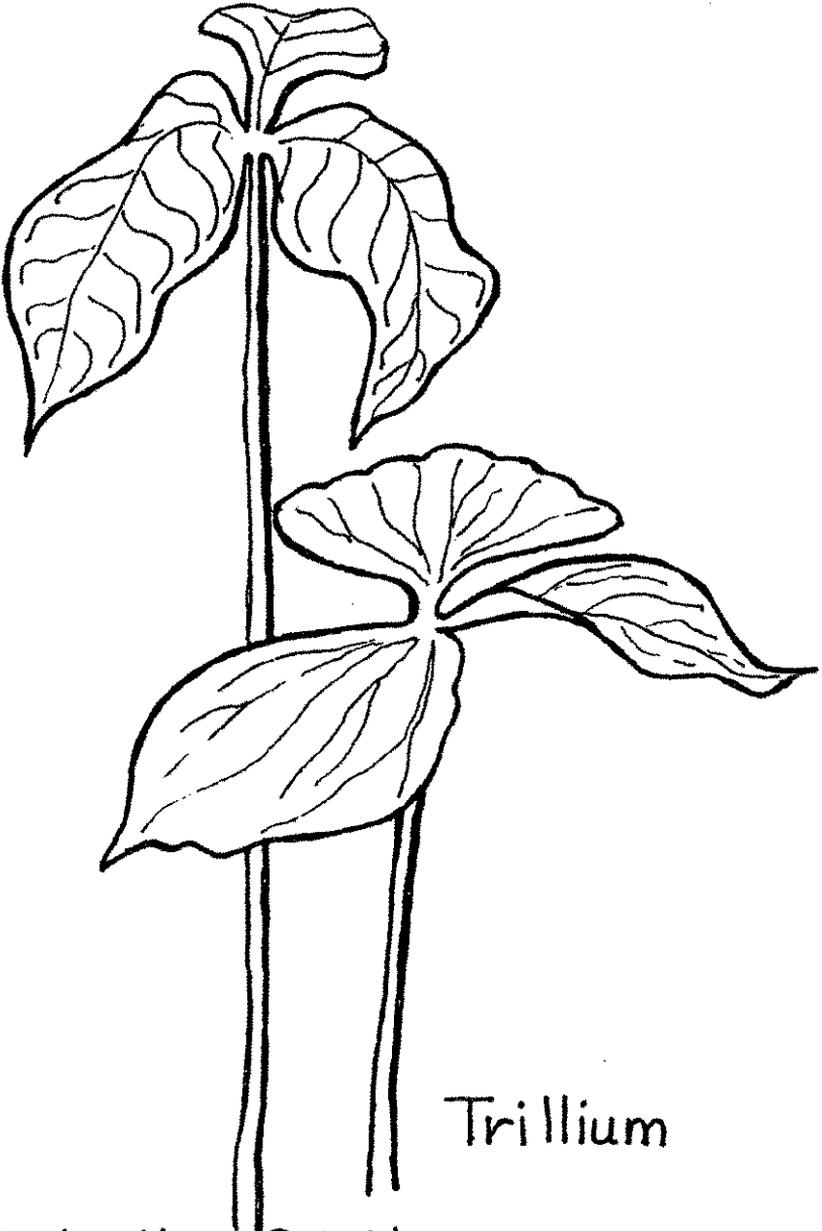


NORTH
CAROLINA

wild flower

PRESERVATION
SOCIETY, INC.



Trillium

Jack-in-the-Pulpit

FALL 1987

NORTH CAROLINA WILD FLOWER PRESERVATION SOCIETY, INCORPORATED

OFFICERS

President

Dr. G. Ray Noggle
Whitaker Glen, Apt. 205 A
501 E. Whitaker Mill Road
Raleigh, N. C. 27608

Vice-President

Ms. Julie H. Moore
518 Elm Street
Raleigh, N. C. 27604

Recording Secretary

Mrs. Thomas E. Howard
Route 1, Box 248A
Wake Forest, N. C. 27587

Corresponding Secretary

Mrs. G. Ray Noggle

Treasurer

Mrs. Sygnor M. Cozart
900 West Nash Street
Wilson, N. C. 27893

COMMITTEE CHAIRPERSONS

Historian

Mrs. Carl Pegg
32 Mt. Bolus Road
Chapel Hill, N. C. 27514

Publicity

Mrs. E. Gregory Lewis
907 Greenwood Drive
Greensboro, N. C. 27410

Meetings

Mr. Harry Phillips
121 Whitfield Road
Durham, N. C. 27705

Scholarship Program

Mr. Thomas Howard

Newsletter Editor

Mrs. W. T. Lamm, Jr.
903 Raleigh Road
Wilson, N. C. 27893

TRUSTEES

1988

Ms. Nancy Julian
1933 Gaston Street
Winston-Salem, N. C. 27103

Mrs. Hal F. Daniels
Box 398
Wingate, N. C. 28174

Mr. Benson Kirkman
708 Brent Road
Raleigh, N. C. 27606

1990

Mr. Floyd N. Rich
Route 4, Box 20
Reidsville, N. C. 27320

Mr. Bob Tuggle
903 N. Daniels Creek Road
Collinsville, VA 24078

Mrs. Robert D. Welshmer
15 Lanier Drive, Route 7
Chapel Hill, N. C. 27514

NEWSLETTER STAFF

EDITOR

Linda M. Lamm
903 Raleigh Road
Wilson, N. C. 27893

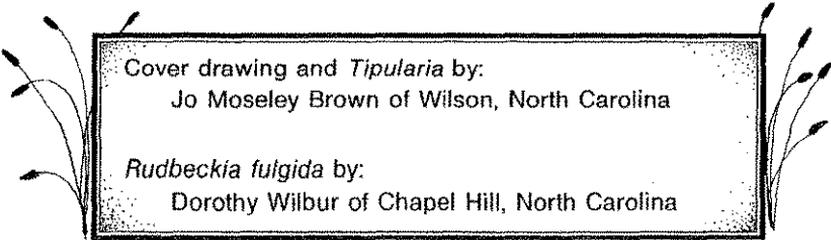
EDITORIAL STAFF

Patricia Ross
1804 Chelsea Drive
Wilson, N. C. 27893

Jean Stewart
112 Glendale Drive
Chapel Hill, N. C. 27514

CONTENTS

President's Message.....	1
Trilliums of the NC Wildflower Society Spring Fieldtrip.....	2
North Carolina State Parks & Natural Areas.....	7
The Corn Song.....	8
The Uniqueness of Our Mountains - Paired Species.....	9
50 Great Uncommon Plants.....	11
1988 Wildflower of the Year.....	15
Directory to North Carolina's Natural Areas.....	17
Tipularia - A Botanical Magazine.....	18
Yancey Resident Discovers Rare Mountain Heather.....	20
The Importance of Wildflowers.....	24
Protecting North Carolina's Rare Flora.....	26
Species Highlights.....	27
Plant Conservation Program.....	29
White Pines Preserve Is 200th Registered Natural Area.....	31
More Information on Creeping Blueberries.....	32
Potential Sources of 'Wells Delight' and 'Bloodstone' Creeping Blueberries.....	32
A Blooming Rule for Nation's Highways.....	34
Minutes.....	36
Roster of New Members of the NC Wildflower Society.....	38



Cover drawing and *Tipularia* by:
Jo Moseley Brown of Wilson, North Carolina

Rudbeckia fulgida by:
Dorothy Wilbur of Chapel Hill, North Carolina

PRESIDENT'S MESSAGE

Elsewhere in this issue of the Newsletter you will find my views of recent actions taken by the General Assembly (1987-88) pertaining to the North Carolina State Park System. Disregarding two comprehensive studies of the needs of the parks, legislators did not feel any sense of urgency to appropriate the money necessary to upgrade the park system to minimal standards. One of the studies, prepared by the State Goals and Policy Board, stated "North Carolina's parks and recreation system is in generally deplorable condition, is a burden to the full development of the State's tourism industry, and is inarguably a worst-case example of the abuse of a public trust and the abdication of responsibility." Despite its emphasis on the tourism angle, the statement accurately represents the condition of the State Park System.

With few exceptions, legislators did not perceive a strong citizen interest in parks and natural areas. Members of the North Carolina Wild Flower Preservation Society, as well as members of garden clubs, natural history societies, and other local groups, must let their legislators know of their concern for the well-being of the State Park System. Legislators listen to local folks. Take them to parks and natural areas in your neighborhood and make suggestions for improving the services and facilities now available. When the 1988 short session meets in June and July we hope to have in your hands some definite suggestions for you to bring to the attention of your legislators.

Ray Noggle
President, NCWFPS

TRILLIUMS OF THE N. C. WILDFLOWER SOCIETY
Spring Field Trip

The Trilliums are among our most attractive spring wild flowers. The genus *Trillium*, consisting of 46 species, occurs mainly in the temperate regions of Eastern Asia and North America with thirty of these species native to eastern North America. It probably reaches its broadest development in the Southern Appalachians, with more variation than anywhere else in the eastern North American range.

This member of the Lily family is easily recognized by a whorl of three leaves at the summit of an otherwise naked stalk above which is borne a relatively large flower with three petals and three sepals. The genus has two main divisions. One group has a sessile flower (no stalk) and mottled leaves. The other group has a pedicellate flower (with a stalk) and the leaves are uniformly green.

Our field trip this past spring was scheduled to offer us a rare opportunity to see collections in private gardens and spectacular sweeps in choice natural areas of our mountains.

Our first stop at Green Cove Camp, near Hendersonville, found us in Frank Bell's living room which overlooks a vast panoramic view of the mountains. This amazing, energetic, and enthusiastic man, beginning his ninth decade, entertained us with a brief history of his land and camp as well as with bits of wisdom and personal philosophy.

He brought us outside for a guided tour of his wildflower garden and surrounding natural area. We paused briefly for a valuable lesson in distinguishing between the juvenile forms of the *Trillium* and Jack-in-the-pulpit. The veins of the

Trillium leaf emanate from the base and run parallel along the length of the leaf. The leaf of the Jack has one central vein with parallel lateral veins emanating from this one central vein (see cover). A great lesson muchly appreciated!

Featured among the colonies of Yellow Lady's Slipper and red Columbine was the very beautiful large flowered *Trillium grandiflorum*. One of the best and easiest to grow, this handsome *Trillium* occurs in rich wooded coves throughout the eastern mountains, usually on basic soils in spectacular colonies. The white petals on a short stalk turn pink as they age. Ritchie Bell explains that this is a form of plant communication to the energy-conscious bee in its collecting trips. The aging pink *Trillium* says to its pollinating visitor, "Move on, I've been had."

We also saw a number of the sessile flowered, mottled leaved *Trillium*. The most common is *T. cuneatum* called Purple Toadshade, Bloody butcher, for its long maroon petals. I prefer Sweet Betsy, named, no doubt, for its pleasant banana fragrance of *Calycanthus floridus*.

Another of the showy sessile species is *T. discolor*. Some of us were privileged to collect this from the construction site of the Oconee Nuclear Plant in South Carolina. This species grows in only deciduous woods in one North Carolina mountain county and three piedmont counties in South Carolina. Pale Yellow *Trillium* is named for its pale yellow petals which are short and spatulate.

Another interesting sessile species in collections is the *T. recurvatum*, Prairie *Trillium*, with short maroon petals and recurved sepals. It is primarily located in Indiana and Illinois. This very long stalked *Trillium* reminds me of the long legged wading birds of our marshes.

Our group was delighted to find growing naturally along the path in the oak-hickory-pine forest large colonies of *T. catesbaei* interspersed with an amazing number of species of violets. Catesby Trillium, Rosy Wake-Robin, Bashful Wake-Robin, has the widest range in North Carolina, occurring in most of the mountain and piedmont counties. We were able to see this large pink pedicellate Trillium in all its subtle colors from pale pink to luscious rosy red, and flowers erect to flowers nodding below the whorl of leaves. It is sometimes confused with the aging pink *T. grandiflorum*. Tom Patrick from the University of Tennessee provides the easiest key to differentiate between the two: *T. catesbaei* - anthers twisted outward irregularly; *T. grandiflorum* - anthers erect, symmetrically disposed.

Our journey over Frank Bell's mountain ended at his picnic area where we shared our food and fellowship.

The afternoon adventure found us at Holmes Forest, a State forest comprising 231 acres twelve miles southwest of Hendersonville on Kanuga and Crab Creek Roads. Some chose the shorter "Talking Trees" path. An informative recording placed at various species of trees could be activated with the push of a button at its base. Others of us chose a longer, more strenuous path that wandered up and down through many kinds of habitats. We were in Vaseyi country, which ranges across southwest North Carolina. That most spectacular of all, the thrillingly big *T. vaseyi* with leaves big as a dinner plate and the large dark red nodding flowers with recurved petals big as a saucer, were there in large numbers. We oohed and we aaahed. We noted the long stamens that far exceed the tiny ovary. It was exciting to discover an erect form, a white or rose color here and there.

Almost as spectacular as *T. vaseyi* were the large colonies of *T. erectum*, one of the pedicellate Trillium of the Wake Robin group. Because of their slight fetid odor they are called Stinking Willie or Wet Dog Trillium. They can be highly variable, and we were in another exciting area where we were spotting many color forms--dark red to maroon, white to cream to pale yellows, rose to violet, with various exact examination and with keys we would have discovered that we were looking at some of the variations of *T. simile* and the nodding *T. rugelii*. It was beautiful country!

Before returning to our cars, Julie Moore took us to a serendipity find near the parking lot, a nice colony of the Whorled Pogonia, *Isotria verticillata*.

On Sunday we drove to Brevard to explore the mountains of Charlie Moore. He is a retired Duke Power employee who has found and photographed hundreds of Southern Appalachia's wildflowers, and who has lovingly shared over the years his knowledge, his plants, and his property with literally thousands around the world from England to Japan. Our gracious host met us on his parking grounds to lead us through many interesting and varied habitats along streams, bogs, up and down the hills.

I shall never forget visiting his property on a field trip many years ago in the sixties and seeing for the first time that amazing, spectacular *T. vaseyi*. I was dazzled! Was it possible for a Trillium to be so beautiful?! Here again were the splendid displays of that wondrous flower. Several years ago he cleared along the paths so that his visitors might get a better view of them. Unfortunately, the deer noticed too and helped themselves to *T. vaseyi*, eradicating for a time large colonies.

We spotted a few Painted Trillium, *T. undulatum*, which were not in bloom. Its bluegreen-coppery leaves with conspicuous petioles make this pedicellate Trillium fairly easy to identify when it is not in flower. The white flowers are marked with a red inverted "V" at the base of each petal and the mature ovary is a red berry rather than a fleshy capsule. This showy and distinctive Trillium is the most difficult to cultivate since it prefers the cool acid condition of bogs and hemlock or spruce-fir forests in the mountains.

Most of the Trillium, both sessile and pedicellate already mentioned, were pointed out at various places along the trails.

Our big find on one of the upper paths was a small Trillium from Alabama. *T. decumbens*, a sessile maroon petaled, mottle leaved Trillium derives its name from its growth habit: stem of flowering plant decumbent, leaves nearly resting on leaf litter. It looks like a stepped on *T. cuneatum*.

Close to the parking area beside the creek was the Moore's picnic area where our thoughtful host and hostess provided their hungry and thirsty guests with lemonade and cookies.

We were all happy to have sampled the height of the Trillium season in the best of Trillium country with expert guides.

Emily Allen

- - - - -

Emily Allen gardens in Winston-Salem and is a past president of the NC Wild Flower Preservation Society.

NORTH CAROLINA STATE PARKS and NATURAL AREAS

Every couple of years there is a flurry of stories about the poor condition of our State parks and natural areas. Most of the stories coincide with the meeting of the General Assembly and are put out with the hope of gaining support of legislators to spend some money. This year has been no exception. Several high level reports and a number of in-depth studies by newspaper reporters focused on the problem. Results? Very little in the way of action by the General Assembly to meet a long list of needs submitted by the division of State Parks and Recreational Areas for 1987-89. With few exceptions the General Assembly has not seen fit to meet the very real needs of the State Park System. Why should this be?

Legislators have the perception that there is very little support for parks and recreational areas among their constituents. I believe they are right. I belong to three groups--North Carolina Wild Flower Preservation Society, Friends of State Parks, and B. W. Wells Association--whose total membership, thinly dispersed across the state, is not over 1000. Of these 1000 dues-paying members, not over 10% have been active in supporting the statewide program presented to the General Assembly by the Department of Natural Resources and Community Development (NRCD). This is not to say that certain individuals and groups have been unable to influence legislators to deal with local problems. For example, in the 1987 budget about 2 million dollars was allocated for a new recreational area at Lake James and about half a million dollars ear-marked for a facility at Waynesborough. Neither of these projects was in the programs submitted by DPR, but they had the undivided attention of two legislators with strong local support.

Attempts are being made to develop local support groups for parks and recreational areas. The Adopt-A-Park and Adopt-A-Trail programs are examples of such efforts. With the help of small (\$200-\$1000) grants, local groups are developing trails, writing wild flower brochures, and making trail maps. I believe that we need to expand these programs. Local support groups can then demonstrate to their local legislators that additional state funding is needed to support the State Park System.

Perhaps members of the NCWFPS could develop support programs for parks and recreational areas in their immediate vicinity. The Society might even consider awarding small money grants to enhance the activities of these local groups. I know of only two local or regional groups now active--Western Carolina Botanical Club and Rockingham County Naturalist Club. Is there an interest for organizing similar groups? Let the officers of NCWFPS know.

Ray Noggle

* * *

Be sure to read "Wildflowers of the Waning Year" in the October issue of Wildlife in North Carolina. The article was written by Harry Ellis and he also made the beautiful photographs.

* * *

The Corn Song

Heap high the farmer's wintry hoard!
Heap high the Golden Corn!
No richer gift has Autumn poured
From out her lavish horn!

John Greenleaf Whittier

THE UNIQUENESS OF OUR MOUNTAINS--Paired Species

We are fortunate in North Carolina to have beautiful mountains covered with green, of mostly rolling and gentle shapes, for beauty and recreation.

The mountains of the southern Appalachian range are unique. The vegetation of these mountains provides us with records of changes and separations from other parts of the world millions of years ago. To botanists the most interesting of these changes is the evidence of stranded plants. One specific recorded event is the breaking of the old land bridge from Eurasia and Scandinavia. Scientists have recorded the presence of some plants growing mainly in the Appalachians and in eastern Asia today, with fossilized remains of these same plants in Greenland and Europe. An example of this is our tulip tree, *Liriodendron tulipifera*. The only other living *Liriodendron* species is found half a world away in temperate China. Although they were descended from common ancestors, continental drift and changing climates isolated these descendants on the eastern sides of the major continents where moisture is more or less available all year and the climate is temperate. There were once tulip trees in Europe but these were lost at the time of the last glaciers. These more-or-less twin plants are called "paired-species." Their development has been similar under similar conditions even though any genetic exchange probably stopped anywhere from 65 to 100 million years ago. The scientist Sir Joseph Hooker claims "of all the plants that migrated southward before the glacier, those in eastern North America and eastern Asia were the only ones that did not meet adversity in the form of mountain barriers." Other examples of paired species between the eastern United States and Asia are sassafras, blackgum, and our famous ginseng. The

American member of these pairs is growing today in association with plants such as tulip tree, blue cohosh, magnolia and sweet gum; plants whose ancestors were eliminated from Europe by the glacial freeze.

The composition and habitat of the southern Appalachian cove areas suggest that they are a sample of forests from other parts of the world. This may suggest to you, on your next trip to the North Carolina mountains, that millions of years ago physical upheaval and climatic changes contributed to make them very special.

- - - - -

The above article was given by Dorothy Wilbur of The North Carolina Botanical Garden on WUNC Radio October 5, 1987. Peter White and Virginia White contributed to the information. Dorothy can be heard every Monday morning and afternoon on WUNC Radio, 91.5 on your dial.

* * *

The Chinese made the first insecticide in the first century B.C., using dried, powdered chrysanthemums to kill fleas, according to The World Almanac Book of Inventions by Valérie-Anne Giscard d'Estaing. This insecticide, called pyrethrum, gained popularity in Europe in the 18th century and is widely used today in both dust and spray forms because it rapidly kills flying insects with little effect on humans and domestic animals. To be effective, pyrethrum must come into contact with the flying insect.

Gardening for Love, The Market Bulletins, by Elizabeth Lawrence, Duke University Press, Durham, N.C., 1987. \$15.95.

Miss Lawrence relates, in her clear, clean prose and with a great deal of affection, her correspondence with the people, mostly farm women, who sold plants and seeds through the southern market bulletins.

She was a devoted member of The Wild Flower Preservation Society and died in 1985 at age 81. Her influence through her books and her generosity in giving plants from her garden lives on.

* * *

50 GREAT UNCOMMON PLANTS

Dr. J. C. Raulston wrote about 50 Great Uncommon Plants in the June 1987 issue of The Avant Gardener.

Dr. Raulston is Professor of Horticultural Science at North Carolina State University, and Director of the NCSU Arboretum. The Arboretum is becoming internationally known both for the excellence of its plant collections and for its promotion and distribution program which is making available many new, rare or little-known plants to gardeners, not only in the Southeast but across the country.

Dr. Raulston wrote, "During the past ten years, over 5,000 species and cultivars of perennial landscape plants have been accumulated at the NCSU Arboretum for evaluation of their suitability for gardens of the Atlantic Coast Piedmont (USDA Zone 7, annual rainfall 43").

The plants have been acquired from almost every imaginable source: Commercial nurseries throughout North America, Europe, Asia and New Zealand; seed exchanges with botanic gardens everywhere; cuttings gathered from arboreta and public gardens in many countries; and seed from native plants in wild stands on collecting trips.

During the past five years, a wide variety of weather records have been broken at the test site, such as the coldest temperature in history (-7°), the earliest hard freeze in autumn, the latest hard freeze in spring, the hottest summer, the driest summer (combined ironically with the wettest August!), and others. Plants which have survived all these look promising.

For this article, I have selected 50 outstanding plants. They encompass a wide variety of landscape uses. Some are either extremely new or rare, others have been available for many decades, but all are generally uncommon in commercial channels of our region. A few are widely grown in certain regional markets."

Among the native plants he listed were:

Liquidambar styraciflua 'Rotundiloba.' The American sweetgum is a superb tree from the Southeast which is widely used on the West Coast as well as in Asia and Europe. With great stress tolerance, rapid growth, handsome foliage, good fall color, etc., it is among the finest of urban trees--marred only by abundant "gumball" fruit. This fruitless sweetgum was found in the wild in North Carolina in 1930, but has never been produced commercially. In addition to never producing fruit, it is also distinctive in having rounded lobes on the leaves rather than the normal star shape. Fall color varies from year to year and throughout the tree with leaves from yellow to dark burgundy.

Magnolia ashei. The several huge-leaved magnolias native to the Southeast have the most spectacular foliage of any temperate-zone trees, with leaves reaching from 12" to 30" in length. Most are very large trees which do not bloom at an early age or where the flowers can be observed up close. *M. ashei*, the dwarf bigleaf magnolia, is essentially a dwarf form of *M. macrophylla*, with the same 15" to 25" long foliage on a compact plant which begins to produce its 8" to 10" blooms when only 2' high. Though plants can reach 20 feet, it is normally seen in the 4' to 8' range. It provides an exotic subtropical effect in most areas with sun or light shade, and is best where strong winds will not tear the beautiful thin leaves.

Pinckneya pubens, feverbark or hardy poinsettia tree. This rare monotypic genus is native only to the Southeast. It is a shrub or small tree to 20 feet with 4" to 7" pubescent leaves and showy inflorescences in July up to 12" in diameter with large pink bracts much like a poinsettia. White and rose forms have also been found.

Leucothoe populifolia. This handsome large shrub reaching 6' to 10' has cream-colored flowers in late spring. Garden plants do well in full sun if moisture is available, and they have not foliage-scorch even at below 0° in sun.

Vaccinium crassifolium. 'Bloodstone' and 'Well's Delight,' creeping blueberries. These two cultivars of an evergreen groundcover native to the Carolinas were introduced by NCSU in 1984 and could become major landscape plants in many areas of the U.S.

Gelsemium rankanii. The Carolina jessamine (*Gelsemium sempervirens*) is one of the finest and most widely grown evergreen vines in the Southeast. Its popularity is warranted by the handsome, dark green, dense, medium-textured

foliage, rapid growth, golden flowers in February to April, and tolerance of sun and shade. The very rare and little-known *G. rankanii* adds another trait: in addition to spring bloom, a profusion of flowers are also produced in late fall.

Baptisia pendula, wild white indigo. This beautiful perennial native to the southeast Piedmont region is essentially unknown as a garden plant. Our plant is now over 4' in diameter and produces a profusion of flowering stems in May topped by 2' long inflorescences of pure white flowers against dark stems. Strongest flowering occurs in full sun, and bloom lasts two to three weeks. After flowering, the foliage is attractive and remains until frost.

Dr. Raulston listed *Lygodium japonicum*, Japanese climbing fern (Schizaeaceae) and describes it as follows:

This handsome herbaceous perennial vine appeals with the novelty concept of a fern with spiraling stems which climb to a height of 6-8 feet. In reality the true stems are underground horizontal rhizomes and what appears to be vining stems are the greatly elongated leaf midribs. When killed by autumn freezes, the foliage turns brown and remains until physically removed for regrowth of new "shoots" in late spring. The very lacy and attractive foliage makes an appealing fence cover or the plant can be used to climb through the branches of leggy shrubs. Fairly uncommon in commercial trade. Propagated by spores or by division of clumps into individual rhizome pieces.

This fern was given to me many years ago by Elizabeth Lawrence with the warning that in time it would seed all through our garden. And it has! If any member of the Society would like it, call me (919-243-3005) and come get it for your garden.

Linda M. Lamm

1988 WILD FLOWER OF THE YEAR

The North Carolina Botanical Garden and The Garden Club of North Carolina, Inc., are co-sponsoring the Wild Flower of the Year Project for the seventh consecutive year. The project's aim is to actively promote throughout the state and region an attractive North Carolina wild flower. Black-eyed Susan, *Rudbeckia fulgida* var. *sullivantii* has been selected as the Wild Flower of the Year. Members of more than 580 garden clubs and other enthusiastic gardeners throughout North Carolina will be promoting this fine native perennial for cultivation in home gardens and landscapes during the coming year. Garden centers and nurseries are encouraged to participate by propagating Black-eyed Susan for sales during 1988. By demonstrating that Black-eyed Susan, along with many other North Carolina wild flowers, is easy to propagate, we can establish an effective alternative to the commercial digging of our native plants from natural areas.



This sun-loving native perennial is perfectly happy in any average garden soil. It eventually forms neat clumps by sending out short underground runners. It is never aggressive or weedy and is easy to control.

Black-eyed Susan is attractive in large beds by itself or mixed with other plants. It is especially attractive when used in combination with blue or white flowers, or with some of the silver or gray foliage plants like Artemisia.

In a mixed perennial/annual border Black-eyed Susan is usually planted in clumps in the front or middle depending on the overall size of the border. Another way this durable plant is sometimes used is planted in medium or large pots on a deck or patio along with a few annuals for season-long color. A nice feature of this particular Black-eyed Susan is its great durability. It is a sturdy and compact plant that almost never needs staking. Like all garden plants it benefits greatly from routine watering, especially through dry periods.

For more information on Black-eyed Susan and for additional seed for special projects, please send your request with a self addressed legal size stamped envelope to:

1988 Wild Flower of the Year
North Carolina Botanical Garden
University of North Carolina
Totten Center 457A
Chapel Hill, NC 27514
(Phone 919-967-2246)

* * *

DIRECTORY TO NORTH CAROLINA'S NATURAL AREAS

A guide to many of North Carolina's most outstanding natural areas has been published by the N.C. Natural Heritage Foundation. The "Directory to North Carolina's Natural Areas" describes 108 natural areas which are accessible to visitors. The 98-page book also explains the natural landscapes and habitats of the state's regions-- Mountains, Piedmont, Coastal Plain, and Barrier Islands-Estuaries. Readers are informed about current efforts to protect our state's threatened natural areas and native plants and animals. The guide's author, Charles Roe, is manager of the North Carolina Natural Heritage Program. The directory presents descriptions of natural areas and their locations in most of the state parks, state wildlife gamelands, estuarine reserves, and many others in national parks, wildlife refuges, and national forests, as well as preserves owned by the N.C. Nature Conservancy, other private conservation groups, university biological reserves, natural rivers, and some privately-owned fee-admission areas. Proceeds from sale of the directory will be used by the non-profit Natural Heritage Foundation to finance other environmental education and land protection projects.

The directory may be purchased from the N.C. Natural Heritage Foundation, P. O. Box 11105, Raleigh, N.C. 27604. Single copies cost \$5.00 including tax and postage. Multiple copies may be purchased at reduced cost.

* * *

The First Thanksgiving Day, 1622. (Stanza 2)

And therefore, I, William Bradford
 (by the grade of God today,
And the franchise of this good people),
 Governor of Plymouth, say--
Through virtue of vested power--ye
 shall gather with one accord,
And hold in the month of November,
 Thanksgiving unto the Lord.

Margaret J. Preston
(1820 - 1897)

Tipularia

A BOTANICAL MAGAZINE

Published by the Georgia Botanical Society November 1986

When the Georgia Botanical Society began plans for its 60th anniversary in November of 1986, it was decided to attempt the publication of a botanical magazine, something more ambitious than our usual newsletter but definitely not a technical scientific journal. We wanted a publication that would appeal to our members, most of whom are amateur wildflower enthusiasts, and would have informative articles about the plants and botanists of Georgia.

Like many other botanical journals which are given the scientific name of some plant genus, our magazine is known as Tipularia, after the crane-fly orchid, which is common throughout the state. We expect to publish two issues each year, and the first two issues appeared in November, 1986, and May, 1987. The third issue will be out in November, 1987. We have been fortunate to have as founding executive editor Margaret Shannon, a retired reporter for the Atlanta Journal.

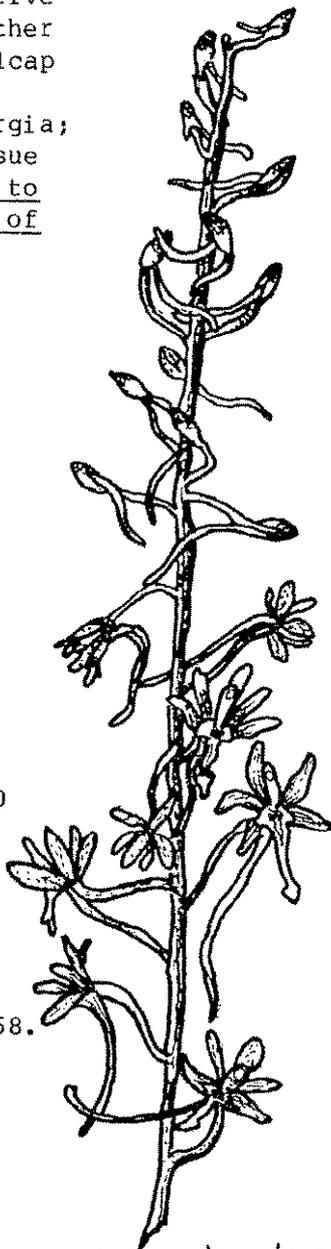
The first issue featured articles about the history of the Georgia Botanical Society, the ecology of sag ponds (similar to lime sinks) in northwest Georgia, hunting for wild Franklinia now known only in cultivation, our namesake Tipularia orchid, the book Oaks of North America written by one of our members, and the artist-naturalist John Abbott who spent most of his life painting insects and plants in Georgia. The second issue included articles on the hairy rattleweed (Baptisia arachnifera), an endangered species of southeastern

Georgia; Wilbur Duncan, the state's premier botanist of today; endangered species in general; is Shortia native in Georgia?; pitcher plants and other insectivores; large-flowered skullcap (Scutellaria montana), an endangered species of northwestern Georgia; propagation of rare plants by tissue culture; and the book Field Guide to the Ferns and Other Pteridophytes of Georgia, by another one of our members.

Tipularia is received without extra charge by the Society's members. Many new members joined a year ago because of publicity about the magazine. A number of Tipularia associate memberships have been taken by individuals and institutions, including the New York Botanical Garden. Exchanges of publications have been initiated by the Denver Botanic Gardens and the Botanischer Garten in Berlin, Germany.

Dues of the Society are \$12.00 per year, and the Tipularia associate membership (receiving only the two issues of Tipularia but not newsletters) is \$7.00. Inquiries about membership should be sent to Sally S. Emory, 7575 Rico Road, Palmetto, GA 30268.

David L. Emory



Tipularia discolor
(enlarged)

YANCEY RESIDENT DISCOVERS RARE MOUNTAIN HEATHER

In 1818, botanist Thomas Nuttall traveled through the mountains of Western North Carolina. Although there were few roads or trails, he managed to climb and scramble his way through the thickets of laurel and brush, collecting and identifying plants.

Some of these plants were extremely rare, found only in North Carolina. One of these was so rare that he found it in only one county, and it bears his name, the *Hudsonia Montana* Nuttall, called mountain golden heather.

This delicate ferny heather survives on a ridge above Linville Gorge, where it clings precariously to bare quartzite rock. In the 1960s and '70s, there was some concern that it might be disappearing completely.

Since it is found only in North Carolina, state officials have been on the lookout for more examples of *Hudsonia* ever since its discovery 170 years ago.

This spring, a keen-eyed amateur naturalist, Carol Henry of Yancey County, discovered the plant in a new location many miles away from Linville Gorge.

Walking on a little-used trail, carrying her book on Wildflowers of North Carolina, she noticed the small unusual plant. She had observed and identified the very same plant three years earlier but had been unable to persuade herself or others that this was truly the rare *Hudsonia*.

After rediscovering it this spring, she mentioned it to a friend, Karen Hyman of Asheville. Hyman is a free-lance biologist who contracts with

the state, searching the western counties for unusual and rare plants. Henry's description sounded convincing to her.

Hyman telephoned Alan Weakley, a botanist with the Natural Heritage Program. Its staffers keep records of plants and search for rare species and old growth forests.

Weakley was very interested in the discovery and told Hyman and Henry to go to the plant together and report back as soon as possible. Hyman called immediately after the trip to report "Hudsonia!"

Weakley came from Raleigh and Henry and Hyman took him to the plant. He told Henry this was the most important botanical find in North Carolina in five years.

About two weeks later, Weakley was joined by Nora Murdock, a biologist with the Endangered Species Office of the U.S. Fish and Wildlife Service. Weakley and Murdock spent two days searching the surrounding outcroppings and ledges for more Hudsonia. It blooms with a small yellow flower in June and July and thus is a little easier to see this time of year. But they have been unable to find any other examples.

The discovery of this plant in a new location has meaning on several levels. Hudsonia is so rare that it is one of only six native plants in North Carolina on the Federal Endangered Species list. A great deal of effort has been put into counting, nurturing, and protecting the few existing plants.

In 1980, the U.S. Fish and Wildlife Service began studying this mountain golden heather and soon discovered that its numbers, already small,

were dwindling. The cause of the decline is not yet known.

Murdock explained the point of putting so much concern on this humble and rare heather. Each living thing is an indicator of the health of its environment. If one of those living things disappears, part of the abundance and variety of creation is gone forever.

Such disappearances and declines are also a warning to human beings that the larger environment is changing. It is a sign that our own ecosystem is in trouble.

The natural habitat has clearly changed for the Hudsonia. Many plants living on the rim of the Blue Ridge Mountains, including Hudsonia, are probably part of a natural fire-managed ecosystem.

Fires caused by lightning burned down the growth every five to 10 years, giving new opportunity to a wide variety of species, some of which would otherwise eventually take over from the rest. Certainly campers have unwittingly built fires right on top of some of the Hudsonia, and the heather has grown right back from its roots. The old names on the maps are another clue; Burnt Mountain and Singed Cat Ridge, for example.

Prescribed intentional burns occasionally take the place of nature. The proliferation of houses and development makes it impossible to allow natural and uncontrolled lightning fires any more. The effort to protect the forests from wildfire has had repercussions in these special situations.

Though the future of such endangered species is unknown, the U.S. Forest Service in its new 10-year plan is taking into account the old trees and the rare plants. With the help of the Natural

Heritage Program and the Fish and Wildlife Service, it has designated 45 areas needing protection in their special management category. More, such as the Hudsonia location, will be identified.

Marilyn Cade, Correspondent
Asheville Citizen-Times



Mountain Golden-Heather

THE IMPORTANCE OF WILDFLOWERS

Wildflowers have special meaning to us all--a natural canvas on which annually is painted a wide array of colors and textures. They provide a sense of continuity and hope that comes with the changing of seasons. We now know that these very plants which offer so much beauty can be utilized for the nation's economic and environmental benefit. Wildflowers lift our spirits, enrich our lives and, as we are just beginning to learn, improve the environment which surrounds us.

Wildflowers are hardy survivors but we need to know more about how best to propagate and grow them. While much is known in theory, there is a great deal to be learned and researched about the contributions that these native flowers and plants can make in improving the quality of our future, in addition to beautifying our lives.

The use of wildflowers can save water and literally millions of dollars in maintenance costs and upkeep of public spaces and roadways. They can have numerous beneficial effects on our environment. They can economically beautify industrial sites and country lanes alike and provide alternatives to conventional residential and commercial landscaping.

We need additional knowledge of propagation and management techniques before wildflower landscapes become a dependable alternative in suitable areas. The National Wildflower Research Center was created to further our knowledge of these beautiful gifts of nature and to stimulate research and education about their preservation, propagation and use throughout our nation.

Your involvement and support is critical to the future of the Center's efforts.

The National Wildflower Research Center requires broad support. Financial support for research, willing volunteers and sharing of information about wildflowers and native plants through the Center's Clearinghouse are critical to its successful future. Please send donations to:

National Wildflower Research Center
2600 FM 9732 North
Austin, Texas 78725

* * *

"Wild Orchids of the Middle Atlantic States" was published by the University of Tennessee Press. North Carolina is among those states, and the book makes a wonderful addendum to C. Ritchie Bell's "Wild Flowers of North Carolina."

In this book written by Oscar Gupton (who earned his doctorate at UNC-Chapel Hill), and illustrated by Fred Swope, 52 terrestrial orchids are presented. A page is devoted to a photograph of each orchid, taken in natural light in the wild. The facing page of text tells about the appearance, locale and habitat of the orchid.

By providing this information about our native orchids, the author and illustrator, both professors of biology at Virginia Military Institute, hope to encourage readers to appreciate the orchids and to develop an interest in maintaining wild habitats.

If you cannot locate this book, write directly to the University of Tennessee Press, 293 Communications Building, Knoxville, TN 37996.

PROTECTING NORTH CAROLINA'S RARE FLORA

In many ways, a hike through the mountains of North Carolina is like a tour through an art gallery. Each rise in the terrain or bend in the path unveils a new exhibit: grassy ridges rising to cool coniferous forests; hemlock bluffs towering above humid coves; and mountain meadows surrounded by slumbering peaks are only a few examples of what one can hope to see. Very few galleries boast the diversity of exhibits found in the mountains, and certainly, very few geographic regions rival the North Carolina mountains in terms of habitat and plant diversity. What makes the mountains special?

Throughout North Carolina, temperature, moisture, geology and soil variables have combined to create a diversity of plant habitats. In the mountains, these variables are intensified by differences in elevation and aspect (exposure to sunlight), resulting in even more opportunities for plant diversification. The mountains of North Carolina support a myriad of habitats and an equally diverse group of plants, many of which are rare.

In fact, the mountains, which occupy only one-fifth of the state's land area, are home to half of North Carolina's rare plant species and almost as many of its rare habitats. The ratio of land area to rare plants may seem contradictory, but the very reason for this skewed ratio lies in its skewness!--high concentration of uncommon habitats in a small geographic area is bound to lead to rarity, because humans can easily (and often unknowingly) disturb, destroy, and hence, make uncommon habitats rarer. Considering that habitats and their related species go hand in hand, it is understandable that when a habitat becomes rarer, the species which depend on it will become rarer, too.

Species Highlights

The story of the **Bog Rose** (*Arethusa bulbosa*), tells how natural events rendered it a Threatened species in North Carolina. Botanists call it a disjunct species, one that is separated from the range where it commonly occurs. The presence of bog roses in North Carolina (360 miles away from its main range of southern Canada to New York) is due to the cooling of the earth 10,000-20,000 years ago!

As the temperature lowered, more snow fell and created new glaciers that crept southward over the present northern United States. The climate of the entire continent cooled. Consequently, many northern plants that were unable to survive the ice and new temperatures "migrated" southward to a more agreeable climate. Of course, the plants themselves did not move, but due to the greater survival of seeds that were dispersed to the south, the Bog Rose and other species gradually "leap-frogged" their way to North Carolina.

The Bog Rose was not a common resident of present-day North Carolina for long, though. Once the temperatures and the glaciers retreated, the species "returned" to its original home in the north, leaving small disjunct populations of bog roses behind. These stragglers found refuge in the cool, high mountain bogs of North Carolina--the only Bog Rose habitat remaining in the south. Today, there are less than ten of these bogs in North Carolina and only four in which Bog Roses occur. Fortunately, owners of two of these bogs have agreed to protect them from disturbance and destruction and in doing so will protect the Bog Roses within.

Oconee Bells (*Shortia Galacifolia*), an evergreen plant with glossy leaves and nodding

flowers, was destined a place in botanical history. In 1788, Andre Michaux, a French botanist, discovered this plant along a river bank in western Carolina. In keeping with his mission of collecting all plants of potential value to France, he sent a specimen of the unidentified plant to the Paris herbarium (a library of pressed plants). The specimen laid there for fifty years until Asa Gray, an American botanist, unearthed it. Intrigued by its description that read "Hautes montagnes de Caroline," Gray searched for the plant on his next field trip to the Carolinas, and continued to do so, without success, for the following thirty-eight years!

Finally, in 1877 (89 years after the original collection), Gray received a specimen of the mystery plant from a man curious to know its name. It was then that Gray realized he had been misled by Michaux's description, "High mountains of Carolina," because the specimen sent to him had been collected along a stream in the foothills. Gray was obviously more fond of the mystery plant than he was frustrated by it--before he died, he requested that Oconee Bells cover his grave!

Oconee Bells is endemic (restricted in its range) to the foothills of North and South Carolina where high humidity and high moisture create its ideal habitat. When Gray searched for the plant it was undoubtedly common, but today Oconee Bells is an Endangered species in North and South Carolina. Endangered endemics are of particular concern to North Carolina botanists, because the survival of the entire species is largely dependent upon its success in North Carolina.

The precarious status of Oconee Bells is due somewhat to past mass collection of the plant as an ornamental, but primarily to the destruction of its habitat. In North Carolina the construction

of dams, lakes and bridges has destroyed half of its populations. To discourage collection of Oconee Bells from the wild, the sale of cultivated plants of this species is permitted as long as the plants are accompanied by a protected plant permit.

The decline of the elegant Gray's Lily (*Lilium grayi*), a Threatened species in North Carolina, began with the advent of mountain farming. One by one, the wet mountain meadows on which it depends, were turned under and converted to pasture. In addition to habitat destruction, the plant is plagued by its own beauty. The graceful bell-shaped flowers that are so enticing to hummingbird pollinators are equally enticing to humans. To reduce the threat of collection, the sale of cultivated Gray's Lilys is permitted.

Gray's Lily is endemic to the mountain meadows of North Carolina, Tennessee, and Virginia. Today, there are 20-30 Gray's Lily populations remaining in North Carolina. Fortunately, almost half of these populations occur on protected land.

Plant Conservation Program

The Plant Conservation Program (in the N.C. Department of Agriculture) helps preserve rare plants in the mountains and throughout the state. The program was established in 1979 with passage of the Plant Protection and Conservation Act. As the endangered plant agency for the state, the Plant Conservation Program is responsible for the monitoring, surveillance, listing and protection of North Carolina's rare and endangered plant species. These efforts are greatly enhanced by the work of the Natural Heritage Program (in the N.C. Department of Natural Resources and Community Development), the N.C. Nature Conservancy, and the N.C. Botanical Garden. The program is also taking a preventative approach to plant preservation by offering educational materials to the public.

In light of the state's rapid urbanization and land development, YOU are the greatest asset to the preservation of North Carolina's rare flora. As an informed citizen, you can help prevent the unnecessary loss of rare plants by helping to ensure that rare habitats are preserved. Suitable habitat for rare plants occupies only a small fraction of North Carolina's total land area. Therefore, by familiarizing yourself with the rare plants of your area, by taking an active role in community land-use planning, and by supporting the establishment of natural areas, you can make an impact on the preservation of North Carolina's natural heritage and ecological health!

Would You Like to Know More?

If so, please request any of these publications from the Plant Conservation Program office:

- * Brochures on the rare flora of the coastal plain and piedmont.
- * Brochure on the Plant Conservation Program, other preservation organizations, and their approaches to preserving rare plants in North Carolina.
- * A technical discussion about rare plants: the various types of rare plants and how they are ranked.
- * Statewide lists of Endangered, Threatened, and Special Concern plant species.
- * Reasons why you should care about saving species.

* * * * *

If you have questions about or would like to request additional publications or information on North Carolina's rare flora, please contact:

The Plant Conservation Program
North Carolina Department of Agriculture
P. O. Box 27647, Raleigh, NC 27611
(919) 733-3610

WHITE PINES PRESERVE IS 200TH
REGISTERED NATURAL AREA

The first of several privately-owned properties composing the White Pines Natural Area has been designated to the North Carolina Registry of Natural Heritage Areas. It became the 200th registered natural area when the Triangle Land Conservancy, a nonprofit regional land trust, registered its 40 acre tract near the confluence of the Rocky and Deep Rivers in Chatham County. Triangle Land Conservancy (TLC) has an option to buy another 96 acres if its current fund-raising campaign is successful. Voluntary protection agreements from other private landowners in the area are anticipated.

The White Pines area appears to be more like an Appalachian mountain site than a forest in the eastern Piedmont. The steep, rocky slopes above the confluence of the Rocky and Deep Rivers are covered with purple rhododendron and mountain laurel. Most unusual is the presence of white pines, far eastward of their general range. This reproducing stand of white pines is a relict of the cooler climates of the last Ice Age and holds great scientific interest. The pines dominating the bluffs stand below a ridgetop oak and hickory forest, and tower above a bottomland forest. Wildflowers carpet the slopes. Abundant wildlife inhabit the forest and rivers. The nationally endangered Cape Fear shiner, a small fish, clings to existence in the Deep and Rocky Rivers. The Triangle Land conservancy has dedicated itself to the protection of this beautiful and fascinating natural area, only a short distance from the urban centers of the Research Triangle.

* * *

The Triangle Land Conservancy actively seeks donations for land acquisition, study and management. For more information on the TLC, the White Pines Preservation Project and fund-raising information, contact Ann Carter at 2108 Dunnhill Drive, Raleigh, NC 27608; 833-4859.

MORE INFORMATION ON CREEPING BLUEBERRIES

Listed below are nurseries or individuals who acquired 'Wells Delight' and 'Bloodstone' when they were released. Assuming they were successful in growing and propagating the two cultivars, plants should be available this fall or next year. Contact one or more of them about availability and price. A reprint of our "Cultural suggestions for creeping blueberries" is also provided.

Pending publication in Systematic Botany of the final manuscript from my dissertation, the correct nomenclature on these two cultivars will be as follows:

Vaccinium crassifolium subsp. crassifolium
'Wells Delight'

Vaccinium crassifolium subsp. sempervirens
'Bloodstone'

Potential Sources of 'Wells Delight' and 'Bloodstone' Creeping Blueberries

1. Albertson's Garden Center - 3818 N. Main St.,
High Point, NC 27260
2. Apex Nurseries, Inc. - Route 3, Apex, NC 27502
3. Family Nursery - Route 1, Box 289, Vale, NC
28168
4. Finch Nursery - Bailey, NC 27807
5. Gurkin, R. Sean - Asst. Agri. Ext. Agent,
PO Box 926, Oxford, NC 27565
6. Hefner's Nursery - Route 4, Box 520, Conover,
NC 28613
7. Johnson, Joette - Route 1, Box 118, Ivanhoe,
NC 28447
8. Kelly Green Nurseries - 1301 Huntsmoore,
Gastonia, NC 28052
9. Plantworks Landscape Nursery - Route 2, Box
125-L, Rougemont, NC 27572

10. Nelson Nursery - PO Box 402, Mooresville, NC 28115
11. Simonds, Byron - PO Box 188, Winton, NC 27986
12. Taylor's Nursery, Inc. - 3705 New Bern Ave., Raleigh, NC 27610
13. Tinga Nursery - Route 1, Box 255, Castle Hayne, NC 28429
14. Tuchasegee Valley Nursery - Route 68, Box 195, Cullowhee, NC 28723
15. Turtle Creek Nursery - Mooresville, NC 28115
16. Wilder's Nursery - Route 2, Box 397, Knightdale, NC 27545
17. Windsong Landscapes & Irrigation - PO Box 159, Carboro, NC 27510

See NC Wild Flower Preservation Society's Fall 1984 Newsletter for more information on Creeping Blueberry Cultivars and the research Benson Kirkman has done on them.

* * *

The Thomas Jefferson Center for Historic Plants at Monticello is selling cuttings from original Monticello plantings as well as other historic varieties like antique roses and fruits, native azaleas and some species of local wildflowers.

The center is in the shuttle station of the estate's parking lot and is selling a limited quantity of plants, seeds and bulbs. Proceeds from the sales are used to support the center's educational activities as well as the study and documentation of plants that were once grown in American gardens.

Further information can be obtained by writing to the center, P. O. Box 316, Charlottesville, VA 22902

A BLOOMING RULE FOR NATION'S HIGHWAYS

Following the lead of highway planners from the Lone Star State, the federal government plans to sow native wildflowers along federal-aid highways throughout the country.

Texas highway officials have been sowing bluebonnets, Indian paintbrush and daisies along state roads for more than 50 years, a practice made popular by Lady Bird Johnson during the presidency of her husband, Lyndon B. Johnson.

Last month, the Federal Highway Administration published a final rule requiring that 25 cents of every \$100 in federal highway landscaping funds be used to plant native wildflowers.

The idea to sow the seeds of wildflowers nationwide came from Sen. Lloyd Bentsen (D-Tex.), who last winter guided legislation through Congress mandating the planting.

On the basis of Texas' results, the wildflower planting will not only beautify the nation's highways, but also save the taxpayers money, Bentsen said.

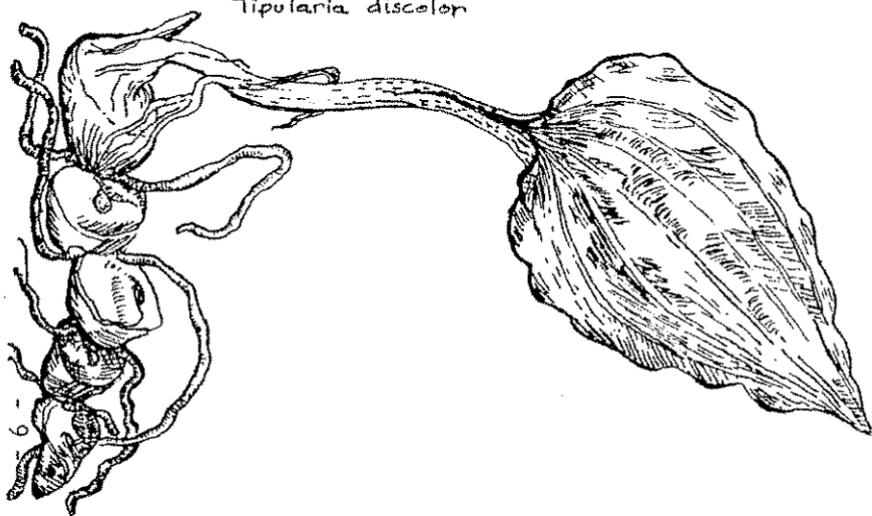
"Texas has worked on [a wildflower] program for 50 years, and they have found that it cuts down on the amount of mowing. You don't have to mow once a week. Instead you mow one or two times a season," Bentsen said. "You also find that people don't throw as much litter."

According to the new regulations, which became effective on September 14, wildflowers will be planted as part of any landscaping project undertaken on the federal-aid highway system.

A waiver can be obtained if a state certifies that native wildflowers cannot be grown satisfactorily, that there is a scarcity of planting areas or that the planting areas are to be used for agricultural planting.

"All but four states have some form of native-growth program already. Those states are Montana, Utah, Hawaii and Nevada," said Eugene Johnson, a spokesman for the highway administration. "But overall, the requirement will bring about more wildflowers along our highways throughout the country."

Tipularia discolor



MINUTES

The Board Meeting of the NC Wild Flower Preservation Society was held on September 27, 1987, at the home of Bob and Jane Welshmer. President Noggle presided, and the following board members were present: Eleanor Pegg, Emily Allen, Nancy Julian, Benson Kirkman, Floyd Rich, Julie Moore, Linda Lamm, Gretchen Cozart, Nell Lewis, Jean Stewart, Harry Phillips, Bob Tuggle, Tom and Elvira Howard.

Treasurer Gretchen Cozart reported a balance of \$3,362.30 in the regular account, and a balance of \$7,406.01 in the Scholarship Fund.

There was a discussion about the difficulty of finding Botany students who were interested in research money. Julie Moore suggested that the Society broaden its scope and not limit the scholarship funds just to students in college. She will talk with the Nature Conservancy about funding some of their mini-grants and to Rob Sutter about funding his research on plant protection for the state. Harry Phillips will contact students in the Southeast that may need scholarship money. The board agreed that this fund should serve any purpose that will protect and propagate native plants.

President Noggle gave a lengthy report on the lack of funding for environmental groups by the state legislators. He was especially disappointed in the lack of funding for state parks and recreation areas. The Nature Conservancy sponsored a bill to establish the Heritage Trust, and approximately \$200,000 will be used to purchase parcels of land that contain significant plants. This trust and some "pork barrel" money which funds small grants was the "good news" from the General Assembly.

Tom Howard, Jean Stewart, and Ken Moore agreed to serve on the nominating committee. They will present their slate of officers at the Spring Membership Meeting.

The Fall Membership Meeting will be held in Bladen County on October 31, 1987. The Society will visit the oldest stand of trees east of the Rocky Mountains, hear a talk from Larry Earley, of the Wildlife Resources Commission, canoe the Black River, and visit the Moore's Creek National Battlefield. Benson Kirkman is this year's leader.

Harry Phillips is making plans for the spring meeting to be held in Ashe County. The Society will tour Bluff Mountain and visit Lee's Nursery sometime in May.

New Business:

Floyd Rich invited board members to submit slides for a brochure that the Rockingham Naturalist Club is printing with Adopt-A-Park funds.

Jean Stewart moved that the board send a 2-year membership to the Conservation Council of North Carolina. The motion was approved. She also asked and received permission to send a copy of our newsletter to the NC Collection at the Wilson Library in Chapel Hill.

President Noggle reported that a self guided nature trail brochure was being developed for Rock Cliff Farm with Dr. Wells, Professor of Botany at NCSU.

Dr. Noggle adjourned the meeting.

Respectfully submitted,

Elvira Howard
Recording Secretary

WE WELCOME THE FOLLOWING NEW MEMBERS

N. C. WILDFLOWER SOCIETY

Alexander, Mrs. Karen
2416 Shenandoah Ave.
Charlotte, N. C. 28205

Boyles, Mr. Roger
4 Blake Drive
Pittsboro, N. C. 27312

Bruesch, Mr. John F.
8 Aqalina Lane
Connestee Falls
Brevard, N. C. 28712

Capel, Mrs. F. W.
Rt. 2, Box 1278
Thomasville, N. C. 27360

Dittmann, Mr. Lee
P. O. Box 2578
Cambridge, Ma. 02238

High Point Enviromental Ed. Center
1228 Penny Road
High Point, N. C. 27260

Howe, Mrs. George E.
P. O. Box 23
Sapphire, N. C. 28774

Knauff, Mrs. Doris
6200 Sharon Hills Rd.
Charlotte, N. C. 28210

Knox, Mr. John N.
1439 Canterbury S. E.
Alken, S. C. 29801

Land, Mrs. Ann
219 S. Rutherford St.
Wadesboro, N. C. 28170

Leager, Mrs. Samuel R.
3011 Randolph Dr.
Raleigh, N. C. 27609

Lighty, Dr. Richard W.
Director
Mt. Cuba Center
P. O. Box 3570
Greenville, Del. 19807-0570

Lindsay, Mrs. Charles
Rt. 7, Box 1127
Hickory, N. C. 28601

McCormick, Ms. Jennifer
113 Tall Oaks Rd.
Chapel Hill, N. C. 27514

Overman, Mrs. D.E.
2014 Julius St.
Winston Salem, N. C. 27106

Sands, Miss Sara
P. O. Box 115
Walnut Cove, N. C. 27052

Sharp, Mr. James H.
3737 Pineleaf Circle
Midland, N. C. 28107

Squier, Mr. Thomas K.
Rt. 1, Box 216
Aberdeen, N. C. 28315

Thomas, Mrs. Louise H.
Rt. 1, Box 128
Morven, N. C. 28119

Trapp, Ms. Stella
555 E. Main St.
Brevard, N. C. 28712

**NORTH CAROLINA
WILD FLOWER
PRESERVATION
SOCIETY, INC.**

900 WEST NASH STREET
WILSON, NORTH CAROLINA 27893

NORTH CAROLINA WILD FLOWER PRESERVATION SOCIETY, INC.

Mrs. S.M. Cozart, Treasurer
900 West Nash Street
Wilson, North Carolina 27893

MEMBERSHIP APPLICATION

Regular:	\$5.00	New	[]
Sustaining:	\$25.00		
Life:	\$100.00	Renewal	[]

NAME _____

ADDRESS _____

CITY _____ **STATE** _____ **ZIP CODE** _____



**North Carolina Wild Flower Preservation Society, Inc.
Totten Garden Center, 457-A, UNC
North Carolina Botanical Garden
Chapel Hill, North Carolina 27514**

**NON-PROFIT ORGANIZATION
U. S. POSTAGE PAID
Chapel Hill, N. C. 27514
Permit No. 375**