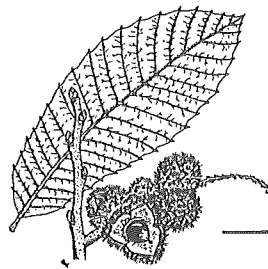


Chinquapin

The Newsletter of the
Southern Appalachian Botanical Society



Vol. 5, No. 3

Fall 1997

From The Editor's Desk.....

Invasive exotics continue to be a problem with land managers, from home yards to extensive wildernesses. Anne Anderson writes of her struggle to manage her property while the Aldo Leopold Wilderness Research Institute seeks help in a nationwide survey of exotic species in wildernesses.

Summer is almost over when students begin to return to campuses. While not everyone is involved with formal education, most of us learn something each day or feel the day is partially wasted. There are times when we do catch-up by learning a great deal in one day, as I did during July, which was spent with colleagues in the southern Appalachians immersed in vegetation studies.

One would imagine that if a complete professional life is spent in a given region specializing in field botany, he would feel quite adequate to respond to almost any question directly involving field botany. But it is becoming much clearer as I approach the time of retirement that the sages are correct when they claim we are

just scratching the surface of our knowledge potential and this applies to ALL areas of human endeavor, not just to the rapidly expanding molecular biology area or any other discipline. I had the privilege to teach a two-week class at Highlands Biological Station with colleagues Peter White, Bob Peet and Tom Wentworth and I believe each of us felt we learned from the other and often from our students. After the Highlands class, many of us that have been working with the "gang of seven" Vegetational Survey of North Carolina during the past several years continued to discover new things as the intensive plot sampling project spread throughout the Highlands, Franklin, Cullowhee, Blue Ridge Parkway and Nantahala National Forest. So if there are those who believe the molecular laboratory is the only rich area in botany or biology left my take-home lesson continues to be that no one area is the only one left for serious study. Our institutions with broad, not overly specialized, faddish emphases will be more successful in the long-range.

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." —Aldo Leopold. 1949.

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1997 ENDOWMENT UPDATE

In the spring of the year, you were sent a mailing which included your total accumulated contributions to the Castanea Endowment and how much more you would have to donate to move to the next level on the roster. Also included was information about a new challenge from John Fairey and Don Windler in which they agree to jointly give another \$1,800 to the Endowment if the following contributions are received:

25+ New \$100 Donors

5+ Donors adding to their contributions to allow them to move to the Silver (\$500) Level.

3+ Donors moving to the Gold, Platinum or higher levels.

We need contributions at all levels, but we have only seven (7) of the 25 needed to meet the challenge at the Bronze (\$100+) Level and thus far no one has moved up to the Silver Level. The Society needs your help. Please check your resources and, if possible, make out a check that will help us meet the challenge soon. Send your checks to Charles N. Horn, Biology Department, Newberry College, 2100 College Street, Newberry, SC. 29108.

Join the Endowment Fund Ranks

About six hundred (600) or 25% of the total 800+ members have not yet contributed to the Castanea Endowment Fund. Make 1997 the year you add your name to the annual endowment roster.

Letters to the Editor:

Ross Clark writes:

As botany teachers, we often speculate on the functions and adaptive roles of plant phenomena. This hypothesizing sometimes spurs us and others to research that produces validation or unexpected results.

Recently, I was privileged to help judge this year's International Science and Engineering Fair. I highly advise to do likewise if the opportunity comes your way. (Next year, the Fair is in Forth Worth, Texas.) It's not usual science fair fare. It's beautiful what youngsters can do with basic questions in botany when driven by curiosity and given guidance. One of the exhibitors had taught herself accurate lichen identification to the species level using morphological characteristics only (none of the normal chemical tests) and had conducted a statistical study of lichen distribution within an Oklahoma woodland. Another contestant's results indicated that anthocyanin can depress photosynthesis by screening light from chloroplasts. Others investigated the regulation of a gene in the ethylene production pathway, correlated bristlecone pine growth with a complex of environmental variables, and propagated rare species by tissue culture, to name a few. About 40 percent of the botany exhibitors were high school freshmen or sophomores.

Curiosity indeed drives science. There are so many basic questions, so many things we don't know, and so little time. [Ed. note: See Ross' suggestions of some potential projects in the "Wild Ideas" column.]

Anne Anderson of Indiana Native Plant and Wildlife Society writes in response to a letter I sent regarding their invasive exotics in Indiana:

Thank you for your comments on Sue Nord's article, "Amur Honeysuckle—Our Worst Woody Weed," which appeared in the August issue of the INPAWS newsletter. I passed your letter on to Editor Dan Anderson for inclusion in the November newsletter.

I have to say that I agree with you [that multiflora rose is one of the more aggressive invasives regionally]. Here in south-central Indiana (the border of Brown and Bartholomew counties) we have no Amur honeysuckle. Our worst woody weed is Japanese honeysuckle (*Lonicera japonica*), with Multiflora Rose a close second. However, I have seen in the Indianapolis area

whole hillsides of nothing in the understory but Amur honeysuckle. So I think that Sue was writing with north and central Indiana in mind.

Our property consists of a white oak-hickory-dominated south-facing slope, a flatwoods of tulip poplar, sycamore, etc. along a creek, and a north-facing slope of beech, maple, oak, hickory. Along the edges both honeysuckle and rose gained a foothold. Honeysuckle can grow 15 feet a year. The vines climb all over themselves and then up into the shrubs and trees, forming thick, tangled masses that smother all other vegetation. It is extremely difficult to eradicate. Hand-pulling invariably leads to snapped vines. These sprout ten-fold. So the roots, which are like taproots, have to be dug out. This is no easy task. Any piece remaining will sprout again.

As for Multiflora Rose, it too started along the edges of our property, and then went deeper into the woods. We found some canes climbing 15 feet into the trees. Deer, who eat the tips, exacerbate the problem. After being nipped, the canes branch out, but as they have grown somewhat weakly in the shade, the canes recline. Often they get pressed into the ground by the deer, or a falling branch, and soon root there. The result is a forest of rose canes. I found at least a dozen 10-foot diameter patches of rose, like ground cover, in the flatwoods along the creek. It was late last spring I was able to get across our creek and such plants are extremely hard to pull out. Then to my horror I found that it had invaded the small opening created when the property had been surveyed and small trees had been removed to determine the property line. Along the line, in deep shade, going up a steep north-facing slope, were more rose canes than I could count! We have pulled out hundreds of plants. In some very difficult places I even carefully sprayed a little RoundUp, something I thought I would never, ever do.

I haven't heard about the virus [a rose virus found in Iowa and now central Tennessee]. Maybe we'll get a response to your letter to the editor. It sounds like good news. I recall that I have seen some rose bushes several miles from here, in full sun along the road, whose canes were stunted and diseased-looking, for about the last two feet of length. Perhaps this is a virus and I should collect a few branches and rub them on our plants.

Thank goodness we're too far north for kudzu, but we have a new threat: garlic mustard (*Alliaria officinalis*) which can completely take over shady moist woodlands very quickly.

We hope to continue our series on exotic invasives, and would appreciate your further comments and observations. Thanks again.

[Ed. note: Would readers have an interest in a pros and cons article on the rose virus?]

Welcome To Our New Members:

Welcome aboard the fastest growing regional organization in botany!

Michael Berkley, Fairview, TN; Kenneth Bridle, Walnut Cove, NC; Katrina Hayes, Hohenwald, TN; William Hunley, Roanoke, VA; William Meckling, Earleville, MD; James Van Kley, Nacogdoches, TX; Scott Pearson, Mars Hill, NC; Allen & Susan Sweetser, Powell, TN; Caroline Vernia, Raleigh, NC.

Mugs and Totes

Please contact Charlie Horn (address on front), any Council member or The Compleat Naturalist, 2 Biltmore Plaza, Asheville, NC 28803, phone (704) 274-5430, FAX (704) 274-5408.

Wild Ideas

Ideas are born by inquisitive minds. Perhaps some of us have had speculative thoughts that 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. 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 supported as in a reviewed publication.

Of Pubescence, Superposed Buds and Putty Roots

by Ross Clark

Young leaves of *Magnolia macrophylla* are heavily pubescent. As the leaves expand, the pubescence becomes sparse. Occasional light frost is likely when bigleaf magnolia leaves emerge in mid-spring. From personal observation, I've noticed that light frost doesn't seem to injure young, folded leaves to the degree it damages larger and more expanded leaves. The apparent reason is that the moisture condenses and freezes on the trichome mat and therefore does not actually contact the living tissue only a fraction of a millimeter away. Older leaves, lacking the dense trichome cover, sustain more damage from the same amount of frost. Some cacti, native in deserts where frost is common but where condensed moisture is essential for survival, also have a thick hairy indument. Could frost protection be one of the functions of dense pubescence?

Several years ago near Chicago, we had a damaging late spring frost. The *Cladrastis* tree buds in my yard had opened, and every shoot on three trees was completely killed by the frost. I had not previously realized that yellow-wood had superposed buds, but it has. Immediately the second phalanx of buds began to enlarge and very soon produced new growth. It is apparent that in this species (and also *Cercis*), superposed buds are cheap insurance against late frost which allow the plant to lose little time in recovering. *Cladrastis* often occurs in ravines which are corridors for cold air drainage. Could superposed buds give any type of competitive advantage in such habitats? And why in *Cladrastis* is the second phalanx of buds located below the primary axillary buds instead of above them?

Aplectrum hyemale, the putty root or Adam and Eve orchid, has pairs of succulent corms with highly mycorrhizal roots positioned close to the soil surface. Easy pickings for foraging animals? Maybe not.

This spring, I've been observing some transplanted putty root plants recently salvaged from a road-building project. Since they promptly bloomed after transplanting, I've been checking them frequently just for enjoyment. One day, I noted that one of the plants had been partially uprooted. Whatever had dug it up had not finished the job. The back corm of its pair still remained in the ground and the inflorescence had not wilted.

Years ago, I became curious about the common name of putty root. In a woods where the plants were common, I dug one up, took off its leaf and roots, washed the corms in a stream and examined them. As I broke open a corm, nothing seemed remarkable about its consistency. So, I took a bite to see how it tasted. It was the gummiest, most adherent substance I have ever put in my mouth. Despite numerous rinsings and teeth brushings, my teeth felt as if they were covered with furry moss for about two days.

I suspect other mammals have the same sensations when they nip into putty root corms, but without the benefit of toothbrushes. Probably, native foragers learn as quickly as I did to avoid putty root as a food source. And could the trailing corm be insurance against being partially uprooted? Finally, into what new plants will someone someday insert the putty root gene as protection from herbivores? (Not potatoes, please.)

Take it from me. If you're hungry in the woods, snack on something besides putty root. Also, keep your curiosity healthy and impart it often to others; it may inspire someone to answer a question no one has addressed.



Ed Note: For those of you who are naturalists or pollination biologists, "Why do so many heaths, such as *Leucothoe*, *Lyonia*, *Oxydendrum* or *Vaccinium* have upturned corolla tips while others such as *Kalmia* or *Rhododendron* do not?" (Copied from Bessette and Chapman, eds., 1992. *Plants and Flowers*. Dover Publ., New York.)



Castanea dentata Resistance to Nut Weevils

by Ron Lance

Over the past 17 years, nearly every year I have noted the condition of nut crop on the American chestnut. These nuts were found and gathered from native trees that are small, remnant specimens of the southern Appalachian Mountains in North Carolina, Georgia and Tennessee. More commonly fruiting individuals were found in Ashe, Haywood, Henderson, Transylvania and Jackson counties in North Carolina. During several years over 100 nuts were gathered from the largest trees. Most collecting was done by picking the mature fruits just before the husks opened naturally.

In all cases of fruit observation, I have never seen any serious weevil damage to the nuts of the American chestnut, but infestation is common in local specimens of Chinese, Japanese and European chestnuts. Actually, I do not recall seeing more than a few nuts affected at all during the years noted.

My personal theory of the lack of infestation in American chestnuts relates to the morphology of the husk. Anyone who closely inspects the husk (or involucre) of the American chestnut may see some major differences when compared to all introduced species. On healthy, robust fruits of the American chestnut, the outer layer of spines are very dense and much more formidable than in the exotic species. The thickness of the husk also ranges about 2 or 3 mm thicker, and the interior lining is covered by a much more distinct and dense layer of trichomes. This inner layer of 'fuzz,' coupled with the husk thickness and spines, accounts for a total protective layer over the developing nuts of 19 to 38 mm across. These measurements, as shown below, are from robust fruits of 8 cm. diameter or more; smaller fruits from less vigorous trees exhibit reduced figures, often are poorly pollinated and often with only one or two of the potential three nuts per fruit represented.

Thicknesses of fruit structure in American chestnut:

spines	husk wall	interior pubescence
3 to 10 mm basal stalks	2 to 5 mm thick	2 to 3 mm
12 to 20 mm branched network		

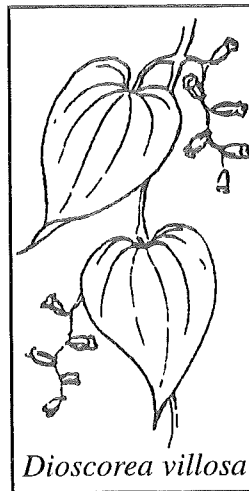
The nut weevils which attack the chestnuts are primarily two species of the genus

Look Again

(Reprinted from: *Shortia* 6(4): Winter, 1984-85, Newsletter of the Western Carolina Botanical Club.)

by Dick Smith

Many of our climbing vines have fleshy, perishable fruits, but the tawny brown three-winged parchment-like capsules of the native wild yam, *Dioscorea villosa*, persist long after splitting and releasing their seeds and are a familiar sight in the open woods and along roadsides all through the winter. They are about three-quarters of an inch long, the product of tiny yellowish-green, spindle-shaped pistillate flowers



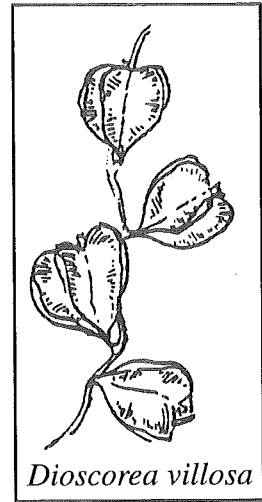
Dioscorea villosa

which, like the more numerous but equally small staminate flowers, are pretty much overwhelmed by the attractive heart-shaped leaves and can easily be missed.

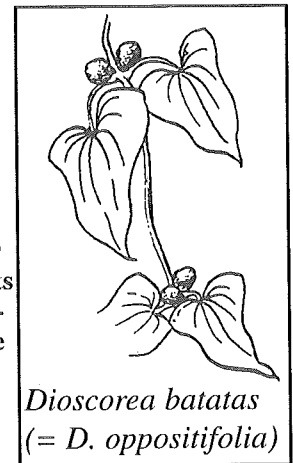
Although *D. villosa* is the prevalent species, there are times when we might actually be looking at a related plant which was brought to the United States from China as an ornamental and has become widely naturalized — *D. batatas*, known as cinnamon vine. If capsules are present there is no problem, as this species apparently does not fruit in our area but instead bears tubers in the leaf axils. These look like little silvery-gray potatoes, and are most evident in the fall when the rest of the plant has turned pale gold. From spring until autumn a clue can be found in the leaves, many of which are halberd-shaped with the sides concave just above the flared base.

Another distinctive and probably unexpected characteristic of *D. batatas* is that it twines about its support counter-clockwise as we look down on it, while *D. villosa* goes in the opposite direction.

Ed. note: According to Alan Weakley in his draft, *Flora of the Carolinas and Virginia*, the currently accepted name for cinnamon vine, *Dioscorea batatas* Decaisne is *D. oppositifolia* L. Also, some taxonomists now recognize the more northern and montane entity as *D. quaternata* J. F. Gmelin and *D. villosa* as the more southern and lower elevation entity. Their ranges do overlap. A third entity, *D. floridana*, is considered "the most distinctive North American species" (Al-Shebaz & Schubert 1989).



Dioscorea villosa



Dioscorea batatas
(= *D. oppositifolia*)

Curculio, both of which bear long snouts used to chew holes through nearly mature or mature fruits to reach the nuts, where eggs can then be deposited within the nuts. These snout weevils, as they are sometimes called, do not have 'snouts' that exceed about 12 mm, as far as I know, so they would likely experience some difficulty in penetrat-

ing an outer husk over this thickness. In most cases the weevil is able to crawl partially through some scant areas of the branching spines to better reach the wall of the husk, but even then, it must chew a hole sufficiently deep to reach and penetrate the nuts inside. After ovipositing eggs within the nuts, the larvae develop and feed on the nuts for the next 3 to 6 weeks, emerge and enter the soil for overwintering. Adults emerge from spring to late

Continued on next page

Castanea dentata

"Tree paste?"

by James T. Donaldson

The following briefly relates the characterization of hypovirulence to the chestnut blight fungus (*Cryphonectra parasitica* = *Endothia parasitica*) and its potential use in the restoration of the American chestnut (*Castanea dentata*). I wonder if hypovirulence will allow us to conserve the American chestnut's genetic diversity rather than lose some of it through hybridization. Also, what might an army of field biologists with regionally developed tubes of hypovirulent fungal strains accomplish?

An alternative to hybridization of the American chestnut trees with Asian species is the alteration of the chestnut blight fungus. In 1953, hypovirulence was identified in an infected stand of European chestnuts (*C. sativa*). Studies showed the hypovirulent (H) strains were able to infect virulent (V) strains and convert them to less virulent forms⁴. In 1974 the first hypovirulent strains were found in a Michigan stand of American chestnuts². Since then, hypovirulent strains have been located in several eastern states¹.

Heterokaryon experiments indicated that a cytoplasmic determinant was transmitted only during hyphal anastomosis (physical fusion of fungal hyphae). The fact that hyphal anastomosis did not take place in some cases indicates a heterokaryon incompatibility between some strains⁷. Further studies showed that sexual incompatibility is homogenic (incompatible if the same alleles are at the mating type locus [A/a]). Vegetative (v-c) incompatibility is heterogenic (incompati-

ble if different alleles occur at any of the v-c alleles). Since vegetative isolation does not interfere with sexual crossing, v-c diversity in the field may be very large, and several v-c genes have been found. The concern about v-c compatibility comes from a hope of using debilitating cytoplasmic agents (hypovirulence) to control the chestnut blight fungus in the forests^{2,3}.

The hypovirulence in the chestnut blight fungus is caused by cytoplasmically replicating unencapsulated, double-stranded RNAs (dsRNAs) similar in genetic organization and expression strategy to other viral genomes as well as an apparent evolutionary relationship to plant polyviruses. This has prompted the use of the term hypovirulence associated virus (HAV) to indicate this class of genetic elements. The inability to infect via an extracellular route is a common property of mycoviruses and fungus-associated, unencapsulated viral-like RNAs⁶.

Vegetative compatibility limits the spread of the HAV dsRNA. Europe has a relatively low v-c diversity which, along with possible intrinsic differences in chestnut species, is believed to be responsible for the spread of hypovirulence in the chestnut blight fungus in European forests. Also, the European species is often found in monocultures, which facilitates transmission to neighboring trees. In North America, v-c diversity, along with the fairly low densities of the now "shrubby" American chestnut in the current forest structure, may have limited the spread of hypovirulence. Natural vectors for spreading H-strains to killing cankers include birds, insects and arthropods moving up and down trees¹.

Thus, it may be possible to transform a variety of virulent North American strains into hypovirulent forms that may help restore our chestnut. In fact, Grente, a French mycologist who performed early experiments with the Italian H-strain, uses a mixture of H-strains grown on a

cornstarch paste and packaged like toothpaste to treat new outbreaks in French chestnut orchards (*C. sativa*). He uses a corkborer to make holes around the cankers, inserts the H-strain mix, and covers it with tape to prevent desiccation. Ten trees per hectare are treated for three years, then five trees per hectare for two to three years. Individual American chestnut trees can be treated this way with success, but natural transmission seems to be limited². So where can I get some of this "tree paste?"

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- Ed. Note: Mr. Donaldson can be contacted at 127 Carver Road, Hampton, VA 37658-3813, phone (423) 725-3434 or by e-mail: yakobo@usit.net**

summer, usually laying eggs in the nuts around August.

It seems to me that this type of response would be expected in a plant's natural adaptation to a native insect pest. I feel I have missed the opportunity to indulge in the former autumnal fare of abundant sweet native chestnuts. So few people of recent descent know how drastically these mountain forests have been changed due to the loss of this sin-

gle tree species. But I was lucky to find enough native American chestnuts and do not agree with the suggestion that all chestnuts, based on observations of exotic ones, are riddled with weevil grubs.

Ed note: These are interesting observations. I have occasionally observed some type of grub in our chinquapins; would these be the same weevil species? Are any of our readers famil-

iar with the American chestnuts before the blight hit? Perhaps someone in the isolated northern populations? If so, tell us of your experience with the nuts as food. How do they compare with chinquapins? Ron Lance may be contacted at the North Carolina Arboretum, P. O. Box 6617, Asheville, NC 28816-6617, phone (704) 665-2492.

BOTANICAL EXCURSIONS

"THE GOLDENROD PROBLEM"

By George Ellison

The seemingly innocent task of sorting out the numerous goldenrod species that appear each fall would appear to be a clearly defined task. Not so. Take up goldenrod identification and you'll learn something about the amorphous shape-shifting complexity of the world around us which exists even within a single plant genus.

Goldenrods — like asters, thistles, cosmos, zinnias, daisies, coneflowers, dahlias, sunflowers, ragworts, hawkweeds, etc. — belong to the vast Compositae (or Asteraceae) family that numbers almost 20,000 species in more than 1,000 genera worldwide, with over 300 native and introduced species of the family here in the southern Appalachians. Goldenrods, of course, get their name from the profusion of tiny yellow flowers comprised of tubular disc florets and outer petal-like "ray flowers." These offer any passing insect a readily available nectar source. Watch a stand of goldenrod for a few minutes and you'll see a wide variety of pollinators — honey bees, bumblebees, beetles, flies, lightning bugs — scrambling from flower to flower as if they were in a cafeteria line.

Goldenrods are opportunistic in that single species are capable of exploiting diverse habitats. When in open situations, they tend to be more showy as a higher percentage of energy is put into seed-producing materials. This "make hay while the sun shines" policy is reversed when a species locates itself in a woodland circumstance and devotes more energy to below-ground energy storage systems.

The genus designation *Solidago*, which means "to make whole" or "to heal," is a reference to the supposed (and probably real) healing power of the plant. Indian medicine men throughout North America favored goldenrod when brewing the herbal remedies used in sweat house ceremonies to drive out evil spirits. The Cherokees favored sweet goldenrod (*S. odora*), a species which exudes an anise-scented fragrance when bruised.

Because goldenrod is common and often seems "weedy," not enough wildflower gar-

deners in the United States deliberately cultivate the plant. But the English, who have a keen horticultural eye, enthusiastically adopted certain species —



Late goldenrod (*S. gigantea*) is one of the goldenrod species characterized in *Newcomb's Wildflower Guide* as having "Flowers in curved, one-sided clusters, together forming a large, terminal cluster" and leaves that are noticeably "3-veined." — Elizabeth Ellison illustration

plant. This is a bad rap. Goldenrods are pollinated by insects, which indicates that the pollen is too heavy to become airborne. The real culprits are wind-pollinated species like ragweed.

There are 100 or so species of goldenrod native to the United States. According to Eugene Wofford's *Guide to the Vascular Plants of the Blue Ridge* (University of Georgia Press, 1989), there are 31 species in the mountains of southwest Virginia, east Tennessee, North and South Carolina and north Georgia.

Goldenrods readily provide identification problems as they are so numerous, with many species having similar leaf, stem and flower features. Certain species hybridize and further complicate the situation. And as noted above, species differ in their appearance according to habitat.

Still, these wildflowers are such a compelling feature in our fall landscape that it behooves us to recognize the general types and a few distinctive species even if we don't

commit ourselves to becoming goldenrod experts.

If you agree, the first thing to do is get out your field guide and see how the author went about tackling "the goldenrod problem." Most divide the *Solidago* genus into categories depending upon floral cluster arrangement. From there, they generally take up leaves (positions, shapes and veins), flower bract features, characteristic habitats, etc., in order to zero in on species identification.

Lawrence Newcomb's *Newcomb's Wildflower Guide* (Boston: Little, Brown and Co., 1977) is the field guide I take with me on goldenrod identification excursions. Harold W. Rickett's *Flowers of the Southeastern United States*, 2 vols. (New York: McGraw-Hill Book Co., 1967) is my primary desk reference, although numerous other sources might be employed in the course of attempting to make a single goldenrod identification.

Newcomb initially categorizes goldenrods as to whether they appear in terminal clusters with flowers on one side of the stem, flattish terminal clusters, circular clusters in the leaf axils along the stem or long upright terminal clusters.

One thing that can be said for goldenrods without equivocation is that they are easily located. Just walk out the door and look around. After a little work in the field, you'll get used to spotting the general types.

Stick with it for awhile and pretty soon you'll have sorted out some of the more distinctive species: late goldenrod (*S. gigantea*) with its prominent 3-veined leaves and one-sided flowering stems; zigzag goldenrod (*S. flexicaulis*) with its angled, zigzagging stem and flowers growing in the leaf axils; silverrod (*S. bicolor*), our only white goldenrod; etc.

Then maybe you'll get a little cocky, start thinking goldenrods are a snap and decide to tackle some of the more difficult species.

After spending a few hours or days with a pocket lens and vascular flora manual trying to figure out just what constitutes, say, the so-called rough-stemmed goldenrod (*S. rugosa*) — which can have smooth or rough stems, compact or spreading flowering heads and numerous other variables — you may well contract a migraine headache and take Mark Twain's advice to lie down when in doubt.

But after recovering from your goldenrod binge, you'll have learned enough to begin to appreciate their beauty and complexity. No longer will you drive the autumnal countryside, see a yellow field, think "goldenrod," roll up the car window to ward off hay fever particles, and let it go at that. You'll start to think of types, habitats and even particular species of this graceful fall wildflower. — (George Ellison may be contacted at P. O. Box 1262, Bryson City, NC 28713 or by e-mail: elli-son@dnet.net).

Castanea Back Issues

The special issue of the Barrens (1994) and the Invasive Plants (1996; 6 remaining) symposia are available for \$10.00 each. The last three years' issues are 1996 volume \$25 (individuals @ \$6), 1995 volume \$20 (individuals @ \$6) and 1994 volume \$16 (including the symposium issue; other individuals @ \$2). This price reflects the current production, handling and shipping costs. Prices for 1990-1994 are \$2 per issue and \$6 per volume. Members can still get back issues before 1990 for a bargain \$1 per volume plus shipping and handling. This bargain price applies to availability (there are some missing numbers in many volumes). Contact Secretary-Treasurer Charlie Horn whose address is listed on the front.

Lynchburg College Herbarium

Dr. Gwynn W. Ramsey, Professor of Biology and Curator of the Lynchburg College Herbarium (LYN) for 32 years, retired in May, 1997, concluding a teaching and research career of 42 years. Dr. Ramsey is the author of the systematic treatment of *Cimicifuga* for the Flora of North America, volume III. He will continue to research the genus *Cimicifuga*, publish on Virginia floristics, and curate LYN, which has 51,000 specimens. LYN is the fourth largest collection in Virginia and is especially rich with specimens from the central Blue Ridge and upper Piedmont of the state. LYN is the major repository for the northern portion of the Blue Ridge Parkway (Western Carolina University Herbarium for the southern portion). For further information, contact Dr. Ramsey in the Department of Biology at 1501 Lakeside Drive, Lynchburg, VA 24501, by e-mail (ramsey@hobbs1.lynchburg.edu) or by telephone (804) 544-8363.

Botanist Field Positions

Many times recent botany graduates become discouraged in seeking jobs. It is often true that a given region will not support as many qualified people as are available. But it behooves those interested in field botany to continue to seek employment after graduation, perhaps as interns or volunteers after graduation, to help acquire practical experience and an opportunity with the agency of choice. For example, I just received an announcement for a botanist in the Louisiana Natural Heritage Program with a salary range of \$2194 to \$3624 per month based on qualifications. Of course the requirements include knowledge of the Louisiana flora. If interested in this position, contact Gary Lester, Louisiana Natural Heritage Program Coordinator, Louisiana Department of Wildlife and Fisheries at (504) 765-2821 or by e-mail: LESTER_GD@WLF.STATE.LA.US

SOUTHERN APPALACHIAN BOTANICAL SOCIETY Application for Membership

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

Address: _____

City: _____ State _____ Zip: _____

Optional: phone () _____ fax () _____ e-mail _____

AFFILIATION (Check one): College or university _____ Other educational or research institution _____ Non-institutional _____

NOTE: Memberships are only for the calendar year, January-December. Individuals joining in mid-year will be sent all back issues of Castanea and Chinquapin unless advising otherwise. Year you wish to start: _____ .

MEMBERSHIP CATEGORY:

- | | | | |
|--------------------------|-------------|-----------------------------|--------------|
| Regular membership | () \$25.00 | Sustaining membership | () \$60.00 |
| Family membership | () \$40.00 | Emeritus | () \$20.00 |
| Student | () \$15.00 | Life membership | () \$500.00 |

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



Silverrod (*Solidago bicolor*). See Ellison's "Botanical Excursions." (Copied from Besette and Chapman, eds., 1992. *Plants and Flowers*. Dover Publ., New York.)

Wilderness Invasive Exotics

The Aldo Leopold Wilderness Research Institute and the University of Montana are undertaking a cooperative project to collect data during the next year on the distribution of exotic species in wilderness and other protected areas (a list of each state's wilderness areas are available upon request). Contact Ron Callaway at the Division of Biological Sciences, University of Montana, Missoula, MT 59812, phone (406) 243-5077 or e-mail(wildweed@selway.umt.edu).

"At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be infinitely wild, unsurveyed and unfathomed by us because unfathomable. We can never have enough of nature."—Henry D. Thoreau, *Walden*, ch. 17.

Mid-South Native Plant Conference

The Mid-South Native Plant Conference will be held in Memphis October 24-26, 1997. Internationally known author and lecturer, Judy Glattstein, will be the keynote speaker on Friday evening. Other speakers include Gary Smith, University of Delaware, and Dale Hendricks, North Creek Nurseries. Additional focus sessions include ferns, mosses, magnolias, native trees, prairie plantings, creating bog and swamp gardens, and gardening with children, among others. There are also tours of gardens, field trips and plant sales. Registration is \$85 (\$70 if sent prior to Oct. 1). Registration form and brochure is available from MSNPC, INC, 5992 Quince Rd., Memphis, TN 38119 or by calling (901) 680-9756.

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

Charles N. Horn
Newberry College
2100 College Street
Newberry, SC 29108

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