of University of Mary Washington Grounds." The cost of the Symposium is \$40 for MGACRA members and \$45 for non-members. Cost includes a boxed lunch. Registration deadline is May 9, 2015; early registration by April 1, 2015, deduct \$5 from cost. For more information, please contact Ann Gorrell at [anngorrell@hughes.net](mailto:anngorrell@hughes.net) or VCE Stafford Office: (540) 658-8000. For full description of lectures, bio of presenters, and directions, please go to [www.mgacra.org](http://www.mgacra.org).

**Monday, May 18, 2015, 7:30 p.m., Bethel Lutheran Church, Manassas, Va., "The Delights and Challenges of Owning One of Virginia's Natural Area Preserves,"** presented by **Marcia Mabee**, conservation committee chair, the Virginia Native Plant Society board of directors. Her presentation is the story of how the Naked Mountain Natural Area Preserve came to be and the discoveries and obligations inherent within the preserve that continue to this day.

Thursday, May 21, 2015, 7:30 p.m., "History of the Town of Occoquan," by Earnie Porta, former mayor of Occoquan. McCoart Administrative Center, Room 107 A&B in the Developmental Services Building, Prince William, Va. 22192. Sponsored by Meetings of Historic Prince William. For more information and directions, see <http://www.historicprincewilliam.org>.

## The Living Landscape

### Summary of Rick Darke's Talk

By Dee Brown, Prince William Wildflower Society and Master Gardener

[Article adapted from the VNPS blog by Deanna High]

Noted author and photographer Rick Darke talked to over 180 attendees at the Manassas Park Recreation Center about the topics covered in his new book, co-authored with Doug Tallamy, *The Living Landscape*. The February 15 event was sponsored by the Prince William Wildflower Society Chapter, the Prince William Conservation Alliance, and Prince William Master Gardeners. Thanks very much to all the sponsors!

PWWS member Dee Brown has summarized some of Rick Darke's main points relating to home landscaping:

"Mr. Darke's main point, in a nutshell, is: If you replicate nature's layering with native plants, you will greatly increase the biodiversity (living organisms) of the area. Most of his talk consisted of photos illustrating this point. He used his own 1½ acre yard to document this effect. He began with the usual sterile suburban yard consisting of grass with a few trees scattered through it. Over time he removed lawn and began replicating nature's normal layering and noted the ever increasing ecological improvements and the return of wildlife. [*Juniperus virginiana*, Eastern red cedar, especially beloved by cedar waxwings]. (Photo from book)



The layering is made up of:

- **ground covers**
- **herbaceous plants**
- **shrubs**
- **understory trees and canopy trees**

It was not necessary to plow up the entire yard at once, he worked in small islands, often only 25 or 30 feet long and 10 or 15 feet wide. A garden hose was used to lay out pleasing shapes for these small mini-

systems, which were then connected by paths of lawn, mulch, rock pavers, or moss. Over time he created garden rooms, ponds, fire pits, and small meadows. His book, *The Living Landscape*, contains numerous lovely photos of these transformations and the many animals for which they provide a living habitat.

Enriching compost formed the base layer, created mostly from his own leaves, grass clippings, and kitchen. Once ready, he used decomposing logs to grow fungi, lichens, and moss. He added covers like sedum and mosses which spread fairly rapidly. He also used plants whose seeds are dispersed by ants or that self-seed, like bloodroot or Dutchman's breeches.

Chapters on Observation, Ecological Functions, Interrelationships, and more make this more than a gardening book.

Herbaceous plants included many ferns, woodland phlox, and lots of mayapples for boxturtles. Many of these plants are very shade tolerant because he planned for shrubs and trees around them. At the end of his book there are pages of suggested plants for the Mid-Atlantic and Southeast areas. The charts also list animal species, especially pollinators, birds, and butterflies, that are attracted by these plants.

For the shrub layer, Darke prefers berry-producing bushes for food. Viburnums are a favorite as are spicebush, blueberries, and vines like Virginia creeper or coral honeysuckle. Smaller (up to 20 or 30 foot) understory trees which come next in the next layer, include redbud, dogwood, serviceberry, and holly. For the canopy layer, oaks are best since they provide habitat for over 400 species.

Black cherry, beech, maples, and hickory also provide food and host plants for many living creatures. Again, the numerous pages of charts at the end of his book give enough ideas to vary the islands greatly, to give greater or lesser privacy, year round color, and habitats for different animals.

Darke was quite enthusiastic about how little it took at times to provide what he called ecological functionality. For example, he found a nice flat rock

which he chiseled out to about 1 inch deep for a bird bath. It attracted a variety of birds that drank and bathed, as well as frogs and peepers. He was also pleased with how quickly many of the islands filled in. He used many self-seeding plants and small trees, even planting acorns, to reduce costs and time.



Each island became a mini-ecosystem rather than a decorative flower bed, and wildlife quickly responded to it. In addition, these eco-systems cleaned the air, retained water, protected watersheds (by not using artificial chemicals), enriched the soil, mitigated extreme weather conditions, provided the basis of beautiful outdoor entertaining spaces, and left running and exercise paths for his golden retriever.

What's not to love?"

*Thanks, Dee, for the excellent and succinct summary of the Rick Darke's message! On behalf of Master Gardeners and PWWS, we would like to thank all the volunteers who helped with the Rick Darke presentation. Janet Wheatcraft coordinated the book sales and signing; Jennifer Graham helped with registration, Leslie Paulson coordinated the Master Gardener contributions; Charles Smith helped with signs, and Karen Waltman coordinated the volunteer effort for PWWS. Finger snacks from PWWS were provided by members Carol Thompson, Amy Hamilton, Dee Brown, Suzy Stasulis, Beverly Houston, Brenda Hallam, Lois Montgomery, Nancy Vehrs, Rose Breece, Janet Wheatcraft, and Karen Waltman. Harry Glasgow and Kim Hosen provided and worked the coffee bar. PWWS has a few extra copies of Rick Darke and Doug Tallamy's latest book, The Living Landscape, for \$30. The books will be available at the March 16 membership meeting, or contact Nancy Vehrs if you're interested in purchasing a copy. ~Deanna High*

## Cutleaf Toothwort

By **Marion Lobstein**, botany chair, PWWS and professor emeritus, NOVA

Cutleaf toothwort (*Cardamine concatenata*, formerly *Dentaria laciniata*) is one of the showiest members of the mustard family (Brassicaceae) to be found in our deciduous woods from mid-March into May. This

perennial species is a spring ephemeral that disappears above ground by late May. The habitat of cutleaf toothwort is rich, moist deciduous woods. Its range is from western Quebec and Vermont south to Florida and Alabama and east to Kansas. In Virginia, Cutleaf toothwort is found in overall, except for a handful of southeastern counties.

The updated genus name *Cardamine* is derived from the Greek word *kardaminē*, an ancient name for watercress used by Dioscorides, the Greek physician of the 1<sup>st</sup> century A.D. The species epithet or name, *concatenata*, means to link together and refers to the chain-like, linked segments of the rhizomes. The former genus name *Dentaria* is derived from the Latin *dens*, meaning tooth, referring to the rhizomes, which have a toothed appearance, and *laciniata*, which means slashed or cut, referring to the irregular tooting of the leaves. Other common names for cutleaf toothwort are Crinkleroot (referring to the appearance of the rhizome), Purple flowered toothwort (referring to the variation in flower color), and Pepperrout (referring to the peppery taste of the rhizomes of this and other toothwort species).



The flowers of this species are borne in a loose terminal cluster of 12 or more on flowering stems or peduncles that are three-quarters to one-inch long. Each one-half to three-quarter inch-long flower has four

green sepals, four white petals that are usually tinged with pinkish-lavender, six stamens—with two being shorter than the other four, and a pistil with an elongated style. The scentless flowers secrete nectar that attracts a variety of species of bees and syrphid flies.

The three-quarter to one- and one-half inch-long fruit that develops after fertilization is an elongated, narrow fruit (characteristic of many species of the mustard family) called a **silique**. There are approximately six small brown seeds within each fruit. The seeds are

explosively dispersed as the fruit matures and splits open.

The height of cutleaf toothwort plants is seven to fifteen inches tall. The three whorled leaves of cutleaf toothwort develop roughly two-thirds up on the stem. These leaves are usually deeply divided into three to five segments whose margins may range from sharply toothed to almost entire. There may even be some purple tinge on the young leaves. The petioled leaves are two to four inches wide. The light-colored, pungent rhizome is five to seven inches long and often has a beaded appearance. Its fibrous roots of the rhizome are shallow. As with other spring ephemerals, the leaves and aboveground stem of toothwort generally senesce or die back by late May. A few plants may have leaves that persist into summer.

A less common species of toothwort, the Slender toothwort (*C. angustata*, formerly *D. heterophylla*), can be found in northern Virginia. The species epithet *angustata* means slender, and *heterophylla*, having different leaves. The flowers of Slender toothwort are very similar to those of Cutleaf toothwort, but there are only two (rarely three) opposite toothed leaves halfway up the stem as well as a basal toothed leaf. The habitat of this species is in drier woods.

Medicinal uses of cut-leaved toothwort rhizomes were used to treat colds and throat problems. Crushed rhizomes were used as poultice to treat wounds. Based on the "Doctrine of Signatures" (the premise that if a plant part resembles a human body part it has the medicinal value to treat that body part), it was once thought the rhizome segments that resemble teeth could be used to treat toothache.

American Indian tribes, early European settlers, and modern native plant food enthusiasts have used the peppery rhizome of toothwort in various food preparations. According to some people, it can be substituted for horseradish. However, as with other native plants, please leave toothwort plants you find for you and others to enjoy in years to come. Feast on delicate beauty of this plant with your eyes only!

### **The Toothwort Species *Dentaria laciniata* and *D. heterophylla* Now in Genus *Cardamine* and Brassicaceae (Mustard Family) Taxonomy**

By **Marion Lobstein**, Botany Chair, Prince William Wildflower Society and Professor Emeritus, North Virginia Community College

In the *Flora of Virginia* there are a limited number of taxonomic changes in the Brassicaceae, the Mustard family. Two of the most obvious changes for spring wildflower enthusiasts, however, are the scientific names of *Dentaria laciniata* (Cutleaf toothwort) and *D. heterophylla* (Slender toothwort) to *Cardamine concatenata* and *C. angustata* respectively. Based on the work of C.L. Willdenow, H.E. Muhlenberg gave the name of *D. laciniata* (Slender toothwort) to *C. concatenata* in 1800. Muhlenberg also named *C. dissecta* (Fork-leaf toothwort, only documented at one location in Virginia) *D. multifida*.

In the southwest mountains of Virginia, there is a third toothwort species, *C. diphylla* (Two-leaf toothwort), formerly *D. diphylla*. *C. concatenata* and *C. diphylla* were renamed *D. concatenata* and *D. diphylla*, respectively, by Andre Michaux, the French botanist and explorer. In the late 1700s through the early 1800s, Michaux explored much of the eastern U.S. and southeastern Canada. After his death in 1802, the scientific names of these two Toothworts were published (1803), giving credit to Michaux. Thomas Nuttall named *C. heterophylla* (Slender toothwort) *D. heterophylla* in 1818. O. Schwarz in 1939 proposed the name *Cardamine concatenata*.

Linnaeus lists eight species of *Dentaria* in Species Plantarum (1753) but all of these were European species. Now all species of *Dentaria* are placed in the genus *Cardamine*. By the end of the 1800s, various botanists were suggesting *Dentaria* should be a subgenus of *Cardamine*. In 1870, William Wood changed the name of *D. heterophylla* to *C. heterophylla*, and in 1903, O. E. Schulz changed the name of *C. heterophylla* to *C. angustata*. By the 1930s, a number of *Dentaria* species were moved to *Cardamine* by many botanists. O. Schwarz in 1939 proposed the name *Cardamine concatenata* for *D. laciniata*. In the last twenty-five years, numerous DNA studies have indicated that former *Dentaria* species are indeed species of *Cardamine*.

Brassicaceae or Cruciferae, the Mustard Family, is one of the largest dicot families worldwide with roughly 340 genera and 3780 species. In the *Flora of Virginia*, there are 30 genera and 67 species treated. Brassicaceae is also one of the easiest families to recognize, with four sepals, four petals, six stamens (four long and two short), and a pistil with a superior ovary. The shape of the flower is reminiscent of a cross, thus the traditional family name of Cruciferae. The modern family name of Brassicaceae is based on

the genus *Brassica*, with the suffix –aceae added. This effort to standardize family names using a typical genus of that family and adding –aceae goes back to 1930 with the development of the International Code of Botanical Nomenclature by the International Botanical Congress. In the Code, eight historical family names were designated to legitimize the historic names with the newer names, and Cruciferae and Brassicaceae was one of the eight families. The recognition and uses of members of this family go back to Greek and Roman times and perhaps even farther back in Europe. Some of the genera, such as

*Cardamine*, were used by Dioscorides, the Greek physician of the first century A.D. Herbalists of the sixteenth and seventeenth centuries, such as Dodoen, Gerald, and Culpeper recognized European species of *Cardamine* for medicinal use. Edible use of species and cultivars in this family—often called the Cabbage family—are legendary, going back to ancient times.

The *Flora* lists other taxonomic changes in Brassicaceae species and genera. Below is a summary of these changes:

*Arabis*, once a fairly large genus in Virginia now has only two species: *A. patens*, spreading rock cress and another rare mountain species, *A. pycnocarpa* (hairy rock cress)

*Arabis lyrata* (Lyre-leaf rock cress) now *Arabidopsis lyrata*

*A. glabra* (Tower mustard) now *Turritis glabra*

Most *Arabis* species moved to *Boechera*:

*A. laevigata* var. *burkii* (Burk's smooth rock cress, a rare variety documented in the mountains of Virginia) now *B. burkii*

*A. canadensis* (Canada rock cress) now *B. canadensis*

*A. shortii* (Shorts' rock cress) now *B. dentata*

*A. laevigata* (Smooth rock cress) now *B. laevigata*

*A. serotina* (Shale barren rock cress) now *B. serotina*

*Rorripa nasturtium-aquadum* (Watercress) now *Nasturtium officinale*

*Thlaspi perfoliatum* (Perfoliate pennycress) now *Microthlaspi perfoliatum*

*Sibara virginicum* (Virginia winged rock cress) now *Planodes virginicum*, but was named *A. virginicum* by Linnaeus

*Alliaria officinalis* (Garlic mustard) is now *Alliaria petiolate* but once was named *Arabis petiolate*, originally *Erysimum alliaria* (Linnaeus)



PRINCE WILLIAM WILDFLOWER SOCIETY  
A Chapter of the Virginia Native Plant Society  
P.O. Box 83, Manassas, Virginia, 20108-0083

*Next Meeting:* Monday, March 16, 2015, 7:30 p.m.  
“Virginia’s Five Physiographic Provinces,” with Gary Fleming  
Bull Run Universalist Unitarian Church, Manassas, Virginia 20110