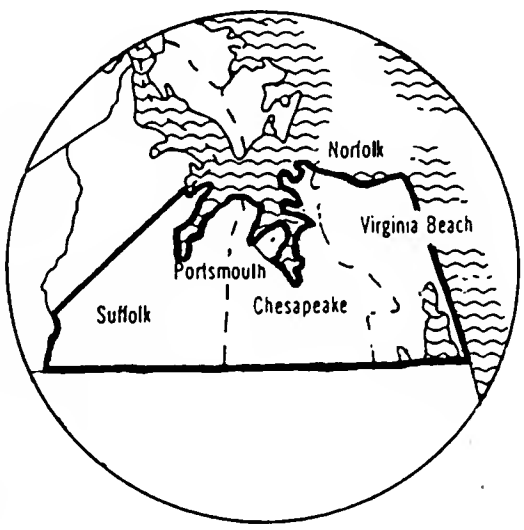
March 1991 Vol. 10, No. 1

Bulletin

A publication of the **VIRGINIA NATIVE PLANT SOCIETY**
Conserving wild flowers and wild places

New Chapter Formed

The Virginia Native Plant Society is pleased to announce the formation of its ninth chapter, the South Hampton Roads Chapter, which includes Virginia Beach, Norfolk, Portsmouth, Chesapeake and Suffolk.



The impetus to form the new chapter originated in the coalescence of two groups. The first supporters were VNPS members, some of whom were members of the John Clayton Chapter. Although they had great enthusiasm for the Society, these members found the drive to John Clayton activities, across the James River via the Chesapeake Bay Bridge-Tunnel, too time consuming for regular participation. Some were already actively involved in plant related conservation projects such as Blackwater Ecologic Preserve and Cape Henry Audubon Society's Wayanoke Bird and Wildlife Sanctuary.

The second group originated in the Virginia Beach area when some members of the Virginia Beach Garden Club established a marsh walk at the Virginia Marine Science Museum. These volunteers became very interested in native plants and looked for other

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Why Use a Checklist?

Is it check list, check-list or checklist? All three forms are found in current unabridged dictionaries, but most use checklist. In *Webster's Third New International Dictionary*, checklist is defined as a "list-intended for ready checking and reference, an inventory or catalog of items." The first reference I found concerning a biological inventory was T. R. Sims (1894) *Sketch and Check-list of the Flora of Kaffraria*.

Many of you are familiar with the Virginia Society of Ornithology's checklist of Virginia's birds which includes in addition to the names of the birds, documentation of published and contributed records, thus it is an "annotated list." Several years ago A. B. Massey published an annotated list of Virginia plants which used as a source of information the various herbaria where pressed specimens of each species are maintained, these forming the basis of his listing.

A checklist of plants usually includes common names and scientific names arranged in various ways, alphabetically by genus or family, by geographic region, by county, by habitat, etc. The list may be combined with keys or descriptions but more frequently just the names of the plants are included. Keys and a checklist are combined in the *Spring Wildflowers of the Great Smoky Mountains National Park* by A. J. Sharp.

Frequently for convenience, the checklist is in a pocket-size format that is easily carried in one's pocket on field trips where a large size would be more awkward or apt to be left at home. A checklist does not replace keys and field guides which help in identification by descriptions and illustrations. The checklist is an adjunct to the key or guide, not a replacement.

Of what value is a checklist? It may show relationships within families, etc., or a record of plants found in a new area or site. By checking off species noted on a certain field trip, a future return to the area might indicate a loss or gain of a plant species. New records of the occurrence of rare or unusual plants add to our knowledge of their distribution. Although numbers are not usually included, the absence of a species recorded previously might indicate a change in the habitat or adverse human activity.

How may a checklist be used? In addition to checking species as they are identified in the field, a simple notation indicating the field trip area or site and date seen can be placed next to the check mark, making the list more valuable for future reference. This symbol can be explained in the note space included in many lists.

How about a life list? Many birders keep a life list of all the birds they have seen. What about a life list of Virginia plants? What better way to do this than to purchase the required checklists and start checking. Let's have a challenge.

The following list includes the checklists that have been prepared by the VNPS and its various chapters. The state lists may be ordered from the VNPS. The others can be ordered from the individual chapters. Prices listed include postage.

Ferns and Fern Relatives of Virginia ($1.25; Virginia Native Plant Society, P.O. Box 844, Annandale, VA 22003)

Trees, Shrubs and Woody Vines of Virginia ($1.25; VNPS)

Spring Wildflowers of the Blue Ridge Mountains ($1.25; Blue Ridge Wildflower Society, P.O. Box 20385, Roanoke, VA 24018)

Spring Wildflowers of Northern Virginia ($2.00; Prince William Wildflower Society, P.O. Box 83, Manassas, VA 22110)

Spring and Early Summer Flowering Plants of Central Coastal Virginia (To be published Spring 1991; Price TBA; John Clayton Chapter, P.O. Box 677, Yorktown, VA 23690)

Summer and Fall Wildflowers of Northern Virginia ($3.00; Prince William Wildflower Society)

Trees, Shrubs and Woody Vines of Central Coastal Virginia ($1.25; John Clayton Chapter)

Trees, Shrubs and Woody Vines of Northern Virginia ($2.00; Prince William Wildflower Society)

Dorothy C. Bliss
Botany Chair

FROM THE PRESIDENT

It feels like one "New Year" after another as we approach the new year of spring wildflowers. Handsome skunk cabbage was blooming at the G. Richard Thompson Wildlife Management Area today (2/10/91) as I took a winter walk through the VNPS Registry area. It was easy to see the logging done prior to the registry of the site. How grateful we should be that the habitat of the glorious sweeps of *Trillium grandiflorum* is temporarily protected.

The working relationship between VNPS and the Virginia Department of Game & Inland Fisheries (DGIF) is one which we value and will continue as we pursue "best management" practices for special habitats. Over the years, our Society has developed many working relationships and affiliations with conservation-related organizations. Think about some of the recent ones:

The Society has signed a Challenge Cost-Share Agreement with George Washington National Forest. By September, plant inventories of seven areas in the Lee District will be completed by Shenandoah Chapter members. This work of VNPS volunteers complements survey work done by Virginia's Division of Natural Heritage.

VNPS continues as a voting member of the Conservation Council of Virginia (CCVA), a statewide coalition of organizations and individuals which provides current information, contacts and resources about our state's conservation issues. VNPS Conservation Chair Ted Scott is our CCVA delegate.

To further effective communication, CCVA recently established the Virginia Environmental Network (VEN) to keep members informed during fast moving legislative days in Richmond. Issues such as the Chesapeake Bay, air quality and growth management have been among the concerns followed.

VNPS participates as a member of the Eastern Native Plant Alliance (ENPA). VNPS Publications Chair Mary Pockman represents us at ENPA's yearly gathering of representatives from botanical gardens, native plant societies, propagating nurseries and conservation organizations. Among the issues on which ENPA is active are the problems associated with commercial wild collection of native plants and difficulties related to exotic species, such as kudzu, Japanese honeysuckle and purple loosestrife, which are destroying native plant habitats. ENPA's "Call to Action on Invasive Exotics", prepared by VNPS member Faith Campbell, is available from ENPA, P.O. Box 6101, McLean, VA 22106. (Enclose SASE.)

The ***Bulletin***

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Nicky Staunton, President
Virginia Klara Nathan, Editor
Barbara Stewart, Artist

The Virginia Department of Forestry (VDF), in response to current concerns about population growth, has begun to encourage resourceful urban forestry practices. With assistance from our Prince William chapter and the Potomac Appalachian Trail Conference, the VDF is considering use of Conway Robinson Memorial Forest in Gainesville in this manner.

Concerned VNPS members are meeting with Virginia Department of Transportation (VDOT) officials in support of low-cost maintenance of Virginia's highways. They are also addressing another subject of importance under VDOT jurisdiction, the removal of native trees and shrubs from state highway rights-of-way to expose commercial billboards. Potowmack Chapter's Ed Mainland is organizing these efforts.

The VNPS Registry Program is closely allied with the Virginia Chapter of The Nature Consevancy and the Virginia Division of Natural Heritage. Both organizations are represented on the Society's registry committee and have given valuable assistance in establishing the program. George Fenwick, Director of the Virginia Chapter of The Nature Conservancy, and Caren Caljouw, Stewardship Coordinator for the Virginia Division of Natural Heritage, also helped to present the 1991 VNPS Winter Workshop on habitat protection.

But why focus on these aspects of VNPS activity? Because the question is sometimes asked... "Just what does the 'state' part of the VNPS do?" VNPS Board members become actively involved in organizations and issues which affect several, often all, chapter areas. Many state board initiatives begin from chapter level leads and needs.

I have listed some of the efforts supported by the VNPS Board, as well as a few of the many concerns in which individual chapter members are working with other conservation-related organizations. The expertise and commitment of the state Board members, including Chapter Representatives, fuel the statewide ventures to protect native plants. Complementing these efforts are the Chapters, working on environmental issues "at home." Chapter members are continually networking with local organizations through their Boards and other member volunteers.

VNPS looks to you for continued support through your donations of time, your enthusiastic efforts and your financial gifts. Especially, we look to you for your energy in sharing with as many people as possible our message of "conserving wild flowers and wild places." We have an exciting year ahead!

Nicky Staunton

New Chapter Formed (continued from page 1)

ways to educate the public about their value. In 1988 the Virginia Beach Garden Club, along with the Junior Virginia Beach Garden Club and the Princeness Anne Garden Club, co-sponsored a wildflower symposium at the Virginia Marine Science Museum. The one-day event was well attended and guests, including VNPS founder Mary Painter, sparked interest in the Society among participants.

As the two factions became acquainted through the symposium and other contacts, the possibility of creating a VNPS chapter to serve the area grew. In Spring 1990, several VNPS supporters from each group began active recruiting potential chapter members through garden clubs and the Science Museum, and at public events such as Earth Day activities. A writer for the *Virginia Pilot* newspaper learned of the group and included the telephone numbers of contact persons in two articles.

As enthusiasm for a new chapter grew, an informal steering committee began meeting and petitioned for chapter affiliation. The petition was approved by the VNPS Board at its December meeting. Last October, the first official meeting of the South Hampton Roads Chapter drew over 50 people. The new chapter now claims over 80 members.

Virginia Wildflower Celebration 1991

During April and May, chapters of the Virginia Native Plant Society sponsor a variety of activities to welcome spring and share their interest in Virginia's native flora among themselves and the interested public. The events listed here can help you get acquainted with VNPS members and the unique features of their chapter areas. All activities are open to the public. As some require reservations, fees or additional instructions, use the phone numbers provided to find out more about the events.

This year cardinal flower, *Lobelia cardinalis*, has been chosen as Virginia Wildflower of the Year. This wildflower occurs in every county in Virginia, usually in wetlands, areas of special concern because of their vulnerability to loss. Although the blossoms of cardinal flower won't open until late summer, we will be looking for the plants and associated species in the field.

Calendar of Events

March 21, Friday. 8 p.m. A presentation by Pamela Harper, "Native Plants and Their Exotic Counterparts." Williamsburg Library. Donna Ware (John Clayton) 804 565-0657.

March 23, Saturday. An afternoon tour of Blackwater Ecological Preserve (aka Zuni Pine Barrens). Isle of Wight. Held jointly with John Clayton Chapter and Cape Henry Audubon Society. Owl calling at dusk. John Hodgson (S. Hampton Roads) 804 481-6656.

April 6, Saturday. 1 p.m. York River State Park Ravine Walk. James City County near Williamsburg. Donna Ware (John Clayton) 804 565-0657.

April 7, Sunday. 2 p.m. Buffalo Creek Field Trip. Lexington. Dot Bliss (Blue Ridge) 804 845-5665.

April 10, Wednesday. 7:30 p.m. "Butterfly Flowers and Their Pollinators," a talk by John Coffman. Branchlands Manor House, Charlottesville. Gay Bailey (Jefferson) 804 293-8997.

April 14, Sunday. 1:30 p.m. Monticello Spring Walk from mountain top to the Rivanna River. $3 fee for Monticello entrance. Cinder Stanton (Jefferson) 804 971-1630.

April 14, Sunday. 2 p.m. Robins Mill Pond Orchid Walk led by J.D. Andrews. Glouchester County. Donna Ware (John Clayton) 804 565-0657.

April 19, Friday. 7 p.m. Wildflower Celebration. Virginia Western Community College, Roanoke. Thomas Squires will speak on "Useful Plants for Survival in the Wild" and Gwynn Ramsey will present "Folktales of the Southern Appalachians." Rich Crites (Blue Ridge) 703 774-4518.

April 19, Friday. 8 p.m. Native Orchids Slide Show by Hal Horwitz. Middleburg Community Center. Jocelyn Alexander 703 349-3248.

April 20, Saturday. 9:30 a.m. Tinker Dell Trip. Hugh Smith (Blue Ridge) 703 774-8392.

April 20, Saturday. 1:30 p.m. Peaks of Otter Trip. Hugh Smith (Blue Ridge) 703 774-8392.

April 20, Saturday. 11 a.m. Blackwater Ecological Preserve (aka Zuni Pine Barrens) Tour. Isle of Wight. Held jointly with the South Hampton Roads Chapter. Donna Ware (John Clayton) 804 565-0657.

April 21, Sunday. EARTH DAY 1991
Prince William County Earth Day Festival. Manassas. Prince William chapter will host an educational display. Claudia Thompson-Deahl (Prince William) 703 754-9235.

April 21, Sunday. 1:30 p.m. Mature Hardwood Forest Walk. Private land in Charlottesville. Patti Burke (Jefferson) 703 456-8219.

April 28, Sunday. Time TBA. Weyanoke Bird and Wildlife Sanctuary Walk. Norfolk. Becky White (South Hampton Roads) 804 489-7067.

May 2, Thursday. 11 a.m. Wildflower Refuge Walk. The College of William and Mary, Williamsburg. Carolyn Will (John Clayton) 804 565-0657.

May 4, Saturday. G. Richard Thompson Wildlife Management Area. All Day Field Trip. Linden, Faquier County. Gay Bailey (Jefferson) 804 293-8997.

May 4, Saturday. VNPS Members' Gardens Tours. Trish Hendershot (Potowmack) 703 280-2318.

May 8, Friday. Time TBA. G. Richard Thompson Wildlife Management Area. Tailgate Picnic and Walk. Anne Crocker (Potowmack) 703 437-0355.

May 8, Wednesday. 7:30 p.m. Slide presentation, "Wildflower Folk Lore" by Gay Bailey. Branchlands Manor House, Charlottesville. Gay Bailey (Jefferson) 804 293-8997.

May 10, Friday. 7 p.m. Native Plants: Folk Lore and Uses Presentation. Museum of Natural History, Martinsville. Bob Tuggle (Blue Ridge) 703 647-1205.

May 11, Saturday. 10 a.m. to 2 p.m. Wildflower Plant Sale. Mill Mt., Roanoke. Hugh Smith (Blue Ridge) 703 774-8392.

May 11, Saturday. 10 a.m. Wildflower Hike. Museum of Natural History, Martinsville. Bob Tuggle (Blue Ridge) 703 647-1205.

May 12, Sunday. Stewardship Day at Thompson Wildlife Management Area. Remove invasive plants while reveling in the surrounding beauty. Jocelyn Alexander (Piedmont) 703 349-5409.

May 12, Sunday. Mother's Day Native Plant Sale. Part of Greenspring Farm Park's Spring Garden Celebration in Fairfax County. Ann Haynes (Potowmack) 703 836-0925.

May 17-19. Wintergreen Wildflower Symposium including Jefferson Chapter Plant Sale. Registration information 804 325-2200.

May 19, Sunday. 2 p.m. Glenns Campus Nature Trail Walk. Rappahannock Community College, Glouchester County. Sylvia Sterling (John Clayton) 804 693-2953.

For Wildflower Gardeners

Native perennials are getting more attention these days from nurserymen and the horticulture press. The following are introductions for 1991:

Aster 'Purple Dome,' a bright purple-flowered compact selection of *Aster novae-angliae.* Visitors to Mary Painter's nursery during last fall's VNPS annual meeting may remember this plant being grown in a border near her patio.

Lespedeza thunbergii 'Pink Fountain,' grows to 3 feet and is more upright than the species.

Solidago sphacelata 'Golden Fleece,' reaches up to 18 inches in height and is covered with bright yellow blossoms in October and November.

Lobelia 'Wildwood Delight,' a creamy rose and fuchsia-colored hybrid of *L. cardinalis* and *L. siphilitica.*

Rudbeckia maxima bears 6 foot tall flowering stalks in midsummer which rise above 3 1/2 foot foliage. Flowers have drooping yellow petals and prominent brown cones.

Silene polypetala x S. virginica, a hybrid of our familiar fire pink and the rare low-growing *S. polypetala.* It grows to 8 inches and features bright coral pink flowers.

Another plant sure to be in the press this year is the Perennial Plant Association's 1991 Plant of the Year, *Heuchera* 'Palace Purple.' A selection of the western U.S. native *H. micrantha* var. *diversifolia,* the variety originated on the grounds of the Queen's palace at the Royal Botanic Gardens at Kew in England. The name 'Palace Purple' refers to the maple-shaped leaves which are bronze-purple on the outside and pink-purple underneath. Small white flowers bloom in late summer.

NCBG Offers Seeds

Each year the North Carolina Botanical Garden distributes seeds and spores of many native plants as part of its Conservation Through Propagation Program. Seed packets (up to 8) are free to NCBG members. Additional packets and those requested by non-members are $1 per packet. To receive the Garden's 1991 seed/spore list which includes native annuals, perennials, shrubs, trees, vines, carnivorous plants, and ferns, send a SASE to: NCBG SEEDS, Box 3375 Totten Center, University of North Carolina, Chapel Hill, NC 27599.

Nancy Arrington
Horticulture Coordinator

VIRGINIA'S RAREST PLANTS

Zigadenus densus, Black Snakeroot

In 1940 eminent botanist M. L. Fernald and his dauntless companion, Bayard Long, discovered a diverse open sphagnous wetland which came to be known as the Dahlia Bog, named after a nearby community in Greensville County, Virginia. Here Fernald and Long uncovered rarity after rarity, including a number of species new to the Commonwealth. Among these was a graceful member of the Lily family, the black snakeroot, *Zigadenus densus.* The species looks like a narrow-leaved version of fly poison, *Amianthium muscaetoxicom,* with a tight panicle of six-part, white flowers on a leafy scape. Fernald wrote of the beautiful display black snakeroot provided when a blanket of plants, some in excess of a meter high, bloomed on Dahlia Bog.

Zigadenus densus
Illustrated by Megan G. Rollins

Fifty years later, the bog is no where to be found. Natural Heritage ecologist Thomas Rawinski theorizes that frequent fires which resulted from errant sparks on a nearby railroad, may have helped to maintain the bog's open herbaceous natural community. Rawinski believes that since technological advances have greatly reduced railroad fires, open communities such as Dahlia Bog are less common near railroad lines.

The loss of Dahlia Bog's flora exemplifies a general trend; plants which favor sunny open habitats are rapidly disappearing. Since the maintenance of their preferred habitat depends on disturbances which are now artificially suppressed, such as fire and flooding, these species are becoming increasingly rare.

But there is good news. In 1990 a small population of *Zigadenus densus* was located by Natural Heritage botanists in a powerline right-of-way near the historic bog. This area was searched for remnants of the bog flora since powerline rights-of-way provide sunny habitats where species dependent on open-canopy conditions can persist. When free of non-native species such as fescues or Asian bush clovers, these rights-of-way often provide significant refugia for native species.

As the importance of fire and other disturbance is recognized by land managers interested in the preservation of biodiviersity, a shift toward the wise use of disturbance may lead to the return of the fascinating flora of our open-canopy habitats.

Chris Ludwig
Virginia Division of Natural Heritage

Coming Events

Garden Earth

Colonial Williamsburg Foundation in conjunction with the American Horticultural Society is sponsoring the forty-fifth annual Williamsburg Garden Symposium on April 7 & 8. This year's program, "Garden Earth," centers on conserving and using native plant species, learning how to be responsible consumers of water, and developing a detente with bugs and birds and other inhabitants of "Garden Earth." Members of the Williamsburg staff will discuss native ferns for the home landscape and give tours of the gardens. FMI: Registrar, Garden Symposium, Colonial Williamsburg Foundation, P.O. Box C, Williamsburg, VA 23187; (804) 220-7255.

Tennessee Pilgrimage

The Spring Wildflower Pilgrimage at Gatlinburg, Tennessee will be held April 25-27. For more information contact Dr. Ed Clebsch, 437 Hesler Biology Building, University of Tennessee, Knoxville, TN 37996; (615) 974-2256.

WV Pilgrimage

The 30th West Virginia Wildflower Pilgrimage will be May 9-12 at Blackwater Falls State Park in Davis, West Virginia. For details contact Maxine Scarbro, Wildflower Pilgrimage Coordinator, West Virginia Division of Natural Resources, 1900 Kanawha Boulevard East, Room 732, Charleston, WV 25303; (304) 348-3370.

For Your Library

Guide to the Vascular Plants of the Blue Ridge by B. Eugene Wofford (1989; University of Georgia Press, Terrell Hall, Athens, GA 30602; hard cover $35.00, soft cover $15.00) Since the Blue Ridge spans over 500 miles and is floristically diverse, it is no easy task to cover all the flora of the region in a book. This extensive guide covers 161 plant families, 726 genera and 2391 species and lesser taxa, placing special emphasis on species in Virginia, North Carolina, South Carolina, Georgia and Tennessee. Wofford has devised a simple format by dividing plants into four groups with different keys for each group, making it possible to identify most of the region's native and naturalized plant life. However, use of the keys depends on observation of reproductive parts which does limit the seasons when the keys are useful. No plant illustrations are included in this technical manual for field work by the experienced botanist.

Native Shrubs & Woody Vines of the Southeast by Leonard E. Foote and Samuel B. Jones, Jr. (1989; Timber Press, 9999 S.W. Wilshire, Portland, OR 97225; hard cover $32.95) This field guide is a comprehensive manual of native shrubs and woody vines for the area bounded by eastern Texas, Arkansas, Kentucky, West Virginia and Delaware, (excluding peninsular Florida) including Virginia. Keys, descriptions and color photographs help readers identify about 550 species. This book is an excellent resource for the landscape use of native plants, providing lists of plants with specific ornamental characteristics and plants that attract wildlife. Also included is information on propagation.

The Great Forest, John Clayton and Flora by Harriet Frye (1990; The Glouchester Gazette, Box J, Glouchester Courthouse, VA 23061; $10.00 includes postage). If Cynthia Long's article "John Clayton: Virginia Botanist" (VNPS *Bulletin*, Nov. 1990) piqued your interest about the colonial botanist, read the new book *The Great Forest, John Clayton and Flora*. Author Harriet Frye's research on Clayton began after reading a roadside historic marker honoring one of America's early, but relatively unknown, scientists. Years of sleuthing resulted in the book, a narrative biography about Clayton, his family and natural science during Colonial times. As a result of her inquiries about Clayton, the author learned of the Virginia Native Plant Society and joined the John Clayton Chapter.

Identification of Plants with Fleshy Fruits by Eugene C. Ogden and Richard S. Mitchell (1990; New York State Museum Publications, 3140 CEC, Albany, NY 12230; $13.95 includes postage) This guidebook covers all known wild plants with fleshy fruits and berries found in Northeastern United States and Canada. A large number of the plants included occur in Virginia. Through the use of keys, non-botanists can identify some plants from characteristics of the fruits alone; when the stems, leaves and fruits are evident, identification is more absolute. If the plant possesses toxic properties, the book directs readers where to find more information if needed. Included with the guide is a 5 1/4 inch floppy disk which contains a program for quick identification of fruits.

Nature Guide (1990; Nature Guide, P.O. Box 1015, Tacoma, WA 98401; $10) By obtaining a copy of *Nature Guide*, anyone with an interest in birds, plants and wildlife can travel in North America and 50 other countries with knowledgeable local guides. The pocket-size directory is informative when traveling to new places, enabling one to find nature centers and personal guides to little-known local attractions. The guide is compiled by volunteers but it is a professional publication which is warm and welcoming due to its person-to-person approach. It gives the names and addresses of people all over the world who have volunteered to help others explore the natural beauty of their locale. Using the guide, you write to someone living in or near the area you plan to visit and identify yourself, your interests and your time frame. Indicate the receipt of their name from the Guide and enclose a SASE for your reply. Travellers should intend to pay all expenses incurred during the time with a guide (e.g., gasoline costs, entrance fees, etc.).

What's Hiding in Your Lawn?

Have some fun in your yard, on your lawn, in your wild garden - however you may characterize your landscape or gardening style - by allowing parts of your front lawn to grow up naturally to the delight, amazement, horror and/or envy (you choose) of your neighbors. You can make your activities appear very deliberate simply by maintaining a visible margin around the areas you allow to grow and by mowing paths through the areas.

You will be amazed at what your lawn can do if allowed to grow tall. Have you ever seen your grasses flower? Left to grow naturally, native grasses, like the common and very beautiful broomsedge, *Andropogon virginicus*, will surprise you at how quickly they can move into your lawn. You may also be surprised to find that a few wildflowers are perhaps already in your lawn merely waiting for the opportunity to grow tall enough to flower. At the same time, realize that areas which have been intensely managed with herbicides and fertilizers to create a uniform lawn of a few selected turf species will not have as much to offer in the way of diversity; i.e., chances of interesting native grasses and wildflowers turning up in your lawn during the first season are not as great as in a less rigidly managed lawn. For instance, my side yard - a type of lawn when it is mowed - is a carpet of every kind of imaginable weed. When left to grow tall, a number of welcome grasses and wildflowers, as well as some unwelcome ones, appear. No garden is maintenance-free, not even the so-called "meadow garden," unless you are willing to accept and enjoy everything that comes up.

A wonderful surprise in my side yard last fall was the appearance of dozens of ladies' tresses orchids, *Spiranthes* sp. I had seen one or two several years ago and thought I had lost them. A combination of last summer's (1989) frequent rains and random early August mowing of a lot of the area worked together to encourage these fall-blooming wildflowers - some of them as much as two feet tall - to appear in abundance in the paths, in the open edges, and throughout where the broomsedge was abundant.

Ken Moore
Assistant Director, NCBG

(Excerpted from "A Note on Meadow Gardening," *North Carolina Botanical Garden Newsletter*, June 1990)

Dogwood Anthracnose Threatens State Tree

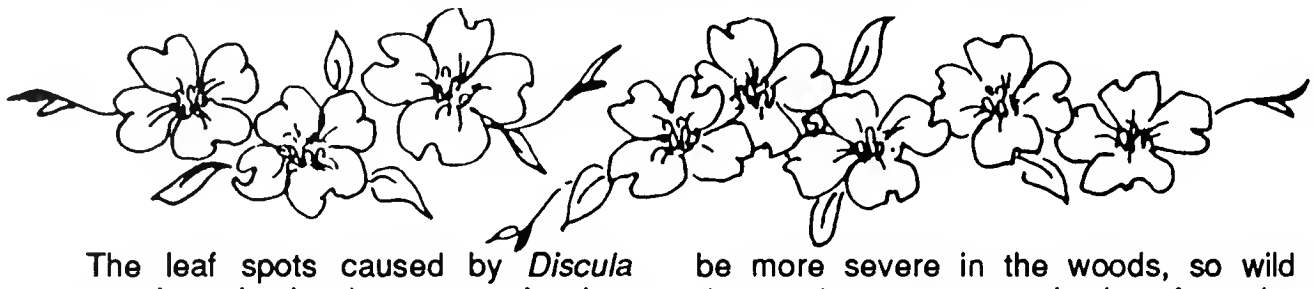
Dogwood mortality caused by the dogwood anthracnose disease in the forests of the eastern United States has been widespread. The disease has also infected dogwoods in landscape situations. Dr. Mary Ann Hansen, Diagnostician for the Virginia Polytechnic Institute and State University Plant Disease Clinic, tests plant samples to determine the causes of their disorders. During the past serveral years, some dogwood samples submitted to the Plant Clinic (most of which come from landscape trees) have been found to be infected with dogwood anthracnose. Although the numbers may seem small, they are rising yearly, indicating an increase in the occurrence of the disease in Virginia.

Dogwood anthracnose in Virginia is occurring in a wide range of habitats, including forest, landscape and nursery situations. The disease has been found in nursery dogwoods in Prince William and Fauquier Counties, and in one of these nurseries, Kousa dogwood, *Cornus kousa*, which is reported to be resistant, was affected in addition to the flowering dogwood, *Cornus florida*. Wild dogwoods in the forest have been affected in Warren and Giles Counties (1990). (This is in addition to counties reported in 1989 by the U. S. Forest Service: Nelson, Amherst, Rockbridge, Bath, Augusta, Clarke, Loudoun, Craig, Floyd and Washington.) Virginia Polytechnic Institute and State University Plant Disease Clinic has also received samples of affected dogwoods from landscapes in Montgomery and Arlington Counties, in addition to Westmoreland County, reported in 1989.

In 1989 the Plant Disease Clinic received almost 100 dogwood samples but only one (from a Westmoreland County landscape) was found to have dogwood anthracnose, caused by the fungus *Discula* sp. Most samples received last year were suffering from a less serious disease called spot anthracnose, caused by the fungus *Elsinoe corni*. In 1990, out of 160 dogwood samples received by the Clinic, 13 were found to have dogwood anthracnose.

Symptoms

In order to control the disease in affected trees, it is important to be able to recognize the symptoms of the leaf spot stage of dogwood anthracnose. Several different leaf spots of dogwood occur and can be confused with one another. Most leaf spots are not serious threats to the health of the trees.



The leaf spots caused by *Discula* sp. are irregular in shape, vary in size, and have light brown centers with purplish borders. With a hand lens, you may be able to see tiny brown specks in the brown part of the spots. These are fruiting bodies of the pathogen. They may be found on either the upper or lower surface of the spots. Leaf spots may enlarge, coalesce and blight large portions of the leaf. Blighted leaves may cling to the tree until after normal leaf drop in the fall.

Other leaf spots that occur on dogwood are Septoria leaf spot and spot anthracnose. Septoria leaf spot resembles the leaf spots of dogwood anthracnose, but spots are generally more angular and do not usually cause a general blighting of leaf tissue. Spot anthracnose leaf spots are easy to distinguish from dogwood anthracnose leaf spots because of their uniform small size. Leaf spots caused by the spot anthracnose pathogen are about the size of a pinhead. Centers are whitish and borders are purple. The centers of the spots often drop out, leaving small holes in the leaves. If a large number of leaf spots occur early in leaf development, leaves may have a puckered appearance.

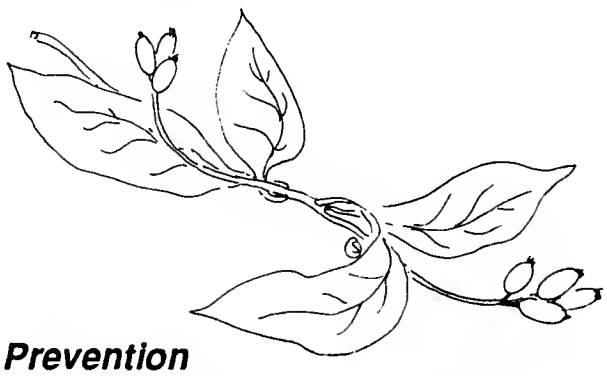
Other symptoms of dogwood anthracnose are dieback of small twigs and/or larger branches, initially in the lower part of the tree. (The original name for the disease was "lower branch dieback".) Dark brown cankers can be detected under the bark at the base of dead branches when the bark is peeled back. A secondary symptom that often occurs on infected dogwoods is epicormic sprouting or numerous sprouts forming directly on the trunk at the base of the tree. This is generally a sign of stress on dogwoods

Control Measures

Cultural controls are the first line of defense for dogwood anthracnose. Keeping trees as healthy as possible should help to prevent the disease.

Water trees during drought and mulch to prevent water stress. Fertilize as needed according to soil analyses. Avoid transplanting wild dogwoods and be especially careful to obtain new dogwoods from reliable cultivated sources. So far, the disease seems to be more severe in the woods, so wild dogwoods or even seed taken from the forest has a much higher chance of carrying the fungus with it. Trees planted in sunlight and spaced for good air circulation in the landscape seem to have a much lower incidence of the disease.

The leaf spot stage of the disease can be prevented in landscapes or nurseries by the use of fungicides. Since the fungus usually initiates infections on the leaves and then moves down the petioles into the twigs, the disease can theoretically be controlled by careful use of fungicides during the leaf spot stage. Practically, this is often difficult since foliar fungicides can be washed off by rain, adequate coverage with sprays can be difficult, and environmental conditions may be conducive to rapid growth of the fungus. Currently, fungicides used for control of other leaf spot diseases of dogwood are recommended. A new fungicide especially effective for dogwood anthracnose is being developed but is not yet available for use.



Prevention

If dying twigs are observed, they should be pruned back to live tissue in an to attempt to limit disease spread. Pruning tools should be surface sterilized with a dilute (10%) solution of household bleach between cuts to avoid spreading the pathogen. Once the pathogen has entered larger branches or the trunk, it would be best to remove the tree. Either burn or bury infected wood to prevent disease spread.

Since the dieback phase of the disease usually leads to death of the entire tree, once the fungus has caused cankers on the larger branches or trunk, control is impossible. Therefore, it is important to prevent the disease altogether or to control the disease in the leaf spot stage.

(Continued on next page)

Dogwood (continued from page 6)

To date, no resistance has been found in flowering dogwood. The prognosis for the health of our state flower is bad, indeed. Kousa dogwood, an introduced species which blooms later than flowering dogwood, has resistance to the disease but this does not mean it is immune. According to Margery Daughtrey, a New York plant pathologist who has examined numerous dogwood specimens from all over the country, Kousa dogwood may exhibit leaf symptoms, but the infection does not progress into the branches. There is some speculation that dogwood anthracnose was introduced into the U.S. on Kousa dogwood.

If you have questions about symptoms you see on dogwood trees, samples can be submitted to the Plant Disease Clinic through your local county Extension office. Please note that samples must be in good shape for an accurate diagnosis to be made. Dead branches are not adequate for diagnosis. Submit branches showing the junction of healthy and affected tissue with leaves still attached. Try to include leaves still showing individual leaf spots rather than leaves that are completely dead. Be sure to complete the diagnostic form carefully.

We continue to hope that research on this disease will provide us with information on more effective means of disease control. In the meantime, recognizing the disease and implementing the controls now available to us should help us to limit the spread of this disease in Virginia. The Commonwealth, without its harbinger of spring, would be a sad sight indeed!

Mary Ann Hansen
VPI&SU Plant Disease Clinic

FROM NEAR AND FAR

Acid Rains

Acid rain monitoring by the U.S. Geological Survey has disclosed startling news for Virginians. Out of over 200 observation sites across the country, northern Virginia was found to have the most acidic precipitation, pH 4.0. Coal burning power plants in the Ohio Valley and vehicle emissions from local traffic are responsible for the low pH. Although it is difficult to calculate the extent of damage caused by acid rain, the most visible effects are deteriorating house paint and pitting in limestone and marble structures. Less apparent, but more devastating to the ecosystem, is the effect of weakening plants overtime.

Wetlands Win

Faced with the threat of a lawsuit by the National Wildlife Federation, the Army Corps of Engineers has decided that a "designer" golf course is not a sufficient reason to destroy mangrove wetlands near Miami, Florida. The Corps headquarters has directed its Jacksonville District office to reconsider a permit for developers of Old Cutler Bay, an upscale residential community, to destroy 12 acres of swamp to accommodate a championship golf course. Higher level Corps administrators determined that local and regional offices had erred in accepting the developer's argument that the construction of a championship-level course was essential to realize a profit on the project. Under the law, a permit is not to be issued for wetlands destruction if practical alternatives exist. In this case a smaller course was judged to be a feasible elective.

Rambling Prairie

In one of the first attempts to relocate an entire natural community, over several days last July, the Illinois Chapter of The Nature Conservancy and an earth moving-company moved the top 16 inches of soil, the plants, and some of the insects and small mammals that lived at the Healy Road Prairie near Barrington Hills, Illinois, to Bluff Spring Fen, a nature preserve six miles away.

A rare dry gravel prairie remnant, Healy Road Prairie would have soon been destroyed during mining of the underlying gravel. Since none of the species at the site is listed as endangered, there was no legal way to stop the mining. Relocation may not be the best way to preserve a prairie, but, in this case, it was the only option left.

Economy Down, Harvest Up

When the nation's economy becomes sluggish, ginseng harvesting, both legal and illegal, escalates. The trend is currently evident in the mountains of western Virginia where ginseng dealers report an increase in trade. The number of citations for digging the root out of season, on federally protected property, or on private holdings without permission is up by over two-thirds compared to 1989, according to Marshall Tramell, former chief of Virginia's Office of Plant Protection. Although the herb which is prized by the Chinese for its reputed aphrodisiac and recuperative properties is not an endangered species, overharvesting could push it toward that listing and bring to a close a piece of Appalachian mountain culture that has endured for over two hundred years.

See the address label for your membership's expiration date.

I want to be a VNPS member this year.

Name(s)_____

__Individual $10 __Senior (60 or over) $5 __Sustaining $100

__Family $15 __Senior Family $10 __Life $250

__Patron $25 __Student $5 __Corporate sponsor $125

__Supporting $50 __Associate (group) $25;delegate_____

I wish to make an additional contribution to ___VNPS _____Chapter

in the amount of__$10 __$25 __$50 __$100 __$_____

Make check payable to VNPS and mail to:
VNPS Membership Chair, Route 1, Box 381, Delaplane, VA 22025

Gift Memberships? Please list below.

_____

_____

_____

_____

__Check here if you do not wish your name to be exchanged with similar organizations.

__Check here if you do not wish to be listed in a chapter directory.

Member Input Needed

Call for More Wilderness

U.S. Congressman Rick Boucher of Virginia intends to introduce legislation to increase National Forest land acreage designated as wilderness. He is asking for suggestions of specific sites in the state appropriate for wilderness status. If you have recommendations, call (202) 225-3861.

Nursery Names Requested

The VNPS list "Retail Sources of Native Plants" is being updated. If you know of reliable retail or mail-order nurseries that propagate the native plants they sell, let your chapter horticulture committee member know or send the information to Horticulture Coordinator Nancy Arrington, P.O. Box 462, Manassas, VA 22110. Your suggestions can help the horticulture committee compile a list that is as complete and accurate as possible.

Research Grants Available

Small research grants for field and/or herbarium work relating to the flora of Virginia are available from the Barbara J. Harvill Botanical Research Fund for Floristic and Revisional Research in Virginia. Interested persons may request an application form or write a letter giving a short description of the proposed research project and itemizing costs for which funds are sought. Send proposals to Donna M. E. Ware, Virginia Botanical Associates, Herbarium, Biology Department, The College of William and Mary, Williamsburg, VA 23185. Deadline for applications for 1991 is July 30.

Inventories Involve Society Members

As a manager of federal lands, the National Forest Service has a responsibility to protect critical habitats within its province. This year two studies being conducted on Forest Service lands are being led by volunteers from the Virginia Native Plant Society.

In a year-long Challenge Cost-Share Agreement between the VNPS and George Washington National Forest, designated Society members will receive partial reimbursement of costs incurred during travel to designated inventory sites.Lee District Ranger John Coleman, on behalf of the Forest Service, has invited VNPS members Jacob Kagy, Alvin Dove and Vernon Graber to catalog plant species and map distinctive habitats in seven areas. Other members of the Shenandoah chapter will assist with the inventory project as needed. Information gathered will be submitted to the Forest Service and shared with the Virginia Division of Natural Heritage, adding to their database of Virginia flora.

In a separate action, the Forest Service has made provisions for a floristic survey to be completed of the James River Face and Thunder Ridge Wilderness Areas in Jefferson National Forest. This two year study to document the plants of these adjacent wilderness areas will be a collaboration of the work of Blue Ridge chapter members Dorothy Bliss, Gwynn Ramsey, Aubrey Neas and Brian Hazlett.

Virginia Native Plant Society
P.O.Box 844
Annandale, VA 22003

May 1991 Vol. 10, No. 2

Bulletin

A publication of the **VIRGINIA NATIVE PLANT SOCIETY**
Conserving wild flowers and wild places

Collect Data - Not Plants

This is the season when science teachers across the country are most likely to assign an activity to their students involving the collection of wild plants to be later identified. A primary purpose of the exercise is to take the student -- "beyond the classroom walls where a greater appreciation and understanding of the natural world is fostered." In addition, it provides a hands-on experience in observing, handling and identifying plants.

The motive is commendable but the method is devastating, especially if rare plants happen to be involved. Hands-on activities of this kind have proven to be valuable in developing the latent interests of students in any one of a number of natural sciences. However, because the pupils are not experts, (nor are the teachers, in most cases) the rarer plants usually go unrecognized and are killed by the collecting.

A very thoughtful article by Professor John E. Silvius of Cedarville College in Ohio, recently published in the *American Biology Teacher*, provides an alternative approach. Instead of collecting plants, he suggests collecting data from living plants. A permanent written record on each plant and its particular habitat becomes the 'collection.' The article provides considerable detail on how to maximize the benefits of this method. An additional advantage might not be immediately apparent: namely, and in his words, "The student is encouraged to view plant species as unique creatures that are intrinsically valuable in addition to recognizing their aesthetic and scientific importance."

VNPS has placed a copy of the article (with the permission of both the author and the publication) in the hands of the science contact person in every public school system in Virginia. In April I conducted a workshop on this new method of 'collecting' plants at the annual conference of The Virginia Association for Environmental Educators, primarily a group of science teachers. It would be interesting to know if any of our members hear of schools in their community using this approach.

Copies of the article, "Environmental Stewardship in Plant Collecting: Niche vs. Notch" by John E. Silvius, can be obtained from T. G. Scott, Jr., 12493 Spicewood Road, Orange, VA 22960.

Ted Scott
Conservation Chair

VNPS Annual Meeting Weekend October 10-12, 1991 in Virginia Beach

Make plans to spend an exciting Columbus Day weekend in the Tidewater area with VNPS members from across the state. South Hampton Roads chapter will host the meeting weekend.

Attend the Friday evening program to get acquainted with the Eastern shore area, floristically and geologically. Spend Saturday exploring coastal habitats on field trips, including Seashore State Park. In the evening socialize and support the Society at the silent auction and business meeting. Then enjoy a fine dinner, speakers and presentations in the company of other native plant enthusiasts. Use Sunday and Monday to investigate the area more thoroughly on tours of nearby attractions.

Reserve the dates now and plan to bring the family. Details concerning accommodations, dinner and activities will be in the next *Bulletin*. See you there.

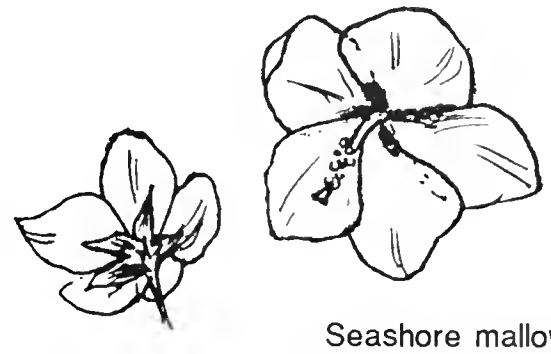
First Call for Auction Items

Start thinking about what you can donate for the Gala Auction at the VNPS Annual Meeting on October 11. The success of this annual fun and fund raising event depends on you! Among the most popular items are home and nursery propagated plants, handmade crafts, small paintings and drawings, and books. If you have questions, ask Pat Baldwin, 430 Yale Dr., Hampton, VA 23666; 804-838-2064.

Nominations Being Sought

The VNPS Nominating Committee, chaired by Libby Oliver (John Clayton Chapter), is developing a slate of candidates for election to the VNPS Board of Directors and next year's Nominating Committee. The slate will be proposed at the 1991 Annual Meeting on October 11. All VNPS member are invited to send the committee suggestions to consider.

Members may also nominate candidates by a petition signed by at least fifteen members. Petitions must be received by the Nominating Committee by August 28. Send suggestions and petitions to Libby Oliver, 515 N. Broad Street, Suffolk, VA 23434. Other members of the Nominating Committee this year are Gay Bailey (Jefferson), Nancy Hugo (Pocahontas), Dorna Kreitz (Potowmack), and Jocelyn Alexander (Piedmont). Under the VNPS Bylaws, the committee is composed of three members elected by the membership and two appointed by the board.



Seashore mallow
Kosteletzkya virginica

Workshop Review

Habitat protection was the theme of the VNPS Winter Workshop held at the University of Richmond on Saturday, March 16, 1991. More than fifty people gathered on a beautiful spring-like day to learn about different programs that strive to preserve special habitats of Virginia's native plants.

With the adoption of the VNPS habitat statement in June 1988 and the establishment of the VNPS land registry program in 1990, Society members are committed to the principle of habitat protection and are eager to learn how they can help.

George Fenwick, Director of the Virginia Chapter of The Nature Conservancy, opened the workshop with a discussion of four case studies of land protection by The Nature Conservancy (TNC). In each one he emphasized the importance of partnerships among organizations to accomplish the protection goals. At Bethel Beach, TNC worked with three different state agencies to establish a preserve for rare tiger beetles. At North Landing River, they enlisted the cooperation of state agencies, Ducks Unlimited, and a private landowner to set aside eight thousand acres of prime marshlands. At Bush Mill Stream and Clinch River, TNC also joined with other organizations to realize their common goal of preservation of unique habitats.

Caren Caljouw, Stewardship Coordinator, Division of Natural Heritage, discussed the need to study our rare plants and their habitats in order to protect them effectively. She illustrated several information gaps such as how much land is needed around a rare plant community to protect it, what are the reproductive techniques of a species, what is the long term status of the hydrology and the community structure of the habitat, and what management techniques are needed. Caljouw reviewed the Virginia Natural Area Preserve System Act of 1989 and also mentioned the need for cooperation among public and private groups in order to accomplish protection priorities in Virginia.

Jocelyn Alexander, a VNPS Director and the Conservation Chair of Piedmont Chapter, described the VNPS Site Registry Program. She urged VNPS members to be alert to special habitats and fine plant communities (not necessarily with rare species) in their own areas and to report possible registry sites to their chapter registrar. She gave as an example the first VNPS registry site, the G. W. Thompson Wildlife Management Area near Linden,

(Continued on page 3)

FROM THE PRESIDENT

Early signs of spring...dogwood buds unfolding, bluebells nodding in bud, petals of bloodroot whipped off by stiff gusts of wind and generous rains gently nurturing...spring gifts are being "unwrapped" daily. The proclamation of Virginia Wildflower Celebration 1991 by Governor Douglas Wilder recognizes our April and May celebration of native plants.

Virginia Wildflower of the Year cardinal flower, *Lobelia cardinalis*, will keep us waiting for its blooms for several months as it prepares a late July or early August debut. The beauty of its rich scarlet petals on tall spikes will capture you.

The VNPS brochure for cardinal flower was in your March *Bulletin*. Did you note that it is found in every county of Virginia? Have you ever been fortunate to chance upon its fiery beauty? If so, you would be unusual if you did not covet it for your garden. Black swallowtail butterflies are known to gather nectar from the flowers, a "bonus round" in your garden!

Many VNPS chapters offer cardinal flower plants at their wildflower sales. Easily propagated from seed, the plant likes "wet feet," enjoying river banks and wooded swamps. These wetlands and others, such as marshes and bogs, are under extreme stress from human activities and natural events. This is true of both coastal and inland wetlands.

The fact that my little city of Manassas is being visited by flocks of Canada geese on the storm water ponds near the main route through town and, twice this week, by great blue herons at those same short-lived "wetlands" would indicate that these poor sites are the best they can find as their natural habitats are destroyed.

This morning, a single great blue heron settled down on a tiny pond near my office. Having trailed the magnificent bird from my home to his landing site, I waited to watch him catch breakfast. The event brought to mind not only the changing habitats for wetland birds and plants, but the elemental fact that the chain of life depends on the element water.

Therefore, when you hear an argument against Chesapeake Bay regulations, such as a property owner not being able to use his land the way he wants, be armed with factual data to respond. You can obtain excellent free information about wetlands from many sources. (Addresses appear below.)

The Virginia Commission on Population Growth and Development works to accommodate expected growth and protect the quality of life and the bountiful natural and economic resources of the Commonwealth. It is believed that without action now, the physical landscape will be irreparably harmed and our capacity to support growing communities and assist struggling ones will be strained. Public meetings on statewide growth and development are being held during May in Richmond at the General Assembly Building, 910 Capital Street. I encouraged you to attend the meetings still to come: May 22, Finances; May 30, Governance. You will be able to share information and concerns with your elected officials in preparation for the 1992 General Assembly. This summer and fall is the time to build working relationships with our legislators.

By October you will be ready to enjoy Virginia's wetlands in the Tidewater area. Mark your calendar to attend the VNPS Annual Meeting in the South Hampton Roads chapter area. We plan to meet in Virginia Beach the weekend of October 10-12. The fieldtrips will be extraordinary and we will enjoy an exciting Columbus Day weekend of coastal shore habitats! By that time, the cardinal flower seeds will have set and been sown, but Seashore State Park has other native plants for us to enjoy in October: Indian pipes of a delicate shell pink color; sand dunes hosting a mat of partridge berry; cypress with Spanish moss. Also anticipated are trips to Weyanoke Sanctuary in Norfolk and the Virginia Marine Science Museum Wetland Gardens, planted by members of the South Hampton Roads Chapter.

In the meantime, enjoy our native plants and don't flag in your efforts to protect them!

Nicky Staunton

Chesapeake Bay and wetlands information sources:

Alliance for the Chesapeake Bay, 6600 York Road, Suite 100, Baltimore, MD 21212;

Chesapeake Bay Foundation, Suite 815 Heritage Bldg., 1001 E. Main St., Richmond, VA 23219;

Chesapeake Bay Local Assistance Dept., 805 E. Broad St., Richmond, VA 23219;

College of William and Mary, Virginia Institute of Marine Science, Gloucester Point, VA 23062 (Request "Wetlands Program Technical Report");

Public Information Center (PM-211B), EPA, 401 M Street SW, Washington, DC 20460 (Request 2/88 #OPA 87-016 "America's Wetlands-Our Vital Link Between Land and Water").

Looking at Lobelias

Cardinal flower has figured prominently in two of my great moments as a gardener. It is the first plant I grew from seed, and the thrill of seeing those tiny green seedlings has not been equaled by later successes with more rare or difficult species. The second exciting moment was my discovery of a lovely purple flowered hybrid among the blue lobelias in my garden.

I later realized that my purple lobelia, exciting as it was for me, was not that unusual. I've also discovered a confusing array of lobelia varieties, cultivars and hybrids with colors ranging from white through all shades of pink, fuchsia, red, blue and purple. This article is an attempt to make sense of the confusion. I hope it will help you become better acquainted with Virginia Wildflower of the Year 1991.

Varieties, Cultivars, Hybrids

Whether growing in the wild or in a garden, native species often produce plants that vary from what is considered "normal." A plant might be taller, have a more compact growth habit, or display a different flower color. When these naturally occurring variations within a species or those resulting from plant breeding programs are propagated and introduced into the nursery trade, they are called cultivars, short for cultivated varieties. The cultivar name is printed in roman type and is often enclosed in single quote marks. For example, *Lobelia cardinalis* 'Alba' is a white cultivar and *L. cardinalis* 'Rosea' is a pink one.

Variations such as these, though they occur in nature, usually do not reproduce themselves from seed. They may be sterile (produce no seed) or, if they do set seed, the seedlings may not come true but revert to the form of one of the parents. To retain their distinctiveness, these cultivars must be propagated by cuttings or division of the roots.

Hybrids, also called cultivars, are crosses between different species and usually have an "x" in the name. These may occur naturally as the result of cross pollination or may be produced by a plant breeder. In the case of cardinal flower, a hybrid of *L. cardinalis* and the blue *L. siphilitica* listed as *Lobelia x gerardii* or *L. x vedrariensis* has been in the nursery trade for many years. Its purple color is a combination of the red and blue of both parents. It may have occurred naturally, as mine did, or it may be the result of a breeding program. Crosses between different species, called interspecific hybrids, will produce seedlings that exhibit various combinations of characteristics of each parent, just as siblings in a family are alike yet different. Hybrids often become known only by the cultivar name their discoverer or breeder gives them.

A Cardinal Flower is a Pink Flamingo is a Rose Beacon

Several exciting new lobelia hybrids, crosses between *L. cardinalis* and *L. siphilitica*, are becoming available in nurseries. These are the results of a hybridizing program begun by amateur breeder Thurman Maness of Pittsboro, NC, in the early 1980s. In an attempt to get a pink lobelia he crossed *L. cardinalis* with a white *L. siphilitica*. Out of a batch of mostly blue seedlings this cross produced three plants with fuchsia colored flowers which in turn produced one seed pod. The following year that seed produced about one hundred seedlings, out of which he selected five especially distinctive and attractive plants. He named these hybrids and offered them for sale through his mail order nursery, Wildwood, Inc.

Over the years, in addition to his own hybrids, Maness has propagated and promoted varieties discovered by other gardeners including 'Wildwood Parade', a fluorescent watermelon red that Blue Ridge chapter member Paul James found near his Boones Mill home. One of the three whites Maness lists is 'Gladys Lindley', a creamy white *L. cardinalis* from Mrs. Lindley's North Carolina garden. Maness is especially proud of 'Ruby Slippers', a dark velvety jewel-toned plant, one of his 1989 introductions.

Propagation Tips

Since most hybrids don't produce seed, Maness propagates his hybrids from stem cuttings. He very generously passed along some propagation tips.

Cuttings should be taken in early summer just as plants start producing flowering stalks. Maness has found that a high percentage of cuttings taken from a young plant will root, but cuttings taken from a plant that has already bloomed will root poorly. Place the cuttings in a flat or pot containing a very porous mix (85-90 percent perlite and 10-15 percent sterile peat or potting mix) and keep them in a shady place with good air circulation. Cuttings should root in three to six weeks.

Plants seem to have mysterious ways of reproducing themselves, and according to Maness, hybrids that do produce seed often do so just before they die. This is exactly what happened to my purple lobelia. The seedlings I have gotten are various shades of blue, but so far none has come close to the original color.

Be on the lookout in your own garden for red or blue lobelias that display special characteristics. If you grow both *Lobelia cardinalis* and *L. siphilitica*, you may find a natural hybrid. If you want to propagate a special plant, probably the best advice is to mark it and leave it alone until next year. Collect any seed the plant sets and store it in the refrigerator to sow in late winter. If the plant is still living the next spring, take cuttings in early summer. The rosettes can be divided in early fall, saving the surest propagation method for last.

Consult wildflower gardening books for more specific instructions on growing cardinal flower from seed and cuttings or write to me, c/o VNPS, P.O. Box 844, Annandale, VA 22003. To request a copy of Maness's price list, send a business-sized SASE to Wildwood, Inc., Route 3, Box 165, Pittsboro, NC 27312.

Nancy Arrington
Horticulture Coordinator

Workshop Review

(continued from page 2)

and told of the cooperation between the VNPS, the Virginia Department of Game and Inland Fisheries, and the Audubon Naturalist Society to achieve the protection of this site.

Participants then divided into three smaller groups and discussed ways that VNPS chapters and individuals could further habitat protection in their own regions. Once again, cooperative efforts were encouraged as well as recognition that management is an important part of protection.

As in past years, this Winter Workshop was hosted by Pocohantas Chapter with the fine facilities arranged by Dr. John Hayden of the University of Richmond. The workshop was organized by Cris Fleming, VNPS Education Chair.

Purchase Gives Hope for Peter's Mountain Mallow

The Virginia Chapter of The Nature Conservancy has acquired a 322-acre tract in Giles County, Virginia, site of one of the rarest plants on earth: Peter's Mountain mallow, *Iliamna corei*. A tall perennial, related to hollyhock and okra, Peter's Mountain mallow bears maple-like leaves and rose or light pink flowers. Only four plants exist in the wild and all are found at this one location, which overlooks the New River. In addition to being the world's last natural location for the plant, it is the only natural seedbank and the last remaining clue as to the habitat of the species.

The Nature Conservancy, in conjunction with various state and federal agencies, is currently implementing research and on-site management in keeping with the goals of the United States Fish and Wildlife Service Species Recovery Plan. It is hoped that through these efforts a viable population of Peter's Mountain mallow can be maintained in the wild.

Iliamna corei

VIRGINIA'S RAREST PLANTS

Arctostaphylos uva-ursi, Bearberry

Eighteen thousand years ago, during the peak of the late Wisconsin glaciation, the vegetation of Virginia was quite different. Spruce, fir and other species of the Canadian Tiaga dominated the forests of Virginia, while vegetation of the eastern deciduous forests had retreated far to the south. Virginia's high-elevation flora was an alpine tundra with many species which are now found in similar habitats much farther north.

As Virginia's climate warmed, species suited to colder climes dispersed slowly northward and were replaced by species from the south. A number of the species moving northward left remnant populations which remind us that colder days once reigned. Among these species is *Arctostaphylos uva-ursi*, a scrambling evergreen shrub known as bearberry which, as it retreated northward, left a single Virginia population.

On an exposed high-elevation ridge in Shenandoah National Park, a small patch of this member of the heath family (Ericaceae) defiantly persists at its most southern population in the world. The Virginia station is said to be "disjunct" from the main range of the species, which begins some three hundred miles to the north, in Pennsylvania.

The National Park Service, recognizing the value of biodiversity, is working with the Department of Conservation and Recreation's Division of Natural Heritage to inventory the biota of Shenandoah and other national parks in Virginia. The agreement was established to determine the status and protection needs of bearberry and other rare, threatened, or endangered species, as well as the rare and exemplary natural communities of eight Virginia national parks. Through these enlightened efforts, it is hoped that the persistence of *Arctostaphylos uva-ursi* at its southern home will continue well into the future.

Arctostaphylos uva-ursi
Illustrated by Megan G. Rollins

Chris Ludwig
Virginia Division of Natural Heritage

Coming Events

Landscaping Conferences

The 8th annual "Conference on Landscaping with Native Plants" will be held at Western Carolina University in Cullowhee, NC, July 25-27. Registration is usually filled by July 1. If you are interested in attending, contact Sue DeBord, Office of Continuing Education, Western Carolina University, Cullowhee NC 28723; 703-227-7397.

On August 15-17, "Native Plants in the Landscape," a conference patterned after the Cullowhee seminar, will be held at Millersville University in Millersville, PA. The focus of the seminar will be the native plants of the Mid-Atlantic and Northeast United States. Registration is limited; deadline is July 15. FMI: Grace Evans, Continuing Education, 104 Dilworth Hall, Millersville University, Millersville, PA 17551; 717-872-3030.

VNPS Events

The following chapter sponsored activities are open to all VNPS members and their guests:

Sunday, June 2. Irish Creek Farm Hike near Blue Ridge Parkway. Fran Boninti (Jefferson) 804-296-6464.

Saturday, June 8. Dragon Run Canoe Trip. Gloucester/Middlesex counties. Two to three hours of canoeing plus stops at various wildflower sites. Please make reservations by June 1 by calling Janice Miller (John Clayton) 804-249-0410 or Donna Ware 804-565-0657.

Saturday, June 8. Rhododendron Day on the Parkway. Peaks of Otter. Hugh Smith (Blue Ridge) 703-774-8392.

Sunday, June 9. Crest of the Blue Ridge Rhododendron Hike. Doug Coleman (Jefferson) 804-823-4525.

11 a.m. Sunday, June 30. Hike, picnic and enjoy musical entertainment by VNPS member Frank Coffey at Smartview Picnic Area, Blue Ridge Parkway, milepost 154.1. Rakes Mill Pond is the afternoon walk. Frank Tuggle (Blue Ridge) 804-332-5757.

July 13. Annual bus trip sponsored by Blue Ridge chapter. Call Hugh Smith 703-774-8392 for details.

Saturday, July 27. Cold Mountain Field Trip near Timberlake. Sandra Elder (Blue Ridge) 804-525-8433.

Sunday, August 11. Bald Knob Field Trip at Rocky Mount. Bob Tuggle (Blue Ridge) 703-647-1205.

Finding Wildflowers in Virginia

Two Hidden Jewels in Northern Virginia

Arlington, Virginia, has two county-run nature centers well worth a visit by wildflower watchers. Gulf Branch Nature Center, in north Arlington, and Long Branch Nature Center, in south Arlington, are like two jewels hidden among the urban development. Both facilities are wooded stream valleys, each with subtle differences.

Gulf Branch Nature Center, at 3608 N. Military Road, sits on forty-seven acres of hardwood deciduous forest, with Gulf Branch stream running through it. On extensive trails that traverse various habitats, such as pond, meadow, stream valley, upland hardwood forest and the Potomac River, native plant enthusiasts can enjoy a variety of wildflowers, shrubs and trees that grow within each.

In addition to the trails, Gulf Branch offers visitors a renovated Butterfly and Hummingbird Garden and a newly planted meadow. The garden provides butterflies and hummingbirds nectar sources from various native wildflowers, shrubs and vines, as well as host plants for caterpillars. A few of the wildflowers used in the garden are butterfly-weed (*Asclepias tuberosa*), great blue lobelia (*Lobelia siphilitica*), cardinal flower (*L. cardinalis*), New England aster (*Aster novae-angliae*), turtlehead (*Chelone glabra*), wild columbine (*Aquilegia canadensis*), and trumpet honeysuckle (*Lonicera sempervirens*). All plants in the garden have been propagated by the nature center staff or purchased from a nursery that propagates their own stock.

The meadow was once an area blanketed by kudzu. Since herbicide application seemed counter-productive, the staff pulled up the weed by hand in July, 1989. After conditioning the soil with composted manure and having the area tilled by tractor, in spring 1990, about three hundred first year wildflowers and grasses left over from planting the Butterfly and Hummingbird Garden were put into the meadow by staff and volunteers. Then clover seed was sown over the field. This spring common mullein (*Verbascum thapsus*), bee balm (*Monarda didyma*), black-eyed Susan (*Rudbeckia hirta*), evening primrose (*Oenothera biennis*), and other native perennials should come up to bloom.

Long Branch Nature Center is located at 625 S. Carlin Springs Road. Although it doesn't have a designated butterfly/hummingbird garden, it does have a small wildflower garden, an established meadow, and a swamp, home to many insects, birds, and moisture-loving and acquatic plants. Long Branch Park occupies only seventeen acres but it is adjacent to Glencarlyn Park, which contains ninety-seven acres of wooded trails, and the Washington and Old Dominion (W&OD) bike path.

Along the bike path, wildflowers grow in great abundance. A variety of goldenrods (*Solidago* sp.), mistflower (*Eupatorium coelestinum*), *Asters*, primroses (*Oenothera* sp.), Joe-Pye-Weed (*Eupatorium dubium*), and many other wildflowers grow wild and can be seen easily from the paved, handicapped-accessible trails. Coming off the trail and into the wooded, less traveled areas, spring woodland wildflowers bloom in a variety of habitats, including stream valley, ponds and forest.

Rudbeckia hirta

Both Gulf Branch and Long Branch Nature Center staff offer natural history programs to children and adults. Public programs are advertised in a special events calendar, published quarterly and available from either center.

In addition to scheduled programs like "Establishing a Butterfly/-Hummingbird Garden" and wildflower or tree identification walks, organized groups may request special programs by calling either nature center: Gulf Branch Nature Center 703-358-3403; Long Branch Nature Center 703-358-6535. Give us a call. We look forward to seeing you in the woods.

Pam Kaufman
Park Naturalist
Long Branch Nature Center

(By visiting both centers and setting up a special program, VNPS chapters can make a day-long field trip to Arlington, Virginia, an area usually not thought of as having great interest for native plant enthusiasts. -Ed.)

CCVA & VEN

Detailed, up-to-date information on the state government's conservation activities is now readily available to VNPS through the Virginia Environmental Network (VEN). In March the Society became a member of this legislative information network, established by the Conservation Council of Virginia (CCVA).

With an office in Richmond staffed by a full-time coordinator, the VEN enables member groups to track conservation issues that are before the General Assembly and state agencies. Both during and between legislative sessions, the VEN collects, analyzes and disseminates current information on issues selected by its steering committee.

In acting to join the VEN, the VNPS board continued to recognize the importance of coordinated action to the protection of Virginia's native plant habitats. Together, its memberships in the VEN and in CCVA give VNPS not only fuller information than it could gather alone, but also opportunities to enlist other groups in support of specific initiatives.

CCVA, a broad coalition of organizations and individuals, provides background information on issues through a quarterly newsletter, presentations at regular meetings held in different parts of the state, and occasional public events. It also offers a forum in which member organizations can discuss and coordinate strategies in bringing conservation concerns before the state government. VNPS, initially an associate (non-voting) member of CCVA, assumed the more active role of a voting member when it began working for budgeted funding of Virginia's plant protection program.

On some key issues, at the direction of a majority of voting members, CCVA engages in direct lobbying. (The VEN, in contrast, is not involved in advocacy; its members lobby on their own behalf or seek a unified voice through CCVA.)

Issues CCVA has emphasized in the last few years include land use and growth management; Chesapeake Bay and nontidal wetlands; recycling and solid waste; and, most recently, energy conservation and the impact of new power plants. The Council is currently seeking contributions to support specific projects related to air quality issues, Chesapeake Bay regulations, and policy research.

Membership in CCVA is open to organizations and individuals concerned about Virginia's environment. Dues for associate members are $25 a year for organizations, $15 for individuals. For further information, send an SASE to CCVA Membership Director, P.O. Box 106, Richmond, VA 23201.

Reasearch Roundup

Controlling Loosestrife

Each summer, more and more wetlands are painted magenta with the blooms of purple loosestrife, *Lythrum salicarea*. Despite its visual attractiveness, purple loosestrife is no friend of native plants or animals. Once established in a wet area, the plant shades out and displaces native vegetation that provides food for wildlife. Left unchecked, this invasive perennial turns the wetland into a loosestrife monoculture with little diversity of plant or animal life.

University of Minnesota scientists are working on the loosestrife problem with Minnesota Department of Natural Resources. Purple loosestrife spreads by seeds, and it produces a lot of them -- as many as 1.2 million per square meter. Among the aspects being studied are seed dispersal, germination and longevity, the effect mycorrhizal bacteria on seedling growth, and how loosestrife seedlings gain an advantage when competing with seedlings of other plants species. Also being explored is loosestrife's impact on nutrient recycling in wetlands.

Loosestrife plants may bear three types of flowers. Researchers are attempting to determine whether these differ in their ability to produce seed and to hybridize with *L. virgatum*, a related garden flower. One ongoing debate concerns the possible threat that the garden perennial poses to wetlands. The team's horticulturist is trying to find out whether lythrum cultivars are sterile, or if they have the ability to hybridize with purple loosestrife or otherwise mutate into seed producing forms.

The investigators are also conducting trials to find herbicides that will control purple loosestrife without harming desirable vegetation. Although two herbicides--glyphosate and 2,4 D--are labeled for loosestrife control, both have limitations in the ways they can be used. Based on recent trials, the herbicide Garlon 3A looks promising and has fewer detrimental effects on desirable aquatic plants.

In another attempt to control the plant, VPI&SU and European entomologists investigated several insects as potential biocontrol agents for purple loosestrife. The U. S. Fish and Wildlife Service and the U.S. Department of Agriculture are petitioning the Technical Advisory Group of the USDA Animal and Plant Health Inspection Service for permission to release a weevil and two beetles.

On Dogwood Anthracnose

Although *Cornus kousa* has been recommended as a replacement for flowering dogwood for landscape use, scientists at the University of Tennessee have discovered anthracnose-like symptoms on the Asian dogwoods. They have isolated a species of the pathogen which causes anthracnose, *Discula* sp., from infected plants.

A U.S. Forest Service study in which *Discula* was isolated from dead and symptomless fruits of native dogwoods has also raisied some concern about unknowingly moving the fungus into anthracnose-free areas. Anni Self, a nematologist with the Tennessee Department of Agriculture, advises, "To avoid the disease, it's best to purchase trees from nurseries that have been certified 'disease free' by the state department of agriculture's plant inspection division."

From the *Horticultural Research Institute Release*, February, 1991:

Recent reports are showing that dogwoods growing in well-drained areas which receive at least 1/2 day of sunshine per day are at significantly lower risk of infection from dogwood anthracnose than dogwoods in forested areas. Bob Anderson, a U.S. Forest Service Plant Pathologist, indicates that with proper care dogwoods in the lower mountains and foothills have an excellent chance for survival. Those in the piedmont and coastal plain should have little problem, even in the unlikely event that they should become infected.

Kerry Brittain of the U.S. Forest Service in Athens, GA, reports that the disease organism actually died following exposure to 95 degrees F for three hours. Mark Windham, University of Tennessee in Knoxville, confirms these findings but modified the results to say that in his research not all of the disease was killed at these temperatures, but it certainly wasn't increasing.

Bruce Kauffman, Forest Pest Specialist for the Tennessee Department of Agriculture, explained weather factors, insect attacks, tree age, as well as other diseases and stresses may determine whether trees contract or die from the disease. Some areas are even reporting large numbers of trees dying as a direct result of extensive drought conditions which have existed recently in some areas of the country.

Pondering Parasites

When reintroducing native plants in an area, how important is it to plant species together with the species with which they grow in the wild? Researcher Elinor Crank of the National Wildflower Research Center, Austin, TX, is asking this question with regard to hemiparasitic species such as *Castilleja*. Hemiparasitic plants contain chlorophyll but draw water and minerals from their host plants. They may or may not be able to complete their life cycle without a host.

Previous studies have shown that several perennial *Castilleja* species form parasitic bonds with host plants, and that their growth and development improve with the presence of a host. In a recent study involving an annual species of Indian paintbrush, *Castilleja indivisa*, and the host Texas bluebonnet, *Lupinus texensis*, the effect of a host plant rapidly became apparent. *Castillejas* grown with *Lupinus* plants were larger than those grown alone. By the end of the experiment, none of the *Castillejas* grown alone had flowered, although a few were beginning to elongate, indicating flowering would occur and that *Castilleja* may be facultative. Meanwhile, 63 percent of the plants grown with the hosts flowered.

Few bluebonnets grown with *Castillejas* flowered, many died, but several were large and vigorous. *Lupinus* grown alone were all alive and healthy, with nearly one-third flowering. These results raise new questions regarding the effect of a parasite on a host.

Nullifing Knotweed

Japanese knotweed, *Polygonum cuspidatum*, a plant introduced as an ornamental, has proven to be invasive and difficult to control. North Carolina State Extension Service advises that to eradicate the plant the entire infestation must be treated. Two control procedures have provided satisfactory results: mowing and herbicide treatment. Weekly mowing of the entire patch will eventually exhaust the plants' stored carbohydrates and effectively starve the plants. Where mowing is not practical, glyphosate applied in late summer or early fall, prior to leaf color change, works best. Follow-up treatment the next spring or summer should control any plants which escape the first treatment.

Compiled by Virginia Klara Nathan
Bulletin Editor

FROM NEAR AND FAR

Catalog for Conservation

In its recent catalogs, Eddie Bauer, Inc. asks its customers to think about and act toward protecting the vanishing wetlands of North America. The company also encourages its patrons to recycle catalogs and make other efforts to care for the planet. It has initiated a program called Heroes of the Earth to recognize individuals whose endeavors have improved or protected the environment. Nominations may be sent to Eddie Bauer Heroes of the Earth, 14850 N.E. 36th St., Redmond, WA 98052.

A Good Answer

Word is getting out on the plight of wild collected native plants. In the "Letters to Our Garden Editors" section of *Southern Living*, April 1991, the high failure rate of transplanted pink lady's-slipper orchids and other wildflowers, due to the lack of the necessary symbiotic fungi, is discussed. *Southern Living* also takes the question as an opportunity to discourage its readers from purchasing terrestrial orchids and other wild collected native species and suggests that potential buyers look for the phrase "nursery propagated" in catalogs.

Working Weekend

Virginia House Delegate John Watkins of Chesterfield gave his colleagues a present and some orders as they left for the weekend on February 8, according to a report in the *Richmond Times-Dispatch*. Just in time for spring planting, Watkins presented each fellow legislator a Virginia round leaf birch seedling along with instructions to plant it near home. The tree was thought to be extinct ten years ago until a small population was discovered at Mount Rogers.

Recovery efforts have been underway for eight years and the species is being propagated successfully. The seedlings given to the representatives were grown at the Reynolds Homestead Agricultural Experiment Station in Southwest Virginia. Watkins, whose family is in the nursery business, said "If we disperse these throughout the Commonwealth, then we can ensure that [the species] will not become extinct."

Time is of the Essence

Bill Brumback, New England Wild Flower Society's Director of Conservation, is not counting on tissue culture to save rare and endangered species because it doesn't provide any genetic diversity, but he hopes the micropropagation technique will reduce wild collection of native species. As reported in "Recipes for Natives" (*American Horticulturist*, February, 1991), Brumback and colleague Terri Cogliano are experimenting with tissue culture of wildflowers to come up with methods to produce enough plants for sale so that wild collecting will not pay. The researchers are trying to develop formulas for growing media that will best nourish and multiply appealing native species which are slow to go from seed to blooming size, such as trilliums, galax and shortia.

Potential AIDS Drug From Well-Known Weed

Scientists from the University of Minnesota reported in *Nature*, September 1990, that they have developed a drug containing a virus-fighting protein from the new leaves of pokeweed. The chemical appears to be a thousand times more potent than the drug AZT in destroying the AIDS virus. Testing in AIDS patients will begin if animal toxicity studies are successful.

Insecticides Implicated in Reduction of Flora

Insecticides are being investigated as another variable in the equation of diminishing plant diversity. Several researchers are looking into the effect of pesticides on insect pollinators vital to the continued reproduction of rare plants. The research developed as an offshoot of a five-year project in the western states aimed at finding safer and more effective ways to control grasshoppers, according to a report in *The Avant Gardener*, October 1990.

So far eight rare plants and their pollinators have been studied. With one possible exception, the species have been found to rely primarily, if not exclusively, on wild bees for pollination. As some of the bee species are rare also, the loss of the plants they need for pollen and nectar would endanger their existence as well. If pesticides reduce the number of these bees, the plant population would in turn be reduced, leading to further reduction of the bees -- a vicious cycle in which both species would eventually become extinct.

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Nicky Staunton, President
Virginia Klara Nathan, Editor
Barbara Stewart, Artist

The deadline for the next issue is July 10.

VNPS MEMBERSHIP FORM

See the address label for your membership's expiration date.

Name(s)_____

Address_____

_____Chapter ____Member-At-Large

__Individual $10 __Senior (60 or over) $5 __Sustaining $100

__Family $15 __Senior Family $10 __Life $250

__Patron $25 __Student $5 __Corporate sponsor $125

__Supporting $50 __Associate (group) $25;delegate_____

To give a gift membership, enclose dues, name and address.

__Additional contribution to ___VNPS _____Chapter.

__Check here if you do not wish your name to be exchanged with similar organizations.

__Check here if you do not wish to be listed in a chapter directory.

Make check payable to VNPS and mail to:
VNPS Membership Chair, Route 1, Box 381, Delaplane, VA 22025

BRCC Needs Volunteers

Blue Ridge Community College in Weyers Cave needs help building its arboretum collection. Its long-term goal is to establish several specimens of each native and naturalized species adapted to the campus. With assistance from Shenandoah chapter members and other volunteers, the college's collection has increased from sixteen to ninety-five species during the past five years.

Director Anne Neilsen would like to get more VNPS members involved in the arboretum project. Since some of the tasks, such as seed collection, do not require that one be in close proximity to the arboretum, she encourages interested persons to write to her at Box 80, BRCC, Weyers Cave, VA 24486.

Coreopsis auriculata

NC Wildflower of the Year

Eared coreopsis, *Coreopsis auriculata*, has been chosen as North Carolina Wildflower of the Year. A native evergreen groundcover for sun or part shade, eared coreopsis is a low maintenance perennial suitable for Virginia gardens. Its deep golden yellow 1 1/2 to 2 inch daisy-like flowers appear in late April and continue through most of May. To request a copy of a brochure about the plant and a packet of seed, send a business-size SASE to Wildflower 1991, NCBG, Box 3375 Totten Center, UNC, Chapel Hill, NC 27599-3375.

Chapter News

Conservation Forum Generates Ideas

Jefferson chapter conducted a forum-type discussion on conservation at its March meeting. VNPS Conservation Chair Ted Scott and Chapter Conservation Chair Patti Burke led the dialogue. Participants described what conservation meant to them and how they connected ideals to day-to-day activities. Additional topics focused on the VNPS conservation guidelines and how the chapter could take a more active role in plant conservation efforts. Among the suggestions the group came up with were keeping a species list for each walk, mentioning the VNPS conservation guidelines to guests participating in chapter-organized activities, and dispensing information about VNPS and the chapter at a two-day Earth Day celebration.

Members of **Jefferson** are also sharpening their taxonomy skills in a six-week class taught by chapter member Tim Williams. Williams, a botanist, designed the course to meet the needs of chapter members. It concentrated on instruction in the aspects of external plant anatomy needed to effectively use plant identification keys.

Learning And Sharing

Last summer some **Piedmont** chapter members took a mini-course in field botany. As a continuation of their studies, a very informal group meets once a month for an hour or so to examine a plant family or hear an invited speaker.

Chapter member Polly Rowley inserted a treat into each copy of the late winter issue of the **Piedmont** newsletter, a small packet of native wildflower seeds which she had collected. An article entitled "Polly's Pointers" gave species descriptions and suggestions on seed starting and plant care for each variety to help recipients get the seeds off to a good start.

Gifts Expand Society's Library and Slide Collection

VNPS library now has *The Great Forest, John Clayton and Flora*, a gift from Harriet Frye, the author and a VNPS member. Another recent addition is the National Wildflower Research Center's *Wildflower Handbook*, a book of resources including listings of state and regional native plant organizations and botanical gardens. Also available to members is the *Atlas of the Virginia Flora*, *Citizen's Guide to Protecting Wetlands*, and *Wetlands Watch Kit*.

Our slide collection has been greatly enriched by a donation of over five hundred slides from superb photographer Hal Horwitz, also a VNPS member. Specific slides can be borrowed by members on request. Also available is the VNPS slide show, *Habitats of Virginia's Native Plants*, including both a script and an accompanying audio tape.

All books and slides can be borrowed by members by requesting them at least four weeks in advance. Write to Education Chair Cris Fleming, 3508 Shepherd St., Chevy Chase, MD 20815. Books and slides can be borrowed for one week. The Education Chair pays for postage going out and the chapter or individual making the request pays for postage back.

Virginia Native Plant Society
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Bulletin

A publication of the **VIRGINIA NATIVE PLANT SOCIETY**
Conserving wild flowers and wild places

Help Fight Invasive Exotics

Conservation has many facets, and a relatively new one is moving into the list of high priorities for VNPS. As we become more aware of the damage being done to some of our native plants and their habitats by the plants known as "invasive exotics," it is becoming apparent that a campaign to control them is a necessity.

Invasive exotics are alien species brought into this country, sometimes accidentally, sometimes intentionally. In their new environment, invasives have proven to be aggressive competitors, in many instances choking out native plants and seriously disrupting natural areas. The problems they pose is gaining increasing attention; a major conference on exotic species will take place in October, and last winter invasives were the subject of a call to action from the Eastern Native Plant Alliance, of which VNPS is a member.

A well known example, carefully brought to the United States from Japan in 1862 by George R. Hall, is the vine commonly known as Hall's honeysuckle or simply honeysuckle, more precisely Japanese honeysuckle, *Lonicera japonica*. Because it has naturalized so well, many people think this plant is a native species. All who become familiar with Japanese honeysuckle when it takes root in places where it is not wanted, know what a pernicious weed it can be, despite its sweet fragrance and ability to fatten cattle.

Another invasive exotic moving into our area is purple loosestrife, *Lythrum salicaria*. It is well established in Northern Virginia and is making its way down the Shenandoah Valley. When I first saw this plant in New England in July 1960, I thought the sea of color before me was one of the most beautiful scenes I had ever viewed. But my innocence was short lived as I learned what it did to our native plants. In the 1800s, the Sudbury River flood plain west of Boston was one of the great areas for finding many of the region's native orchids. Today, it is very rare indeed to find an orchid of any kind in that flood plain, now a sea of purple loosestrife.

Other well known examples of invasive exotics are kudzu, multiflora rose, and ailanthus or tree of heaven. Many others are less familiar but still are making an impact on the native landscape.

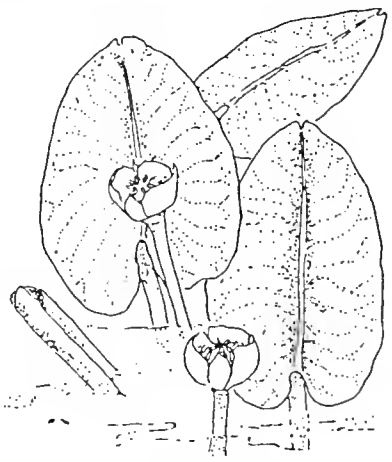
As VNPS begins the project of controlling invasive exotics, the task looks almost impossible. In some cases, it is; I doubt that we will ever eradicate Japanese honeysuckle. On the other hand, a concerted effort might bring multiflora rose under control. Besides removing plants already here, steps should be taken to prevent future invasive imports from becoming established or, better yet, introduced.

But before we start that phase of the action, agreement on what plants to target is essential. VNPS is working with state agencies such as the Natural Heritage Program to develop a list of species that can be demonstrated to be harming native plants or natural areas. Once such a list is established, the next step will be agreement on appropriate strategies to control these species. (See related story "Three Chapters Collaborate" on page 10.) The success of this project will require cooperation among many Virginia agencies and organizations, and perseverance of the highest order.

VNPS members can become involved immediately by suggesting candidates for the list of exotic species that appear to be a problem. Please send your suggestions to me at 12493 Spicewood Road, Orange, VA 22960. Also when you come upon "good" examples of natural habitats loosing out to invasive exotics, take a few pictures. We will need photographs of these plants, preferably color slides of publication quality, as the project progresses.

Ted Scott
Conservation Chair

Annual Meeting
October 11-13
Virginia Beach Area
See pages 3, 4 & 5 for details



Spatterdock

Renewal Reminder

Summertime activities can keep us so busy that we can forget to keep up on the mail and our reading. Take a minute now to check the mailing label on the back page of this *Bulletin*. The expiration date of your membership is written above your name. If renewal time is approaching, fill out the form on page 9 and send it with your renewal check today. If a red dot appears near the mailing label, you are due to renew your VNPS membership now. Please don't delay. The Society needs your support now as much as it did when you joined.

VNPS FISCAL YEAR 1990
INCOME STATEMENT

INCOME	
DUES, MEMBERSHIP	$6,920
DONATIONS	$2,575
SALES, GIFTS & BOOKS	$691
AUCTION SALES	$1,293
FEES, ANNUAL MEETING	$1,974
INTEREST INCOME	$919
OTHER INCOME	$8
TOTAL INCOME	$14,380
EXPENSES	
ADMINISTRATION, SOCIETY	$2,740
INSURANCE	$911
MEMBERSHIP	$1,304
TREASURER	$105
PUBLICATIONS, PUBLICITY	$4,487
FUNDRAISING	$438
COSTS, GIFT & BOOK SALES	$19
CHAPTER DEVELOPMENT	$129
EDUCATION	$210
CONSERVATION	$85
BOTANY	$182
HORTICULTURE	$60
ANNUAL MEETING	$3,226
REGISTRY PROGRAM	$149
WILDFLOWER OF YEAR	$513
TOTAL EXPENSES	$14,559
NET INCOME	($178)

SUMMARY BALANCE

TOTAL ASSETS	$15,371
LIABILITIES	
CURRENT LIABILITIES	$150
LONG-TERM LIABILITIES	$2,475
UNCLASSIFIED LIABILITIES	$433
TOTAL LIABILITIES	$3,056
NET WORTH	
TOTAL NET WORTH	$12,315
TOTAL LIABILITIES AND NET WORTH	$15,371

ROBERT K. HERSH
3213 N. JOHN MARSHALL DRIVE
ARLINGTON, VA 22207

To The Board of Directors
of the Virginia Native Plant Society

I have audited the accompanying fund balance of the Virginia Native Plant Society as of October 31, 1990, and the related statement of income for the year then ended. These financial statements are the responsibility of the organization's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with generally accepted auditing standards. In my opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Virginia Native Plant Society as of October 31, 1990, and the results of its operations for the year then ended in conformity with generally accepted accounting principles.

Robert K. Hersh
Certified Public Accountant
June 20, 1991

FROM THE PRESIDENT

Saying that change occurs is not newsworthy. Life is based upon changes and growth is one of those changes. But often we feel compelled to resist change, especially when we like the way something is.

I invite you to attend and to enjoy the field trips, silent auction, banquet and speaker, during the VNPS Annual Meeting, October 11-13 in Virginia Beach. Sandwiched in between these activities will be our annual business meeting, which includes the election of some officers of VNPS. One highly valued Board member leaving is Dorothy Bliss, a charter member and steady, wise Botany Chair. She has guided us through field botany, checklist development, the Virginia Wildflower of the Year and the VNPS Registry programs. We appreciate every bit of her support and will miss her on the Board. We look forward to her continuing work with the Registry.

Our slate of nominees includes Catherine Tucker (Pocahontas) for the next Botany Chair. I look forward to working with Catherine. So, this important work of the Society will continue and change at the same time.

During the three years as president of VNPS, some of the change/growth I note is that of increased cooperative exchange of ideas with commercial ventures in land development and use. An environmental group from California called looking for information concerning native plant use at a project in Culpeper. The United States Golf Association Green Section sent information about their joint effort with the Audubon Society of New York State, Inc., "Audubon Cooperative Sanctuary Program for Golf Courses." They are looking for native plant sources and a resource committee representative.

Recent efforts by Virginia's Department of Natural Heritage were rewarded by an attempt to protect a Diabase Glade natural community and buffalo clover, *Trifolium reflexum*, a rare plant species known from only two locations in the Commonwealth. The path of the Dulles Toll Road Extension near Goose Creek in Loudoun County was threatening the buffalo clover near the Diabase Glade. The Toll Road Corporation of Virginia agreed to recommendations of the Division of Natural Heritage that would give some protection to the plants and site.

The blend searched for by Virginians is ecologically and economically sound growth. This issue will again be addressed in the next session of our Legislature by the Commission on Population Growth and Development, chaired by Delegate W. Tayloe Murphy, Jr.

I find it interesting that ecology and economy share the same root word, "eco-" from Late Latin for household. "Eco" joined with "-logy" yields a branch of science concerned with interrelationships of organisms and their environments. When joined with "-nomy", "eco-" gives thrift and efficient use of material resources. The puzzle is to face our differences, exchange our best information, and arrive at the best melded solution. Then, we can anticipate the change to result in an environment which will sustain man by sustaining the environment and healthy diversity of our earth.

I have reason to hope that many of our native plants in Virginia will survive in their natural habitats because we care enough to explain their uniqueness or potential worth. Who would have imagined pokeweed to hold a possible answer for AIDS? Because we do not see the economic potential of a plant does not mean it has none and hence no "worth." It means simply that we are not yet wise enough to understand the purpose of the plant(s) and must protect them until we grow/change. You, as a member of VNPS, are part of this growth. Your membership is valued!

Nicky Staunton

A BIG THANK YOU
for a Successful 1991 Fund Raising Appeal

The Board of the Virginia Native Plant Society is grateful to all members and friends who so generously responded to our appeal for financial gifts to the Society. This year's donations, which neared $2,000, will enable us to support our conservation programs for Virginia's wild plants and wild places. Again, thank you.

Virginia Shore Native Plant Communities

Virginia Native Plant Society Annual Meeting Weekend
October 11-13, 1991
Virginia Beach and Surrounding Area

Now is the time to make reservations for the 1991 VNPS Annual Meeting. Members from our nine state-wide chapters will gather to conduct required business and enjoy fieldtrips, a silent auction, a banquet, and more. South Hampton Roads Chapter members will be our hosts, helping us explore and enjoy their chapter area.

Guided field trips are planned throughout the day on Saturday, October 12, to allow VNPS members to become familiar with natural areas, museums and gardens in the new VNPS chapter area. Field trips are planned for:

False Cape/ Bay Bay Area, a state park that does not accomodate vehicle traffic. (Small fee for bus transportation);
Seashore State Park, which features seven trails and twenty-four monitored plant and animal species;
Virginia Marine Science Museum and Wetland Wildflower Garden;
Norfolk Botanical Gardens;
Cape Henry Audubon Society's Weyanoke Bird and Wildlife Sanctuary;
Blackwater Ecologic Preserve, also known as the Zuni Pine Barrens;
Dismal Swamp; and other locations in the Virginia Beach area.

Weekend Schedule of Events:

Friday, October 11

7:00 p.m. -- 10:00 p.m. **Social Gathering and Slide Show** of area plants and their habitats, at Fort Story Officer's Club on the bay side of Cape Henry in Virginia Beach.

Saturday, October 12

9:00 a.m. -- 3:00 p.m. **Field Trips and Children's Program**. See box on page 5 for details about the children's program.
5:00 p.m. **Registration and Auction Preview.**
5:30 p.m. **Annual Business Meeting** including election of officers.
6:00 p.m. -- 7:30 p.m. **Silent Auction And Social Hour.**
7:30 p.m. -- 10:00 p.m. **Banquet and Speaker.** Donna M. E. Ware, Curator of The College of William and Mary Herbarium and Botany Co-chair of John Clayton Chapter, will be the evening's speaker.

Sunday, October 13

9:00 a.m. -- 2:00 p.m. **Board Meeting** at Norfolk Botanical Garden Auditorium. **All Society members are invited to attend.**
10:00 a.m. -- 4:00 p.m. **Wildflower Plant Sale** at the Norfolk Botanical Garden. Co-sponsored by the South Hampton Roads Chapter and the Norfolk Botanical Garden Society.
All day. **Area activities** including self-guided field trips. Information and maps for self-guided field trips will be available.

Monday, October 14 - Columbus Day

An open day to visit area attractions if your schedule allows.

Please make reservations for the annual meeting by returning the registration form below by October 1. Members who register will be sent a packet containing further details. For additional information, call Nicky Stauton at 703-368-3943.

VNPS ANNUAL MEETING REGISTRATION FORM

Number of adults attending activities _____ X Registration fee of $5 each = $ _____
Number of people attending dinner _____ X Dinner cost of $10 each = $ _____
Total Enclosed = $ _____

Ages of children interested in children's program. _____, _____, _____, _____, _____ years.

Name_____

Address_____

_____

Phone_____

Make checks payable to VNPS. Reservations must be received by OCTOBER 1. No reservations will be held without payment.

Send to: **Annual Meeting**
VNPS
P.O. Box 844
Annandale, VA 22003

Annual Meeting of the Virginia Native Plant Society

October 11-13, 1991

SLATE OF CANDIDATES

The following slate of candidates is proposed by the 1991 Nominating Committee to replace officers, standing committee chairs, directors-at-large, and members-at-large of the Nominating Committee whose terms expire on October 31, 1991, and to fill existing vacancies in other classes.

Board of Directors
Class of 1992

TREASURER: John White. Piedmont Chapter. John has been VNPS Treasurer since 1985. He is a charter member of the Society and an avid gardener and wildflower photographer. John successfully computerized the Society's accounting system. (John has agreed to a one-year term as treasurer so that the terms of the president and the treasurer will not expire in the same year in the future.)

Class of 1994

PRESIDENT: Nicky Staunton. Prince William. Nicky is currently serving her first three-year term as VNPS President. She has been president of Prince William Wildflower Society and remains on their board. Nicky contributes illustrations to the *Bulletin* and her chapter newsletter. She is the Society's representative for the Conservation Council of Virginia.

BOTANY CHAIR: Catherine Tucker. Pocahontas Chapter. Catherine is program chair and on the advisory board of Pocahontas Chapter. She has a Master's Degree in Botany from the University of Michican with concentrations in taxonomy and ecology. Catherine maintains a large botanical slide collection.

DIRECTOR-AT-LARGE: Ken Wieringo. Blue Ridge. Ken is currently a VNPS Director-at-large. He has been treasurer of the Blue Ridge Wildflower Society and has a keen interest in wildflower photography. Ken is especially interested in mycology.

DIRECTOR-AT-LARGE: Chris Sacchi. Piedmont Chapter. Chris is Curator of the Orland E. White Arboretum. He is an advisor on the board of Piedmont Chapter. A plant ecologist, Chris is especially interested in plant/herbivore interactions and pollination biology.

1992 Nominating Committee (One Year Term)

Doris True. Shenandoah Chapter. Doris is Secretary of Shenandoah Chapter. She is an active member of the Potomac Appalacian Trail Club and the Shenandoah Valley Conservation Council.

Rebecca White. South Hampton Roads Chapter. Becky is a VNPS Director-at-large. She was instrumental in the foundation of the South Hampton Roads Chapter. Becky, an active member of the Cape Henry Audubon Society, helped develop Weyanoke Sanctuary in Norfolk.

We are still looking for nominees for Corresponding Secretary, Fund-Raising Chair, and a member of the 1992 Nominating Committee. If you are interested in serving in one of these positions or know of someone who is, please contact a member of the nominating committee or your chapter president.

Libby Oliver, Chair (John Clayton)
Gay Bailey (Jefferson) Dorna Kreitz (Potowmack)
Nancy Hugo (Pocahontas) Jocelyn Arundel-Sladen (Piedmont)
1991 Nominating Committee

The annual meeting of the membership of the Virginia Native Plant Society will be held on Saturday, October 12, 1991 at 5:30 p.m. at the Fort Story Officer's Club, Virginia Beach, Virginia, to hear reports and to elect certain officers, directors and members of the Nominating Committee.

Those persons who have paid dues for the 1990-91 fiscal year may vote on the business conducted. Members in good standing who are not able to attend the meeting may vote in absentia by sending the proxy below to Nancy Vehrs, Corresponding Secretary, VNPS, P.O. Box 844, Annandale, VA 22003. Proxies must be received by October 10, 1991. Each family membership is entitled to two votes, other memberships to one vote.

Nancy Vehrs, Corresponding Secretary

PROXY, 1991 VNPS ANNUAL MEETING

I hereby authorize the Corresponding Secretary to cast my vote for the slate of candidates proposed by the Nominating Committee.

Signed _____

Address _____

_____

Return by October 10 to
Corresponding Secretary, VNPS,
P.O. Box 844, Annandale, VA 22003

PROXY, 1991 VNPS ANNUAL MEETING

I hereby authorize the Corresponding Secretary to cast my vote for the slate of candidates proposed by the Nominating Committee.

Signed _____

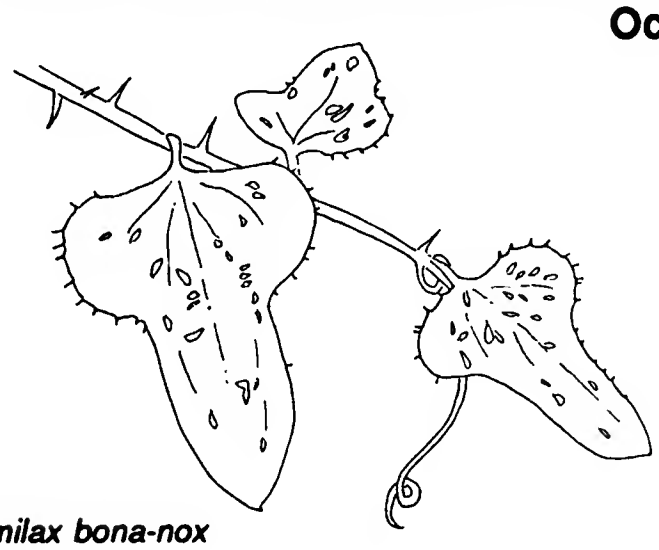
Address _____

_____

Return by October 10 to
Corresponding Secretary, VNPS,
P.O. Box 844, Annandale, VA 22003

Annual Meeting of the Virginia Native Plant Society

October 11-13, 1991



Smilax bona-nox

Children's Activities Planned

This year we would like to offer a special children's program on Saturday, October 12. Claudia Thompson-Deahl, naturalist for Reston Associates and president of Prince William chapter, has offered to coordinate outdoor nature activities for youngsters at Seashore State Park or the Virginia Marine Science Museum (in case of inclement weather). To take advantage of this program, be sure to indicate on your registration form the number and ages of the children who will be attending. Call Claudia at 703-754-9235 if you have questions.

SAMPLING OF LOCAL ACCOMMODATIONS

Motels
EconoLodge -- phone 1-800-446-6900
5173 Shore Drive, Virginia Beach, VA 22400
Rate from $38-double occupancy..
Near Seashore State Park.

Virgina Beach Resort Hotel Conference Center
phone 1-800-422-4747
2800 Shore Drive, Virgina Beach, VA 22400
Rates from $89 to 109-double occupancy.
Next door to Seashore State Park.

Camping
KOA Campground -- phone 804-428-1444
1240 General Booth Blvd., Virginia Beach, VA 22400
Rates from $10 to 13.

Notes:

Rates do not include tax. If you wish to stay at **one of the above, reserve early.**

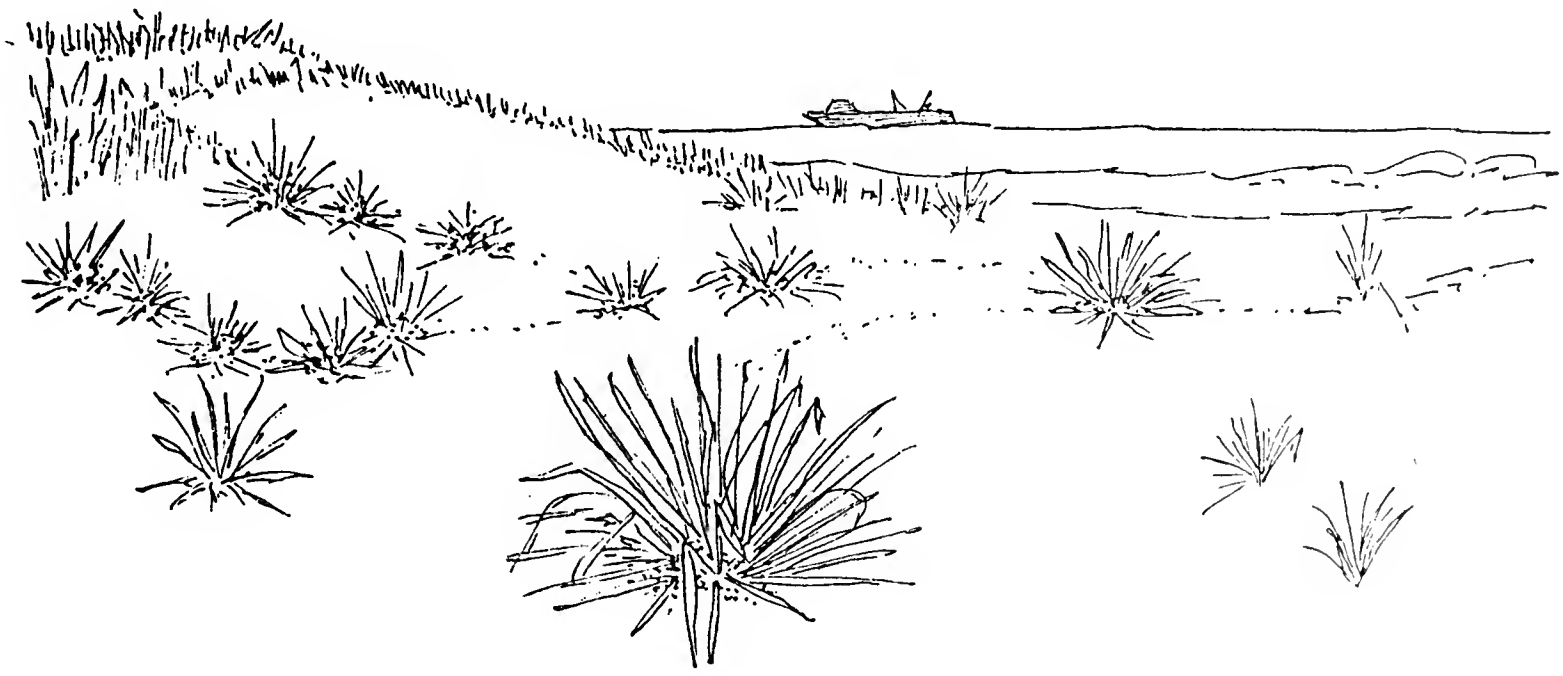
Information on other accommodations and area activities is available from the Virginia Beach Chamber of Commerce. For a free information packet, call 1-800-822-3224.

Please Give to the Gala Auction

The much enjoyed gala auction will again be held October 12th at the VNPS Annual Meeting banquet. It will be a silent bid auction featuring **your** donations. Please consider some items you might contribute to this critical annual fund-raising event - a jar **of your** home-made jelly, relish or pickles, a fantastic field guide or book, plants from your garden, garden tools, a sample of your special art or craft, stationery, prints or small works of art, most anything else with a nature theme... Use your imagination! We hope all members will look for, find and donate items this year. The greater the number of items, the more enjoyable the auction.

If you have a donation, please contact your chapter auction chair or Fund-Raising Chair Patrick Baldwin, 430 Yale Drive, Hampton, VA 23666; 804-838-2064. Write out a description of the item(s), the name of the donor, and the approximate value of each item, and submit this information by September 12th. Please have donations at the site of the auction, the Fort Story Officer's Club, by 2:00 p.m. on Saturday, October 12. Auction items may be brought to the social gathering at the Officer's Club on the evening of Friday, October 11. Donors who will not be able to attend the meeting may send contributions with a chapter member or send them ahead of time to Pat Baldwin.

The continued success of this auction greatly depends upon your support. Thank you for your consideration and contributions.



For Wildflower Gardeners

Spring Garden Tours

This spring I visited twenty-some gardens including those on the Potowmack and Prince William Chapter tours, the Georgetown Garden Tour, and several informal tours with friends.

VNPS gardeners were growing a great variety of natives, but a few universal favorites such as wild geranium, foamflower, green-and-gold, wild ginger, and wild blue phlox showed up in almost every garden. Natives teamed with non-natives to form pretty spring pictures: green-and-gold with yellow-edged hostas, blue phlox with primroses, and foamflower with ajuga.

Oakleaf hydrangea was a favorite with several gardeners. It was part of a summer white Georgetown garden, two were growing in wooden tubs in another townhouse garden, and a Richmond gardener explained how she had used several for the backbone of her large woodland garden.

I was impressed with the care VNPS gardeners showed toward the environment. Compost piles were displayed with pride, grass clippings and chopped leaves were used for mulch, and lawns were not chemically treated pictures of perfection as evidenced by the healthy growth of "weeds" such as violets and white clover. Most gardeners included places and plants for wildlife - bird and bat houses, pools and bird baths, cardinal flower for hummingbirds, and asters and phlox for butterflies.

The gardeners I visited were typically generous - along with sharing their gardens and knowledge, many shared plants, cuttings and seeds.

A Note on Cardinal Flower

If you grow cardinal flower and the great blue lobelia together and forget which is which when you're collecting seed pods, remember that the persistent calyx segments on capsules of blue lobelia have "ear-lobed", or auriculate, bases, while those of cardinal flower do not. Source: *Growing and Propagating Wild Flowers* by Harry Phillips.

Wanted: Designers Using Natives

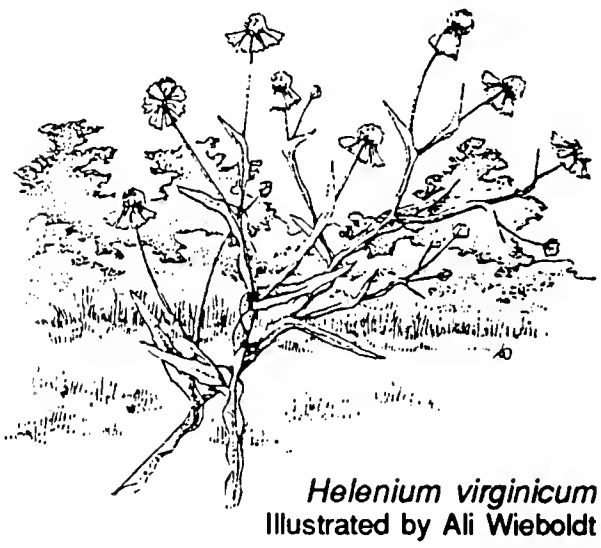
If you are a garden or landscape designer who uses native plants in your designs, or if you know of designers who do, please send names and addresses to me (Nancy Arrington c/o VNPS, P.O. Box 844, Annandale, VA 22003) for a list I am compiling.

Nancy Arrington
Horticulture Coordinator

VIRGINIA'S RAREST PLANTS

Helenium virginicum, Virginia Sneezeweed

Many eastern botanists are familiar with *Helenium autumnale*, the yellow-headed sneezeweed which blooms in late summer over many wetland habitats. Far fewer know the similar *Helenium virginicum*, an endemic species known extant from only fourteen Virginia locations. A species may be described as an endemic if it is limited to a particular habitat type or relatively confined geographic location. In the case of *Helenium virginicum*, both conditions hold true. The entire world's population of this sneezeweed is restricted to a series of limestone sinkhole wetlands in Virginia's Augusta and Rockingham Counties.



Helenium virginicum
Illustrated by Ali Wieboldt

Examining the structure, hydrology and ecology of the limestone sinkhole wetlands helps us gain insight into this fascinating species. These wetlands occur along the western slope of the Blue Ridge where quartzite material carried from the ridge is deposited as a veneer over the limestone valley to the west. As the limestone below the quartzite veneer unevenly dissolves, the surface sinks to form depressions of one-tenth to five or more acres. One hundred or more of these depressions now occur as open ponds, most with a seasonal water regime of high water in the winter and spring followed by partial to complete desiccation by fall.

As the ponds desiccate, the exposed shore provides open habitat where rare herbaceous species occur, *Helenium virginicum* among them. Since rainfall varies from year to year, desiccation rates can be erratic so species have adapted, using a variety of life history strategies. *Helenium virginicum* and many other species of the ponds produce abundant seeds insuring that a population can persist even if pond conditions are unfavorable over an extended period.

Like many plants endemic to a particular habitat, *Helenium virginicum* occurs with other unusual or rare species. No less than thirty species monitored by the Virginia Division of Natural Heritage occur in the wetland complex where the sneezeweed is found. The significance of the sinkhole ponds and the associated rare flora has driven many recent conservation efforts. The Nature Conservancy has protected one of the world's fourteen extant locations, while the U.S. Forest Service with guidance from the Division of Natural Heritage is considering the protection of three other locations.

Helenium virginicum is also receiving regulatory protection through listing as a state endangered species and through its status as a candidate for listing as a federally endangered plant. Pairing regulatory protection with site-specific conservation may be our best hope for preservation of this very rare species.

Chris Ludwig - Botanist
Virginia Natural Heritage Program

Thompson WMA Viewed/Respected

This past spring, peak bloom of the trillium drew a record number of visitors to the G. Richard Thompson Wildlife Management Area in Fauquier County. Among the viewers were some ninety members of the Garden Club of Virginia (GCV) during their annual Horticulture Field Day. Piedmont Chapter worked closely with the GCV host club (Fauquier-Loudoun Garden Club) to iron out the details of handling such a crowd. Ten VNPS members who know the Thompson area well acted as field guides so that visitors were divided into small groups. Two staff representatives of the Department of Game and Inland Fisheries joined the hikers. VNPS made special efforts to make the day a successful one, extending our outreach to other groups.

I revisited the Thompson a week after peak bloom, after literally hundreds of people, in addition to the GCV group, had hiked the narrow, winding path. There were no visible signs of trampling anywhere. Hardly a leaf looked bruised. I saw clumps of showy orchis that were all but overhanging one section of the path. Each was intact. For a change, it appeared that natural beauty had been cherished and respected, and those feet had walked gently on the trail.

Jocelyn Alexander
Piedmont Conservation Chair

Finding Wildflowers in Virginia

Virginia Natural Area Preserves

The Department of Conservation and Recreation's Division of Natural Heritage represents the first comprehensive attempt to identify the Commonwealth's most significant natural areas. This work is accomplished through intensive statewide biological inventory and maintenance of a Biological and Conservation Data System on rare, threatened and endangered species, and exemplary natural communities. The Department's data system is used to establish conservation priorities for Virginia's natural heritage resources.

To assure the protection of our natural heritage resources, the 1988 General Assembly appropriated $1.5 million that was generously matched by $500,000 from the Virginia Field Office of The Nature Conservancy. This cooperative protection effort between The Nature Conservancy and Department of Conservation and Recreation, called the Partners in Conservation Program, has resulted in the acquisition of several high priority natural areas in the Commonwealth. To date seven new natural area preserves have been acquired through the Partners in Conservation Program.

These seven sites, plus two sites that were already in Commonwealth ownership, represent the first components of Virginia's Natural Area Preserves System. The Natural Area Preserves System consists of sites dedicated as natural area preserves in accordance with the terms of the Natural Area Preserves Act. The Department of Conservation and Recreation may accept natural area preserve dedication on lands owned by individuals, conservation organizations, or corporations, or lands owned by colleges, universities, and state or local governments. Dedication of a natural area confers a legal interest in property to the Commonwealth, similar to a conservation easement, but offers much stronger provisions against conversion to other uses. The Department of Conservation and Recreation is using dedication as a means to provide strong legal protection for natural heritage resources and important natural areas under their management, such as portions of state parks, as well as other properties in Commonwealth ownership. Two state properties, Wreck Island in Northampton County, and White Oak Swamp in Henrico County are being dedicated as natural area preserves to protect significant elements of Virginia's natural diversity.

Following are brief descriptions of the recently acquired and dedicated natural area preserves:

Bethel Beach, 50 acres in Mathews County, containing three-quarters of a mile of beach, dune and salt marsh communities on the western shore of the Chesapeake Bay. This preserve protects three rare animal species and a globally rare plant. Current research efforts here focus on the population dynamics of a globally rare invertebrate species and monitoring the reproductive success of rare marsh and colonial nesting birds.

Big Spring Bog, 50 acres in the southeastern corner of Grayson County, characterized by low, rolling hills sloping toward a small, bolder-strewn stream. This preserve contains a extremely rare seepage wetland community with eleven rare plant species, including the globally rare *Lilium grayi*, Gray's lily.

Lilium grayi
Illustrated by Megan Rollins

Johnson Creek, a 100 acre shale barren in Alleghany County, characterized by an exemplary shale barren community, and several endemic plants such as white-haired leatherflower, shale barren rockcress, and at least seven additional rare plant and animal species.

Magothy Bay, 117 acres on the Eastern Shore in Northampton County, that covers that gradient of habitats from salt marshes bordering the bay, through maritime forest and swamp forest, to mixed oak-pine forest of the Coastal Plain. This preserve represents an important forested area along the Atlantic Coast that is used by numerous migrating birds.

North Landing River Preserve, 1900 acres in Virginia Beach that contains some of the finest freshwater tidal marshes, forested swamps, and the finest remaining examples of pocosins on Virginia's Coastal Plain. The exemplary wetland communities on the preserve support as many as twenty-seven rare species and also provides important habitat for breeding and wintering waterfowl.

The Pinnacle, 90 acres (with additional acquisitions to be made this year) in Russell County, at the confluence of Big Cedar Creek and the Clinch River. This preserve contains steep-walled dolomite ledges, limestone glades, and rich woods. Eleven rare species have been documented from this preserve.

Poor Mountain, 1018 acres in Roanoke County, contains the world's largest population of the globally rare shrub, piratebush. This shrub is found only in the mountains of Virginia, Tennessee and North Carolina. The mountain is named for the impoverished soils derived from shale and sandstone bedrock. The ridge top is dominated by table mountain pine and oak woodland.

White Oak Swamp, 800 acres in Henrico County, contains undeveloped Commonwealth property that is being dedicated as a natural area preserve to protect numerous seepage wetlands, bottomland hardwood swamp forest, and a federally listed plant. White Oak Swamp is a meandering tributary of the Chickahominy River.

Wreck Island, 1380 acres on the Eastern Shore of Northampton County, represents an outstanding example of a Virginia barrier island, and contains dune and salt marsh communities, several colonial nesting birds, and other rare plants and animals for Virginia.

To get more information about any of the natural area preserves listed above, call the Department of Conservation and Recreation, Division of Natural Heritage at 804-786-7951.

Larry Smith
Natural Area Program Manager

Cardinal Flower - Where Does It Grow?

Cardinal flower, *Lobelia cardinalis*, is truly one of our most beautiful summer native wildflowers. This species is an excellent choice for 1991 Virginia Wildflower of the Year not only for its breathtaking color and charm, but also to focus attention on the problems facing many damp to wet habitats in which cardinal flower is typically found. Cardinal flower in nature is usually found in moist to wet areas, in partial to full shade, in fairly rich organic soils with pH 6-8, and in freshwater (less than .5 parts per thousand of salts), rather than in brackish or salty conditions. Typical habitats include ditches, moist meadows, edges of stream banks, tidal and non-tidal freshwater marshes, and swamps.

Although some of the habitats listed above are not as sensitive or important from a conservation viewpoint as wetlands such as marshes and swamps, cardinal flower does help to stabilize the soil in habitats such as ditches, as well as provides food for herbivores. The Maryland Department of Agriculture, the U.S. Fish and Wildlife Service, and other agencies use plants as indicators to identify wetlands. Cardinal flower is considered a wetland indicator species. In marshes and swamps, it may contribute to the total productivity of a wetland, not just by fixing energy in its vegetative structures such as leaves and stems that herbivores can consume, but it may also become part of the "detritus mill." This "detritus mill" contributes to the productivity (up to 40-50 percent) of many types of wetlands. In this process, after plants die, energy is recycled by decompostion by bacteria, fungi and protozoas, and the decomposed material or detritus becomes part of the food web for various small animals.

Wetlands were once thought to be "waste lands" that should be drained and filled. Now we are realizing that these wetlands are very productive ecosystems. Studies carried out in the 1950s and 1960s by ecologists, such as Eugene Odum, on the amount of energy fixed by plants in saltmarshes found that these ecosystems are more productive (measured by the amount of unit plant mass produced per given area per year) than most cultivated crops, except for crops such as sugarcane. Since then, as the productivity of other wetlands has been studied, it has been determined that many types of freshwater marshes and even swamps may be as or even more productive than saltmarshes. Their productivity levels can be from 1,000 to 3,500 grams per square meter per year.

Most types of wetlands are also important in erosion control, in flood control, as sediment traps, in water quality control, and in providing food and habitat for a large diversity of both aquatic and terrestrial plants and animals. On a national level, more than 5,000 plant species, 270 bird species, 190 amphibian species, many mammalian species (beaver, raccoon, mink, muskrat, otter, deer), as well as fish and shellfish live in or around wetlands. As well, 26 percent of plant species and 45 percent of animal species that are endangered nationwide rely on wetlands to some degree.

Large Losses

In the forty-eight continental states, over 54 percent of the original 215 million arces of wetlands, totalling over 120 million acres, have been lost. Even with the recent passage and enforcement of tougher federal and state laws to protect these sensitive ecosystems, it is estimated that between 300,000 and 450,000 acres of wetlands are lost annually to draining, development into residental or farm land, damming, diking, pollution discharging, and alteration of watershed patterns. Virginia is blessed with almost 40,000 acres of tidal freshwater wetlands and even more acres of nontidal freshwater marshes and swamps. However, it is estimated that over 78,000 acres of different types of wetlands in Virginia were lost from the the 1950s into the mid-1970s. Unfortunately, this loss continues each year, even with the enactment of laws to protect wetlands and the efforts of various state agencies and conservation groups to protect these habitats.

The next time you see cardinal flower growing in what many people consider "waste areas," along with enjoying its beauty, also take time to think about the importance of conserving the habitats in which cardinal flower is found. Wetlands, with their diversity of plant and animal life, are a treasure for us all to protect and conserve for the present and for the future.

Marion Blois Lobstein
Prince William Botany Chair

Photographing Wildflowers

As the end of summer approaches, many wildflower enthusiasts look forward to capturing in pictures the spectacular colors which excite us each year. No flower is more visually thrilling than the Virginia Wildflower of the Year 1991, cardinal flower, yet there are difficulties in photographing this beauty in all its glory. Let's discuss how we can get the most satisfying results, using principles which apply to all wildflower photography.

Cameras have become so sophisticated that very good results come from convenient-to use systems, but most people agree that 35 mm film is the smallest size to yield great results. Any film size smaller than 35 mm will limit results to snapshots.

Coming upon a scene with cardinal flower growing among a picturesque lake or stream, we have to decide what we want to show -- the whole scene or just the flower. If the flower is important to the scene, move in close enough for it to be dominant. The background will still show the surrounding environment. If there is bright sun, there could be lots of glare -- off the water, the vegetation, and even the flower -- which will diminish color saturation dramatically. To get better color, if possible, pick an overcast day to take the photos, or return in early morning or late evening to get the warm glow which comes at these times. If your camera is a single-lens-reflex (SLR) type, a polarizing filter will help reduce glare and increase color saturation.

One thing which all good photographers would do in this situation is to make multiple exposures of the same scene. The technique is called "bracketing" and involves taking one shot at the normal exposure reading, then one over-exposed and one under-exposed. When the results arrive, they pick the one which best suits their desired result. Bracketing saves disappointment in cases where the camera's light meter would give undesirable results, and we don't have to go back to do it over again. Another benefit is that flowers, especially vivid reds like those of cardinal flower, really show up well under-exposed a little.

Photographic films have been greatly improved over the years. Nearly all types will respond to the vivid red of cardinal flower. But the old rule still applies -- the lower the ASA rating (the finer the grain), the better the results. Print films labeled ASA 100 or 200 will yield the best results, as will slide film rated ASA 50 and 100.

Those who photograph wildflowers a lot bring along a sturdy tripod and cable release to stabilize the camera, especially helpful for long exposures.

Perhaps the single best book written on the subject of closeup photograph is John Show's *Closeups in Nature*, published by Amphoto, New York, NY. Not only is it chock full of clear and practical information, the photographs are outstanding.

Hal Horwitz
Pocahontas Chapter

FROM NEAR AND FAR

Weed Becomes A Crop

Natural Fiber Corporation (Ogallala, NE 69153) is growing milkweed for the floss, which is reported to be a better insulator than goose down. The silky fibers can be used in facial tissues and disposable diapers. They also have the potential to be blended with cotton to make fabric and the oil from the seeds may have food value, reports *The Avant Gardener*, August 1991. Surprisingly, milkweed is not easy to grow; weeds, insects and diseases threaten it.

Profits from Plantings

Also noted from *The Avant Gardener*: Reports from across the country show the value of public wildflower plantings. Highway officials in Wisconsin say vandalism at highway rest areas and tourist information stops have been reduced near plantings, perhaps because the areas are frequented more often. Maryland claims a decrease in mowing-fertilizer-herbicide costs along highways, from $690 per acre per year for grass to $31 for meadow plantings. Vermont officials report a reduction in accidents in areas with road-side wildflower plantings. The flowers may calm drivers or bring their attention to the road.

Interloper Alters Coast

Spartina, a plant whose seeds stowed away with oysters transplanted one hundred years ago, is spreading along the Washington coast, drastically altering it according to *The New York Times*, March 9, 1991. This tall cordgrass is one of the most abundant plants in salt marshes of the East and Gulf coasts. Its spread on the West Coast into British Columbia, Oregon and northern California, exemplifies the consequences that can occur from seemingly minor alterations to an ecosystem. Crowding out the native plants and modifying the landscape through its ability to trap sediment, spartina has turned tidal mudflats into high marsh, inhospitable to many fish and bird species, and has interfered with recreation use of beaches and waterfronts. Around the world, where varieties of spartina were originally transplanted for land reclamation or to stabilize shorelines, a number of eradication methods have been tried. So far, eradication efforts have not been widely successful.

Once Bitten, Twice Shy

Pink lady's slippers are so unwelcoming to insects that the flowers are hardly ever pollinated, reports Douglas E. Gill, a University of Maryland zoologist, in the *Washington Post*, April 29, 1991. The balloon-like, lower petal of pink lady's slipper contains no nectar but if a bumblebee decides to check inside, the curled petal traps the bee, forcing it to slither up a circuitous passage at the back of the flower and squeeze under a pollen sac to escape. To complete pollination, the bee carrying pollen from the first flower would need to enter a second flower - something most bumblebees will not do.

Gill, who has spent sixteen years studying 3,000 pink lady's slipper plants in George Washington National Forest, has found that only about 1,000 of the long-lived plants have flowered during that period. Of those, just twenty-three have been successfully pollinated. How does the species survive? The average lifespan is about twenty years, and some of these hardy orchids may live as long as one hundred fifty years. Also in the plants' favor is the fact that once pollinated, a flower produces about 60,000 seeds.

Pollution Shrouds Park

Pollution at Shenandoah National Park not only obscures panoramas once visible, but it is also slowly poisoning the Park's trout streams and killing its flora. The Park Service considers the threat to Shenandoah and other parks so serious that it has recently become one of the Federal Government's most aggressive proponents of antipollution measures, including opposing two new power plants in southern Virginia. In a report in *The New York Times*, May 2, 1991, Shenandoah ranks first among major Federal parks in sulfates in the air and second in the amount of ozone. Sulfates, a critical part of acid rain, are produced in coal burning and other industrial processes and carried aloft by air currents. These acidic deposits kill aquatic life, while ozone damages leaves and slows the growth of plants. Twice in recent years, ozone levels have risen so high that park officials have issued health warnings to hikers.

The Virginia Department of Air Pollution Control acknowledges that air pollution in Shenandoah is a serious problem. Nevertheless, it has approved construction of the new power plants. EPA and Department wind calculations and estimates on pollution did not indicate that the new plants would cause further damage to the Park.

See the address label for your membership's expiration date.

VNPS Membership/Renewal Form

Name(s)_____

Address_____

__Individual $10 __Senior (60 or over) $5 __Sustaining $100

__Family $15 __Senior Family $10 __Life $250

__Patron $25 __Student $5 __Corp. sponsor $125

__Supporting $50 __Associate (group) $25;delegate_____

To give a gift membership: Enclose dues, name and address.

I wish to make an additional contribution to ___VNPS _____Chapter

in the amount of__$10 __$25 __$50 __$100 __$_____

__Check here if you do not wish your name to be exchanged with similar organizations.

__Check here if you do not wish to be listed in a chapter directory

Make check payable to VNPS and mail to:

VNPS Membership Chair, Route 1, Box 381, Delaplane, VA 22025

The ***Bulletin***

is published four times a year
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P.O. Box 844, Annandale, VA 22003

Nicky Staunton, President
Virginia Klara Nathan, Editor
Barbara Stewart, Artist

The deadline for the next issue is October 10.

Board Takes Position on Bridge Project

At its June meeting, the VNPS board adopted a resolution urging caution regarding proposed expansion of the Woodrow Wilson Bridge, the Potomac crossing for I-95 and the Washington Beltway. The resolution, drafted by Potowmack Chapter, summarizes the board's concerns about a strategy of ever-widening roadways for more and more cars. This strategy threatens existing wetlands, parks, open space, and natural areas throughout the state, by outright destruction, changes in air quality and water flow, and other environmental degradation. The board urged development of alternatives that reduce the impact on the environment and meet the clean air standards.

The bridge is now six lanes wide, while the interstate highway on either side is eight. Proposed alternatives range from a companion bridge next to the existing one to various configurations of tunnels under the river and bridge alignments to the south. All range from ten to fourteen lanes and assume corresponding widening of I-95 and the Beltway.

While state and federal highway officials claim the Wilson Bridge is a bottleneck to goods and traffic from Maine to Florida, recent traffic studies show that only 10 to 15 percent of the traffic is interstate, and that most of this passes during off-peak hours. Local or commuter traffic during the rush hours is therefore the real problem.

This expansion project is a turning point in the transportation development not only for Northern Virginia but in the long run for the state as a whole, according to Sensible Washington Area Transportation (SWAT), an umbrella group of environmental and civic groups and individuals working to influence the development of the bridge project. A widened Beltway would increase pressure to widen connecting arterial roads, including Route 301, I-66, and I-95. Along with other effects, the risk of environmental damage would be extended along these corridors and thus across the state.

Of particular concern is the cumulative impact on air pollution in Virginia, especially in Shenandoah National Park, and in natural areas all the way to Maine. In fact, faced by stringent new requirements of the Clean Air Act, highway officials recently tried to get this project into the regional capital improvement budget before air quality regulations are finalized by EPA in November. This action took place prior to the draft Environmental Impact Statement (EIS) and public hearings.

Those who are concerned about preservation of native plants and their habitats can act to protect areas that may be jeopardized by expansion of the Wilson Bridge and connecting roads. Following release of the draft EIS on the project in early August, one public hearing in Virginia will probably take place in mid-September. Comments can be sent prior to the hearing to the project consultant Deleuw Cather, 10521 Rose Haven St., #100, Fairfax, VA 22030. Call Anne Haynes, Potowmack Chapter president, at 703-836-0925, for more information.

In Related News

From the *Virginia Natural Resources Newsletter*, June 1991: The recently passed House Bill 1575, Environmental Review of Highway Projects, requires that all state-funded highway projects undergo an inter-agency environmental review as agreed to by the Secretaries of Natural Resources and Transportation. The aim of the review is to meet environmental protection goals and road building needs.

National Wildlife Federation reports that its affiliate, The Natural Resources Council of Maine is waging a campaign against widening thirty miles of the Maine Turnpike. The group favors a more efficient state policy for transportation. As a result of a petition drive, a transportation initiative will appear on the November ballot. Citing testimony submitted by the Council, EPA has recommended that the Corps of Engineers deny a permit for the turnpike expansion, which would affect parts of some two hundred and thirty wetlands.

CHAPTER NEWS

Three Chapters Collaborate

Concern that pulling invasive garlic mustard, *Alliaria officinalis*, from part of Thompson Wildlife Management Area might make the problem worse, has prompted a change in tack by **Piedmont, Potowmack** and **Prince William** volunteers. Instead of removing the plants, the group, under the direction of VNPS member and Curator of the Virginia State Arboretum Chris Sacchi, has begun a systematic comparison of three control methods: uprooting the plants; cutting them at ground level; and cutting and applying an herbicide to the stem stub.

Mini-Grant Given

During Environmental Awareness Week in Fauquier County schools, **Piedmont** chapter presented a mini-grant to a group of Central Elementary School students in Warrenton who had designed a natural habitat exhibit. The children's project was started last year under the National Wildlife Federation Backyard Habitat Program. The grant was used for benches and more plants.

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November 1991 Vol. 10, No. 4

Bulletin

A publication of the **VIRGINIA NATIVE PLANT SOCIETY**
Conserving wild flowers and wild places

Virginia Wildflower of the Year 1992 - Butterfly Weed

The VNPS Botany Committee has chosen the eye-catching butterfly weed, *Asclepias tuberosa*, as Virginia Wildflower of the Year 1992. In summer, its deep orange flowers are familiar sights in uncultivated fields and along road banks and fence rows. Multitudes of butterflies and bumblebees and occasional hummingbirds flit from flower to flower as they search out the copious supplies of nectar. Since butterfly weed occurs in the wild in nearly every county in Virginia and, in addition, may be found in many wildflower gardens, nature enthusiasts will have abundant opportunities to observe its unique floral structure and the activities of its pollinators during the coming year.

In 1989 the Society initiated its Wildflower of the Year program with the selection of Virginia bluebells as its feature plant. That choice was followed by spring beauty in 1990 and cardinal flower in 1991. Now butterfly weed joins the list as the plant which we will emphasize and try to learn more about in 1992. Watch the *Bulletin* for articles about this native beauty in the coming year.

Dorothy C. Bliss
Botany Chair

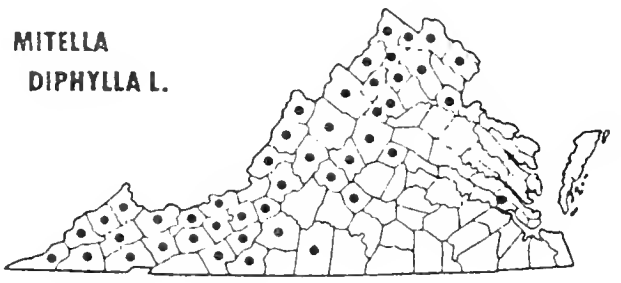
Botanizing Outback in "The Old Country"

Donna M.E. Ware, Adjunct Professor of Botany and Curator of the Herbarium at The College of William and Mary, spoke about some of her field work at the recent VNPS annual meeting. Noted for her studies of the rare and endangered small whorled pogonia as well as her in depth floristic studies, Donna, a member of the John Clayton Chapter, called her talk and slide presentation "Botanizing Outback in 'The Old Country': Mountain Flora and Southern Vegetation on the Banks of 'The Rhine'."

"The Rhine" of which she spoke is actually the Grove Creek watershed, an area of calcareous ravines south of Williamsburg. What makes the area unique are the bands of calcareous soil which have been exposed by stream erosion. Outcroppings of shells have raised the pH in the area by adding calcium to the soil. In places, this shelly zone has developed into a harsh habitat where some plants are dwarfed. Donna calls these areas "shell barrens."

Donna chose to investigate these calcareous ravines for two reasons: first, as far as she can tell, no other botanist has studied this area to any significant extent, and second, the records which E.J. Grimes, a botanist at The College of William and Mary in the 1920s, left behind intrigued her. Grimes visited only one small portion of the Grove Creek watershed but, in this microcosm near the confluence of the James River, he found three species that had a peculiar interrupted pattern of natural distribution. These species, which included American bellflower and chinquapin oak, had their main range in the mountains and were largely absent from the piedmont. Such species are called "mountain/coastal plain disjuncts."

Donna has continued to find other species in this area which have their main range west of the coastal plain and also some southern plants with their northern limit at this location. Sixteen species she has recorded are major disjuncts. In the case of miterwort, *Mitella diphylla,* the distance to its next occurrence makes it an Atlantic coastal plain record.



Donna's slides showed the terrain and many of the plants indigenous to the calcareous soil. Examples of disjuncts from the western part of the state included zigzag goldenrod, umbrella magnolia, American bittersweet, alternate-leaved dogwood, mountain camellia, and glade fern. Examples of southern plants reaching their northern limits included Southern sugar maple, white ray flower, and shadow witch orchid.

Ten thousand years ago, the disjunct species of the calcareous habitats existed in a different forest type with a cooler climate. As the climate became warmer and drier east of the mountains, these plants survived in the coastal plain in steep ravines in these special calcium-rich soils. "Why does this situation exist?" questioned Donna. One theory is that most coastal plain plants have evolved on acidic soils and are not adapted to high calcium soils, giving mountain plants a competitive advantage over the invading coastal plain species.

To close, Donna recalled an erie experience when she encountered wolf-like howls as she climbed a steep slope

(Continued on page 8)

FROM THE PRESIDENT

"From Beach to Blue Ridge," the title of the VNPS slide show of Virginia's native plants in their habitats, also refers to our regional plant habitat concerns. From the Chesapeake Bay Act and clean water considerations, to the Shenandoah National Park and clean air issues, to Northern and Southern Virginia with our Commission on Population Growth and Development, to state-wide concerns about invasive exotic plants crowding our natives, we have VNPS members busy. We are learning the issues, searching for solutions, and networking with a wide variety of organizations with similar goals.

Through VNPS interests in horticultural use of natives at home, in public areas and along highways, and the protection of habitat, education has been our major emphasis. Education of VNPS members and non-members is on-going. Recently, VNPS educational displays were presented at the Northern Virginia Boy Scout Jamboree, the Virginia Association of Environmental Educators Seminar (These two highlighted the Registry Program.); Virginia Institute of Marine Science Estuaries Day (*Shrink Your Lawn* was the display.); and in Maryland, at St. Anselm's Plant Sale (Butterfly gardening was featured.).

We have gone far beyond the limited range of activities with which we began. Our early efforts to promote the use and conservation of native plants now have other concerns joining them: wetland issues including the Chesapeake Bay Act, mitigation and the Clean Water Act; clean air issues such as Shenandoah National Park and cogeneration plants; wilderness areas and related land issues in Jefferson and George Washington National Forests; invasive exotic plants throughout the state ... These considerations are just the tip of the iceberg of many issues.

We have been involved in many "link-ups" with like-minded people through phone calls and letters. Chapters are the key motivators for the issues about which the Society becomes concerned. The resolution by VNPS on the Wilson Bridge alternatives for the Potomac River crossing of I-95 came from the interest of Potowmack Chapter. But every one of our Chapters have been busy with native plant issues in their areas, including the use of the plants and protection of their habitat.

The past three years as president of VNPS have been the wild rollercoaster ride I anticipated upon election ... highs, lows, thrills and bumps. They end with, "Let's do it again!"

I feel great gratitude to all of you. You have shared your skills and time to strengthen VNPS. As we look forward to another three years together and the accompanying opportunities, keep in mind, "If not us, then who? If not now, then when?"

Nicky Staunton

John Hodgson

Sadly, we share with you that John Hodgson, President of our new South Hampton Roads Chapter, died August 5, 1991. We offer our sympathy to Dottie Hodgson and their family.

The good spirit of our members springs from an interest in wildflowers and reached a pinnacle in John Hodgson. John's interest in wildflowers in home gardens and in the public marsh garden at the Virginia Marine Science Museum flowed naturally into bringing together over one hundred persons within a few months to form the South Hampton Roads Chapter. John led the Chapter in "hitting the ground running." Already the Chapter has organized some interesting programs, including an educational program about historical native plants of their area.

Typical of energetic leaders, John shared his ardor for Society activities with his chapter members and therefore, without John, the Chapter Vice President Greg Lonergan and other Chapter members immediately received "the baton" and carried through the annual meeting "race." Our warm, deep appreciation is given to South Hampton Roads Chapter members who grieve their loss while seeing that the work valued by John continues.

Many Thanks

A big round of thanks to all members of South Hampton Roads Chapter (SHRC) for a wonderful October weekend. Interim Chapter President Greg Lonergan rallied the entire Chapter for an excellent annual meeting.

Chapter Membership Chair Holly Cruser arranged for the splendid meeting location on Cape Henry at Virginia Beach. Many Chapter members shared their wildflower plants and VWPS founder Mary Painter brought her "Virginia Natives" to benefit SHRC. Tom Pitchford, Pat Baldwin and Greg Lonergan presented an interesting preview the South Hampton Roads area through the slides shown Friday night.

Thanks to VNPS 1st Vice-President Chris Clampitt, we had knowledgeable fieldtrip leaders. Our special thanks to the leaders -- Allen Belden, Chris Ludwig and Chris Clampitt from the Division of Natural Heritage, and Alan Plocher of Old Dominion University.

Chapter members spent their time preparing area sites and special appreciation goes to B.H.(Pat) Bridges who coordinated things at the Norfolk Botanical Gardens, Becky White and the Cape Henry Audubon Society who made ready Weyanoke Wildlife Sanctuary, and Lee Moomaw who volunteered at the Virginia Marine Science Museum Marsh Garden.

Special thanks to Holly Cruser and Emilie Marlinghaus for the mailings which permitted all of us to get together. Thanks to all SHRC for attending to all the meeting details, right down to the lovely wildflower arrangements which were a distinctive part of the seaside celebration.

We acknowledge Claudia Thompson-Deahl of Prince William Wildflower Society for her exceptional effort with the children's program. VNPS Fund-Raising Chair Pat Baldwin is to be commended for his superb efforts with the Silent Auction for the past two years. Special thanks to Doug Coleman and the staff of Wintergreen Resort who donated the splendid prize of accomodations for two during the resort's next wildflower symposium weekend.

Donna Ware, Botany Co-chair of John Clayton Chapter, educated and entertained us with her excellent talk. There are others from VNPS who did "extras" for the meeting -- Nancy Vehrs, John White, Cris Fleming to name several. We wish we could recognize them all and hope they know their work is appreciated.

1991 Virginia Native Plant Society Annual Meeting Review

Recapping the Weekend

Society members were fortunate to begin the annual meeting weekend festivities on Thursday evening with the presentation of "Travels With a Wildflower Photographer" by Pocahontas chapter member Hal Horwitz. Hal's special photographs of wildflowers were on display for the month at Norfolk Hermitage Foundation Museum.

Friday evening's social gathering at Fort Story Officers' Club was an exciting combination of greeting friends, a wildflower plant sale, and a slide show of local flora. Many Chapter members shared their wildflower plants and VWPS founder Mary Painter supplemented with her "Virginia Natives" to benefit SHRC.

On Saturday, fieldtrip leaders Chris Ludwig and Chris Clampitt explained the geology and topography of Seashore State Park and made certain that participants did not miss any rare or unusual flora. Leaders Allen Belden and Alan Plocher took a van full of Society members to Zuni Pine Barrens and did the same.

While the adults enjoyed the field trips, Claudia Thompson-Deahl of Prince William chapter organized a children's program which enabled the youngsters to experience the excitement of the swamps and trails of Seashore State Park, and the exhibits the Virginia Marine Science Museum.

On Saturday evening, VNPS members and their guests met again at Fort Story Officers' Club to recount the activities of the day, attend to Society business, enjoy a good meal, and hear our speaker. There was time to buy raffle tickets for several prizes and bid in the Silent Auction. These fund-raisers were great fun. Many members and guests went home with valuable, donated items.

The Society's business meeting consisted of the election of officers: Nicky Staunton, President; John White, Treasurer; Catherine Tucker, Botany Chair; and Chris Sacchi and Ken Wieringo, Directors-at-Large.

After a banquet by the bay, those present learned about "Botanizing Outback in 'The Old Country'" from the program by Donna M.E. Ware, Curator of the Herbarium at The College of William and Mary. Donna's presentation was full of facts and puns.

On Saturday and Sunday, Society members had opportunities to visit other area sites of botanical interest. All in all, there was plenty to do and see during the mild autumn weekend.

About the Field Trips

VNPS members enjoyed a variety of field trips on Saturday, October 12 -- a bright, sunny day in Virginia Beach. Over forty people showed up for walks through Seashore State Park led by Chris Clampitt and Chris Ludwig of the Divison of Natural Heritage. Participants visited diverse habitats such as bald cypress swamps, dry oak-pine woodlands, seasonal ponds, sand plains, and open beach. The leaders pointed out several species that are rare in Virginia including *Osmanthus americanus* (wild olive), *Quercus incana* (bluejack oak), *Tillandsia usneoides* (Spanish moss), and *Iva imbricata* (sea coast marsh-elder). Many members from the northern and western parts of the state expressed amazement at the southern type flora and appreciation of the preservation of this natural area in the midst of dense development.

About a dozen people toured Blackwater Ecologic Preserve, better known as Zuni Pine Barrens. Guided by Alan Plocher of Old Dominion University and Allen Belden of Division of Natural Heritage, participants explored this region known for the northernmost stand of *Pinus palustris* (longleaf pine) in the country. This area of pine woods, sandy soil, and high water table supports many other state rare plants including *Pinus serotina* (pond pine), *Carphephorus bellidifolius*, *Seymeria cassioides*, and *Pyxidanthera barbulata* (pyxie-moss). Participants on this field trip also enjoyed observing the theatrical behavior of a hog-nosed snake.

Three other self-guided field trips were available for VNPS members during Saturday and Sunday. The marsh garden at the Virginia Marine Science Museum blended formal plantings of species such as *Rudbeckia hirta* (black-eyed Susan) and *Echinacea purpurea* (purple coneflower) with natural vegetation such as *Solidago sempervirens* (seaside goldenrod). The wildflower preserve at Weyanoke Wildlife Sanctuary presented a pleasant mixture of native, naturalized and cultivated plants. Norfolk Botantical Gardens featured exotic garden species in an arboretum setting.

Cris Fleming
Education Chair

Children's Program - A First

The children's program held on Saturday was an indisputable success with both the children and the parents. While adult VNPS members went on various field trips, their children had an opportunity to explore the wonders of nature in their own way. Twelve youngsters, ranging in age from two to twelve, joined the children's group.

To acquaint the youngsters with each other, participants decorated name tags cut from a tree branch. Then, the discoveries began. First, we went into the visitor's center at Seashore State Park. Inside, the group explored the "touch" table and saw a short movie about the park.

Next, we hiked into the park, stopping to pass out hand lenses for the children to see some plants up close. Wherever the trail led, we did talked about what was going on ... in the tree cavities, the stumps, the spider webs, etc. When we got to the swamp area, it was fun to hear the kids ask if this place was real. They thought it was a movie set and expected to see dinosaurs crawling out!

Along the trail we played "I am thinking," a game where someone from each team had to point to a flower I was describing. Then we played "Find a forest friend" where a blindfolded child was led to a tree. After feeling the tree, the "sightless" child was returned to the starting point where each removed the blindfold and tried to find the "buddy tree."

When the more energetic kids needed a change of activity, an accompanying dad, Don Nathan took five adventurous boys for a long hike to Broad Bay. The rest of the children played a color and shape game with the older children assisting the younger ones in matching something in nature to the color or shape on a card. We also tested seed cards (felt on cardboard) to find hitchhiking seeds.

While the younger children painted rocks and leaves with "magic paint" (scented liquid, oil and water), the older ones became "budding botanists" and told the group all about their latest discovery. They really used their imaginations on this exercise. At the next stop, we took out stamp pads and paper and made fingerprint pictures.

At lunch, the entire group got back together. The older kids read *The Reason for a Flower* to the younger ones. The book brought to our attention the "star" hidden inside an apple. We cut an apple to observe the star and then enjoyed eating the fruit.

Next, we were off to the Virginia Marine Science Museum by bus. We worked with the interactive displays, creating waves and "designing" fish. The opportunities to

(Continued on page 6)

For Wildflower Gardeners

The growing popularity of native plants for gardens and landscapes is reflected in the numerous articles on their cultivation and propagation in local and national publications. If you'd like a copy of any of the articles listed but can't find the publication in your library, write to me (Nancy Arrington, P.O. Box 462, Manassas, VA 22110). Mention the title and send a business-size SASE.

1. "American Asters," *Horticulture*, October 1991. Late-blooming stars of the perennial border including many species and cultivars, some old favorites and some new introductions.

2. "Drawing a Bead on Viburnums," *Garden Design*, September/October 1991. *Viburnum nudum* 'Winterthur', a superb, award-winning viburnum.

3. "Fire Pink," *Virginia Wildlife*, May 1991. A bright red silene suitable for cultivation.

4. "Going Native," *Garden Design*, May/June 1991. Natives appropriate for smaller gardens including dwarf fothergilla, native pachysandra, and threadleaf coreopsis.

5. "Hope for the Dogwood," *Washington Post*, June 27, 1991. Reports of isolated trees that have escaped anthracnose attacks or recovered from slight infections.

6. "Native Americans," *Horticulture*'s series recently featured rue anemone, garden phlox, fringe tree, and bee balm.

7. "Natives Out of the Woods," *American Horticulturist*, June 1991. Southeast native trees and shrubs for the garden including serviceberry, native azaleas, beautyberry, and fringe tree.

8. "Perennial Plant of the Year: *Heuchera* 'Purple Palace'," *The Virginia Gardener*, August 1991. Some say it's a selection of *H. micrantha*, others think *H. villosa* or *H. americana*, but all agree it's a wonderful plant for the shade.

9. "Spring Woodland Perennials," "Summer Prairie Plants," and "A Fall Gathering," *Flower & Garden*, February, April and June 1991. Seed collection and storage tips, and information on starting several species including cardinal flower and butterfly weed.

10. "The Puzzle of the Eastern Foamflowers," *Bulletin of the American Rock Garden Society*, Winter 1991. Don Jacobs describes seven distinct forms of this familiar native.

11. "Trilliums: Favored Wildflowers," *Southern Living*, May 1991. Gives instruction for growing trilliums from seed and stresses importance of buying nursery propagated plants.

Nancy Arrington
Horticulture Coordinator

VIRGINIA'S RAREST PLANTS

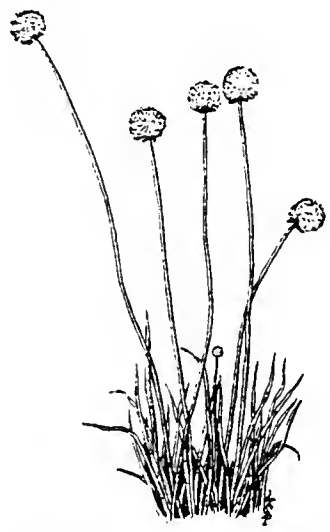
Eriocaulon septangulare, White Buttons

In the August 1991 VNPS *Bulletin*, Virginia's Rarest Plants featured *Helenium virginicum*, Virginia sneezeweed, an endemic species limited to a series of natural ponds in Augusta and Rockingham Counties. *Eriocaulon septangulare*, white buttons, is among the thirty-plus rare plants which co-occur with the sneezeweed in this region. This member of the pipewort family, Eriocaulaceae, occurs in three ponds of the Maple Flats area in Augusta County, the region's most significant remaining complex of ponds.

As with a number of other plants of these wetlands, white buttons can grow in areas where the water table fluctuates greatly. The species may flower in a meter or more of water, extending a long flower stalk towards the water's surface. White buttons will also flower while emersed along a pond's edge.

Eriocaulon septangulare is primarily a northern species which extends south into Virginia along two pathways -- a mountain route which includes the populations mentioned above and a coastal route with historic locations in Virginia Beach and an Accomack County location recently discovered by Tad Zebryk, field ecologist for Division of Natural Heritage. The coastal/ mountain distribution with a large gap in the piedmont is a common distribution pattern for many Virginia plants.

In 1989, the Botany Committee of the Virginia Endangered Species Symposium recommended state listing



Eriocaulon septangulare
Illustrated by Megan G. Rollins

for this species as endangered. The species has not received formal listing attention yet, though it is included on the Heritage list of rare plants. *Eriocaulon septangulare* is ranked G5/S1 to reflect its very common global distribution (G5) and extremely rare state status (S1). Though not protected through regulations, the Maple Flats populations are within an area of George Washington National Forest which has been recommended for designation as a Research Natural Area by the Division of Natural Heritage. This designation sets aside natural areas for their protection and research.

Chris Ludwig - Botanist
Virginia Natural Heritage Program

For Your Library

Over the past year, the following books have been brought to my attention as useful and enjoyable resources for Society members. Perhaps you can find your winter reading among them. -Ed.

Virginia's Endangered Species coordinated by Karen Terwilliger (1991; McDonald & Woodward Publishing Co., P.O. Box 10308, Blacksburg, VA 24062-0308; $59.95 clothbound, $32.95 paperback, plus Virginia sales tax of 4.5% and $2.50 shipping) A cooperative effort by Virginia Department of Game and Inland Fisheries, Virginia Department of Agriculture and Consumer Services, Virginia Department of Conservation and Recreation, and Virginia Museum of Natural History, this book looks to be the definitive text on the Commonwealth's endangered species. For each species covered, the following information is provided: a description of the taxon, a written summary and map of its distribution in Virginia and North America, an overview its natural history, its legal status, threats to its survival, and recommendations for its conservation. This reference book contains over 700 pages of text and visuals, including over 125 pages devoted to vascular plants. Color plates show most of the endangered species. Contributors include VNPS members Donna M.E. Ware, Chris Clampitt and Chris Ludwig.

Meadows and Meadow Gardening compiled by New England Wild Flower Society, Inc. (1990; NEWFS, Garden in the Woods, Framingham, MA 01701; $7.95 includes postage and handling) The twelve articles in this booklet provide an excellent introduction to meadow gardening. VNPS member Cole Burrell considers the aesthetics of meadows versus modern manicured lawns, emphasizing the distinction between creating a meadow garden and a natural meadow habitat. Other articles

ENPA Annual Meeting Report

The importance of distinctive regional landscapes, threats to native plant habitats, information resources, and public education were the major emphases of the Eastern Native Plant Alliance (ENPA) at its annual meeting in July.

Encouraging regional floristic identity was adopted as an emphasis to be woven through all ENPA projects this year. This focus will be especially prominent in work to identify resources that nurseries can use in promoting use of plants indigenous to the region, and to develop regional strategies for dealing with invasive aliens. (A similar theme, appropriate regional landscapes, shaped the Millersville, PA conference on landscaping with native plants, which a number of VNPS members attended in August.)

The federal government's approach to invasive exotic plants, mainly agricultural weeds, was the topic of a major presentation. ENPA will continue efforts begun last year to center more attention on the invasive species that threaten natural areas.

Background papers are being prepared on other habitat-related issues, including the impact of rising populations of deer and beaver, and of mechanical raking of longleaf pine straw for mulch, a sizable industry in the Southeast. Strengthening federal guidelines regarding the marketing of wild collected plants is also being explored.

ENPA working groups will continue to encourage conservation gardening, including the use of propagated plants, and are beginning to develop materials that can be used with a variety of other audiences.

The Eastern Native Plant Alliance is composed of diverse organizations that work with native plants or native plant conservation. VNPS has been part of ENPA since the Alliance began in 1985. The Society's representatives at the 1991 meeting were President Nicky Staunton, Conservation Chair Ted Scott, and ENPA coordinator Mary Pockman.

Research Request

While many rare and endangered native plants have been well studied, little is known about even the basic biology of a large number of common, widespread wildflowers. This ignorance is a real handicap in assessing potential damage from digging wild plants for horticultural or medicinal use.

Now a working group within the Eastern Native Plant Alliance is seeking to develop data on the life cycles of species in two widely distributed genera, Cypripedium *and* Trillium, *with special emphasis on the impact of wild collection. If you know of relevant studies, completed or in progress, please send information about them to Professor Edward Clebsch, Department of Botany, University of Tennessee, Knoxville, TN 37996-1100.*

look at the value of meadows as wildlife habitat and provide advice on establishing and maintaining meadows.

Tidal Marsh Plants by Lionel N. Eleuterius (1990; Pelican Publishing Co., P.O. Box 189, Gretna, LA 70054; $24.95 plus $1.50 postage) This book is a field guide to the vascular plants occurring in the salt marshes along the Atlantic and Gulf coasts. Included are sections on taxonomy and phenology, and detailed descriptions and drawings of over 400 plants.

Wildflowers for All Seasons by Ghillean T. Prance (1991; Crown Publishing, Inc.; $35.00 hardcover) This full color, coffee table-type book is hard to pass by without a look. Wildflowers of New England coastal and inland areas are featured, many of which are Virginia natives. For each species, the biology, history and geographic distribution are discussed. A great watercolor print by Anna Vojtech accompanies each plant described.

Ferns of the Coastal Plain: Their Lore, Legends and Uses by Lin Dunbar (1989; University of South Carolina Press, Columbia, SC 7433; $21.95 hardcover, $11.95 paperback) This book combines enjoyable reading with a useful field guide. The text explores the folklore, superstitions and uses of ferns. Basic illustrations and a simple key based on leaf shape and divisions aid in fern identification.

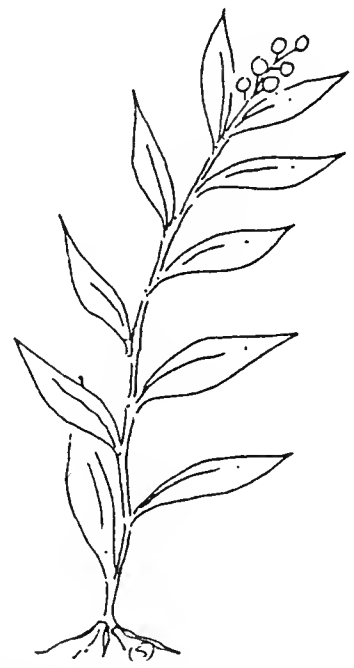
Poison Ivy, Poison Oak, Poison Sumac by Edward Frankel (1991; Boxwood Press, 183 Ocean View Blvd., Pacific Grove, CA 93950; $9.95 plus $1.25 postage) If you are itching to read a comprehensive, non-technical guide to the *Toxicodendrons*, get this book. It provides useful information for the botanist as well as the gardener.

NEWFS Offers Seeds

For gardeners looking for wildflowers to enhance their home landscapes, the New England Wild Flower Society is offering seeds and spores of over 175 varieties of wildflowers and ferns in their 1992 Seed and Book Catalogue. Included are natives for woodland, wetland, and meadow gardens. All requests for the catalogue must be received by March 2; seed sales close March 16. To receive a catalogue, send $1.00 and a self-addressed, $.52 stamped, #10 business-sized envelope to Seeds, NEWFS, Garden in the Woods, Hemenway Road, Framingham, MA 01701.

Grants Available Again

Barbara J. Harvill Botanical Research Awards are available for the support of floristic work in Virginia by botanists without an institutional base of research support. Most awards requested to date have been for mileage costs, but other expenses such as lodging and certain kinds of equipment (i.e., plant presses) can be covered. If interested, please send a letter of application to Donna M.E. Ware, Herbarium Curator, Department of Biology, The College of William and Mary, Williamsburg, VA 23185.



Botanical Club

Persons interested in the botany of the Southern Appalachian Mountains are invited to join the Southern Appalachian Botanical Club. A one-year membership (individual -- $15, family -- $22.50) includes a subscription to *Castanea*, the journal of the Club. Papers relating to the botany of the region, and news and announcements of interest to the membership are included in the journal. Dues are payable to SABC and should be sent to Michael J. Baranski, SABC Treasurer, Department of Biology, Catawba College, Salisbury, NC 28144.

Historical Uses of Lobelias

The brilliant red of the showy cardinal flower, *Lobelia cardinalis*, brings delight to the eye and spirit from mid-summer into early fall. This beautiful wildflower as well as two other lobelia species found throughout Virginia, Indian tobacco, *L. inflata*, and great lobelia, *L. siphilitica*, have had important historical medicinal uses by American Indian tribes as well as in folk and herbal medicine. These uses range from treatment of syphilis to dealing with problems of the skin and the digestive, respiratory, urinary, nervous and skeletal-muscular systems.

Cardinal flower
Lobelia cardinalis

Treatment of Venereal Diseases

The use of all three of these lobelia species to treat venereal diseases, primarily syphilis, is of special interest in the history of American Indian, folk and European medicine. Some Indian tribes also used extracts from these lobelias to treat gonorrhea, as well as combined extracts from mayapple, *Podophyllum peltatum*, and wild cherry, *Prunus* sp., to treat venereal diseases. The Cherokee Indians supposedly preferred using the root of cardinal flower, while the Iroquois Indians more often used the root of great lobelia. Ironically, some American Indian tribes used dried leaves of these lobelias as a "love medicine" and such use was even claimed to avert divorce.

Early American settlers, who came from many parts of Europe, soon began to explore the uses of these species of lobelia to deal with their own cases of syphilis. Many French trappers claimed to be cured of the disease after only five to six months of treatment with the Indian remedies. In the mid-1700s, samples of these plants were sent from the American colonies to England and Sweden to test their effectiveness in the treatment of veneral diseases. No definite results were derived from the tests. However, Linnaeus himself assigned the Latin epithet of *L. siphilitica* to great lobelia based on the purported success of this species in treating syphilis.

For Digestional Disorders

Another very widespread use by American Indians of these species was as an antihelminth to deal with intestinal parasitic worms. In this area, there were claims that the antihelminth properties were as effective as those of pinkroot, *Spigelia* sp., a widely used remedy.

These lobelias were used for other problems of the digestive tract, at high concentrations as an emetic and a cathartic, and at lower concentrations to treat diarrhea and spasms. Even dysentery and hepatitis were treated with extracts from all three lobelias.

For Respiratory Problems

Lobelia extracts were used to treat problems of the respiratory tract such as the bronchial inflammation involved in whooping cough, asthma, croup and colds. Sore throats were relieved by chewing the leaves and a "snuff tea" was given for nosebleeds. Coltsfoot, *Tussilago farfara*, and blue cohosh, *Caulophyllum thalictroides*, were combined with these three lobelia species to treat respiratory problems.

Other Uses

The diuretic properties of lobelia extract led to its use to increase urine flow and to treat nephritis (kidney disease). Fresh leaves and poultices made from dried leaves were applied to a variety of skin, muscle and related problems, ranging from sores, bites, contusions and swellings to stiff neck, rheumatism and neuralgia. The lobelias were also utilized in preparing a linament to treat such problems, using the extract along with that of other herbs.

Lobelia extracts have sedative effects in low doses and stimulatory effects at higher concentations. These properties led to its use in treating nervous system problems such as hysteria, nervousness, concussions, chorea, epilepsy, nerve or muscle spasms, as well as to lower fevers and deaden pain. The extracts even were used to treat tetanus based on their sedative effects on skeletal muscles. Lady's slipper, *Cypripedium* extracts were also used along with lobelia to treat "nerve" problems. Lobelia extract, especially that derived from Indian tobacco, has been used to help tobacco smokers break their smoking habit.

The Chemistry

Four alkaloids have been isolated from all three of these lobelia species, the primary one being "lobeline." These alkaloids have properties similar to nicotine with both stimulatory and depressant effects. These extracts can have a direct effect on the vomiting control center in the brain. Modern chemical analyses have shown that cardinal flower contains a higher concentration of lobeline than great lobelia, which has a higher concentration than Indian tobacco. Even so, the historical uses of the lobelias more often involved the use of Indian tobacco than the other two species.

Lobelia extracts can be toxic at too great a concentration and may lead from nausea and vomiting, to stupor, tremors, paralysis and convulsions, and finally to coma and death.

Fortunately for the conservation of these species, modern herbalists purportedly no longer recommend medicinal uses of these lobelias. But even though there are few or no modern uses of these species, the historical medicinal uses of this attractive group of plants are still interesting to consider.

Marion Blois Lobstein
Prince William Botany Chair

Children's Program

(continued from page 3)

touch live sea animals and watch feeding time in the huge glass aquarium were especially exciting.

I truly enjoyed sharing the activities with the children, two of whom were my own. They worked well together and seemed to enjoy themselves. But what really indicated that the program was worthwhile were the comments from VNPS parents who said they could not have come to the annual meeting without a program for their children.

Claudia Thompson-Deahl
Prince William Wildflower Society

FROM NEAR AND FAR

Our Natives Invade Others

As VNPS begins developing its policy on invasive exotics, R. Cornelius in *Acta-Oecologica: International Journal of Ecology*, November 1990, reminds us our native plants can be invasive exotics when carried to foreign shores. *Solidago canadensis*, a goldenrod native from Newfoundland to Tennessee, is an invasive urban weed in much of Europe.

Young Natives Preferred

For genuine "global relief," plant a native tree, advises David Northington, Executive Director of the National Wildflower Research Center, in *Wildflower*, August 1991. Exotic ornamental trees often consume water and soil resources without providing wildlife habitat or other ecosystem benefits. They occupy spaces which could be held by native trees that could contribute to the local ecosystem and they usually do not reproduce.

Regeneration, Fall 1990, suggests these Virginia natives if you want to plant trees to help improve the atmosphere: river birch, sycamore, willow oak, and red maple. Young, fast-growing trees have the best ability to utilize carbon from the air.

Fertilizer Hinders Disease

Mark T. Windham and Robert N. Trigiano, plant pathologists at the University of Georgia, report in "Re-Examining Dogwood Anthracnose," *American Nurseryman*, May 1991, that fertilizers high in calcium and low in phosphorus can suppress anthracnose symptoms in dogwoods.

More on Anthracnose

While *Cornus florida* is the susceptible native species in the East, in the West another dogwood species, *Cornus nutallii*, is affected by dogwood anthracnose. Researchers suspect that the fungus, *Discula* sp., arrived recently in the U.S. on imported Kousa dogwoods, probably via New York City.

Biologists at Great Smoky Mountains National Park feel they will lose all of their dogwoods except those in one small area where they are spraying to save a sample. Populations at lower elevations which have higher temperatures and lower humidities do not appear to be as severely affected.

According to James Sherald, plant pathologist with the Center for Urban Ecology in the National Capital Region of the National Park Service, dogwoods growing in open landscapes seem less vulnerable than trees in the forest probably because landscape trees are exposed to more sunlight and greater air flow. The scientist related in *Naturalist News*, August 1990, that even after symptoms appear, dogwoods in the open tend to outlive those in the understory, the latter dying within five years. Trees under environmental stresses, such as severe drought or excessive moisture, become more susceptible to attack by the *Discula* spores. Long rainy periods, particularly in the spring, are associated with outbreaks of anthracnose. Winters with only a light snow cover leave dogwoods' shallow roots exposed to temperature fluctuations, predisposing the trees to infection.

No Loosestrife is Good Loosestrife

Purple loosestrife, *Lythrum salicaria*, an invasive exotic in Virginia, has become such a severe problem in wetlands in several Midwestern states that legislation has been drafted to bar the its cultivation and sale. Some propagators argue that loosestrife cultivars are sterile and, therefore, should not be included in the ban. However, horticulturists at the University of Minnesota studied the "Reprodutive Fertility Levels of Purple Loosestrife Cultivars" and described their findings in *Perennial Plants*, Summer 1991. Although cultivars were generally self-sterile, they were found to be very fertile when crossed with the species, producing seeds which grow into fruitful plants.

Hidden in Gold

Tall goldenrod, *Solidago altissima*, is fed upon by few generalist insects (those which feed upon a variety of plants), although it hosts several insects which derive nourishment solely from the *Solidago* genus. This suggests that the plant may contain chemicals which are toxic to or defer feeding by some insects. In research reported in *Environmental Entomology*, June 1990, Bucknell University biologists found that fewer than five percent of cabbage looper larvae, *Trichoplusia ni*, fed goldenrod leaves exclusively lived to adulthood. Pesticide companies may be able to develop a new botanical insecticide from goldenrods.

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Board Adopts Wetlands Resolution

At the October 12th meeting of the VNPS Board, a resolution was passed regarding the 1990-91 Revisions of the Federal Wetlands Manual. The resolution outlined four main problems with the proposed revisions: the deletion of facultative plants (plants which adapt to wet or well drained conditions by changes in their structure) from indicator plant species list; the revised definitions of the growing season and duration of soil saturation; and the added complexity of the designation process itself. All four of these points could reduce dramatically the number of wetlands that receive federal protection.

The Board agreed to pass its comments to Gregory Peck, Chief of the Wetlands and Aquatic Resources Regulatory Branch of the Environmental Protection Agency. The deadline for comments on the revisions has been extended to December 14, 1991. Society members are encouraged to send their concerns to Gregory Peck, Chief of Wetlands and Aquatic Resources Regulatory Branch, U.S. Environmental Protection Agency, Mail Code(A-104F), 401 M Street SW, Washington, DC 20460. If you need more information on the Board's resolution or the proposed Federal Wetlands Manual revisions, call Anne Haynes at 703-836-0925.

Chapter News

Historical Production

South Hampton Roads chapter developed a display of native plants present when Princess Anne County (now Virginia Beach) was established three hundred years ago. The exhibit was constructed for the Tricentennial Celebration of the creation of the county.

Sharing Knowledge and Time

At the request of a local hiking club, **Prince William** chapter coordinated their wildflower walks with the hiking club's outings in order to educate the hikers on native plants and their habitats. The overall feeling of the effort was "The more, the merrier."

In an attempt to get environmental education into county schools, Prince William Vice-President Helen Walter attends meetings of the Prince William Environmental Education Council, a network of area environmental groups.

Numerous members of Prince William chapter gave their time on some highly visible projects this year. They cleared and planted a wildflower trail at the new Manassas City Museum this fall. Chapter volunteers installed interpretive signs and assisted in upgrading the wildflower trail on the Manassas Campus of Northern Virginia Community College. They also promoted the VNPS Registry Program at the Prince William County Fair by using the registry as the theme for their display.

Botanizing

(continued from page 1)

to find the rare downy skullcap, *Scutellaria incana*. The cries rose over the ridge above her along with a strange clickety-clack noise and then the screams of humans. She assured us this turned out to be the noise from the Big Bad Wolf roller coaster in "The Old Country" of Busch Gardens, which is one boundary for the four square mile watershed.

Donna's study of the watershed on the banks of "the Rhine" involves more than a knowledge of plant taxonomy. She also uses history and geology to describe how plants (and even entire countries!) can become disjunct. She stressed the importance of conservation in urban corridors, especially the exemplary occurrences of unique forest types.

Libby Oliver
John Clayton Chapter

Are You Among the 40%?

During the last three months of 1991, more than 40 percent of VNPS memberships will expire because when the organization began, and for several years thereafter, memberships coincided with the fiscal year which ended on October 31. So, as the fall season rolls around, a great many Society members are due to renew.

Please check the date on the mailing label below and renew your membership if it is past- or soon due. Prompt renewal will assure you of uninterrupted membership and unbroken communication from the Society and its Chapters. It will also save the Society many dollars in postage for renewal reminders.

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