

POTOWMACK NEWS

Potowmack Chapter of the Virginia Native Plant Society

VOLUME 34, No. 3, JUNE-AUG. 15, 2016

Accotink Gorge

By Fritz Flohr Reynolds



IONACTIS LINARIIFOLIA (STIFF-LEAVED ASTER) ACCOTINK GORGE, JUNE 2015. ALL PHOTOS IN THIS ARTICLE BY FRITZ FLOHR REYNOLDS.

The first time I set foot in Accotink Gorge, I knew I had discovered, or rediscovered, something really special. Everywhere I looked I saw species such as *Clitoria mariana* (Butterfly Pea), *Silene caroliniana* (Wild Pink), and *Ionactis linariifolia* (Stiff-leaved Aster), that I had previously only encountered in the DC Metro area in Mather Gorge, on national park land near the Great Falls of the Potomac River.

Like the Potomac River, into which it eventually flows, Accotink Creek must cross the Fall Line to descend from the Piedmont into the Coastal Plain. Like the Potomac River, but in miniature scale, Accotink Creek possesses a great falls, and a scenic gorge whose complex topography creates space for the side by side coexistence of multiple uncommon native plant communities with specific habitat needs. Great Falls is famous for its species diversity, but deer overpopulation and trampling by human visitors are two major factors contributing to the ongoing degradation of the site. I found myself high above Accotink Creek, in an Oak Hickory Heath forest with a diverse understory including not only a variety of shrubs in the Ericaceae family, such as *Vaccinium* species and *Kalmia latifolia* (Mountain

CONTINUED ON PAGE 3

Upcoming Events

2016 Sustainable Garden Tour

Sun, June 12, 1-5 pm

Eight sites in Reston & Herndon

The Northern Virginia Soil and Water Conservation District sponsors this tour of private yards and public places featuring rain gardens, green roofs, native plant landscaping, rain barrels, backyard wildlife habitat, composting, and more. Free, no RSVP required, visit as many or as few as you like. This year's tour includes the garden of VNPS-Pot Program Chair Donna Murphy. See

<http://www.fairfaxcounty.gov/nvswcd/gardentour.htm> for locations and further information.

Walk and Weed at Fraser Preserve with Margaret Chatham

Saturdays June 18 & July 9, 9:30 am-1 pm

North end of Springvale Rd, Great Falls

There's always something growing at Fraser. We'll talk about whatever catches our attention, from trees to flowers to grasses and sedges. And we'll pause somewhere along the way to pull some wavy leaf grass to encourage native plants. No tools needed!

All events are free and open to the public.

Walks require preregistration. Join our listserve at

<http://groups.yahoo.com/group/vnps-pot> to receive notices with walk registration links

WHERE YOU CAN WHACK SOME INVASIVE PLANTS

Falls Church Habitat Restoration Team



Help restore the local ecosystem in city parks. Remove invasives and plant natives that will benefit local birds and butterflies. For more information contact Melissa Teates at 703-538-6961 or melanite@verizon.net

Arlington County's Remove Invasive Plants (RiP) Program

Help Rescue Arlington parks from alien plant invaders! Please bring your own tools. For more information, contact Sarah Archer at 703-228-1862 or sarcher@arlingtonva.us



Reston Association's Habitat Heroes Program



Help restore local wildlife habitat through invasive plant removal and replanting with native plants. For more information, contact Ha Brock at 703-435-7986 or ha@reston.org

Fairfax County's Invasive Management Area (IMA) Program

Help remove invasive plants and learn about new invasive species. For more information, contact Leslie Gerhard at 703-324-8681 or leslie.gerhard@fairfaxcounty.gov



WORD OF THE MONTH: NOCTODOROUS

Releasing fragrance only at night. One example of a noctodorous flower is the Cranefly Orchid (*Tipularia discolor*), which blooms in July and August, long after its leaves have disappeared for the summer.

PHOTO BY MARGARET CHATHAM

Potowmack Chapter Board Officers

President

Alan Ford 703-732-5291

Vice President

Lori Bowes

Secretary

Pat Salamone

Treasurer

Scott Knudsen

Committee Chairs

Botany

Cris Fleming

Conservation

Rod Simmons

Education

vacant

Membership

Bob Yacovissi

Newsletter

Margaret Chatham

Programs

Donna Murphy

Propagation/Plant Sales

Laura Beaty

Publications

Roberta Day

Publicity

Michael Reinemer

Site Registry

Rod Simmons

Social Media

Sue Dingwell

Technology

Karoline Oldham

Member-at-Large

Marty Nielson

Diana Carter

Submissions to *Potowmack News* may be sent to The Editor at vnps.pot@gmail.com

Potowmack Chapter
Virginia Native Plant Society
P.O. Box 5311
Arlington, VA 22205
<http://www.vnps.org/potowmack>

ACCOTINK GORGE CONTINUED FROM PAGE 1

Laurel), which can be dominant in more uniformly strongly acidic soils, but also *Cornus florida* (Flowering Dogwood), *Chionanthus virginicus* (Fringe Tree), *Crataegus pruinosa* (Frosted Hawthorn), *Hamamelis virginiana* (Witch Hazel), and both *Viburnum acerfolium* (Maple-leaf Viburnum) and *V. prunifolium* (Black Haw). As I made my way along a narrow scarcely used informal trail, I noticed how undisturbed the forest floor looked in comparison to similar habitats in Great Falls Park, and was delighted by the diverse assortment of native grasses such as *Danthonia spicata* (Poverty Oat Grass), *Melica mutica* (Two-flowered Melic), and *Piptochaetium avenaceum* (Eastern Needlegrass), and flowering forbs such as *Symphotrichum patens* (Late Purple Aster), *Stellaria pubera* (Star Chickweed), *Solidago caesia* (Blue-stem Goldenrod), *Silene stellata* (Starry Champion), *Silene caroliniana* (Wild Pink, pictured below), *Sericocarpus asteroides* (Toothed White-



top Aster), *Scutellaria elliptica* (Hairy Skullcap), *Sanguinaria canadensis* (Bloodroot), *Nabalus serpentarius*, formerly *Prenanthes serpentaria* (Lion's foot), *Micranthes virginiensis* (Early Saxifrage), *Hypericum hypericoides* (St. Andrew's Cross), *Houstonia caerulea* (Bluets), *Houstonia purpurea* (Summer Bluets), *Hieracium venosum* (Rattlesnake Weed), *Heuchera americana* (American Alumroot), *Helianthus divaricatus* (Woodland Sunflower), *Galactia volubilis* (Downy Milkpea), *Eupatorium sessilifolium* (Upland Boneset), *Endodeca serpentaria* (Virginia Snakeroot), *Doellingeria infirma* (Cornel-leaved Aster), *Desmodium rotundifolium* (Round-leaf Tick-trefoil), *Cunila organoides* (Dittany), *Coreopsis verticillata* (Thread-leaf Coreopsis), *Clitoria mariana* (Butterfly Pea), *Aureolaria virginica* (Downy Yellow False Foxglove, photo next column), and *Antennaria solitaria* (Single-head Pussytoes), all of which were flourishing under the dappled shade provided by canopy trees naturally stunted by the thin rocky soil.

When Fairfax County acquired land along Accotink Creek in the 1970s, they obtained several small, disconnected parcels in and near Accotink Gorge, but apparently did not recognize the ecological significance of the location, or its potential to become a crowning gem of the Fairfax County park system. Except for a narrow, often

impassably steep buffer along the creek, the surrounding area was gobbled up by private, military, utility, and highway development, making it impossible to access one section of parkland from another without going outside of



park bounds. No official trails were blazed, no official parking area was designated, and no sign was erected to welcome visitors to Accotink Gorge. Perhaps worst of all, the Great Falls of the Accotink, at the confluence with Field Lark Branch, was not included in the acquisition, and as a result lies outside of park bounds.

Nonetheless, as I enjoyed the uncommon luxury of treading an untraveled path, I entertained the momentary fantasy that the inaccessibility and obscurity of this small park had miraculously protected its natural wonders. This daydream was quickly brought to a close as I descended the steep slope, where glossy green stems of *Maianthemum racemosum* (Solomon's Plume) and *Polygonatum biflorum* (Solomon's Seal) emerged from shady nooks between lichen encrusted rocks, into the fertile floodplain, where I came face to face with a nightmarish tsunami wave of invasive *Wisteria sinensis* (Chinese Wisteria), which was destroying all in its path. The invasive Wisteria vines had already taken a diverse assortment of native trees and shrubs captive, transforming the floodplain forest habitat into a nearly impassible thicket, and now they were rapidly reaching up into the Oak Hickory Heath forest, with its old, slow growing trees, fragile soils, and exemplary community of native plants. It was a chilling scene straight out of a horror movie.

Early next spring, I returned to the site, determined to explore it to the best of my ability, defy fate, and document all of the different native plant species that I could find there. In a happy coincidence, Phillip Latasa from Friends of Accotink Creek was also there, looking for fish. Together we observed *Uvularia sessilifolia* (Sessile Bellwort), *Anemone quinquefolia* (Wood Anemone), *Panax trifolius* (Dwarf Ginseng), *Packera aurea* (Golden Ragwort), *Viola blanda* (Sweet White Violet), *Cardamine angustata* (Slender Toothwort), *Claytonia virginica* (Spring Beauty), *Erythronium americanum* (Trout Lily) and *Mertensia virginica* (Virginia Bluebell) blooming in the floodplain. We discussed the remarkable biodiversity of the site, despite its small size, fragmented condition, and looming Wisteria

apocalypse. This conversation planted the seed for the plant walk which Kris Unger organized last July, when I led a small group, including representatives of local environmental organizations, on a tour through some of the highlights of Accotink Gorge.

Of particular interest to many participants were the meadows maintained by the utility company's prevention of woody succession under the power lines. With the exception of one section which has been overtaken by Wisteria, these meadows are impressively diverse for their size, consist largely of native grasses, and support pollinators with flowering species such as *Baptisia tinctoria* (Yellow Wild Indigo), *Chrysopsis mariana* (Maryland Golden-aster), *Coreopsis verticillata* (Thread-leaf Coreopsis), *Clitoria mariana* (Butterfly Pea, photo below), *Euphorbia corollata* (Flowering



Spurge), *Eutrochium fistulosum* (Hollow Joe-pye-weed), *Helianthus divaricatus* (Woodland Sunflower), *Heliopsis*

helianthoides (Ox-eye Sunflower), *Krigia virginica* (Virginia Dwarf-dandelion), *Lysimachia quadrifolia* (Whorled Loosestrife), *Monarda fistulosa* (Wild Bergamot), *Nuttallanthus canadensis* (Blue Toadflax), *Passiflora incarnata* (Maypop), *Phlox maculata* (Garden Phlox), *Polygala mariana* (Maryland Milkwort), *Pycnanthemum tenuifolium* (Narrow-leaf Mountain-mint), *Salvia lyrata* (Lyre-leaf Sage), *Scutellaria integrifolia* (Hyssop Skullcap), *Senna hebecarpa* (American Senna), *Tephrosia virginica* (Virginia Goat's-rue), *Teucrium canadense* (American Germander), *Thalictrum pubescens* (Tall Meadow-rue), *Trichostema dichotomum* (Narrow-leaf Blue Curls), *Vernonia glauca* (Upland Ironweed), *Viola sagittata* (Arrow-leaved Violet), and six different species of Milkweed, which might be a record for our area.

Since then, news of the glorious biodiversity of Accotink Gorge has spread by word of mouth, and momentum is building to remove the *Wisteria sinensis* before it's too late. Although I am no longer able to play an active role in this campaign due to arthritis, and have moved to Vienna, Austria, I am happy to report that Friends of Accotink Creek is working with partners including the Northern Virginia Conservation Trust, the Fairfax County Restoration Project, Earth Sangha, and the Virginia Native Plant Society, and has secured permission from the Fairfax County Park Authority to begin Wisteria removal efforts in the gorge. I enthusiastically recommend that anyone who is interested in exploring and helping to preserve a very special place for future generations get in touch with them. The situation is critical, but not hopeless, and they will need all the support they can get.

Virginia's Virtual Herbarium: liberating big data for our native plants

Andrea Weeks, Ph.D. – Ted R. Bradley Herbarium George Mason University, Fairfax, Virginia

Our growing knowledge of the flora of Virginia is integrally tied to herbaria, research collections that house archivally prepared plant specimens gathered and identified by taxonomic experts (Fig. 1). Every species treatment in the *Flora of Virginia* [1] and the majority of occurrence records in the *Digital Atlas of the Virginia Flora* [2] are based on these physical vouchers. Remarkably, 25 active Virginian herbaria (Fig. 2) hold over 500,000 unique plant specimens. These places are a lasting source of our knowledge about plants in the Commonwealth; they and the people who contribute specimens to these collections are the engines of discovery.

However, the contents of most Virginian herbaria have not been easily accessible to researchers or the public. Until recently, none served their databases online nor could provide high-resolution images of their specimens for virtual inspection. This deficit has precluded Virginian herbaria from fully contributing to 21st century biodiversity informatics research, which aggregates records about the distribution, phenology and ecology of plant species across large geographic regions and through time often for conservation purposes [3,4]. Using these big data to more accurately manage the preservation of native plant species in the face of habitat destruction, exotic species invasions and rapidly shifting climate is truly a Grand Challenge for our times. Improving worldwide access to Virginian collections should also speed taxonomic discovery, as over 80% of new species are recognized and uncovered for the first time in herbarium collections rather than in the field [5].

As a first step toward liberating these data for the Commonwealth, the National Science Foundation has funded the digitization of 11 Virginian herbaria as part of a larger research collaboration among botanists in the southeast US entitled "The Key to the Cabinets: Building and Sustaining a Research Database for a Global Biodiversity Hotspot." Herbarium specimens are being imaged and served online in a searchable database format (www.sernecportal.org) accessible to the global Biodiversity Informatics Facility, the leading clearinghouse for such data. Citizen scientists also contribute to the process by transcribing specimen labels through Notes from Nature website (www.notesfromnature.org), which automatically updates

database fields. Across the southeast US, over 93 herbaria will be digitized and about 4.5 million specimen records will be liberated as a consequence.



Herbarium digitization in Virginia was launched in May 2015, and to date has imaged over 40,000 specimens and made nearly 100,000 database records available online. Launching this project smoothly was greatly assisted by a 2015 VNPS Research Grant to George Mason University, the state lead institution. Funds were used to support pre-imaging curation activities and creating documents that train participating herbarium curators and undergraduate student-workers on the workflows. Digitizing the Ted R. Bradley Herbarium at Mason is now complete, with imaging in process at Longwood University, Virginia Tech, University of Richmond, and City of Alexandria herbaria. Other participating herbaria (Lynchburg College, Virginia Military Institute, Lord Fairfax Community College, James Madison University, Virginia Commonwealth University, and Bridgewater College) will be imaged within the next several years via two mobile imaging stations. If interested in becoming involved or learning more, contact the author and state digitization lead, Andrea Weeks at aweeks3@gmu.edu.

Figure 1. A herbarium specimen with detailed collection label. Actual size, ca. 13 × 18 inches.

References Cited – [1] - Weakley, Alan S., J. Christopher Ludwig, John F. Townsend, and Bland Crowder. 2012. *Flora of Virginia*. Fort Worth, TX: Botanical Research Institute of Texas. [2] - Virginia Botanical Associates. (2015). *Digital Atlas of the Virginia Flora* <http://www.vaplantatlas.org>. c/o Virginia Botanical Associates, Blacksburg. [3] – Guisan et al. 2013. Predicting species distributions for conservation decisions. *Ecology Letters* 16:1424-1435. doi:10.1111/ele.12189. [4] – Wolf et al. (2016) Altitudinal shifts of the native and introduced flora of California in the context of 20th-century warming.

Global Ecology and Biogeography. doi:10.1111/geb.12423 [5] – Bebbler et al. 2010. Herbaria are a major frontier for species discovery. *Proceedings of the National Academy of Sciences of the United States of America* 107:22169-22171.

doi:10.1073/pnas.1011841108.

acronym	size	institution	acronym	size	institution
VPI	109,000	Virginia Tech	VDAC	3,400	VA Dept. Agriculture & Consumer Services
WILLI	78,900	The College of William and Mary	VA	3,000	University of Virginia, Mountain Lake
FARM	75,000	Longwood University	EHCV	2,500	Emory and Henry College
GMUF	60,000	George Mason University	HAVI	2,500	Eastern Mennonite University
LYN	60,000	Lynchburg College	WYCO	2,500	Wytheville Community College
VMIL	30,000	Virginia Military Institute	ROAN	1,200	Virginia Western Community College
ODU	28,000	Old Dominion University	PGC	1,125	The Petersburg Garden Club
LFCC	20,000	Lord Fairfax Community College			
URV	18,000	University of Richmond			
VCU	17,700	Virginia Commonwealth University			
JMUH	15,000	James Madison University			
RMWC	13,000	Randolph College			
RUHV	7,000	Radford University			
AVCH	4,500	City of Alexandria Herbarium			
MWCF	4,500	Mary Washington College			
BDWR	4,293	Bridgewater College			
CVCW	4,000	Clinch Valley College, Uva			
SARC	3,544	Roanoke College			

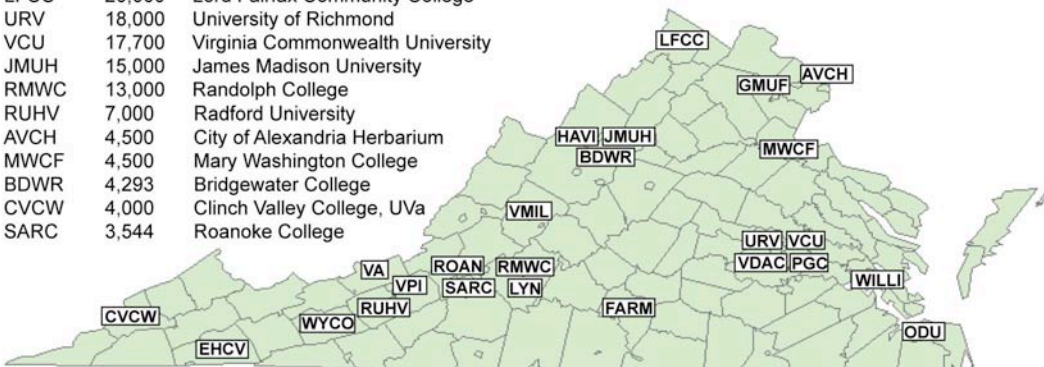


Figure 2. Distribution and size of the 25 active herbaria in Virginia. Data compiled from *Index Herbariorum* (<http://sweetgum.nybg.org/science/ih>)

POTOWMACK NEWS

Virginia Native Plant Society

P.O. Box 5311, Arlington, VA 22205



Please verify your address and your renewal date on the mailing label

Printed on recycled paper

Oh, Deer! (What won't you eat?)



Photo by Margaret Chatham

Yes, if the deer are hungry enough, they'll eat anything. But Golden Ragwort (*Packera aurea*, formerly *Senecio aureus*) is not often consumed. Deer may occasionally sample the flowers, but the leaves are rarely touched. The leaves are evergreen, often turning purple on the back in the wintertime. They form a rich groundcover that makes this a first choice replacement for English ivy. Golden Ragwort spreads by rhizomes and seed. It grows in clay soils, wet or dry. The pictured patch covers what used to be an alternate mud puddle and desert under a maple tree. The fragrant yellow flowers bloom in April well above the basal leaves. In May, the flowers fade to small dandelion-style puffs of seeds that invite deadheading.

For more deer-resistant natives, see <http://www.plantnovanatives.org/deer---native-plants.html>

If you would like to receive this newsletter (in full color!) electronically, contact Alan Ford at: amford@acm.org