



## From The Editor's Desk:

'One thing that you can be certain about, there will be change.' This old adage certainly applies to the weather for the East this year. And if you are experiencing the same thing where you are that we have in the core of the southern Appalachians, you do not need a reminder. After a relatively mild and reasonably moist spring, the summer has turned hot and dry just after the monsoons of late June and early July. Those of you in the severe to extreme drought regions of New England, New York, Ohio, New Jersey, Maryland, Virginia, West Virginia, Tennessee, the Carolinas, Georgia and Florida have seen plenty of browning grass, wilting trees, hopefully not serious fires (though that happened in central Florida) and wilting crops, gardens and wild flowers.

When the deciduous trees begin to turn color, assuming they make it to the cool fall weather, you should be in for a treat. For the rest of us, it should be at least an average fall color season. And let us hope the fruits that got started as one of the heaviest blooms I have witnessed in years develop to fruition. Unless those Caribbean storms pump deluges our way, and this may be in the offing as Dennis now is pounding the Carolina coast, we may see an

even drier 1999 than 1998 if former climatologist Gayther Plummer is correct in his drought prediction. In my mind I keep turning over the statement Paul Delcourt made to me over a decade ago: with global warming we will have significant weather extremes, not just simple greenhouse-like warming.

No one commented on the "Wild Ideas" column by Albert Gilman in the last issue. Does this mean that it has been overlooked by those whose speciality is involved with ferreting out the hidden secrets in these ancient plants? Maybe I can coax a comment out of Litton Musselman whose attention has turned in this direction after years engaged with the parasitic plants.

I guess summer is a busy time for most of our readers, for no one suggested a trivial pursuit question. Well, let me see if anyone can recall this: "In land where there is no kind of cherry trees, after the old growth, which consists chiefly of spruce, pine, beech, and birch (exceedingly tall and large), has been felled and burnt on the ground, there springs up the next summer an immense number of these cherry trees." The clue is this statement was made in 1785 and quoted in a recent 1993 book by a very famous author.

## Endowment Mailing Alert

Most of the membership should have received or will soon be receiving a mailing from the Endowment Committee. The good news in the mailing is that we have reached the \$112,000 mark on our way to the \$200,000 goal. The goal can be reached in four more years if we can pass the \$10,000 in each of them. Annual income from the invested principal will provide the rest of the money. We will need your help to reach our goal in that time frame. Please send Charlie a donation this year. We would like to have most of our members on the Donor Roster when we reach the goal.—Endowment Committee

**MAKE  
THE CASTANEA  
ENDOWMENT  
YOUR FAVORITE  
CHARITY!**

## Tennessee's Rarest Plant?

In the 1998 issue of *The Plant Press* Mary Priestley wrote a piece about the Hart's-tongue fern which included portions of an 1897 letter from Will R. Maxon to Mrs. Joseph Lodge and a brief history of the fern. On January 26 this year, Dennis Home, an amateur botanist from Tullahoma, and I visited the Marion County site and were unable to find any Hart's-tongue plants. Since I first visited the site in 1963, there has been a gradual decrease in numbers, and since 1993, I have not seen more than one plant in any visit. All the plants have been very small, with fronds less than two inches long. Has Hart's-tongue fern been extirpated from Tennessee? I am afraid that it is gone, but I am not willing to give up yet. It may be that Dennis and I simply overlooked it. It is possible that there are viable spores about and they will germinate. The last several sightings have been of different plants, for they were in different locations. Yet none of these plants had matured to a

state of spore production.

There are efforts under way to propagate the fern, so replanting is a possibility. Since foreign spores have already been introduced, there is some doubt about the origin of the recent plants. Replanting, then is not necessarily replacing the original ecotype. In case native spores might germinate, several years should be allowed before any introduction of a new germ line.

Why did this population die out? There seems to be no clear cut cause. There has been some environmental change due to trees dying or falling and altering the amount of light reaching the cave floor. The nature of the cave allows only a few hours of direct sunlight. Snails have been observed eating fern fronds, and with little else to eat this could be an important factor. For whatever cause, I doubt the unaided return of what was Tennessee's rarest plant.—George Ramseur, Emeritus, The Univ. of the South, Sewanee, TN 37383 (Excerpted from *The Plant*

*Press*, vol. III [2], 1999)

Ed. Note: George is wise in not giving up on the local population for the Tennessee population of Hart's-tongue fern, but it might be difficult to establish the authenticity of the declining population if "foreign spores have already been introduced." There is some parallel here with the history of the tropical *Grammitis nimbata* at Dry Falls in North Carolina near Highlands. This fern has been observed by Don Farrar for at least 30 years and seemed to succumb to a major freeze in the 1977-78 winter when all sterile sporophytes died. In this species however, the gametophytes can apparently survive colder temperatures than the sporophytes and new sporophytes have been observed periodically since the 1970's. It would be good to know if anyone has researched the survival of Hart's-tongue gametophytes and see if this offers some possibility for its survival during adverse conditions.

## Letters To The Editor:

John and Wilma Cuttler of Roanoke write:

The observations concerning the drought in the last two issues of Chinquapin seem overly optimistic from our more northern position. Our own plot of this world has seen many dogwoods expire, and even oaks and maples in sad shape. As we tour the countryside, multitudinous trees are in evident severe distress. The maples are turning a sick yellow-green.

On the herb side, we have failed to turn up one single specimen of *Aconitum uncinatum*, Monkshood, even in places where we normally find a great abundance. We have found but few Vernonia, Ironweed, and just a handful of *Lobelia cardinalis*, Cardinal flower. This spring a location which usually provides 60-80 *Orchis (Galearis) spectabilis* only provided about 18, with absolutely none more than 20 feet from the stream. Along the parkway we usually find extensive displays of *Cypripedium acaule*. This year only one small spot provided blooms, although *Cypripedium calceolus* was found at its normal condition.

Since our situation is the worst on record, we wonder what next year bodes. Will the herbs suddenly abound? Or, is this curtains at our favorite viewing sites? Our plot will not have as many trees, because we must remove

those lost last year.

We suggest that perhaps SABS might find the study of this drought to be of interest, especially in West Virginia and the sections of Virginia and Maryland so extremely impacted.

**Ed. note: You are quite correct in your observations of reduced and dying vegetation due to drought. I have also observed trees that have died on the rocky, shallow outcrops in the region (in north Alabama last year there was extensive browning of leaves but many of the trees did not have dead twigs). It might be that the herbs respond to droughty spring periods by either remaining dormant or perhaps dying back sooner (last year we had many *Galearis spectabilis* growing in our woods border and this spring none came up). But native vegetation has a remarkable ability to recover (*Aconitum uncinatum* was very prolific the past couple of years after hurricane Opal in 1995 reduced the canopy significantly in the Fishhawk Mountains south of Franklin). Perhaps we will see some improvement, for the tropical storms are gearing up for significant rainfall in parts of the East and Roanoke might also be the recipient of some of this. Maybe there will be the spectacular fall leaf color for you as a reward for missing the better spring and summer flora.**

## New Members: Welcome

You joined one of the more diverse regional botanical organizations in the country and we hope we can share some interesting insights into the botanical world with each other.

Jack Ousley II, Allen, KY  
 Jane Almon, Raleigh, NC  
 James Schrader, Stratford, IA  
 Lynn Garrison, Eminence, KY  
 Nancy Adamson, Mt. Rainier, MD  
 Marjorie Boyer, Raleigh, NC  
 Wilma Cutler, Roanoke, VA  
 Fiona Dudley, Weaverville, NC  
 Samuel Faulkner, Vicksburg, MS  
 Kate Fisher, Brewer, ME  
 Robert French, Charlottesville, VA  
 Miegan Gordon, Asheville, NC  
 Ashley Greene, Cullowhee, NC  
 Mike Ivey, Cullowhee, NC  
 Janice Haldeman, Due West, SC  
 Jake Hughes, Laurel, MD  
 Daniel Johnson, North Wilkesboro, NC  
 Orié Loucks, Oxford, OH  
 James Luken, Highland Heights, KY  
 Ruth Mathes, Greenbelt, MD  
 Tim McDowell, Johnson City, TN  
 Karen Redden, Alexandria, VA  
 Darrin Rubino, Athens, OH  
 Alissa Salmore, Athens, GA  
 Greg Schmidt, Knoxville, TN  
 Betsy von Holle, Knoxville, TN  
 Fred Yeats, High Point, NC

## WILD Ideas

Ideas are born from 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 personally 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.

### Balsam Woolly Adelgid the Only Culprit?

In reading about spruce-fir in the Spring 99 issue of *Chinquapin*, I was prompted to resurrect thoughts I've had for some time about the "plight" of the Fraser fir and its decimation in the North Carolina mountains. First of all, the current crop of seedlings is growing back with a vengeance, leading me to wonder if soil poisoning (lead, I believe) from acid rain deposition was really a factor, as has been suggested. Perhaps ONLY the woolly adelgid is the culprit, attacking older, weakened trees during a warmer climate cycle. Second, in 1974 I cored several large firs in the vicinity of the Great Smoky Mountain National Park and found no tree older than 150 years (comparable sized red spruce were 250 years old!). This makes me wonder if something wipes the firs out every so often and they start over again to produce what appears to be relatively evenly aged stands. Are the older trees more susceptible to pests and pollution? Of course, pollution has been bad only relatively recently, so what would have been the environmental perturbation 150 years ago? The climate could have been cooler, since we were closer to the close of the ice age. I assume they survive best in cool climates. They were probably more widely scattered at lower elevations in earlier times. Can anyone discuss the past 10,000 year history of rise and fall of populations of Fraser fir in the Southern Appalachians?—Larry Mellichamp

### *Abies fraseri* Population Changes

Larry Mellichamp offers some valuable observations in our continued dilemma about the extensive changes being widely observed among the living populations of Fraser fir in the southern Appalachians. While it is true there was a major decline in the larger tree survival during the balsam woolly adelgid invasion between the 1950's and 1980's throughout the region, there are some recovering stands of young trees and saplings that

Continued on page 23

# Taxonomic Tutorial and Vascular Plant Family Synopsis

by Jeff Polonoli

**Ed. Note:** Some of us have been formally trained and might appreciate a review with a different perspective. Others of us are beginning a more serious study of vascular plants and would learn from a summary description of the vascular plant families and their relationship to others. With this in mind, I came across some notes being printed in Wildflower, The Bulletin of the Botanical Society of Western Pennsylvania, March 1999, that I thought might be appreciated by our members. Author Jeff Polonoli, and the organization graciously permitted us to do this. You might drop them a note of appreciation if you find this useful. To help in this endeavor, I would recommend reference to a copy of Dirk R. Walters and David J. Keil's 4th edition (621 p) of Vascular Plant Taxonomy, available in paperback from Kendall-Hunt Publ. Co., 4050 Westmark Dr., Dubuque, IO 51002.

We all can recognize many flowering plants here in the East and most of us can even recall what family some plants belong to, yet can we state why a certain plant fits within its family? Being able to rattle off common and scientific names of plants does suggest a familiarization yet doesn't always mean one really understands the plant. When faced with identifying an unknown plant knowing family descriptions can surely lead a person in the right direction and even narrow the possibilities of finding the correct plant name. Taxonomists through history have developed a system of classification to help make sense and organize the 300,000 or so flowering plants. The main plant organ this classification is based on is the flower. Taxonomists have chosen the flower because it is the one plant part with the slowest or least degree of morphological variance over time,

whereas the vegetative parts (root, shoot, and leaves) can change drastically under short periods of environmental stress. Paleobotanists view the flower advanced or primitive by the degree of fusion and number of flower parts. The fossil history of flowering plants shows us that the first flowers contained numerous, simple floral parts and as evolution and natural selection proceeded the flowers started developing a reduction and fusion of these parts. To give one a better understanding of a primitive flower one might imagine the regular shaped flower of the magnolia. This flower is the example for showing primitive floral characteristics with its elongated receptacle, numerous free tepals, numerous free spirally arranged stamens, and numerous spirally arranged superior simple pistils. For one to better understand an advanced flower, envisioning the irregular shaped orchid flower can help. The orchid flower shows its advancement by first having the outer floral whorls (calyx and corolla) highly modified so as to attract only one specific pollinator. Second we see a single stamen along with the stigma and style of the inferior ovary highly fused forming a new floral organ, which is also adapted to accommodate a specific pollinator.

Here I will present the more common flowering plant families found in the East in PHYLOGENETIC order, which is a hypothetical evolutionary history of organisms. This phylogenetic order is the sequence most technical identification manuals use for organizing plant families. One plant family will be described each month starting with the most advanced working towards the primitive. I will include a semi technical description of the families flora and vegetative characters, stressing the unique features that separate it from other families. I will also state reasons why this family is considered advanced or primitive.

## ASTERACEAE by Jeff Polonoli

We are starting with the Asteraceae not because it is one of the most advanced and largest flowering plant families, but mainly because it is one we can easily recognize. The only plant family surpassing it in size and in terms of evolutionary advancement is the Orchidaceae. The Asteraceae is made up of some 1,500 genera and about 20,000 or so species. Familiar plants belonging to the Asteraceae are of course the asters, golden-rods, thistles, sunflowers and ironweed.

Distribution of the family is worldwide and its habitat extends from dry exposed sites to aquatic environments. The Asteraceae here in

the East are represented by annual or perennial herbs with simple, sessile or petiolate leaves without stipules, often forming basal rosettes. Some members of the Asteraceae contain latex, which is a quick way of separating genera within this family.

One of the two key characteristics of the Asteraceae making this family so distinctive is its unique type of inflorescence called a **head**. The heads are arranged in a more complex inflorescence of a racemose or paniculate form, or less often a cymose or corymbose. The **head**, or **capitulum**, is an inflorescence made up of many small individual flowers called **flo-**

## SABS Officers And Newsletter Editor

Nancy Coile, President  
P.O. Box 147100  
Division of Plant Industry  
Gainesville, FL 32614  
e-mail: [coilen@doacs.state.fl.us](mailto:coilen@doacs.state.fl.us)

Don Windler, Past President  
Department of Biological Sciences  
Towson State University  
8000 York Road  
Towson, MD 21204  
(410)830-3042; fax (410)830-2405  
email: [windler@midget.towson.edu](mailto:windler@midget.towson.edu)

Charles N. Horn, Secretary-Treasurer  
Newberry College, Biology Department  
2100 College Street  
Newberry, SC 29108  
Phone (803) 321-5257 or fax (803) 321-5232  
email: [CHorn@newberry.edu](mailto:CHorn@newberry.edu)

Ruth Douglas, Recording Secretary  
108 Wildflower Dr.  
Charlottesville, VA 22911  
Phone (804) 961-5432  
email: [rd2d@jade.pvcc.cc.va.us](mailto:rd2d@jade.pvcc.cc.va.us)

J. Dan Pittillo, Newsletter Editor  
Department of Biology  
Western Carolina University  
Cullowhee, NC 28723-4073  
(828) 227-3653; fax (828) 227-7647  
e-mail: [pittillo@wcu.edu](mailto:pittillo@wcu.edu)

### CORRECTION

Due to an oversight by Don Windler, the name of James Hardin was not included in the list of donors moving to the Gold (\$1,000) Level of donations to the Castanea Endowment published in the spring Chinquapin 7(3). To make matters worse, Dr. Hardin was listed in the Silver Level on the 1999 Roster of donors. Don apologizes for the oversight.

**rets.** The florets making up the capitulum can always be observed blooming first from the outer edge of the receptacle proceeding inward toward the center. The florets in a head are closely aggregated on a variously shaped receptacle, which in turn is surrounded by a series of bractlets called **phyllaries**. This **involucre** of phyllaries usually has an imbricated arrangement and herbaceous texture or sometimes modified into hooks as seen in the common burdock. The individual florets often have tiny bracts called **pales** associated with

Continued on page 20

## Asteraceae

Continued from page 19

them that develop from the receptacle's surface positioned at the base of each ovary. This condition in which the receptacle surface bears these bracts is referred to as **chaffy**. Pales and phyllaries are a heavily weighted character for identification of genera in technical identification guides, so being able to see them is a must.

There are two types of florets found in the Asteraceae, one is called a **disk floret** and the other a **ray floret**. The disk floret has a regular shaped (sometimes irregular), tubular corolla usually with five terminal lobes. Disk florets are generally perfect or functionally staminate and produce seeds and viable pollen. The ray florets (**ligulate**) have irregular shaped, strap-like, usually three lobed corollas with only small basal portions fused forming small tubes. The ray florets, when present, are usually pistillate or neutral but always contain some form of ovary. The ray florets are said to have evolved by reduction of the corolla and stamens in disk florets positioned on the outer edge of the receptacle. The arrangement of these types of florets in heads can vary giving us ways to separate the many types of heads found in the Asteraceae. Heads with only disk florets are termed **discoïd**. An example of a plant with a discoïd head is *Veronica* or ironweed. Another inflorescence type is one containing only ray florets. This type of head is called a **ligulate head**. Examples of familiar plants which possess **ligulate heads** are chicory and hawkweed. The most common type of head in the Asteraceae is one that contains both disk florets and ray florets called a **radiate head**. In a radiate head the rays are always restricted to the outer part of the receptacle,

while the disk florets are always concentrated in the center. This radiate head is responsible for the family alternate name *Compositae* because when observed from a distance the head appears as a single flower, yet in actuality it is a 'composite' of many flowers. Sunflowers to me are the best example of a radiate head and one can see that only the disk florets in the center forms seeds while the ray florets wither and fall.

When evaluating this type of inflorescence and the flowers making it up, we can see the advanced characteristics of the Asteraceae. Obviously **reduction** can be seen in the inflorescence, where many small flowers make up a head instead of many large showy single flowers distributed along a stem. This arrangement of many small flowers in one area insures pollination of many flowers from just a brief visit by one pollinator. Individual florets show both reduction and fusion of floral parts. First, flowers of the Asteraceae all have a modified calyx called a pappus or none at all (reduction). The **pappus** can be made up of bristles, hairs, awns or a crown of scales. A very well known pappus is the parachute of dandelion fruits aiding in the dispersal of seeds. All Asteraceae members have an inferior ovary, which is also an advanced trait. By observing the fossil record of plants, botanists found that the first flowers had superior ovaries and as evolution continued, fusion of the sepals, petals and stamens also occurred. This fusion of perianth parts was so great that eventually they started to develop from positions above the base of the ovary. This fusion continued until the perianth developed at the top of the pistil giving an inferior ovary.

The pistil found in the Asteraceae is made up of a two carpellate ovary containing a single basal ovule (which develops into the seed)

within one locule. The mature ovary or fruit type of this family is basically an **achene**, a dry indehiscent fruit containing a single seed. The stamens are fused (**adnate**) to the inside of the corolla tube alternating with the lobes. This condition in which the stamens are adnate to the corolla tube is called **epipetalous**. The anthers of the stamens are part of the second unique family characteristic with its 'pollen presentation method.' The anthers are fused forming a tube above the style a condition called **syngenesious**. The anthers dehisce on the inside of this tube and fill the space with pollen while the style grows through the tube exuding the pollen out. Nature makes sure that the stigmatic surface of the stigma does not become receptive to pollen until after the style does its job of pushing pollen. This insures self fertilization does not occur and genetic variability is preserved by receiving pollen from another plant.



In conclusion one can see that the Asteraceae is not a difficult plant family to recognize, yet knowing characteristics of this family helps one compare and contrast it to others. The two main characters of this family for review are the capitulum and pollen presentation mechanism respectfully. So when these two plant characteristics (and maybe the presence of a pappus) occur on an unknown plant you are trying to identify, chances are it belongs to the family Asteraceae. Knowing descriptions of the more familiar plant families can give one an edge when faced with an unknown in the field. I leave you with a question one might ask when identifying a plant: does the teal belong to the Asteraceae, and why or why not?

## University of Arkansas Herbarium Transfer

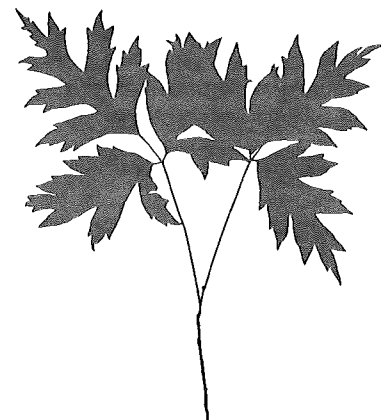
The Department of Biological Sciences recently transferred their herbarium over to the University Museum. Johnnie L. Gentry, Director of the University Museum, manages and curates the collection in the Science Engineering Building. The UA Herbarium is the largest in the state and contains more than 90,000 specimens dating back to the late 1800's. Collections continue to be used for teaching aids and research in Biological Sciences classes and are available for research loans to other academic and research institutions and qualified students.—Edward E. Dale, Jr., Emeritus, Dept. of Biological Sciences, Univ. of Arkansas, Fayetteville, Arkansas 72701-1201

## New England Wild Flower Society Seed & Book Catalogue

The NEWFI publishes a catalog of wildflower seed for sale each January. This year they are offering 200 wildflower seeds and fern spores. They can be contacted by phone at 508-877-7630, e-mail <pryor@newfs.org> or written with \$2.50 enclosed (for the catalog) at Seeds, New England Wildflower Society, Garden in the Woods, 180 Hemenway Road, Framingham, MA 01701.

——  
*"So long as I saw in my walks one or two kinds of berries whose names I did not know, the proportion of the unknown seemed indefinitely, if not infinitely, great." —Henry D. Thoreau. 1993. Faith in a Seed. Island Press, Washington, DC. 283 pp. (p. 179).*  
 ——

## MYSTERY SHOOT



"Mystery Shoot." What is your best guess of the identity this photocopied silhouette? (The identity is stated within this newsletter). This shoot was found earlier this spring in a woods edge in Cullowhee, NC. The loamy clay soils of the area have a high magnesium content, apparently conducive to the species' growth.

# BOTANICAL EXCURSIONS

By GEORGE ELLISON

## What's Monkey Flower Grinning About?

Ever since I was a boy growing up in Virginia, I've been attracted to wet places. Back then, I never saw a bend in a river or creek that I didn't want to go around to see what was farther downstream. And when I was little older, I never saw a lake or pond that I didn't scope out to find the most likely fishing holes.

The attraction for these sorts of places continues. These days, I never see a wetland area of any sort—marsh, swamp, bog, seepage slope, the spray zone beside waterfalls, roadside drainage ditches, whatever—that I don't want to explore in order to locate the plants growing therein. Such areas, no matter how small, almost always contain showy or unusual plants.

One of the most curious of these moisture-loving wildflowers is known as square-stemmed monkey flower (*Mimulus ringens*), a member of the Figwort Family. The most common species in the Blue Ridge Province and upper Piedmont, square-stemmed monkey flower has its primary range in the northeastern United States. This species is a glabrous perennial that is about two to four feet tall. Its stem is square, the leaves are stalk-



Square-stemmed Monkey Flower (*Mimulus ringens*)—  
Sketch by Elizabeth Ellison

less, and the flower stalks are longer than the calyx.

Square-stemmed monkey flower grows in swamps, bogs, and wet meadows, and along-

side waterways. When wading the creek that traverses our property adjacent to the Great Smoky Mountains National Park, I often encounter it on tufts of soil or small islands in the creek. One would assume that the seeds are buoyant.

Winged monkey flower (*M. alatus*) has short-stalked leaves, flower stalks shorter than the calyx and stems that are slightly winged. Its range is from Connecticut to southern Michigan and southward to Georgia, Texas and Colorado.

The generic designation for both species is the diminutive form of the Greek word "mimus," which means "buffoon." The specific epithet for square-stemmed monkey flower means "to gape." Scientifically, then, the plant has been categorized as a "gaping little buffoon."

To me, it seems to grin more than gape. When you encounter this plant, its face-like corolla—pinkish-lavender outside with a lighter (to white) throat shaded with yellow—grins right back at you like a buffoon or monkey. The first time I spotted one the effect disconcerting. Now, I simply grin myself every time I see one. This illusion is created by the pinched shape of the corolla, which is much like a garden snapdragon in general conformation.

Many of my favorite wildflower books tend to be older, out-of-print volumes. For whatever reason, they tend to provide interesting details often not included in more recent works. For instance, in Herbert Waldron Faulkner's *The Mysteries of the Flowers* (NY: Frederick A. Stokes Company, 1917), we are advised that square-stemmed monkey flower is a "little flower, whose saucy corolla seems to betray a disposition toward quaint, odd habits," and, furthermore that the corolla "so much resembles a face that we must speak of the pistil as a 'tongue'—a most sensitive little tongue with a slit or division at its tip. At the taste of the pollen which it desires, this slit in the tongue closes and holds fast the dainty morsel."

## The Barbara J. Harvill Fund for Floristic Research in Virginia

Small grants for floristic work in Virginia are available through a fund endowed in memory of Barbara J. Harvill. This fund awards small grants to botanists who do not have institutional support for such work. Most awards are for mileage costs for field work (within Virginia) with potential for generating new plant distribution records for the state. Mileage costs for visits to herbaria, lodging costs and the costs of some types of field equipment (especially plant presses) also may be wholly or partially covered. These awards are made by the Virginia Flora Atlas committee, Ted R. Bradley, Chairman; Alton M. Harvill, Jr., Chairman Emeritus. Please send a letter of application describing the planned research and its projected costs to Donna M. E. Ware, Department of Biology, College of William and Mary, Williamsburg, Virginia 23187-8795. The current award period ends November 30, 1999.

—○○○○—

"Many public speakers are accustomed, as I think foolishly, to talk about what they call little things in a patronizing way sometimes, advising, perhaps, that they be not wholly neglected; but in making this distinction they really use no juster measure than a ten-foot pole in their own ignorance...But Pliny said, 'In minimis Natura praestat'—Nature excels in the least things." —Henry D. Thoreau. 1993. *Faith in a Seed*. Island Press, Washington, DC. 283 pp. (p. 178).

—○○○○—

## International Botanical Congress Report

Steve Hill and Lee Crane of the Center for Biodiversity, Missouri Botanical Garden, and both long-term members of the International Association for Plant Taxonomy, attended the meetings of the Nomenclature Section as voting members the week preceding the XVI International Botanical Congress in St. Louis, Missouri, July 26-30. The event, a parliamentary debate among 265 botanists from around the world hosted by the Missouri Botanical Garden and with Werner Greuter of Berlin presiding, was covered by a somewhat mystified St. Louis Post-Dispatch reporter who stated in his article, "Each session's common recipe: take a dose of science, a smattering of history and mix in a generous amount of rhetoric and hyperbole." The meeting of the Section, held only once each six years in vari-

ous parts of the world, considered changes in the International Code of Botanical Nomenclature, which began at the First International Congress in Paris in 1867. Two hundred eighteen proposed changes were considered in five days and were voted upon by the assembly. Among the controversial changes was a proposal to use of Latin instead of English in describing plants new to science, to establish the registration of plant names at a single international center and to consider a set of proposals geared to unite the botanical code with the zoological code into a 'BioCode'. All of these proposals were defeated, and the latter two were the subjects of strong and very interesting debate. Richard Brummit of Kew (London), a major contributor at the meetings, stated that "Names always

generate emotions. They are things people use, and people get very attached to a name." These and the subsequent Congress meetings at the America's Center in downtown St. Louis the next week were a remarkable experience of a type not seen in this country since 1969.—Steve Hill, e-mail address: <srhill@denr1.igis.uiuc.edu>.



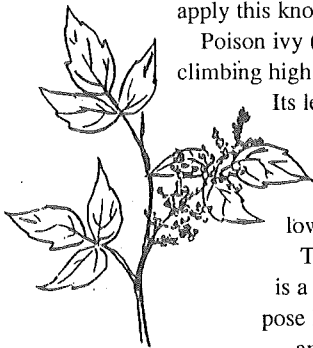
"Two or three years after a wood has been cut, you will commonly find an abundant crop of huckleberries and blueberries there, not to mention chokeberries, serviceberries, and so on. Nature keeps a supply of these important plants in her nursery under the larger woods, always ready for causalities, as fires, wind-falls, or clearings by man." —Henry D. Thoreau. 1993. *Faith in a Seed*. Island Press, Washington, DC. 283 pp. (p. 77).



## Look Again

by Dick Smith (Reprinted with permission from *Shortia* 8:3 (autumn 1986) and *Shortia* 16:4 (winter 1994-95).)

As a guide to avoiding contact with Poison Ivy, the maxim "Leaflets three, leave it be": is excellent—for children. Adults who do not wish to be kept away from other interesting (and harmless) plants can easily learn the features that distinguish it and apply this knowledge by practicing identification in the field a few times for automatic recognition.



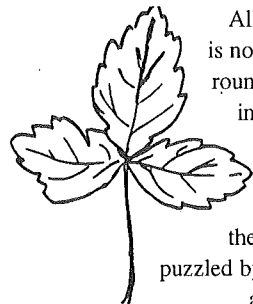
*Rhus radicans* L.—>  
*Toxicodendron radicans* ssp.  
*radicans* (L.) Kuntze

Poison ivy (*Rhus radicans*) is essentially a vine, and may be found trailing along the ground or climbing high into trees by means of thick stems which adhere to the trunks with hairy aerial roots.

Its leaves are ternately compound with long petioles, and the terminal leaflet is conspicuously stalked. The margins of the three leaflets may be entire or have irregular shallow teeth. New growth is shiny, but this does not necessarily hold for mature foliage; autumn colors are often attractive shades of orange or red. In the spring, it bears axillary panicles of small yellowish or greenish flowers, and these are succeeded by nearly round, pale gray fruits.

To argue the question of whether Poison Oak (which is more common in the Piedmont) is a variety of *R. radicans* or a separate species (*R. toxicodendron*) would serve no purpose here; it exists and is equally noxious. The principal differences are that the plants are erect, the leaves are thicker and pubescent, and the leaflets tend to be lobed.

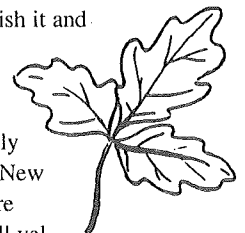
Most of us are aware that Poison Sumac (*Toxicodendron vernix*) contains oils that can cause a severe skin rash upon contact. We tend to be especially apprehensive about this species—even though Poison Ivy and Poison Oak pose the same threat—perhaps because we so often find ourselves in close proximity to plants that go by the name of sumac without knowing which is which. Poison Sumac is a shrub or small tree with numerous pinnate leaflets, but it is the only one of several similar-appearing plants in our area that is toxic. Of this group, the true sumacs, which are harmless, are in the genus *Rhus* and together they differ in having dense terminal flower clusters followed by red fruits, whereas Poison Sumac has loose axillary panicles of flowers, and its fruits are whitish.



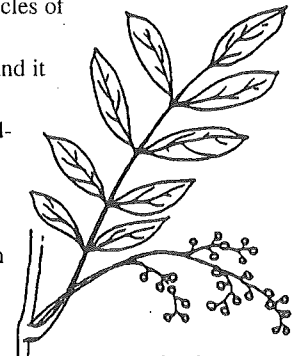
*Rhus aromatica* Aiton  
(Aiton)

All the sumacs are close relatives but only one—Fragrant Sumac (*R. aromatica*)—is similar, and it is non-poisonous. Fragrant Sumac is a shrub with ternate leaves, but the margins have coarse, rounded teeth, and the terminal leaflet is sessile. Its flowers are short, catkin-like clusters preceding the leaves, and the fruits are bright red.

Ed. Note: In this central core of the Southern Blue Ridge Province of North Carolina we seldom find *R. aromatica* and *T. pubescens*. Both are found in the Piedmont and provinces beyond. We do have, a few populations of *T. vernix* in wetlands, but most are in the swampy Coastal Plain. Certainly we have plenty of *T. radicans*. Likely you were a bit puzzled by the "Mystery Shoot," for it looks like some hybrid out of some Jeckyll's lab, a cross of an oak with poison ivy. It actually is an extreme cut-leafed form of *T. radicans*, a vine found climbing up a young tree in the woods above our Cullowhee pasture. Is there a better example of adding confusion to the already confusing nomenclature for this group of Anacardiaceae?



*Rhus toxicodendron* L.—>  
*Toxicodendron pubescens* P.  
Mill.



*Toxicodendron*  
*vernix* (L.) Kuntze



## WILD Ideas

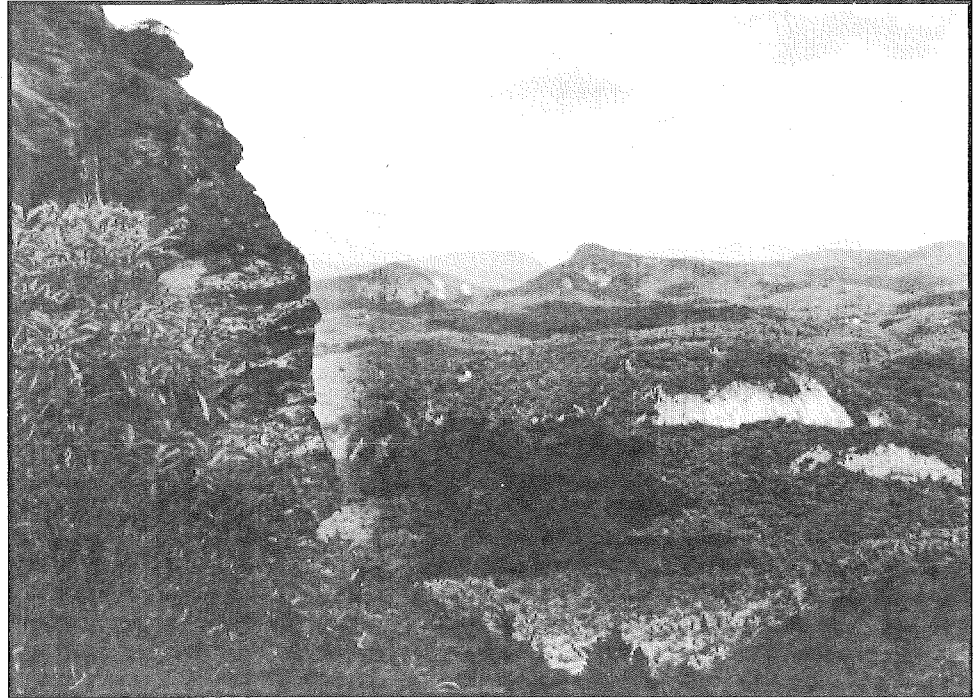
Continued from page 18

seem quite vigorous. This vigor is not apparent throughout the region formerly dominated by stands that were up to 90 percent *Abies fraseri*, however. On Mt. Craig just north of Mt. Mitchell, several stands of trees with trunk diameters exceeding 15 cm and younger patches of the trees are now evident. This year the larger trees were noted to have presence of the adelgids, and what will be the effect of the next few years, only time will tell. There are indications that another decline is in progress, for throughout the North Carolina Balsam Mountains red-brown leaved trees were observed throughout this summer. Further north at Mt. Rogers in the Virginia Balsams, the Fraser fir forest retains a portion of the summit population (Royce Woosley of Western Carolina University communicates recent significant reduction of much of the forests on lower slopes). There is some indication that this latter population has some resistance to the adelgid attacks, perhaps due to terpene content and/or quality according to Dr. Woosley. And there may be some other factors in the population features, such as bark thickness.

Larry asks for interpretation of the history of the species over the past 10,000 years. The Delcourts offer some information here, and you are invited to review their maps in their Long-Term Forest Dynamics of the Temperate Zone (1987, Springer-Verlag Ecol. Studies 63, pp. 112-117). Since their work is based on pollen deposition for the most part, the isolines relate to both species, *A. fraseri* and *A. balsamea* (and perhaps other taxa), we may be considering more than Fraser fir. While the information on 150 years ago is not refined from the data, the percent dominance for the 500-ybp (years before present) is higher in the region than for the earlier periods of 2000-8000 ybp (27 vs. 10-15%). One point we might make here is that the fir pollen is distributed near the trees, perhaps within 200 m, compared to about 2 km for spruce (Hazel Delcourt, personal communication). Future projections for fir populations of the southern Appalachian spruce-fir ecosystems are not very promising (Delcourt, P.A. and H.R. Delcourt, 1998, Paleocological insights on conservation of biodiversity: a focus on species, ecosystems, and landscapes. Ecol. Applications 8: 921-934). —J. Dan Pittillo


Ed. Note: Larry Mellichamp may be contacted at the Biology Department, UNC-Charlotte, phone (704) 547-4055, FAX (704) 547-3128, e-mail: <tlmellic@email.uncc.edu> and web: <<http://www.bioweb.uncc.edu/Faculty/mellichamp/>>

## Blue Ridge Escarpment




Blue Ridge Escarpment (photo courtesy of Highlands Biological Station).

View north from the southern exposure of Whiteside Mountain across the upper portion of the Chattooga River headwaters. "Granitic domes" dominate this region, as evidenced by Terrapin (center), Chimney Top (above Terrapin), and Rock Mountains (left of Chimney Top). This region has an extensive flora and contains many endemic and relict plant species. Among them are *Selaginella tortipila* Engelm. (a narrow southern Appalachian endemic) and *Trichophorum cespitosum* (L.) Hartman (a northern glacial relict). How many other such species would occur in this view that includes the ledges and seeps along the headwater streams and wetlands of a bog in southern Jackson County, NC? Send your nominations to the editor.]

——

"'Hence,' Darwin advised, 'a traveler should be a botanist, for in all views plants form the chief embellishment. Group masses of naked rock, even in the wildest forms, for a time they may afford a sublime spectacle, but they will soon grow monotonous; paint them with bright & varied colors, they will become fantastic; clothe them with vegetation, they must form at least a decent, if not beautiful picture.'" —Allan, *Mea. Darwin and his Flowers*. New York, Taplinger Publ. Co., p. 116.

——

# WANTED

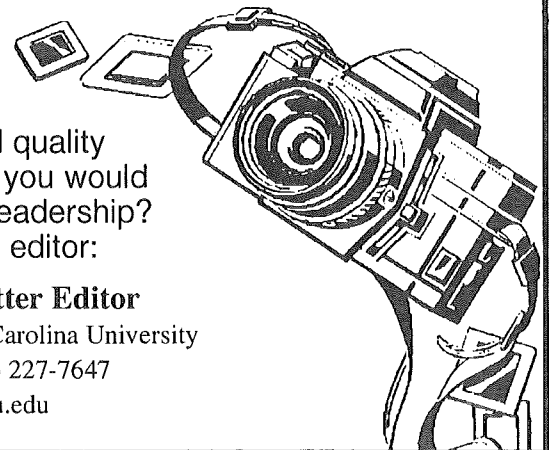
## PHOTOS

Have you any good quality (high contrast) photos you would like to share with our readership? Please send to the editor:

**J. Dan Pittillo, Newsletter Editor**

Department of Biology, Western Carolina University  
(828) 227-3653; fax (828) 227-7647

e-mail: [pittillo@wcu.edu](mailto:pittillo@wcu.edu)



SOUTHERN APPALACHIAN BOTANICAL SOCIETY  
Application for membership

Name: \_\_\_\_\_ Date: \_\_\_\_\_

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 issue of Castanea and Chinquapin unless advising otherwise. Year you wish to start: \_\_\_\_\_.

MEMBERSHIP CATEGORY:

Regular membership . . . . . ( ) \$25.00	Sustaining membership . . . . . ( ) \$ 60.00
Family membership . . . . . ( ) \$30.00	Emeritus . . . . . ( ) \$ 20.00
Student membership . . . . . ( ) \$10.00	Life membership . . . . . ( ) \$500.00

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

*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

**Address Correction Requested  
Return Postage Guaranteed**

Non-Profit Org. U.S. Postage <b>PAID</b> Asheville, NC Permit 575
---