

Chinquapin

The Newsletter of the
Southern Appalachian Botanical Society



Vol. 3, No. 2

Summer 1995

From The Editor's Desk.....

Spring is always a busy time for botanists and 1995 seems to be no different in this regard. There are more people interested in the botanical marvels of the Southern Appalachians and based on my newsletter mail, this is true for the entire country. I would doubt that there is any one person who would be capable of appreciating the timing, extent, or year to year comparative quality of blooming from one end of the Appalachian flora (which I think starts on the Apalachicola Bluffs in Florida) to the other (Gaspé Peninsula in Canada), much less across the breadth of the North American continent. (Was Aldo Leopold correct in the Sand County Almanac, p. 44, in the statement that "During every week from April to September there are, on the average, ten wild plants coming into first bloom" for all parts of the country?) I trust you have had a moment to enjoy this event this spring and look forward to the continuation of it during the sum-

mer.

A number of us were able to attend the Society meetings at Knoxville in April and a couple of items are included here for your edification. One of the more encouraging activities for serious students of botany is the increase of awards being presented at the Association of Southeastern Biologists meetings, of which SABS is a member. I was privileged to be one of the judges of the E. P. Odum Award, an award set up to honor Dr. Odum, Distinguished Emeritus Professor of the University of Georgia and a zoologist. It is of note that the winner and honorable mention this year were botanists (see news item below). And at our meeting, we finalized our SABS Student Research Grant. Nancy Coile, who organized our symposium on the "Invasion of the South: The ecological impact and control of exotic weeds in the southeastern US," has arranged to have this published tentatively in the September, 1996 issue of Castanea.

An idea that was born at the

Knoxville meeting was that we begin a column on speculations to encourage testing of ideas in a broader realm. Thus the new "Wild Ideas" column appears with this issue. Somewhat in conjunction with this idea generation process is a second column that I think is needed to help us communicate what is taking place in research centers throughout the region. Thus the "Researcher Topics" column will also start with this issue.

Richard Rhodes sends a bit of data and the suggestion that ecologists discontinue the use of frequency values when expressing Importance Values (IV) in their reports on vegetation. During some correspondence with reviewers, the comment was made that many authors would use the IV ("IV 200") that included only density (100) and coverage value (100) rather than "IV 300" as pointed out by Rhodes but that even this is an artificial construct with only general biological interpretation as a measure of importance. Below is a letter responding to this the reviewers.

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New Challenge Issued

Don Windler makes a new Castanea Endowment challenge! If during 1995 any of the following occurs, Don will contribute an additional \$1200: 1) 25 individuals who are not on the 1995 donor roster either donate \$100 or more or pledge \$300 or more; 2) one or more additional members move up to the Gold (1-2 grand) and Platinum (2-3 grand) contribution levels; or 3) 5 or more members move up to the silver level (\$500-1000). [Details of the progress of the Castanea Endowment inside.]

Letters to the Editor...

Richard Rhodes of Blacksburg, Virginia writes:

Thank you for responding to my inquiry ... on the use of importance values. I was moved to write it after seeing several recent articles in ecology published in several journals including *Castanea*, that used the I.V.'s of 300. I thought that ecologists were well aware of the shortcoming of including frequency in the calculation of I.V. Apparently not all ecologists are.

So, although my observations are not new, I consider them worth publishing ... I am aware of the shortcomings of using importance values. However, because some authors continue to use them, I think that a comment on their appropriate use is worthwhile. (See p. 14 for article.)

Wild Ideas

Ideas are born by inquisitive minds. Perhaps some of us have had some speculative thoughts that have turned out to be basically correct when the facts were properly evaluated. Researchers often are driven by hunches and due to discipline must work for years to come to publishable conclusions (recall the effort in establishing the DNA model). Sometimes these ideas, rather well supported, are too advanced for the collective scientific community to accept and await the testing by many others (recall the continental drift model that was eventually accepted as plate tectonics). Sometimes we have these "wild ideas" in disciplines other than our own and in this way help the researcher take a different tact or renew the energy to probe deeper into a problem. Many of us do not feel that these wild ideas should be left unexplored but will not have an opportunity to probe them further. This is the basis of this column. The wild idea needs to have some factual basis, though it does not necessarily need to be fully explained. Here is an example for starters and I hope to see a letter or two that addresses the pros or cons of the wild idea.

INDEPENDENT FERN GAMETO-

PHYTES ORIGINATE IN TROPICAL PANGAEA—J. Dan Pittillo, Western Carolina University, Cullowhee, NC.

Since Wagner and Sharp published their 1960's cover story in *Science* noting that one of the fern gametophytes that kept turning up in moss collections was a species of *Vittaria*, research has continued to probe the character of these independent-living tropical gametophytic species. Dr. Don Farrar of Iowa State University has spent most of his professional life characterizing *Vittaria*, *Trichomanes*, and *Hymenophyllum* gametophytes that do not relate to the sporophytic species found in the U. S. and within the past few years he and colleagues have published names for these: *Vittaria appalachiana* Farrar and Mickel, *Trichomanes intricatum* Farrar, and *Hymenophyllum taylorae* Farrar & Raine.

My speculation: Since this continental mass we call North America has drifted from south of the equator and since most of these tropical ferns probably existed in the tropical regions during this drifting, these fern gametophytes have survived in protected recesses (grottoes) of gorges or cliffs despite the drastic cooling and warming of the climates affecting their general regions during the past several hundred thousand years. We now find them in New England as well as the central portion of the continent.

The next question: How have they been able to survive these climatic changes? Or consider: How are they distributed and how did they come to be found in these distant, apparently isolated and island-like grotto locations?

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 difference reflects the current production, handling, and shipping costs. Issues before 1992 are \$4.00 per issue and \$10 per year, subject to availability. Contact Secretary-Treasurer, Charlie Horn.

Research Underway

[With this issue we are starting a topic listing of research or studies in the botanical field taking place in our eastern region. Perhaps in this way information might be exchanged, some student might not be duplicating another's research area that could prevent awarding a degree, or our lay botanists will know that the world of botany is not becoming passé. We hope that researchers will send their topics or those of their students to the *Chinquapin* newsletter editor for inclusion in future issues on a regular basis.]

N. C. State Univ., Tom Wentworth/Chris Ulrey: Overview of relationships between soil fertility and plant communities in the southern Appalachians; Christine Small: Survey of montane cedar-hardwood woodlands in the southern Blue Ridge.

UNC-Chapel Hill, Bob Peet/Claire Newell: Regional analysis and synthesis of vegetation of each of the big three wilderness areas in western North Carolina; Phil Coulling: Impact of gypsy moth defoliation on understory and herb-layer dynamics in the Virginia Blue Ridge; Jim Graves: Herb-tree interactions at Bluff Mountain (Dissertation just completed).

Western Carolina Univ., J. Dan Pittillo/Steve Roberts: Vegetational analysis of the Kelsey Tract, Nantahala Nat. Forest; Charles Zartman: Vegetation of spray cliffs and seeps of Chattooga River Gorge.

New order: Sweats, Mugs, and Totes

We now have new sweatshirts, mugs, and tote bags with the SABS logo indicating the "Society" name change. T-shirts (\$10), mugs (\$5) and tote bags (\$8) are available (plus \$3.00 each item for shipping) from Larry Mellichamp, Biology Dept., UNC Charlotte, Charlotte, NC 28223).

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 for publication to the editor.

West Virginia Native Plant Society

The West Virginia Native Plant Society (WVNPS) is a non-profit organization dedicated to the conservation of the state's native flora. Established in 1980, the Society strives to focus and coordinate the botanical interests of people who wish to further the appreciation and conservation of our natural botanical heritage.

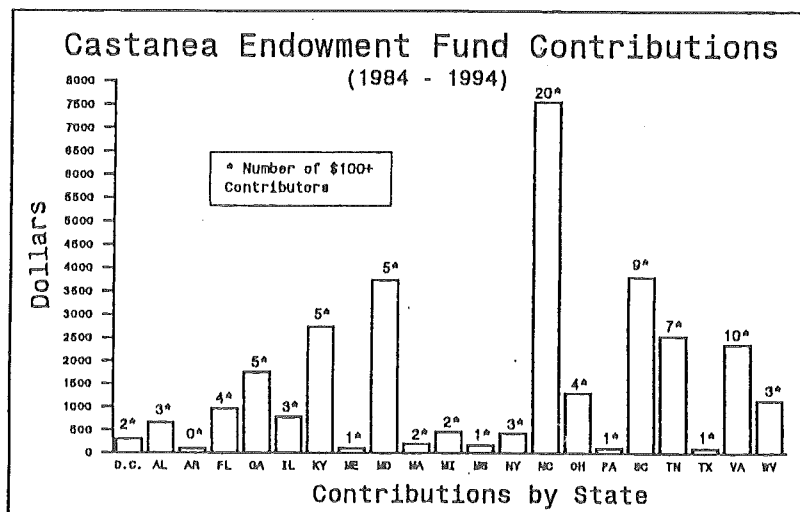
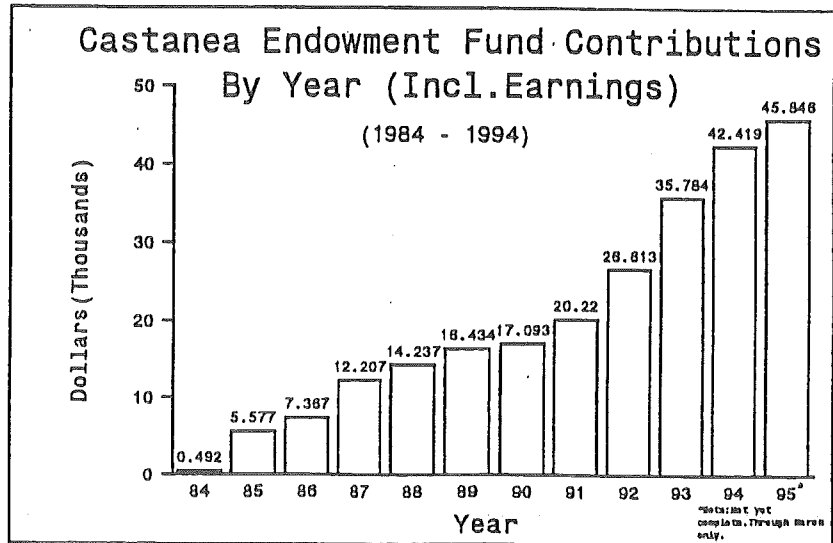
The Society's programs and projects range from trail work to study of invasive exotic plants. The Society publishes a periodic newsletter, *Native Notes*, which includes articles about the state's flora, plant checklists, notices of field trips, and other society activities and feature articles on current issues. The WVNPS sponsors field trips throughout the state to provide opportunities to learn about plants in their natural habitats. Through a grant from the West Virginia Nongame Wildlife Program, the Society has recently prepared a number of fact sheets entitled, "Native Shrubs in Wildlife Landscaping." Other projects include vegetation and trail maintenance work at the Brooks Arboretum of Watoga State Park. A committee was created to help with the problem of invasive exotic plant species in West Virginia.

For information about membership to WVNPS write: WVNPS Corresponding Secretary, P. O. Box 2755, Elkins, WV 26241-2755.

CASTANEA ENDOWMENT

The endowment account was set up in 1984 as a mechanism to insure the future of the Southern Appalachian Botanical Club (now Society) and its journal CASTANEA. In 1985, the Club took \$5,000 of its treasury which provided a base for the account that could be invested in a certificate of deposit. In 1986, a target of \$200,000 was set as a goal and a five-year pledge campaign was launched to coincide with the 50th

anniversary of the Club. When the first campaign ended, the Club was still far short of its goal, and in 1992, initiated a second five-year drive to increase the endowment. In 1993, I issued a challenge to the membership that resulted in the Society receiving over \$8,000 in donations. At the time of this meeting, the endowment has grown to about \$46,000, and is still \$154,000 short of its goal.



The Exotic Plants

Symposium to be Published
Nancy Coile of the Division of Plant Industry, Gainesville, Florida, organized our SABS Symposium, "Invasion of the South: The ecological impact and control of exotic weeds in the southeastern US." This symposium on invasive weeds is tentatively scheduled to be published in the September 1996 issue of *Castanea*.

Botanical Symposium-

The Southern Garden: A Retrospective View
Speakers include botanists and horticulturists (celebrating, in part, discovery of native plants by Andre Michaux). The program will be at Discovery Place in Charlotte, NC, Sept. 27-28, 1995. For more information contact Sue Pannill (704) 331-0969.

Herbaria Futures Discussed at Meeting

[Ed. Note: At the yearly meeting of the Association of Southeastern Biologists, the herbarium curators usually meet for informal dialogue. The following is from Jim Matthews at UNC-Charlotte who presided over the meeting. You may or may not agree with him, but we would like get responses to his comments from our readers.]

Most of us as readers of *Chinquapin* grew up collecting plants in some form or fashion. Many produced their own herbaria, many worked in herbaria as undergraduates or graduates and even a few of us became herbarium curators at colleges and universities. Those of us with some age have endured the vacillations in the importance of systematics, always feeling that with the next swing of importance, we would be on the upswing. Have times changed? Science is now talking about the importance of BIODIVERSITY, and the need to understand the variation found in nature so that ecosystems can be understood, as we constantly impact their processes. Yet, we see an apparent decrease in the importance of collections, herbaria being only one such type. We hear of herbaria being sold or given away. Davidson College recently gave its herbarium to UNC-Charlotte. This represented 19,000 specimens, in part, documenting the Catawba River flora prior to the formation of the lakes that now provide for the growth of the southern piedmont of N.C. We hear of systematists not being replaced, since the usual focus in institutions today is molecular and biotechnology. We can afford to lose some smaller collections, but we are worse off because of it. What happens to the larger collections, such as Vanderbilt's 270,000 specimens? Bob Kral has little support from the administration and has no indication that a Ph.D. curator will replace him.

Are we possibly eliminating the data base needed to understand BIODIVERSITY? Yes, it is good to incorporate modern technology. The UNC-Charlotte herbarium is comput-

(Reprinted from: *Shortia*, Spring, 1984, Newsletter of the Western Carolina Botanical Club)

The Melastoma Family is represented by approximately 4,000 species all around the world, including many with handsome flowers. Its members are nearly all tropical, though, and only two are found in our area.

The species we can claim are Meadow Beauty, or Deergrass (*Rhexia virginica*), and Pale Meadow Beauty (*R. mariana*). They are stiff plants with opposite, toothed trinerved leaves and showy flowers with four petals arising from an



Rhexia Virginia

erized and provides part of the data base for SERFIS (Southeastern Regional Floristic Information System) being developed by Bob Haynes at The University of Alabama. The ultimate goal of SERFIS is to computerize the label data of the 112 southeastern herbaria, with 6,250,000 specimens. This is a very worthwhile project, because more data can be extracted from a large, computerized data base than from visits to only a few herbaria, or from borrowing

Look Again

expanded receptacle, or hypanthium, which in fruit becomes an urn-shaped capsule. The conspicuous bright yellow anthers are unusual: long, curved, and bearing a short spur near the point of attachment to the filament.

Rhexia virginica is our most common species. It has bright, deep purple flowers and a square stem ridged with four thin membranous wings.

R. mariana has a wider distribution but in the mountains usually grows at lower elevations. The petals are pale rose (pure white in one coastal form) and the stems are angled but devoid of wings. Its leaves are narrower than those of *R. virginica* and have tapered rather than rounded bases.

Several other species of *Rhexia* occur in the southeast, but as might be expected of a tropical plant family, they are much more at home in savannas and bogs on the coastal plain.

- Dick Smith

[Ed. Note: Smith presents here the two species that are common to the Asheville-Hendersonville Basin but there are perhaps 15+ species found in the eastern North America, apparently the only temperate genus of this otherwise tropical family. Would it be one of the "drifting" tropical groups that has survived on this continent since it progressed out of the tropics?]

selected genera and species from even 112 herbaria. SERFIS has grown to 60,000 records from 14 southeastern herbaria, with 40,000 ready to be added. Computerization allows the small to medium size herbarium to contribute to an understanding of BIODIVERSITY by making its collection label data accessible through Internet.

But, is sharing label data the primary function of a herbarium? One

Cont. on page 15

BOTANICAL EXCURSIONS

By George Ellison

"GOOD READING"

As previously noted in this column, the manner in which we locate, identify, learn about, and become infatuated with certain plants and habitats is continually fascinating. The entire process — not just plant location and identification — is one I like to think of as "botanizing." In the field and in the library, so much seemingly happens by chance and is mystifying; yet, given time and care, things often fall into place as if preordained.

A significant piece of the puzzle in my comprehension of the eastern mountain system we know as "The Appalachians" fell into place recently when I was "botanizing" the New Books shelf in the library of the little town here in western North Carolina where I reside. The title — Mountains of the Heart: A Natural History of the Southern Appalachians — popped into my field of vision like a rare wildflower.¹

I still vividly recall when I first encountered Maurice Brooks' The Appalachians (Boston: Houghton Mifflin Co., 1965), the first overview of the region's natural history. That wonderful book provided, for me and many others, a reliable and stimulating conceptual framework within which to pursue specific interests. Two studies published a decade later — Jerome Doolittle's The Southern Appalachians (New York: Time-Life Books, 1975) and Charlton Ogburn's The Southern Appalachians: A Wilderness Quest (New York: William Morrow, 1975) — added additional insights.

In regard to understanding some of the particulars of the natural history of the Southern Blue Ridge Province, that portion of "The Appalachians"

extending from southwest Virginia to north Georgia which I happen to call home, David Catlin's A Naturalist's Blue Ridge Parkway (Knoxville: University of Tennessee Press, 1984) and Rose Houk's A Natural History Guide: Great Smoky Mountains National Park (Boston: Houghton Mifflin Co., 1993) were invaluable.

The biographical sketch on the dustwrapper of Mountains of the Heart tells us that "Scott Weidensaul is the author of more than twenty books on natural history, including the acclaimed Seasonal Guide to the Natural Year series An award-winning newspaper columnist, he is outdoors editor for the Harrisburg (Pa.) Patriot-News and a regular contributor to such publications as Country Journal and Bird Watcher's Digest.... He lives near Schuylkill Haven, in the Appalachians of eastern Pennsylvania."

Like Brooks' The Appalachians, Weidensaul's Mountains of the Heart is something of an old-time natural history display cabinet; that is, it's a hodgepodge of a book, covering a variety of natural history topics in a topsy-turvy manner. Despite this approach, the author has a systematic mind that allows him to make apt connections between topics that at first do not seem to be related.

The opening chapter, "The Supple Rock," is a concise — almost elegant — summary of the geologic origins of the eastern mountains. Subsequent chapters touch on hawk migrations; endemic salamanders; Alpine tundra peaks in the northern Appalachians; songbird migration patterns; brook trout and other stream species; opportunistic ravens; the demise of the American chestnut, Fraser fir, eastern elk, timber wolf, and other

species; black bear populations; winter survival strategies and much more. Weidensaul's writing style is supple and, at times, lyrical.

Here's his lead paragraph for a section devoted to Appalachian bogs: "In the course of the Appalachians' 290-year history, the mountains have seen many species come and go, like brief lights that burned and flickered out. Much of the chain's history is so ancient that it, too, has been erased by time, but the ice age is so recent (indeed, scientists like to point out, we are still in the ice age, merely enjoying a brief surge of mild climate between continental glaciers) that its signs are easy for everyone to read. In dribs and drabs down the Appalachians, the work of beavers, ice or the quirks of geography, exist hundreds of such Pleistocene echoes, the relict bogs."

The book contains a bibliography and accurate indexing, but it has been considerably limited in its usefulness by a complete absence of documentation. Readers desiring to know the source of sometimes eye-opening assertions or wanting to follow up particular interest areas are at a loss. Editors and authors need to remember that unobtrusive documentation doesn't scare off the general reader.

Mountains of the Heart is the best book to appear on the natural history of "The Appalachians" since Brooks' study appeared exactly thirty years ago. In some ways it's a better book. There's no higher recommendation that I can offer.

¹Mountains of the Heart: A Natural History of the Appalachians by Scott Weidensaul, was published in 1994 by Fulcrum Publishing, Golden, CO (276 pp.; \$21.95 hardcover).

The Use of Importance Values In Ecology

Importance values are popular with plant ecologists as a way to express the relative positions of various species in a community. They were developed in Wisconsin in the early 1950's as a way to treat data for continuum analysis (Curtis, J.T. and R.P. McIntosh. 1951. An upland forest continuum in the prairie-forest border region of Wisconsin. *Ecology* 32:476-496).

Importance values (IV's) of Curtis and McIntosh were the sum of relative density, relative basal area and relative frequency. These summed to a constant value of 300 for each stand. It is now common practice to divide this sum by 3 for a constant value of 100 for each stand.

I think it is preferable to use only relative density and relative basal area in calculating IV's, viz. (rel. D + rel. B.A.)/2. Density and basal area are

independent, but frequency is not independent of density. A species with high density in a stand will also have high frequency, and conversely, a species with low density will have low frequency. Density and basal area are also independent of plot size; frequency is not. As the size of a plot increases, it will include more species. Including relative frequency in IV weights density twice.

IV's that include frequency also distort IV's of lesser species, vis-a-vis those of the dominants. This occurs to a greater or lesser extent in almost all stands. In Table 1 are examples of two stands. In one the distortion is pronounced (oak forest), and in the other the distortion is slight (mixed forest). In both stands the effect of including frequency in IV is to reduce IV's of the dominants and raise IV's of lesser species.

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.]

While I was coping with local flora, getting a handle on cultivated plants was a major problem. Fortunately, I bought a book that has become a major resource for me: Mark Griffiths, 1994, *Index of Garden Plants* (Timber Press, Inc., 999 Southwest Wilshire, Suite 124, Portland, OR 97225, 1234 pp., \$67.95 ppd. ISBN 0-333-59149-6). It lists 60,000+ ornamental and economic plants, 30,000 cultivars, and 12,000 common names. It is based on The New Royal Horticultural Society Dictionary of Gardening, a four-volume set. - Charles R. Gunn, Brevard, NC.

Table 1. Importance values¹ of trees in two forests in southwest Virginia.

Oak forest			Mixed forest		
Species	IV-1	IV-2	Species	IV-1	IV-2
Scarlet oak	41.0	36.6	Red maple	30.6	30.3
Chestnut oak	36.8	32.1	White oak	19.6	16.8
Black gum	9.0	11.6	Sugar maple	19.0	18.8
Red maple	7.4	8.2	Tulip poplar	13.2	13.8
Amer. chestnut	2.6	5.0	Red oak	6.4	8.0
Black oak	1.2	2.2	Black gum	4.0	3.9
Sourwood	0.6	1.6	Scarlet oak	3.2	3.3
Virginia pine	0.5	1.3	Cucumber magnolia	2.3	2.8
White oak	0.5	0.8	Chestnut oak	1.6	2.3
Flowering dogwood	0.3	0.71			

¹IV-1 = (rel. D + rel. B.A.)/2; IV-2 = (rel. D + rel. B.A. + rel. F)/3.

One Liners

"Tell me of what plant-birthday a man takes notice, and I shall tell you a good deal about his vocation, his hobbies, his hay fever, and the general level of his ecological education."

-Aldo Leopold, 1949, p. 44,
A Sand County Almanac.

"We passed through Jore village [northwest of Franklin, NC], which is pleasingly situated in a little vale on the side of the mountain.... Here I observed a little grove of the Cassine

yapon, which was the only place where I had seen it grow in the Cherokee country...."

-Van Doren, ed., 1928, p. 291,
Travels of William Bartram.

[ed. note: No evidence of natural occurrence for *Ilex vomitoria* is known for this southern Appalachian area; Did Bartram make an error in identity or were the Cherokee cultivating this popular black drink plant?]

Welcome To Our New Members:

It is our pleasure to have the following, our largest quarterly class in recent years, join our organization: Jame Amoroso, Raleigh, NC; John E. Averett, Statesboro, GA; Barry Clinton, Franklin, NC; Simon Dabydeen, Frostburg, MD; Jennifer Floyd, Raleigh, NC; Ruth Ann Henry, McMinnville, TN; Douglas E. Kennemore, Jr., Columbia, SC; Majorie B. Miller, Easley, SC; Harvey Miranda, Clemson, SC; Allan Nelson, Alva, OK; N. S. Nicholas, Norris, TN; Leilani Pyle, Kailua, HI; Samuel Sharr, Lexington, KY; Bruce B. Smith, York, PA; Lewis Smith, Sevierville, TN; Mark Stoetzer, Williamsburg, VA; Carl & Sherry Taylor, Cookeville, TN; Chris Ulrey, Raleigh, NC; Gary L. Walker, Boone, NC; Troy Weldy, Williamsburg, VA; Carolyn Wells, Asheville, NC; John R. Wilder, Fredricksburg, VA; T. Ann Williams, Archer, FL.

Meeting cont.

might think so when those checking herbaria to develop data bases accept whatever name is on the label. In the world of information overkill, we commonly accept information as being correct. How many herbaria have 100% correct identifications? Is there a worry in the future that someone will decree that all herbarium specimens will be stored in a warehouse, after the label data and a picture are taken (which will become part of the data base)? Is there anything to the old truth, "every specimen handled becomes a learning experience?" Who will handle the specimens? Who will decide if the label data are correct? How will one be able to study a specimen if it is not available? Can specimens be laid out side by side to develop a concept of variation for a taxon?

As you can see, there are no good answers. Yes, we are losing some collections, but we are not in a crisis loss period. Yes, most curators are not being replaced with a "clone" of the past, but there are competent, modern

systematists being trained. We are not in a super-consolidation period yet. But, can we count on the upswing as we have done in the past? Will our administrations continue to support natural history collections? Can we afford to wait things out, or have we truly reached a different era? Are the forces that drive the system different now? I am not pessimistic, but realistic. We need to continue to sell the importance of collections in understanding DIVERSITY. We need to sell our administration on the importance of collections from the local area serving as a data base for the community. We need to be positive, not defensive. We need to be sensitive to the direction of thinking of the decision makers that affect our survival. All curators probably feel a responsibility to the past collectors and to their collections. I don't think we can walk away and abandon this part of our academic and biological heritage. But we cannot take it for granted either.

Chinquapin will be happy to receive your comments and sugges-

tions on herbaria as they apply to your situation or to plans for the future.

—Jim Matthews

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 FAX: (704) 547-3128
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 JMATTHWS@UNCCVM.UNCC.EDU]

Ohio Academy of Science

Addressed by Ronald L. Stuckey and Warren H. Wagner, Jr.

The 104th Annual Meeting Presidential Address, "A Cavalcade of Maps," featured retiring President Stuckey at the April banquet. Professor Emeritus of Botany Stuckey pointed out that maps of geology, soil types, climate, topography, and the like will be increasingly important when studying vegetation in the 21st century. Prof. W. H. Wagner, Jr., internationally known pteridologist at the University of Michigan, gave the luncheon address, "The Future of Botany for Graduate Students."

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. ___1995 ___1996

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

Calendar of Events

Cullowhee (Native Plant) Conference
Cullowhee, NC
July 18-22
(704) 227-7397

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

Botanical Symposium
Discovery Place
Charlotte, NC
Sept. 27-28, 1995
Sue Pannill (704) 331-0969

Am. Inst. of Biol. Sci. and Bot. Soc. of
Am.
46th Annual Meeting
August 6-10
San Diego, CA
(606) 257-8770 or (619) 260-4600/8720

Southeastern Carnivorous Pl. Conf.
Charlotte, NC at UNCC
Sept. 22-24, 1995
Larry Mellichamp (704) 547-4055

Complimentary addressed issues: Please share with your interested friends who might wish to become members of SABS. Thank you--Ed.

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