Shortia galacifolia

Oconee Bells
MEMBER NEWS

Field Trip Cancellations: Occasionally, field trips must be cancelled or changed either for weather conditions or other reasons such as road closings. Such changes are sent out by email to all members by 7 AM the day of the field trip. If you do not have email access, please call the leader, co-leader, or recorder (whose phone numbers are listed on the schedule) to be sure that the walk is going to go as planned. Indoor programs are cancelled when Henderson County Schools are closed (see http://www.hendersoncountypublicschoolsnc.org) but NOT necessarily cancelled because of delayed opening.

For any change of address, email or telephone number, please inform Alan Graham, 42 Autumn Glen Court, Brevard, N.C., 28712. 828-884-3947 ——— adgraham@comporium.net.

ATTENTION: MEMBERSHIP DUES ARE DUE JANUARY FIRST

It is time to renew our membership in the Western Carolina Botanical Club! Checks can be brought to our Holiday Fest or mailed to

Alan Graham
42 Autumn Glen Court
Brevard, NC
28712
President’s Message

I’m quite fond of *Clethera acuminata*, the Cinnamon Spice Bush. I seek them out in our woods, appreciating the young one in my yard. I look forward to the day when its bark begins waving.

So I was thrilled to discover Gumbo Limbo here in the Florida Keys! It’s a tall, robust canopy tree, multi limbs curving up, with RED bark in graceful peeling chunks revealing lime green beneath! Ovate leaves with pointed ends drip away the rain. The branches tend to grow towards one side, so the bark is stunningly visible—well, if you approach on that side! In the sun, the red just glintens. And the sun glows though the tissue-thin pieces of bark as they peel. In fact, the tree is locally called ‘the tourist tree, red and peeling’.

*Bursera simaruba*, in the torchwood family, grows to about 80 feet, has a rounded spreading crown, with nice large and crooked branches on a stout trunk. Leaves are pinnately compound, 5–9 leaflets on a twig, usually 3” long. The papery bark sheets aren’t falling to the ground now, early November. I’m curious to see what happens by the end of December; the cool season is just starting (and is still too hot for me about 1–4 p.m.). The bark flakes are resinous, but not to my touch. Nor can I smell the turpentine scent. Maybe that’s mostly the flowers, small white clusters, blooming February to April.

Gumbo Limbos grow in hammocks, like the one here in Dagny Johnson Key Largo Botanical State Park. In the 1970’s, this park was scheduled to be a huge villa area with new lakes and ocean outlet on one side, another to the Intracoastal Waterway on the other, the salt water intrusion changing the wetlands and surroundings. Environmentalists objected to construction starting before permits were requested and especially to the loss of this unique tropical hammock. By the 1980’s Florida owned the land, now an “Area of Critical Concern.” There are plugs at the saltwater access points, helping turn the lakes back into wetlands. The canopy is 100’ or less, the ground cover dense with shrubs and vines. Dagny Johnson has 84 protected species of plants and animals. I’m on the lookout for the Key Largo wood rat. A kid said the one she saw was really cute. All things that fly, birds and especially butterflies, were blown about during Hurricane Irma. I’m seeing more species returned each day, though so far not the rare endemic Schaus Swallowtail. There’s mahogany mistletoe. But! there are also poison wood trees, so I’m not going off-trail to seek it out. Poison wood sounds worse than poison ivy or oak; the oils can drip on you from the canopy in the rain…really!

When I’m home again, I’ll think of the Gumbo Limbo every time I pass my growing Clethera. I’m looking forward to that and to spring in the mountains with you!

Happy Holidays, Susan S
My New Stereoscope

by Lucy Prim

I have a wonderful new piece of equipment at my house. It is called a “stereoscope” or a “dissecting microscope.”

When I was working on the article about Sanicles for Shortia a few months ago, I was having trouble seeing the tiny flowers and later the tiny seed pods and the tiny curving bristles. I tried buying an attachment to my iPhone that would allow me to take a picture of the minute structures, but that didn’t work well at all. The picture was blurry. I couldn’t hold the camera still enough. A few weeks later, after a visit to the Biltmore Estate with my cousin, we stopped at The Complete Naturalist in Biltmore Village so my cousin could buy some presents for her nieces and nephews. While she was doing that, I noticed a nifty looking microscope sort of device set out on the counter.

It had a piece of lichen on the stage. I walked over and took a little look through the oculars. I was really astonished! How amazingly clear and sharp the lichen looked! This was much better than I’d been expecting. Instead of seeing a tiny area lit from below the way you do with a microscope, this instrument let me see a fairly big piece of the lichen lit from above in amazing 3-D detail. It was astonishingly sharp focused and bright, not going in and out of focus with the slightest movement the way a microscope would. Although some of us no doubt know about stereoscopes, this was all new to me and I was intrigued. I went home and thought about it for a few days, and then I drove back and bought it! I now have it set up on my desk, ready for studying the little curiosities I find in the woods. I can look at mosses and see them in all their complicated details. Sometimes moss features that are described in books are difficult to see, but not at all with this stereoscope. Is there a midvein? Now I can really see if there is one or not! Suddenly all this comes clear! Calyxes that seemed an impossibly complicated arrangement of bracts and bristles become understandable. It is a wonderful piece of equipment, just the thing for us Botany Club members who want to see our plants better.
What’s in a Name – *Curtisii (or Curtissii)*

by Penny Longhurst

I think of October as “Curtis Time,” when we’re surrounded by Curtis’ Goldenrods (*Solidago curtisii*) and Curtis’ Asters (*Symphyotrichum retroflexum*) and maybe even some late blooming Curtiss’ Milkworts (*Polygala curtissii*). So I started wondering, who was Curtis?

Curtis’ Goldenrod (*Solidago curtisii*)

Curtis’ Aster (*Symphyotrichum retroflexum*)

The man who would come to be known as the Rev. M. A. Curtis was Moses Ashley Curtis (known to friends and family as Ashley), born in Stockbridge, Massachusetts in 1808. His father, Jared, was in the mercantile trade, and later founded Stockbridge Academy, which Curtis and his two younger siblings attended. In 1823, at the age of 15, Curtis enrolled at Williams College in Williamstown, located in northwestern Massachusetts, near its border with New York and Vermont. Curtis graduated from Williams College in 1827 and taught school in Massachusetts until 1830, when he sailed to Wilmington, North Carolina to tutor the children of General Edward B. Dudley, congressman for the district and the future first elected governor of the state.

Curtis had collected plants while studying at Williams College and continued to add to his collection while living in Wilmington. At that time botanists had to rely principally on advice from other collectors for identification purposes, but there weren’t many of those in North Carolina. There were few books or plant lists available to assist with identification. Thus, each botanist created his own herbarium of plants he’d collected, preserved, and labeled, and generated a personal catalog. Corresponding with or meeting eminent botanists and visiting other herbaria to verify identification of new species was done whenever travel permitted. In addition, packages of huge numbers of plants were exchanged for comparison and verification. During my research I was amazed to find fascinating preserved and digitized correspondence between Curtis and his contemporaries. It’s even fairly easy to read their handwriting!

By 1833, when he returned to Massachusetts to study for the Episcopal ministry, Curtis had collected and catalogued over 1,000 species, about ¼ of all the known flowering plants then known the USA. On his trip north he took the opportunity to visit John Torrey’s herbarium in New York (while Torrey was away). Torrey was a professor of chemistry and botany in the College of Physicians and Surgeons, New York (the medical school of Columbia University) and had published two books on the classification of plants in the Northern and Middle States. On November 29, 1833 Curtis wrote from Massachusetts to Torrey for the
first time to ask if he would help him with plant identification. He wrote “Dear Sir. On a visit to my friend Mr. Clark at your house in June I was led by him to believe that you would favorably receive an application from me to solve some difficulties which have opposed me in satisfactorily determining the species of several troublesome genera of plants. The only thing which has decided me to address you is the impression that you may be glad of the opportunity to examine them, being from the Southern States; and to which you will be heartily welcome. My wish is simply to ascertain their names as referred by yourself.

It is my wish that you give yourself no trouble about it, freely refusing unless the project meets your pleasure, though I should be glad of a line to apprise me of your will that I may act accordingly.

The genera which I allude to have are Solidago, Aster, Cyperus, Rhynchospora, and perhaps a few scattered ones of other orders.

Hoping that I have not offensively intruded myself upon you. I remain your servant, Moses A. Curtis”

It’s comforting to learn that even famous botanists were confused about Asters and Goldenrods! Almost immediately, he received a response from Torrey dated December 6, 1833, which said:

“... It will afford me much pleasure to receive from you the Southern plants to which you allude and I will endeavor to determine their names as accurately as I am able […]. I would be very glad to receive any Southern plants that are not covered in the Northern or Middle States. Yours Truly, John Torrey”

On his way back to Wilmington in 1834, Curtis stopped again in New York and spent several days with Torrey and met his pupil, Asa Gray, with whom he would collaborate many times in the future.

After returning to Wilmington, Curtis married Mary de Rosset, whom he had met while teaching piano. They would eventually have 10 children. His first publication, the “Enumeration of Plants Growing Spontaneously Around Wilmington, North Carolina: With Remarks on Some New and Obscure Species” was published in the Journal of the Boston Society of Natural History in May 1835. It included 1031 species! Fifty nine of those species had detailed descriptions, including new information on the methods used by the Venus Flytrap (Dionaea muscipula) to capture and digest prey, which he had observed closely by spending many hours lying on his stomach. Also in 1835, Curtis was ordained deacon of the Episcopalian church and assigned to serve as a missionary for western North Carolina, based in Lincolnton, near Charlotte. His new duties took him as far west as Asheville, providing exciting opportunities to collect new plants in areas previously explored by only André and François Michaux and John Fraser. Sometimes he found new plants that the others had overlooked and sometime he failed to find plants that they had described, but he succeeded in finding almost 100 species that were new to him during his time there.

Always short of funds, in 1837 Curtis accepted a position as schoolmaster at a new church school in Raleigh. Unfortunately the school went broke, the principal got sick, and Curtis was left holding the reins. However, he did have the summers free to botanize and in 1839, shortly after being ordained to the priesthood, he set off for the mountains again. Curtis had always been in poor health, suffering an attack of presumed rheumatic fever as a child and other ailments during adulthood, so his botanizing adventures were often curtailed by periods of convalescence. Nonetheless he travelled through Morganton to the headwaters of the Toe River and Grandfather Mountain, and on to chilly Mount Mitchell and the Black
Mountains. Next stop was Asheville. From there he travelled through laurel hells to Waynesville, Franklin, and Murphy, stopping at Devil's Courthouse, and collecting plants all along the way.

In 1841, Curtis became rector of St. Matthew’s Church in Hillsborough, NC, about 12 miles west of Chapel Hill. Apart from a brief stint as rector in Society Hill, SC, about 80 miles northeast of Columbia, from 1847–1856, he remained at Hillsborough for the rest of his life.

On September 29th, 1842, Curtis wrote to “Mr. Asa Gray, New York, NY” describing a number of plants his friend, Samuel Botsford Buckley, had collected in the Western mountains, including his “new Hypericum from many new localities. This is a very showy species & certainly new.” Later in the same letter he mentions that “Buckley tells me he was with Rugel a while, & that he is a mean man; also, that he has fallen out with Torr. & Gray, & that he has sent & is sending his plants to Europe. The European botanists have written him not to let the Americans have his plants. I am determined therefore to work up the few plants that I have into a paper for the Jan. [...] of Silliman’s Journal [the American Journal of Science & Arts] so as to anticipate, as far as I can, any European Botanists. I wish you would help me in this, if you have time. Buckley’s plants had better be worked over also.”

Publish or perish existed even then! Curtis’s efforts were successful. His 1843 publication was the first to describe Hypericum buckleyi, which he had found several years before on Whiteside Mountain in Macon County, and which we are all familiar with from our visits to Wolf Mountain Overlook and other Blue Ridge Parkway locales.

By 1845 Curtis had 1,833 flowering plants in his herbarium. As one of the leading botanists in the United States, Solidago curtisii and Aster curtisii (now Symphyotrichum retroflexum) were named in his honor by Torrey and Gray. However, in 1846 he became interested in the study of Cryptogamia, plants which reproduce by spores without producing flowers. This grouping includes ferns, mosses, algae, fungi, and lichens. He decided to concentrate on fungi, a neglected area of research in the United States, and contacted an English expert, the Reverend Miles Joseph Berkeley. He requested help in identifying and preserving specimens, and promised to send samples of American fungi in return. Berkeley agreed and suggested reference books that he thought would be useful. Curtis immediately set to work collecting specimens. His notebook listing 233 pages of numbered fungi specimens sent to Berkeley during their collaboration is available through the Biodiversity Heritage Library. By 1848 Curtis had collected sufficient new species of fungi to publish his first paper on the topic entitled “Contributions to the Mycology of North America”.

Curtis soon became the most important mycologist in North America. He trained his two eldest sons, who had previously helped him on botanizing expeditions, to collect and draw fungi. This provided him with additional time for identification of his own specimens, as well as the hundreds sent to him by collectors from around the world. Summer botanizing expeditions continued, with a visit to the Asheville area providing amusement when Curtis discovered that a plant that had been proposed by Torrey as a new Sumac (Rhus gibbesii) turned out to be Mountain Ash (Sorbus americana). In Torrey’s defense, he had identified the plant after seeing only dried leaves, while Curtis had the opportunity to see the ripening berries. Apparently we are not the only ones to confuse similar looking plants!

As a highly respected Episcopal minister, Curtis was one of the founders of the University of the South in Sewanee, Tennessee, about 50 miles west of Chattanooga. Although the cornerstone was laid in 1857, the start of the American Civil War in 1861 caused delays and it didn’t open until 1868. The war caused other
problems for the Curtis family. One son was killed at the Battle of Bentonville. Money and food were scarce, but fortunately Curtis’ knowledge of mycology meant that they could eat mushrooms!
Collaborations were impossible since so many of his botanical friends lived in the northern states. Nonetheless, shortly after the war ended, in 1867 he published a book entitled “Geological and Natural History Survey of North Carolina. Part III. Botany: containing a catalogue of the indigenous and naturalized plants of the state”. The copy made available at the Biodiversity Heritage Library has a nice inscription reading “Prof. John Torrey with respects of M. A. Curtis”. The summary states that the book contains the names of 1,873 flowering plants, 532 flowerless plants (ferns, mosses, liverworts, etc.), 50 algae, and 2,392 fungi.

Sadly, in the later stages of his life Curtis was in failing health, often unable to use his microscope, read, or write. He died in 1872 at the age of 63. Letters received by Curtis can be found online at the Wilson Library of UNC, and many of his letters to other botanists are available through the Biodiversity Heritage Library.

Now, let’s return to Curtis Time. After searching Weakley for all the occurrences of “Curtis” I finally noticed that some plants are “curtisi” and some are “curtissii”. Well, it turns out that Curtiss’ Milkworts (Polygala curtissii) (and all other curtissii) are named for Allen Hiram Curtiss (1845–1907), a botanist who lived in Jacksonville, Florida. His biography can be found on the UNC Herbarium website. Species named after his mother, Floretta Anna Allen Curtiss, who was an authority on the study of algae, are listed as “curtissiae”. Botanical names can be very confusing!

References:


Biodiversity Heritage Library. Correspondence between M.A Curtis and John Torrey and M.A. Curtis and Asa Gray.

Biodiversity Heritage Library. Lists of fungi sent to M.J. Berkeley by M.A. Curtis.


The M.A. Curtis Papers, #199, Southern Historical Collection. The Wilson Library, University of North Carolina at Chapel Hill.


Crabapple or Hawthorn?

by Lucy Prim

Surprises can be horrible, but they can also be great fun. I had the fun sort on our club’s walk to Whiteside Mountain this November. When we got up to the ridge, we noticed some straggly, twisty, gray branched shrubs alongside the path. The leaves were almost entirely gone, but looking quickly at the twisty little branches, I thought I could see long sharp thorns. I said they must be some sort of Hawthorn. But Susan Pfeiffer very confidently said no, they were Crabapples. I had my doubts that there were even such things as native Crabapples. Brimming with skepticism, I looked up Crabapples in the index of the tree book I’d brought along. Was Susan right? Yes, she was! We do have native Crabapples here in North Carolina!

A little more research back at home taught me that Hawthorns and Crabapples can be hard to distinguish. One good way to tell the difference is to look at the thorns. If the thorn is completely smooth on the sides, with a very sharp point, then it is probably a Hawthorn. If the “thorn,” or, to be more accurate, the “bluntly pointed spur shoot,” has little ridges encircling it, then it is likely to be a Crabapple.

As I researched this subject I suddenly remembered something I’d almost forgotten. Last spring, while walking down the path from Cedar Rock in DuPont Forest, I’d come upon a small gnarly tree blooming with the most exquisite pink flowers. I could see big gray “thorns” on the branches and said to myself, “What a lovely Hawthorn!” But when I got home and looked through Ron Lance’s book on Hawthorns, I couldn’t find a picture that matched. Why had Ron not included this beautiful Hawthorn? Now I know why he left it out. It wasn’t a Hawthorn at all, it was a Crabapple!

According to Weakley’s Flora we have two native Crabapples here in our mountains. *Malus angustifolia* has narrow leaves. (Thanks to Penny we should easily remember this one!) *Malus coronaria* has wider leaves.
Ethnobotany of the Cherokee

by Susan Goldsworthy

In this issue of Shortia I continue my series on the ethnobotany of the Cherokee people, examining their relationship with seven sacred plants. Below we explore the fourth of these plants, River Cane.

River Cane (*Arundinaria gigantea* (Walter) Muhl.)

**Cherokee Name:** I ya

**Description:** The fourth sacred plant of the Cherokee is our native River Cane (*Arundinaria gigantea*), also known as Giant Cane or American Bamboo. A member of the family Poaceae, it is a perennial grass with solid nodes and hollow, woody internodes; culms (stems) up to 3 inches in diameter and 5–12 feet in height (historically up to 25 feet); first unbranched then further up the stem forming fanlike clusters of lance-shaped, leathery leaves up to 12 inches long and 1.5 inches wide. Although the inflorescence is a purple panicle or spikelet 1.5–2.8 inches long, it flowers irregularly (approximately every 20–30 years) and thus rarely produces seed. Most reproduction is vegetative, with new stems sprouting regularly from the rhizomes. With a thick network of running rhizomatous roots, it naturalizes into a dense, mono-cultural, almost impenetrable colony known as a canebrake.

**Related Species:** Two other *Arundinaria* species native to western North Carolina are often confused with *Arundinaria gigantea*: Switch Cane (*A. tecta*), growing to 8 feet in height and found in swampy, wet areas; and Hill Cane (*A. appalachiana*), thin-stemmed, growing to 3 feet in height on dry, upland slopes in oak-hickory forests.

**Distribution and Adaptation:** River Cane is native to eastern North America, growing naturally along river banks, moist bottomlands, swampy areas and bogs from Florida to Texas and north to Kansas, southern Illinois, and New York. Historically, River Cane formed dense canebrakes over 25 feet tall that stretched for miles, often forcing travelers to make wide detours; the culms were much thicker than today. William Bartram (1739–1823), America’s first professional botanist, described the culms of river cane “as thick as a man’s arm.” The English explorer John Lawson (1674–1711) recorded that one culm of river cane could hold “about of pint of liquor.”

Canebrakes provide safe habitat for many animals, including butterflies (southern pearly eye), birds (Swainson’s warbler), reptiles (canebrake rattler), swamp rabbits and black bears. They also protect riparian buffers from erosion and act as a water purifier for run-off. This canebrake ecosystem is now greatly endangered. Ninety-eight percent of its original size has been depleted since the arrival of Europeans due
to livestock foraging, agricultural clearing and fire suppression. This loss has had a severe, negative impact on the Cherokee culture that relies heavily on River Cane for many uses (see below).

**Name Origin:** The genus name comes from the Latin word *arundo* meaning a reed. The species name *giantea* means unusually tall or large.

**Cherokee Legend and Customs:** River Cane plays a role in several Cherokee legends, including the origin of basket weaving. The first basket made of River Cane was created by the Great Spirit but left unfinished in a walkway where a young woman happened upon it. The Great Spirit told her if she wanted to learn more she should return the next day. She did and with help from the Great Spirit she completed the first Cherokee cane basket.

Another legend involves the creation of the bat’s wings. The four-legged animals of the forest challenged the birds to a ballgame. The bat, up until now without wings, wanted to join the animals’ team, but they refused, saying she was too small. So the birds agreed to have her on their team and created wings for her from animal hide and cane splints. With her new ability to fly she helped win the game for the birds.

A third legend tells the story of a village elder who had no food because birds were destroying his garden and he had become too old to hunt. The Cherokee Little People came to the man in his dreams and told him how to create a blow-gun from River Cane. The next day he fashioned the first blow-gun and killed the birds eating his garden. This provided him with not only a bird-free garden but also fresh meat from the slain birds.

Finally, it is a Cherokee custom for men to use a cane flute in their courting ritual. When a man finds a woman he wishes to marry, he plays his flute for her. If she is impressed and wants to marry him, she breaks his flute in half, thus convincing him he is her true love and preventing him from playing for anyone else.

**Cherokee Ethnobotany:** The Cherokee people have many and diverse uses for River Cane in their culture:

**Fiber:** Perhaps the best known use for River Cane is in the weaving of baskets. These cane baskets (*talutsa*) are made from stripped splints of the hard exterior of the cane, dyed with various plants like Black Walnut (*Juglans nigra*) and Pokeweed (*Phytolacca americana*), and woven into intricate patterns. Cane is also woven into traditional sleeping mats as well as wall coverings which are later covered with mud to create an adobe affect.

**Building Materials:** Sturdy River Cane poles are used to construct the traditional Cherokee house. Furniture and pontoon boats are also fashioned from cane.

**Hunting and Fishing:** Much of the Cherokee hunting and fishing tradition is dependent on the use of River Cane, including the creation of atlatls, blowguns and darts, knives, arrow shafts, fishing poles and woven fish traps.

**Tools:** Other useful Cherokee tools include drills made from sharpened cane, ornamental pipe stems, and garden structures such as trellises and bean poles.

**Musical Instruments:** Cherokee music centers around flutes traditionally made from the “joint of a reed.” The instrument is played vertically rather than horizontally, and the four wind holes are placed to direct the song to the Four Sacred Directions (North, South, East and West).

**Medicine:** The Cherokee use the macerated roots of River Cane as a painkiller.
Food: The roots of River Cane are pounded into a flour for various cooking and baked goods, while the young shoots are eaten like asparagus in the spring.

Livestock Fodder: The Cherokee and early European settlers used River Cane as fodder for their livestock.

Fuel: Dried and flaked River Cane is used for firewood and kindling.

Other: Additional uses for River Cane include jewelry, combs, candle holders, and various containers.

References


Old Man’s Beard
by Penny Longhurst

Living here in the mountains, when it’s rainy it sometimes seems as if you can see the lichens grow on the trees! One of the more obvious ones goes by the common name of “Old Man’s Beard.” On first glance many of us might think that it’s Spanish Moss, the ubiquitous growth seen hanging from Southern Live Oaks and Bald Cypress in subtropical Southern States but, as you will see, Old Man’s Beard and Spanish Moss are quite different organisms.

Old Man’s Beard (generic name Usnea) is a fruticose lichen, meaning it is composed of an elastic thallus (leafless twig), a holdfast (root-like anchor), and has a shrubby, tassel-like growth pattern. Usneae grow on tree bark and twigs and survive long periods of desiccation, since their only source of water is rain. Michaux found Usnea when he visited Roan and Grandfather Mountains in the 1780’s and 90’s. Twenty-five species of Beard lichens or Usnea have been identified in North Carolina, distinguished from each other based on morphological, anatomical, and chemical characteristics. However, as with other organisms, the taxonomy of Usneae will probably be revised when molecular analyses are done. The photograph shows a local Usnea (probably U. strigosa) with several characteristic cup-shaped fruiting bodies or apothecia. The apothecia contain asci, the spore bearing cells. In contrast, Spanish Moss is neither a lichen nor a moss, but a flowering plant in the Bromeliad family. In the Carolinas, its growth is limited to the coastal region. Like Usnea, it is an epiphyte, absorbing nutrients and water through its branches. The botanical name for Spanish Moss is Tillandsia usneoides. Usneoides means resembling Usnea, thus Spanish Moss is sometimes called Usnea-like Tillandsia.

References


The purpose of the Club is to study the plants of the southern Appalachian Mountains and the Southeast through field trips and indoor meetings. **Membership is open to all.** Individual/family memberships are $15. New members joining from the period July 1-December 31 pay $8. All memberships are renewable on January first of each year. Send dues to Alan Graham, 42 Autumn Glen Court Brevard, NC 28712.

Please send me Botanical Articles or stories or tips on plant identification that you think would be good to include in one of our SHORTIAs. If you see anything that needs correction or if you have additional information about a subject or perhaps a personal experience related to a subject, send that in too, and I can include it in a future SHORTIA. Please try to get this to me by March 5 to get it into the Spring issue.