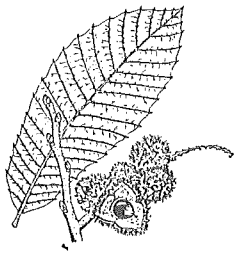
# Chinquapin

**The Newsletter of the**
**Southern Appalachian Botanical Society**



**Vol. 2, No. 3**

**Winter 1994**

## From The Editor's Desk.....

Perhaps there is not a population crush everywhere, but here in the hills of Cullowhee we have more students than ever this fall and they have so many needs about which to talk to the "professor." But don't we keep our inner youth alive by having them around!

Many of you found some of the last newsletter items of interest. I will cut my comments short and give the space to those who wrote. Perhaps you, along with me, will find stimulating thoughts from our readers.

A couple of writers addressed the issue of native and exotic plants. Nicky Staunton, President of the Virginia Native Plant Society, wanted a correction for the "Spotlight" article. The society wishes to discourage invasive exotics in landscaping, not all non-indigenous plants. Perhaps this oversight was my fault, since there was not enough time to get a review copy to the organization before the article went to press. Below is the letter regarding the issue. Stanwyn G. Shetler, Curator of Botany of the Smithsonian Institution, was prompted by Larry Mellichamp's brief essay, "Native or Exotic?" to provide a "somewhat different take" on the subject and we include his article below.

John Herr, Jr.'s timely article on "A New Role and Mandatory Responsibility for Herbaria" prompted Zack E. Murrell, Western Kentucky University, to send a brief essay on the value and utility of herbaria, which we also include in this issue.

## Wildflower Seed Available:

**From the North Carolina Botanical Garden:** Green coneflower or Sochani (Cherokee name) for *Rudbeckia laciniata* is being offered as the "Wildflower of the Year." Write and send stamped, self-addressed business envelope to: 1995 Wildflower of the Year, CB 3375, Totten Center, UNCC, Chapel Hill, NC 27599-3375.

**From the New England WildFlower Society:** Over 175 varieties of seeds or spores are available up until March 1, 1995. A catalog may be obtained for $2.50 from: Seeds, New England WildFlower Society, Garden in the Woods, 180 Hemenway Road, Framingham, MA 01701.

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## New order

### Sweats, Mugs, and Totes

We hope to offer updated logos on t-shirts, ceramic mugs, and tote bags by next year. The plan is to offer colored t-shirts with the SABS logo. Drop Larry Mellichamp a note if you wish any of these items.

## Castanea Back Issues

The special issue of the Barrens Symposium is available for $10.00 and regular back issues will be $6.00 starting in 1995. This price reflects the current production, handling, and shipping cost. Contact Secretary-Treasurer, Charlie Horn.

## 11 to go!

Only 11 more $100 donors are needed to complete the roster of 100. This year kicks off our 5-year drive toward the $200,000 endowment goal, and we hope to raise our $43,000 current total to $50,000 by the April 1995 meeting. This endowment will give us the possibility of funding some student scholarships, continuing the newsletter without special dues, and supporting the cost of the journal while reducing author page charges for publication. It will make a good investment in the future of our organization.

# Letters to the Editor...

**Eleanor Bush of Philippi, WV, writes:**

I am interested in your comments regarding "rock bars" and ... you asked [if]... "these systems present higher species diversity than other natural ecosystems?" (Newsletter, SABS, Vol. 2, No. 2, 1994).

Since 1965 I have spent many hours botanizing along Tygart Valley River, Barbour County, West Virginia near where I live.... Yes, there is diversity here!... Very little change in plant-life has occurred in the 25-year period since the paper was written. Dr. Earl Core visited the area on several occasions and encouraged me to write the paper.... Many West Virginia Rivers have rocky river banks and display a similar flora as is found on the Tygart Valley River.

**[Ed. Note:** Thanks for the personal historical account. The slides you included also give one a vision of how these areas looked 25 years ago. Our readers might like to refer to Castanea 41:283-308 for the description and catalog of plants along this river valley.]

**Nicky Staunton, President, Virginia Native Plant Society, Annandale, VA, writes:**

We have enjoyed the SABS "Spotlight" and we are pleased to have been "Spotlighted" in your last issue of CHINQUAPIN. We would ask though that a correction be made in the next issue of the newsletter.

"The Society also works with public to discourage the use of [invasive] exotics in landscaping...." the word invasive is essential when we are speaking of discouraging the use of non-indigenous plants known as "alien" or "exotic."

Virginia Native Plant Society does not oppose use of non-indigenous plants in landscaping; it is opposed to their use only when the alien plants invade native flora habitat to the detriment of the native flora.... Most of the members of the Virginia Native Plant Society are gardeners and I dare say that all use non-indigenous plants in the landscaping. In no way could it be construed that VNPS is against use of non-native plants - only those which threaten our native flora in its natural habitat. We are advocates of natives.

# Impact of Invasives

## to be Symposium Topic at SABS Spring Meeting in Knoxville

Dr. Nancy Coile of the Florida Department of Agriculture and Consumer Services Division of Plant Industry is bringing together a series of speakers to discuss the issue of the "Impact of the Invasives: Can These Exotic Weeds in the Southeast Be Controlled, and Can Habitats Be Restored?" Some of the species that are being considered are: *Sapium sebiferum* (Chinese tallow tree), *Melaleuca* in the Everglades, *Pueraria montana* var. *lobata* (Kudzu), *Alternanthera philoxroides* (Alligator weed), *Polygonum perfoliatum* ( Mile-a-minute weed), *Phragmites australis* (Giant reed), *Solanum viarum* (Plant from hell), *Schinus trebinthifolius* (Brazilian pepper), and *Striga asiatica*.

Specialists of each species are being sought for the presentations. The exact time and date is yet to be set, but the Association of Southeastern Biologists meetings will be held at The University of Tennessee in Knoxville, April 13-14, 1995.

# Alien Native or When Natives Are Not Natural

Larry Mellichamp's brief essay, "Native or Exotic?," in the fall issue of Chinquapin made some very useful points and prompted me to add a few comments of my own, which provide a somewhat different "take" on the subject.

Every plant sowed or transplanted is an alien or exotic, whether or not it is a native species of the region. The very act of transplanting or sowing is an active manipulation that in some measure, large or small, falsifies the history of plant migration and establishment in the area. In many ways, this kind of transplanting is more insidious than bringing in blatant exotics that clearly stand out. What would appear to be a "natural" dissemination is in fact an artificial one. Why, one might ask, is it more acceptable to play Johnny Appleseed with native introductions than with exotic introductions? The flip side of this is that an alien species can be more "natural" than a native one if the native plant has been transplanted and the alien species is a longtime naturalized species that has found its way to the new location by unassisted means.

Just what is "native" or "natural" anyway? Some presumptive aliens have been part of the North American flora for so long that there is no agreement on whether they are native or naturalized. The concept of "native" vs. "exotic" is very useful as long as one remembers the relativity of this distinction. There can be no absolute definition of "native," and no one will ever be able to create a definitive list of the "native" plants of North America. For starters, as Dr. Mellichamp points out, Native Americans did not make a list. Even with clearly naturalized plants that have been here for many years and have long since been spreading on their own accord, it is debatable whether they should be regarded other than as a part of the contemporary "natural" vegetation.

Is a species transplanted from the same premises, county, or state any more "native" and virtuous in the landscape than a species from a continent or half-a-continent away? An **introduction is an introduction is an introduction**, no matter the source. Those who use native species for landscaping should always be aware that they are concocting artificial landscapes, simulating but not creating natural ones. There may be many virtues in planting truly (i.e., unarguably) native species (e.g., preventing exotic invasions, gene pool preservation), but achieving a genuinely natural landscape is not one of them. However subtle the planting may be, the end result is the same— an introduced flora, hence a disturbed and falsified landscape. A plant, once ex situ, is introduced. Although it may be a locally native species, it no longer is a native plant in the purest sense, even if it has been moved only inches from its original location.

-- **Stanwyn G. Shetler**

# "Does a herbarium have any place in a Molecular Biology Department?"

Dr. Herr asked the question "Does a herbarium have any place in a Molecular Biology Department?" and then proceeded to answer this question by suggesting some services herbaria can perform for the molecular community. Although these service roles are important functions for herbaria (and molecular biologists definitely need to be more careful in vouchering their work), this is not the best answer to the initial question.

The value and utility of herbaria (as well as other museums) is presently being evaluated in various universities throughout this country. As academic institutions face tightening budgets, many see herbaria as non-essential. Limits on space in increasingly crowded classroom and laboratory buildings make herbaria inviting targets for removal and/or relocation. Because so many universities are currently deciding to de-emphasize or give away their herbaria, these decisions will have a profound effect on the broad field of biology, as well as on the value of herbaria at those universities that have the foresight to maintain these valuable resources.

It is important for researchers, professors, students, and administrators to understand that organismal and molecular biology can and should be studied in an integrated fashion. The artificial schism that exists, and appears to be widening, between "traditional" and "modern" systematists is counterproductive to the biological community. As we continue to explore genotypic variation in organisms (with a trend towards more molecular studies) there is an even greater need to understand phenotypic variation in order to compare the genetic makeup with the expression of these genes. Because of this link between genotype and phenotype, our need to understand organismal biology is increasing, not decreasing. Much of molecular biology has been descriptive (as was systematics up until the last 20 years), and the scientists involved in these descriptive studies need to put their findings in a phylogenetic context in order to draw conclusions and direct future research. This can only be done with an integrated analysis of both morphological and molecular data.

The herbarium should be a center for this training in botanical studies. In order to ask good questions and to search for the answers, every biologist needs to have some exposure to organismal biology. Those institutions with the foresight to understand how much work needs to be done in organismal biology will maintain their herbaria. Those institutions without this foresight will lose their herbaria, through neglect or outright give-aways. Those institutions unwilling to support herbaria (and organismal biology) will only lose in the long run, because the study of biology is unsustainable without a knowledge and an understanding of organismal biology.

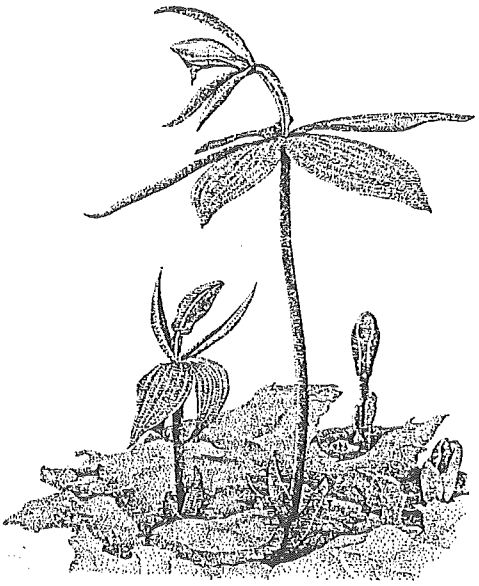
It is time for biologists to challenge the ill-conceived notion that the study of molecules can be divorced from the study of organisms. Simply because a method of biological research is "traditional" or inexpensive does not mean the research is not valuable. It appears that university administrators have conflated the funding potential for various studies with the quality of these studies. Biologists must demand that research be measured on the basis of quality and not on the basis of potential for greater grant overhead going to the universities.

The debate over the future of herbaria is not a debate between molecular and organismal biology, but a debate between good science and bad science. It is time for all scientists to realize that the de-emphasis of organismal biology will seriously undermine progress in the various fields of molecular biology, and act to support organismal biology before irreparable damage is done to the biological community. **–Z. Murrell**

# Small Whorled Pogonia Reclassified as Threatened:

## Protection on Private Land a Key to Further Recovery

The small whorled pogonia (*Isotria medeoloides*) has recently been reclassified from endangered to threatened status [Federal Register vol. 59, No. 193, 6 October, 1994]. About three times as many populations of the orchid are known now than when it was listed as endangered, and about twice as many known viable populations are now under permanent protection than the minimum required for reclassification.



**Copyright 1992, D.D. Tyler (Used by permission).**

[See the Federal Register for definitions of "viable populations."]

The change in status from threatened to endangered does not significantly reduce the level of protection, and if warranted, the species can be reclassified as endangered in the future. For it to be removed from the list altogether, permanent protection measures must be in place for at least 75% of the number of populations known in 1992, or 61 populations. In addition, an appropriate proportion of the sites must be located in each of the three "hot spots" for the species: New England, Virginia/Delaware/New Jersey, and the southern Blue Ridge.

**Cont. on page 28**

**Pogonia cont.**

Currently, these three sites have 66, 15, and 18 sites, respectively.

When the initial recovery plan for the small whorled pogonia was published (1985), only six state governments were protecting it; today all states where the species is extant give it at least some protection. All but three of these states protect it against "take" on private property without consent from the owner (in regard to plants, "to take" basically means to harm, destroy, or collect). However, it should be emphasized that in most states a private landowner can still destroy (etc.) a listed species occurring on his property without penalty or need for a permit.

The history of the first site where the small whorled pogonia was discovered in Virginia serves as a good illustration of both the need for voluntary landowner protection and the effectiveness of federal protection under the Endangered Species Act. The saga began when Prof. E. J. Grimes of the College of William and Mary published in the journal Rhodora (1921) that he had found the rare orchid near Williamsburg. This was its first report from a southern state. Then, in 1925, Morris and Eames, authors of Our Wild Orchids (1929), dashed down to Williamsburg from New York to photograph the orchids because they had learned that the site was "in danger of extinction" (probably due to a planned timbering project). That threat failed to materialize, and in the following years various faculty members at the College periodically checked on the colony and recorded stem counts. [The area apparently was selectively timbered during the World War II era].

The next threat came in the late '60s when Dr. J. T. Baldwin became so convinced that the site would soon be converted into a golf course that he wrote an article entitled "Obituary for an orchid" for Virginia Wildlife. That, too, was a false alarm—economic recession halted the development, and once again the site was reprieved.

Over the years, Grimes' colony was visited so often by botanists and was mentioned so frequently in the literature that noted orchidologist Carlyle Luer, in his book, The Native Orchids of the U. S. and Canada (1975), referred to it as the species' "most celebrated colony." However, by the time I began studying the small whorled pogonia, Dr. Baldwin had died (1974), and no one I talked to was certain about the location of the colony. My initial efforts to relocate it were not successful, but resulted, instead, in the discovery in 1982 of a different and much larger colony. This colony, the largest one known south of New England, was on private property (referred to hereafter as "property A"), and it was just downslope from the center line stakes for a new stretch of VA Rt. 199. Fortunately, *Isotria medeoloides* was federally listed as endangered that same year, and the highway corridor was rerouted.

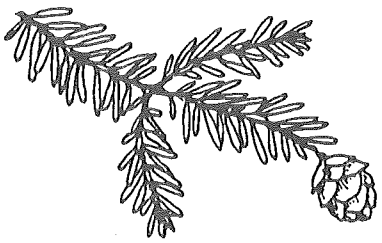
During the next several years, we located three more populations in this same general area, and thanks to written directions in the files of Dr.

**Cont. on page 30**

# Look Again

**(Reprinted from: Shortia, Autumn 1993, Newsletter of the Western Carolina Botanical Club)**

To most of us a hemlock is a hemlock, and if we don't push it too far we are correct. At least we learned long ago that the tea that did Socrates in was not made from the familiar evergreen tree but from a very different plant belonging to the Parsley Family—Poison Hemlock, or *Conium maculatum.*

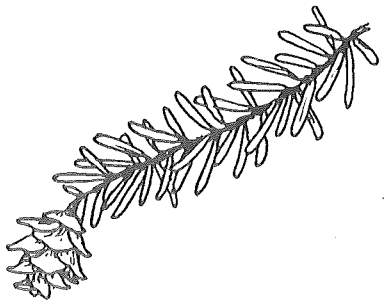


*T. canadensis*

It is, in fact, possible to brew a perfectly harmless tea from the needles of a hemlock tree, and although it is claimed to have a high Vitamin C content it can hardly be recommended for pure enjoyment unless one happens to like the taste of Christmas trees.

Actually, there are more than a dozen species of *Tsuga*, or true Hemlock (unlike most generic names, which are derived from Greek or Latin, this one is Japanese). Of the two in our area, Eastern Hemlock (*T. canadensis*) is by far the more widespread, extending all the way into southern Canada. It is the one best known to us, a graceful, bluish-green tree with feathery, softly drooping branches. The individual needles are flat, and although they are attached spirally to the twigs, they are twisted at the base so that they extend outward in two opposite ranks, except for a few that lie upside-down along the top. The cones of Eastern Hemlock have thin woody scales and are quite small, seldom exceeding three-quarters of an inch in length.

Confined to the mountains of North Carolina and adjacent states,



*T. caroliniana*

and nowhere abundant, is the Carolina Hemlock (*T. caroliniana*). It is a brighter green in color, and the needles, which are longer than those of Eastern Hemlock, project from the twig in all directions instead of lying in flat sprays. The cones are an inch or more long, with scales that spread widely at maturity.

**–Dick Smith**

# BOTANICAL EXCURSIONS

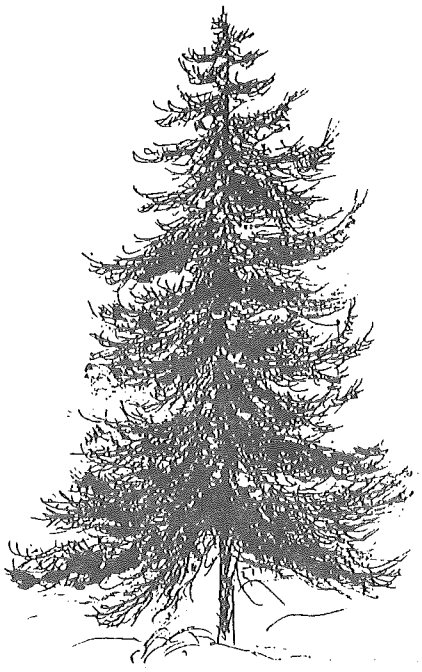
By George Ellison

**"THE EVERGREEN STRATEGY"**

The word "evergreen" is at once one of the most straightforward and highly evocative botanical terms. Simply reading or hearing it can conjur up a mix of distinct images of particular snowy landscapes and personal associations. You can almost smell the word "evergreen."

Evergreens are with us year-round, of course, but from spring into fall they blend into a sprouting-leafing-flowering-fruiting landscape comprised of a multitude of non-evergreen plants. Winter is the evergreen's time of the year. The dominant colors of the winter landscape are the varied green hues of those trees, vines, shrubs, ferns, and other plants that do not lose their leaves or needles. It's an envigorating time to get out and tramp around and pay close attention to this particular category of plant life.

Everyone knows the basic definition of an evergreen as a plant that "holds green leaves, either broadleaf or needle-shaped, over winter." But a fuller understanding — however rudimentary — of why some plants "choose" to remain evergreen and how they go about doing so will help us appreciate them more fully during winter outings.



**The conical shape of conifers helps them withstand damage from snow and ice.**

**- Sketch by Elizabeth Ellison**

All plants in upland or northern environments face the double-edged dilemma of low temperature stress and lack of moisture in winter. Most opt to hunker down in cold weather in various forms: annuals survive as overwintering seeds; biennials produce low-growing, first-year plants protected by leaf litter or a blanket of snow; herbaceous perennials die back completely and overwinter as dormant corms or regenerative root stock; and broadleaved decidous trees, shrubs, and various vines shed their leaves and take other protective measures. Come spring, these plants really have to hustle to do their thing and produce seed during the growing season.

Evergreens have taken the other fork in the evolutionary path. They tough winter out with their foliage intact so as to obtain a head start when the growing season arrives. For this group of plants, photosynthesis can continue longer in the fall and begin earlier in spring; indeed, keeping their leaves actually helps them to survive since they can use them in photosynthesis on mild winter days. Come spring, energy that would otherwise be channeled into producing leaves is saved for direct reproductive efforts.

Various strategies allow evergreens to weather the drying winds and freezing temperatures of winter. Conifers have needlelike leaves that expose less surface to cold drying winds than broader leaves. Their needles, stems, and roots are filled with "botanical antifreeze" in the form of resinous chemicals. Conical shapes minimize buildups of snow or ice.

Other evergreen plants have developed thick leaves with waxy coats to cut down on evaporation. They tend to be shrubby or ground hugging. In order to avoid having their leaf cells ruptured by frost, water is channeled to spaces between the cells where expansion does less damage. And finally, the sugar content of the cells is increased to lower their freezing point.

Individual evergreen species often have their own distinctive overwintering devices. Everyone has observed how rhododendron leaves curl and droop in extreme cold. Drooping (a dormant posture also assumed during periods of drought) lessens exposure to wind, while curling temporarily shields and closes off air-circulation pores (stomata) on the underside of the leaves.

Aside from the always apparent conifers and other obvious evergreen plants such as American holly, laurel, doghobble, and sand myrtle, there are a number of small woodland evergreens like trailing arbutus, galax, teaberry, striped wintergreen, and the dainty little partridgeberry vine that are always a delight to encounter nestled among the brown leaf litter while out on a winter excursion. They lift our spirits on a gloomy, slushy day.

High above ground level, my eyes always scan the bare branches along the ridgelines for the green balls that comprise mistletoe foliage. The strategy this semi-parasitic evergreen employs to establish itself in the boughs of host trees is ingenious. One of the natural world's most effective adhesive substances is the pulp of the berry that

**Cont. on page 30**

**Botanical Excursions cont.**

coats mistletoe seeds, which provide nutritious winter fare for various birds. The seeds often stick to the beaks or feet of a feeding bird and find a new home when it perches in another tree.

Once cemented on a twig or branch, mistletoe seeds germinate by pushing small suckers or rootlike growths (haustoria) through the bark into the host's conducting tissues. In this manner, the plant derives water and minerals that its green leaves can then use to manufacture food.

After the host trees shed their leaves in fall, their tenacious guests become apparent: emblems of an enduring evergreen strategy for survival that for thousands of years humans have readily identified with during the long cold days of winter.

Additional Reading:

Ellison, G. 1993. "Marvels of the Winter Landscape." Outdoor Traveler, 1:44-47.

Marchand, P.J. 1987. Life in the Cold: An Introduction to Winter Ecology. University Press of New England, Hanover, N.H.

Stokes, D. 1976. A Guide to Nature in Winter. Little, Brown and Co., Boston, Mass.

# Book Corner

**[If you know of books that might be of particular interest to the lay readers of our organization, please submit a brief review for consideration-Ed.].**

John Hopkins University Press has recently released Robert E. Swanson's A Field Guide to Trees and Shrubs of the Southern Appalachians which covers western North Carolina, northwestern South Carolina, northeastern Georgia, and the Great Smoky Mountains National Park in eastern Tennessee. It includes summer, winter, and short-cut keys; tree, leaf, twig, bud, and fruit descriptions; distributions, and line drawing illustrations by Frances R. Swanson.

**Pogonia cont.**

Fred Case of Saginaw, MI, one of these was Grimes' colony. This small population of 10 scattered plants straddles the boundary line between property A and property B. The next jolt came when we realized that the redesigned corridor for the highway now passed through the site of Grimes' colony! This time, the corridor was modified so that it would not directly "take" any of the plants . [After years of quiescence, the VA Rt. 199 project is again underway, but construction still has not reached the site.]

The other two newly discovered colonies were entirely on property B, land already platted for housing development. To spare direct "take" of these colonies, the owner voluntarily moved a road and rerouted a sewer line; nevertheless, because they were not also adequately buffered from the effects of construction, these colonies have declined drastically. That portion of Grimes' colony that is on property B is on a more recently platted lot that has not yet been sold.

This fall, the owners of property A (the site of the large colony and the larger portion of Grimes' colony) alerted me that they were planning to do a timber cut. Attempts to work out an agreement for a permanent set-aside were not successful, but the owners did decide to do a selective cut (all trees 17 cm diameter breast height or larger) rather than to clear-cut, and they were willing to leave substantial "islands" of uncut timber surrounding both colonies. It will be very informative to continue monitoring these colonies well into the future to see how they respond.

The concentration of deer on property A has risen as property B and other adjacent tracts have been developed. As the years have passed, the number of stems of the orchids emerging in each of these colonies has also diminished precipitously. Monitoring data indicate that this decline is related to grazing by deer. The good news is that all of the pogonias contained within four deer exclosures (using symbolic fencing made of string "wires") installed two years ago have survived both seasons.

As pointed out in the reclassification document, "without voluntary landowner protection, many more *Isotria medeoloides* populations could be destroyed as development pressures increase." If the small whorled pogonia is to reach full recovery status and be removed from the endangered species list, it is essential that private landowners be made aware of the opportunities for significant acts of stewardship. This is especially true of the various options for permanent set-aside (such as deeded easements) and the associated tax breaks.

**--Donna M.E. Ware**

## A Week (June 10-17) on Bruce Peninsula, Ontario

North of Detroit on the peninsula separating Lake Huron from Georgian Bay in Ontario is an area of botanical (and animal lover's) delights. Many rare orchids, birds, and natural geologic formations are advertised for this trip. Cost is advertised for less than $500 including meals and lodging but not transportation. Contact (before May 1): Eagleland Environmental Consultants, 300 East Hickory Street, Apple River, IL 61001.

# Welcome To Our New Members:

It is our pleasure to have the following join our organization: Ernest F. Koone, III, Pine Mountain, GA; Rick Littlejohn, Spartanburg, SC; Jacqueline E. Mohan, Hillsborough, NC; Bays Mountain State Park, Kingsport, TN; Gibbs L. Smith, Boone, NC; Marcie Floyd, New Albany, MS; M. B. Honeycutt, University, MS; Nathan Bennett, Richmond, KY; Charles Zartman, Cullowhee, NC; Marian Stover, Arlington, VA; Emily Cohen, Boone, NC; William Noel, Athens, GA; Bruce Sorrie, Bennett, NC; and Jarel Hilton, Montgomery, AL.

"Anthocyanins: botanical antifreeze and food advertisement to dispersing animals of the plant world?"

**- J. Dan Pittillo**

# Southern Appalachian Botanical Organization Spotlight

**Editor's Note: In the upcoming issues we hope to feature various botanical groups within the region. Please send a brief summary of your organization to appear in this column over the next several issues.**

One of the more unusual botanical organizations, or perhaps unorganized groups of botanists and applied botanists, since there are no organizational by-laws, is the Cullowhee Conference. First organized in 1984 as "Landscaping with Native Plants Conference" at Western Carolina University under the sponsorship of the Tennessee Valley Authority (with Leo Collins of TVA and Jim Horton of WCU as the primary instigators), the conference has met the 4th week of July for the past 11 years in Cullowhee, NC. A maximum enrollment of 450 participants, is a limit imposed by the organizers in the belief that strong personal interactions would be diluted by greater numbers. Satellite conferences have developed as a result at Birmingham, AL, New Orleans and Lafayette, LA, Charleston, SC, Memphis, TN, and a sister conference is now held annually at Millersville, PA. Each of these are patterned after the Cullowhee Conference with only a steering committee and support personnel serving to help bring together the program each year. Members frequently "show and tell" of some of their successes in propagating and managing native plants in the human environments where they work in, either professionally as landscapers or are back yard gardeners. Participants are asked to submit recommendations for the next conference and to indicate their reactions to the activities provided by the conference leaders. The usual pattern is to hold full day field trips to local environs with field trip leaders followed by general session talks, smaller concurrent seminar type sessions, walks with botanists and landscape architects, and interspersed demonstrations of plants, sales, book sales, sharing meals and general private discourse and socials. If you might be interested in attending the Cullowhee Conference, send your name and address to be placed on the mailing list to: Division of Continuing Education and Summer School, Western Carolina University, Cullowhee, NC 28723 or phone 704-227-7397. First come, first served is the procedure after the announcement in late spring.

## SOUTHERN APPALACHIAN BOTANICAL SOCIETY
### Application for Membership

Name:_____ Date:_____
(name and address should be four lines as given)

Address:_____

_____

City:_____ State_____ Zip:_____
(9 digit if avail.)

AFFILIATION (Check one): College or university_____ Other educational or research institution_____ Non-institutional_____

PRIMARY AREA OF INTEREST: ____ Floristics and distribution ____Vascular plant systematic ____ Community ecology
____ Non-vascular plant systematics ____Physiological ecology ____Other (specify)_____

MEMBERSHIP CATEGORY:

| | | | |
|---|---|---|---|
| Regular membership | ( )$20.00 | Sustaining membership | ( )$50.00 |
| Family membership | ( )$30.00 | Emeritus | ( )$15.00 |
| Student | ( )$10.00 | Life membership | ( )$400.00 |

Indicate when membership, Journal, and Newsletter subscriptions are to start: Jan. ___1994 ___1995

**Send To:** Charles N. Horn, Secretary-Treasurer
Newberry College
2100 College Street
Newberry, SC 29108

# Calendar of Events

Annual .SABS and Assoc. of So. Biol. Meeting
The University of Tennessee at Knoxville
Knoxville, TN
Apr 13-15
410-830-4117

Spring Wildflower Pilgrimage
Great Smoky Mountains, TN
Apr 27-29
615-436-1262

Wildflower Weekend
Natural Bridge, KY
May 5-6
800-325-1710

Landscaping With Native Plants
Cullowhee, NC
July 18-22
704-227-7397

Spring Wildflower Symposium
Wintergreen, VA
May 12-14
800-325-2200

Virginia Natural History
Wintergreen, VA
Sep 15-17
800-325-2200

# One Liners

"Does the pine stimulate my imagination and my hopes more deeply than the birch does? If so, is the difference in the trees, or in me?"
- **Aldo Leopold**, 1949. A Sand County Almanac. Pp.70.

"Acts of creation are ordinarily reserved for gods and poets, but...any clodhopper may say: Let there be a tree--and there will be one."
- **Aldo Leopold**, 1949. A Sand County Almanac. Pp. 81.

"If you are thriftily inclined, you will find pines congenial company, for, unlike the hand-to-mouth hardwoods, they never pay current bills out of current earnings; they live solely on their savings of the year before."
- **Aldo Leopold**, 1949. A Sand County Almanac. Pp. 82.

"Conservation is a state of harmony between men and land."
- **Aldo Leopold**, 1949. A Sand County Almanac. Pp. 207.

## Assistants Needed:

to help watch over the SABS information booth at the Knoxville meeting -- Call Larry Mellichamp at 704-547-4055 or Charlie Horn at 803-321-5357 or at the addresses on the front page of this newsletter.

Charles N. Horn
Newberry College
2100 College Street
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