

Blue Ridge Wildflower Society

A CHAPTER OF THE
VIRGINIA NATIVE PLANT SOCIETY

Vol. 16, No. 1

January, 1999

Schedule of Events

- February 22** **General Membership Meeting**, 7:00 p.m., Center In The Square. Rich Crites will share highlights from his trip to Wales. Come and bring a friend.
- March 13** **VNPS Winter Workshop**, "Nature's Partnerships: The Plant-Insect Connections" at University of Richmond. A registration form and details are in the January Bulletin. For additional information contact Effie Fox, 540-347-4090.
- March 20** **Buffalo Creek Nature Area Field Trip**. Meet at 1:00 p.m. at the Nature trail which is two miles east of Evington, near the Bedford-Campbell County line. This Westvaco property, one of VNPS Registry sites, is noted for the diversity of its flora. Sandra Elder, 804-525-8433.
- March 22** **General Membership Meeting**, 7:00 p.m. Center In The Square. Dora Lee Ellington and Paul Cowins will present a program on propagation.
- March 27** **Randolph-Macon Botanic Garden Work Day** from 2:00-4:30 p.m. Rain date for the workday is April 10.
- March 27** **"Foothills of the Blue Ridge: Birds and Wildflowers"**, a multimedia presentation, will be given by Dr. Ernest (Buck) Edwards, Professor Emeritus, Ecology Dept., Sweetbriar College. Meet at 7:30 p.m., Room 225, Martin Science Building, Randolph Macon Woman's College, Lynchburg. Plan to come for the workday and stay for the program.
- April 3** **Catawba Field Trip**. Meet at 1:00 p.m. at the Homeplace (Restaurant) on Route 311 and we will carpool from there. We'll plan to eat at the Homeplace around 4:00 p.m. Butch Kelly, 540-384-7429.
- April 10** **Spring Ephemerals at Arcadia**. Meet at 10:00 a.m. by the bridge over Jennings Creek on Route 614. Bring your lunch. Rich Crites, 540-774-4518.
- April 23-25** **Thirtieth Annual Wildflower Pilgrimage** by the Science Museum of Western Virginia. Co-sponsored by the Blue Ridge Wildflower Society and the Roanoke Valley Bird Club. Leonard Adkins, noted author, will be the keynote speaker Friday evening. His program, "Wildflowers of the Appalachian Trail", will be presented in Hopkins Planetarium. His new book, bearing the same title, will be available for purchase and signing.
- To register or receive a brochure detailing events, please call the Museum at 342-5727.
- May 1** **Bent Mountain Field Trip**. Meet at the Bent Mountain Elementary School parking lot at 1:00 p.m. Jim Bush, 540-929-4775.
- May 8** **Fifteenth Annual Plant Sale**, Community Arboretum on the campus of Virginia Western Community College from 9:00 a.m. until 2:00 p.m. Rain or shine!
- May 22** **State Arboretum at Blandy Field Trip**. Tentative.
- May 24** **General Membership Meeting**, 7:00 p.m., Center In The Square. Dr. Jay Stipes, Virginia Tech, will present, "A Tree Grows in Virginia."
- There will also be a Pot-Luck - a potted plant exchange. You are invited to bring a plant to exchange with someone. Please join us whether you choose to participate in the plant exchange or not.
- A board meeting will precede the membership meeting.
- May 29** **Flame Azaleas on the Parkway**. Meet at 10:00 a.m. at Smartview Park (milepost 154). This should also be a good trip for lady's slippers. Bring your lunch. Paul Cowins, 804-239-4884.
- June 5** **Rhododendron Day on the Parkway**. Meet at the Visitor Center, Peaks of Otter, at noon.
- September 17-19** **VNPS Annual Meeting**. South Hampton Roads Chapter will be the host this year.

Botanical Excursions

by George Ellison

Into the Light: Vine Strategies

I've always been fascinated by vines. The large woody climbers like grape vine and Dutchman's pipe lend a subtropical aspect to our mature temperate forests here in the Southern Blue Ridge Province. Twiners are vegetative puzzles that may wind clockwise or counterclockwise. Even kudzu - that unwelcome intruder - exerts a sinister fascination as it builds castles of suffocating vegetation along roadsides.

The climbing methods employed by various vines are complex and have been categorized in a variety of ways. I think of them as follows: (1) "Hook-climbers" like certain roses and other rambles attach themselves to a host via prickles, hooks and thorns. Unlike other climbers, vines that utilize this method are restricted in finding support in that they do not have the ability to make searching movements ("circumnutation"); however, hooks that do encounter a suitable host respond by becoming larger and stronger than those that remain free.

(2) "Root-climbers" like English ivy, poison ivy and trumpet vine that produce a profusion of bristly side growths ("adventitious roots") which penetrate cracks and crevices of a host tree or building to hold the vine in place. How do these vines locate their hosts? Seedlings of some root-climbers have been shown to grow toward dark surfaces.

(3) "Tendrill-climbers" like grapevines, greenbriar and everlasting pea that send out sensitized vegetative organs from their main stems that "circumnutate"; that is, they sweep back and forth through the air in arcs as they elongate, their motion caused by unequal growth rates on the two sides. These tendrils are distinguished by their "irritability," whereby tactile stimulation at their apexes promote a coiling response so that the tips grow around the support. This response can be stimulated by contact with something as fine as spider's silk.

In some species the middle of the tendrils also twists, forging an even tighter, more lasting bond. This tactic, which Charles Darwin (1867) called "spiral contraction," can easily be observed by examining greenbriar or grapevine tendrils. Once these tendrils have finished twisting, they become incredibly tough. Those that do not find support wither and hang off the parent vine like delicate threads.

A variation within the "tendrill-climber" group is provided by vines like Virginia creeper and Boston ivy that produce branching tendrils which form adhesive

disks at their tips upon contact with the host surface. Only about an eighth of an inch in diameter, these disks hold fast at the point of attachment. Donald Stokes (1981) estimated that a single Virginia creeper tendril "with just five disk-bearing branches could support up to ten pounds."

(4) "Twining-climbers" like honeysuckle, kudzu, wisteria, bittersweet, morning glory, bindweed and Dutchman's pipe that wind their main stems about their hosts and spiral upward - or outward along branches - into the light. A variation on this theme is the "leaf-twiner" type like virgin's bower that curls only its leaf-stems around the host plant.



Greenbriar tendrils.
Sketch by Elizabeth Ellison

Edwin A. Menninger (1970) observed that "A silly argument often arises over vines in this twining group, whether they twist to the right north of the equator and to the left 'down under.' The equator is not involved; neither is the earth's rotation."

Frances E. Putz and N. Michele Holbrook (1991) cited the "tragic" ballad of the woodbine that fell in love with a morning glory ("but she twines to the left and he to the right") to illustrate the ancient general interest in the mechanics of twining. According to this ballad, the offspring of this "unnatural" union grew straight up and fell over.

Elwyn E. Hegarty (1991) found that "about 95-percent of the twining-climbers invariably coil to the right (clockwise), and the direction is usually maintained throughout genera and families. *Dioscorea* is a major exception in that some of its many species twine to the right and some to the left (counterclockwise). At least 20 species have been reported to twine unreliably in either direction." K.J. Dormer (1972) has suggested that coiling counterclockwise is inherently less efficient than the other way around.

A vine represents a growth strategy that enables certain plants to use other plants or objects as support. The term "structural parasite" sometimes appears in the literature on vines. This strategy enables

vines to produce energy more efficiently via direct sunlight, expose their blowers more readily to potential pollinators and disperse their seeds more effectively from a high vantage point.

Sources:

Darwin, C. 1867. On the movements and habits of climbing plants. *Journal of the Linnean Society* 9:1-118.

Dormer, K.J. 1972. *Shoot Organization in Vascular Plants*. University Press, Syracuse, N.Y.

Hegarty, E.E. Vine-host interactions. E.E. Putz and H.A. Mooney, eds. *The Biology of Vines*. Pp. 357-375. Cambridge University Press, Cambridge.

Menninger, E.A. *Flowering Vines of the World: An Encyclopaedia of Climbing Vines*. Hearstside Press Incorporated, New York.

Putz, F.E. and N.M. Holbrook 1991. Biomechanical studies of vines. In F.E. Putz and H.A. Mooney, eds. *The Biology of Vines*. Pp. 73-97. Cambridge University Press, Cambridge.

Stokes, D. 1981. *The Natural History of Shrubs and Vines*. The Globe Pequot Press, Chester, CN.

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In Sympathy

We are sorry to learn Joe Shepard has recently lost two brothers.

Our sympathy is extended to Karen and Joe and other members of their families.

In Memoriams

It was with sadness we learned of the death of Grace P. James on December 4, 1998. She was the mother of Paul James, our first BRWS President.

Our sympathy is extended to Barbara and Paul as well as other members of her family.

On December 2, 1998, Virginia B. Woolwine passed away. She was a member of the Blue Ridge Wildflower Society for many years. Our sympathy is extended to her family.

Lynchburg Area Members

by Dorothy C. Bliss

Following a fall that was warmer than average, winter arrived with repeated ice storms and temperatures in the single digits. During the first storm the trees and highways in Virginia were ice covered, beautiful to see the ice sparkling in the sun but traveling was hazardous. The greatest danger to our trees and shrubs is limb breakage, especially in high winds. The Lynchburg area was fortunate that while the trees were coated in ice, the air was calm and there was only minuscule damage but there were reports of more extensive problems in eastern Virginia. You may have seen an article in the Lynchburg News and Advance with the headline, "Storm Fells Ancient Oak." This 300 year old white oak, *Quercus alba*, graced the Williamsburg area and it is recorded that plans for the restoration of Colonial Williamsburg were first formulated by John D. Rockefeller and Rev. W. A. R. Goodwin underneath its branches.

There are many ways in which trees may be considered noteworthy. A calendar on "Notable Trees of Rhode Island" caught my eye a few days ago. Some beautiful trees had been selected because of size or other outstanding quality. I wondered how many special trees do we have in Virginia or the Southeast? I did not know the answer but as a beginning I have ordered a list of the *National Register of Big Trees*. This will give me the names of the largest known specimens of native and naturalized trees in the United States. The American Forestry Association for their

Selected National Champion Trees utilizes a combination of trunk diameter, height in feet and canopy spread. Another reason a tree might be notable could be age or the role the tree played in some historical event such as the Connecticut Charter white oak. This tree was honored on the U.S.A. 5¢ stamp in 1935.

The oldest known tree in the United States is the bristlecone pine, *Pinus longaeva*, named Methuselah, which grows in the White Mountains of California at an elevation of over 10,000 feet. By counting the growth rings it is estimated to be 4700 years old. The largest (mass) known tree is the General Sherman, a giant sequoia in California weighing more than 6,167 tons! The largest hemlock, *Tsuga canadensis*, occurs in the Great Smoky Mountains and has a circumference of 19' 9". The largest silver-bell, *Halesia carolina* var. *monticola*, on record, with a circumference of 11' 9", also occurs there. The largest yellow poplar, *Liriodendron tulipifera*, with a circumference of 28' 6" is found in Annapolis, Maryland, and the largest American beech, *Fagus grandifolia*, and the largest white oak also occur in Maryland. Why Maryland? More in our next newsletter.

O, Wind,
If Winter Comes,
Can Spring Be Far Behind?

P. B. SHELLEY

Yes, spring will soon arrive and with it, the spring cleanup of our gardens and yards will be foremost among our activities. Damage from the extended fall drought and the winter storms may be evident in broken limbs or death of some

shrubs and herbaceous perennials which will need to be replaced. In the Randolph-Macon Woman's College Botanic Garden, in addition to a general cleanup and weeding, several Rhododendrons that died last fall will need to be replaced and some of the perennials should be moved either because of too luxuriant growth, resulting in overcrowding, or because there is a more suitable location. To help in preparing the Botanical Garden for the spring and summer, plans are being made for a general work day in March when we hope that many of you will come out with trowel and clippers in hand to assist our regular volunteers in sprucing up the garden.

March 27, 2:00 - 4:30, Botanic Garden Work Day. (Rain date April 10, 2:00 - 4:30.)

March 27, 7:30, Evening Program in Martin Science Building, Randolph-Macon Woman's College, Room 225. Dr. Ernest (Buck) Edwards, Professor Emeritus, Sweetbriar College, will present "Foothills of the Blue Ridge: Birds and Wildflowers."

Please contact Dorothy C. Bliss, 804-845-5665, if you have any questions.

EVENTS OF INTEREST

April 10

Big Walk Day at Woodpecker Ridge Nature Center. Begin with a bird walk at 8:00 a.m. followed by a wildflower walk at 10:00 a.m. Bring your lunch then join a butterfly walk at 1:00 p.m.

April 17

Earth Day celebration in the Roanoke area. There will be special events at a number of locations. (Check your newspaper or contact your city's special events department for details.) BRWS plans to have a booth in Highland Park, Roanoke. If you can help, please let us know.

April 22-24

Great Smoky Mountains National Park 49th Annual Spring Wildflower Pilgrimage. For more information, call 423-436-1290.

May 7-9

Wintergreen Nature Foundation's 16th Annual Spring Wildflower Symposium. For more information, call 804-325-8172 or write P.O. Box 468, Wintergreen, VA 22958.

June 5

Third Annual Butterfly Gardening Symposium sponsored by the Carolina Butterfly Society, North Carolina Arboretum, Asheville, NC. Emphasis will be on host plants and garden design.

Nature's Predictability and Nature's Surprises

by Peter S. White

Let me begin by stating the little known and heretofore unpublished axiom known to a very small circle as White's First Law of Graduate School:

- There is enough pattern in nature to draw you into graduate school, but not enough pattern that you'll ever get out again.
- That's enough to send chills down the average graduate student's back, but it does have corollaries that are more hopeful:
- You must phrase questions clearly, and then design your methods of data collection and analysis.
- You will have as much to learn from exploring the variance, as you get from describing the mean values; as much from the unpredictable elements, as the predictable patterns you have described.

The variance is actually more fun and interesting than the mean anyway; it tells us about the complexity of nature, including unmeasured and even unknown variables and about the role of history and chance events. I for one am delighted; thank God that nature is not 100% predictable. That kind of monotony would make for a boring world! Nature is full of surprises!