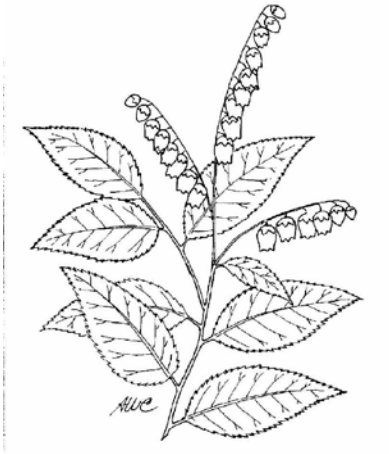


Shenandoah Chapter
Virginia Native Plant Society
September 2014

Mission Statement:
We are a conservation organization dedicated to conserve Virginia's native plants and their ecosystems through education, advocacy and activities that promote appreciation, stewardship and appropriate use.

Upcoming Chapter Events:
Wildflower Walk Tilghman Road. Diane Holsinger led this walk on August 20. We will go again sometime in September. Date and time to be announced. Contact Michael Seth sethmj@jmu.edu

September 2015 Annual Meeting. Our Shenandoah Valley Chapter of the VNPS will host the annual state meeting of the Virginia Native Plant Society next fall - September 13-15 2015 at the Frontier Cultural Museum Pavilion. More details will emerge in the coming months but we will be looking for volunteers help including leading or co-leading walks and tours.

Other Activities

Sunday, September 7: Sierra Club Shenandoah Group Lookout Mountain
Lookout Mountain stretches along the south side of the North River Gorge in the GW National Forest. From the peaks and overlooks you'll get a beautiful view of the Gorge and of the mountains beyond, looking towards West Virginia. We'll start the hike at the North River parking area, then head south towards the North River Campground, which we'll reach via the Hankey Mountain Trail. We'll use a car drop to shuttle back to the starting point. We will look to see what is blooming in the area.

Total hiking distance is about 7 miles, with 1200 ft. elevation change. Total hiking time will be about 4 hours. This is a moderately strenuous hike, with some steep and rocky sections.

Meet at the North River parking area at 9:30AM. To carpool from Harrisonburg, meet at the Friendly City Food Coop at 8:30 AM.

Bring lunch, water to drink, appropriate clothing, rain gear, and any personal items or first aid you might need. Layered clothing is appropriate for fall / winter hiking.

For more information or to check the hike status in case of inclement weather contact Ralph Grove, ralph.grove@gmail.com or (540.478.3677).

Monday, September 8, 15, and 22 and Wednesday September 10 and 17 JMU Arboretum

Beginning Pen & Ink Botanical Illustration
With Artist in Residence Lynda Chandler
B.S. Agriculture, University of Florida, Major:
Ornamental Horticulture/Minor: Scientific Illustration
$125 Workshop Fee, Supplies Not Included

For more information at http://www.jmu.edu/arboretum/events.shtml

Thursday September 11 PATC Hike in a little-visited wilderness in our area. Rough Mountain Wilderness, Hike Leader Jeff Monroe, 10.4 miles, Very Strenuous. $10.00 carpool fee; 88 miles from Charlottesville. In honor of the 50th Anniversary of the Wilderness Act, this hike will explore the only established trail in the Rough Mountain Wilderness near Millboro. The Crane Trail may have the most remote trailhead in the George Washington National Forest, requiring a 40 minute drive off pavement and a vehicular stream ford. The trail is an out-and-back hike, ranging in elevation from 1250 to 2550 feet. Bushwacking may be necessary. This will be a joint hike with the Roanoke Appalachian Trail Club and is limited to 10 participants. Charlottesville-based hikers will meet Roanoke-based hikers in Lexington before proceeding to trailhead.

Saturday September 13 JMU Arboretum Remarkable Trees Field Trip

Departing 8:00 a.m. Returning 5:00 p.m.

Meeting 7:45 a.m. in the parking lot of the Frances Plecker Education Center
$10 per person, register by September 10

Enjoy a tour with destinations including viewing the Remarkable White Oak of the Oak Ridge Estate in Nelson County, a tree known to be about 400 years old, and then to see the Lesesne State Forest where American Chestnut restoration research is underway with the Virginia Department of Forestry. See the Thompson tree, a rare mature American Chestnut grafted 40-44 years ago to early research rootstock.

Learn the latest from Matt Brinckman, The American Chestnut Foundation, Jerre Creighton, Virginia Department of Forestry, and the Arboretum Director, and progress on restoration for this once-great tree species. Travel in the comfort of a JMU 12-passenger vehicle. Cost includes transportation and tour. Bring a brown bag lunch for anyone not wanting to purchase a lunch at Devil's Backbone, a local brewery and restaurant. Last the tour visits Wintergreen Nature Foundation's trails to see an American Chestnut stump sprout trees growing there. Dress for the weather forecast and an outdoor adventure!

Registration available at http://www.jmu.edu/arboretum/events.shtml

Saturday September 13 Migratory Butterflies JMU Arboretum

Monarch Migration Tagging Workshop 10:00 am-1:00 pm

$25 Per Person

A workshop program with Linda Marchman, owner of Social Butterflies, offered on Saturday September 13th, 10:00 a.m. - 1:00 pm, teaching tagging for migratory Monarchs that emerged from their pupae. This program includes a lecture, a tagging demonstration, teaches the registration process, and concludes with each participant releasing their Monarch to start its migration from the arboretum. Beginning at noon, registrants also enjoy a butterfly craft activity with Gail Napora, creative activity facilitator, to create a memento of their released Monarch.

Registration available at http://www.jmu.edu/arboretum/events.shtml

Sunday, September 21 Hike with outhern Shenandoah Chapter of the PATC.

Shenandoah Mountain: Camp Todd-Hiner Spring/Hardscrabble Knob-FR 95. 7 mi. or 8 if you go to the summit of Hardscrabble. Moderate. Short shuttle. Meet at Churchville Dollar General at 9. Leaders: Lynn and Malcolm Cameron, (540) 234-6273 or malcolmgcameron@gmail.com

Friday, September 26

2014 Fall Plant & Bulb Sale

Friday, September 26, and Saturday, September 27, 2014 **9:00 a.m. - 3:00 p.m.**

At the Frances Plecker Education Center

Fall is a great time to plant! Temperatures moderate and soil holds warmth allowing for rapid root development. Perennials, shrubs and trees planted in the fall establish to be ready for a spring bloom that will burst into enviable color! Shop the sale with friends and family for a fun way to enhance the beauty of your home or business landscape.

Beginning mid-September, bulb orders can be placed online at the arboretum website. Advance orders will be available to pick up ahead, either during the business work week, or at the plant sale. Online ordering is easy!

Your purchase with cash, check, or charge, supports JMU's and Harrisonburg's favorite urban greenspace, open daily from dawn to dusk, free to the public.

Saturday, September 27: Kennedy Peak Hike for Early Autumn Views Sierra Club

Kennedy Peak is a high knob on the Massanutten Mountain in the George Washington National Forest, west of Luray. The observation tower at the top of the peak offers a panoramic view of the Shenandoah River Valley as well as the surrounding mountains. This hike will be an in and out, following the Massanutten Trail along a ridge up to the peak, and then back again.

Total hiking distance is about 5 miles, with 500 ft. elevation change. Total hiking time will be about 3 hours. This is a moderate hike, with a few hilly and rocky sections.

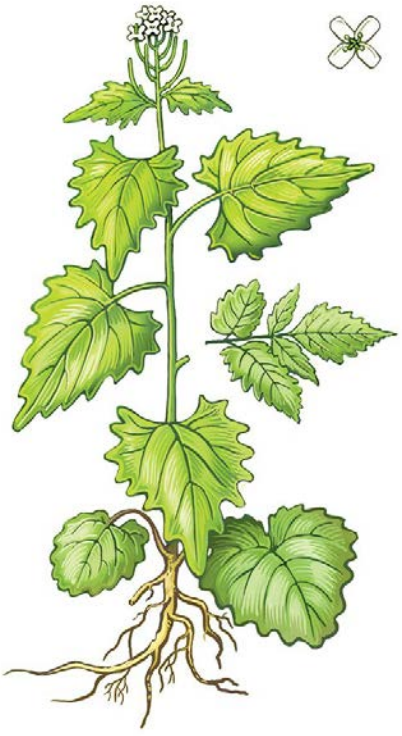
Meet at the Edith Gap parking area along route 675 at 9:20AM. Bring water to drink, appropriate clothing, rain gear, and any personal items or first aid you might need. Layered clothing is appropriate for fall / winter hiking.

For more information or to check the hike status in case of inclement weather contact Ralph Grove, ralph.grove@gmail.com or (540.478.3677).

Monday September 29 Wild Virginia's Wild and Scenic Film Festival 2014
September 29th, 2014 at 7pm – Court Square Theatre
FULL FILM LIST
Harrisonburg 2014 Show
Reynaldo
Field Spotlight, Monique Pool
Fall Run
I Am Red
Stories of Trust: Calling for Climate Recovery – Montana
Return to the Tepuis
Paramos: Water for Life
Dying Green
Ryan's Stories
Raffle Prize Tickets Still Available!
We will be raffling a framed print of an **enormous 1,600 year old redwood tree** generously donated by National Geographic photographer, Michael 'Nick' Nichols.

Tickets available at http://www.wildvirginia.org/recreation/film-festival-2014/
October 17-19 Annual State Meeting of the VNPS. Will be at the Virginia Beach Resort Hotel. Go to the VNPS website for more information: vnps.org

Invasive Plant of the Month: Garlic Mustard



We begin this mini-series on common invasive plants with one of the most pervasive and best-known: garlic mustard. **Garlic mustard** (*Alliaria petiolata*) is a biennial flowering plant in the Mustard family, Brassicaceae. Allaria is a genus with two species native to Eurasia and Africa. Garlic mustard is native to Eurasia from the British Isles to western China and to North Africa. In Virginia it is common (in our area that is an understatement) in the mountains and in the Piedmont but it is infrequent in the Coastal Plains. It is highly invasive in our woodlands where in the words of the *Flora of Virginia* it "aggressively outcompetes natives." (p. 437). In the first year of growth, plants form clumps of round shaped, slightly wrinkled leaves, that when crushed smell like garlic. The next year plants flower in spring, producing cross shaped white flowers in dense clusters. As the flowering stems bloom they elongate into a spike-like shape. When blooming is complete, plants produce upright fruits that release seeds in mid-summer. Plants are often found growing along the margins of hedges, giving rise to the old British folk name of Jack-by-the-hedge. Other common names include Garlic Root, Hedge Garlic, Sauce-alone, Jack-in-the-bush, Penny Hedge and

Poor Man's Mustard. The genus name *Alliaria*, "resembling *Allium*", refers to the garlic-like odour of the crushed foliage.

In the first year, plants appear as a rosette of green leaves close to the ground; these rosettes remain green through the winter and develop into mature flowering plants the following spring. Second year plants grow from 30–100 cm, rarely to 130 cm (50 inches) tall. The leaves are stalked, triangular to heart-shaped, 10–15 cm (4-6 inches) long, of which about half being the petiole, and 5–9 cm (2-4 inches) broad, with a coarsely toothed margin. The flowers are produced in spring and summer in button-like clusters. Each small flower, has a characteristic mustard look, with four white petals 4–8 mm long and 2–3 mm broad, arranged in a cross shape. The fruit is an erect, slender, four-sided pod 4 to 5.5 cm long, called a silique, green maturing pale grey-brown, containing two rows of small shiny black seeds which are released when the pod splits open. A single plant can produce hundreds of seeds, which scatter as much as ten feet or more from the parent plant.

Depending upon conditions, garlic mustard flowers either self-fertilize or are cross-pollinated by a variety of insects. Self-fertilized seeds are genetically identical to the parent plant, enhancing its ability to colonize an area where that genotype is suited to thrive

Garlic mustard is one of the oldest discovered spices to be used in cooking in Europe. Evidence of its use has been found from archeological remains found in the Baltic, dating back to 6100-5750 BP. The chopped leaves are used for flavoring in salads and sauces such as pesto, and sometimes the flowers and fruit are included as well. These are best when young, and provide a mild flavor of both garlic and mustard. The seeds are sometimes used to season food directly in France. Garlic mustard was once used medicinally as a disinfectant or diuretic, and was sometimes used to heal wounds.

Garlic mustard was introduced in North America as a culinary herb in the 1860s and is an invasive species in much of North America. It is now widespread in most of the Midwest and Northeast and parts of eastern Canada, and unfortunately in our state. It listed as a noxious weed in about a dozen states. Like most invasive plants, once it has an introduction into a new location, it persists and spreads into undisturbed plant communities. In many areas of its introduction in Eastern North America, it has become the dominant under-story species in woodland and flood plain environments, where eradication is difficult.

There are few natural checks on it in our area. The insects and fungi that feed on it in its native habitat are not present in North America, increasing its seed productivity and allowing it to out-compete native plants. In addition, Garlic Mustard produces allelochemicals, mainly in the form of the cyanide compounds allyl isothiocynate and benzyl isothiocynate, which suppress mycorrhizal fungi that most plants, including native forest trees, require for optimum growth. However, allelochemicals produced by Garlic Mustard do not affect mycorrhizal fungi from Garlic Mustard's native range, indicating that this "novel weapon" in the invaded range explains Garlic Mustard's success in North America. Deer help to spread it. Garlic mustard produces a variety of secondary compounds including flavonoids, defense proteins, glycosides, and glucosinolates that reduce its palatability to herbivores. So since deer rarely eat it but trampling and browsing by deer encourages its growth by disturbing its growth. We help propagate it as we traipse through the woods tramples natives and spreading its seeds. Seeds contained in the soil can germinate up to five years after being produced (and possibly more). The persistence of the seed bank and suppression of mycorrhizal fungi both complicate restoration of invaded areas because long-term removal is required to deplete the seed bank and allow recovery of mycorrhizae. Research published in 2007 shows that, in northeastern forests, garlic mustard rosettes increased the rate of native leaf litter decomposition, increasing nutrient availability and possibly creating conditions favorable to garlic mustard's own spread.

How to Control It? Hand-pulling individual plants is effective if the entire root is removed. Control is best in early spring before flowering. Flowering or seeding plants must be put in a bag and discarded in the garbage. Carefully and thoroughly clean off boots, clothes and tools before leaving the area to avoid carrying

the tiny seeds to new sites. Herbicide may be needed for large, dense infestations (as a last resort) and should be applied in the spring or fall on seedlings and rosettes, with care taken to avoid native and other desirable plants. After pulling or spraying dense infestations of garlic mustard, it can help to cover the bare areas with wood chip mulch to reduce seed germination. Infested sites should be carefully monitored every year for new plants, and checked for at least three or four years after no more plants have been found to ensure the population has been eradicated. Garlic mustard may invade forested sites where the canopy has been disturbed, so management by planting or encouraging other plants to intercept light will aid control, or prevent new infestations

Sources: "Invasive Alien Plant Species of Virginia" from **www.dcr.virginia.gov**/natural_heritage/documents/fsalpe.pdf; "Garlic Mustard" from www.invasivespeciesinfo.gov, "Allaria petiolata" from *Wikipedia*; *Flora of Virginia*

Please send any articles or announcements to Elaine Smith, antigone16@comcast.net.