The Lady-Slipper

Kentucky Native Plant Society | Number 16:4 | Winter 2001–2002

Kentucky's Largest Nature Preserve:

BLANTON FOREST OPENS TO THE PUBLIC!

by Ron Scott, Ky. State Nature Preserves Commission

AS THE FALL COLORS on Pine Mountain in southeastern Kentucky were reaching their peak, the Kentucky State Nature Preserves Commission (KSNPC) announced the public opening of the 2,577-acre Blanton Forest State Nature Preserve. The preserve protects the largest old-growth forest in the state of Kentucky and the 13th largest such forest in the eastern United States.

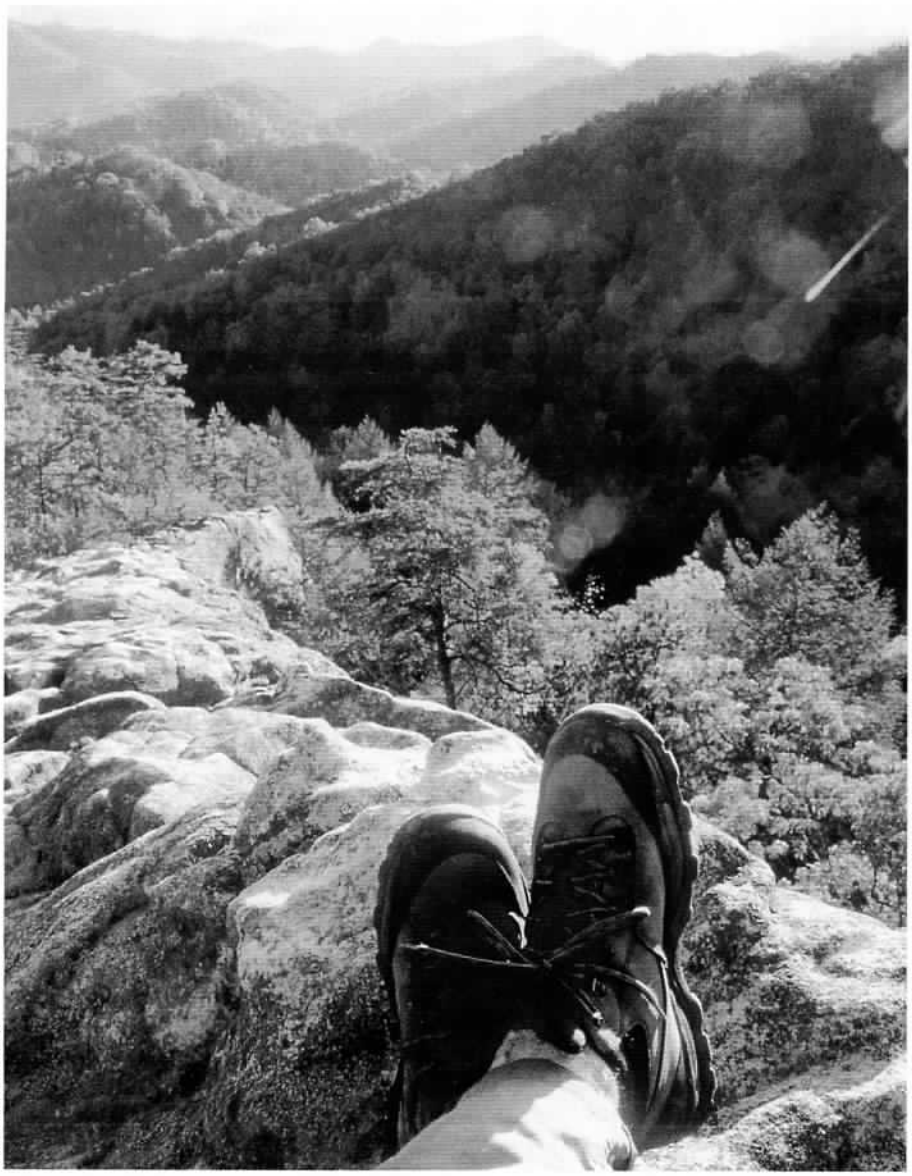

Photo by Wes Fortney

The crest of Knobby Rock in Blanton Forest—a pretty good place to contemplate shoes.

A mere hundred years ago, old-growth forests similar to Blanton Forest blanketed Appalachia. Today, more than 95 percent have been converted to nonforest uses or are otherwise damaged and degraded. Blanton Forest represents one of the few ancient forests of its kind and is considered both globally outstanding and critically endangered.

Blanton Forest was first identified by KSNPC senior ecologist Marc Evans in the spring of 1992 while inventorying natural areas on Pine Mountain in Harlan County. The virtually undisturbed forest is classified as mixed-mesophytic with several additional ecological communities, including Appalachian oak forests, oak-pine forests, bogs and others. More than 400 plant species can be found at Blanton Forest along with scores of animal species, including more than a dozen that are monitored by KSNPC due to their rarity within the state. The network of waterways within the forest are first-order streams descending from

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Blanton Forest Opens to the Public (Continued)

rare, pristine mountaintop bogs. One of these—Watts Creek—supports an isolated but healthy population of federally listed blackside dace (*Phoxinus cumberlandensis*).

According to KSNPC Executive Director Donald S. Dott Jr., "We are thrilled with the progress made to date toward preserving this stately and magnificent forest. Blanton Forest is not only a great repository of biological diversity, but also a wonderful natural legacy to pass along for future generations to learn from and enjoy."

Earlier this summer, KSNPC, with the assistance of the Kentucky Natural Lands Trust (KNLT), acquired a key, second old-growth forest tract for the preserve encompassing 1,164 acres. Along with a 1,075-acre old-growth tract purchased in 1995 and an additional 338 acres of forested buffer land, more than a third of the 6,700 acres of land designated for the Blanton Forest State Nature Preserve is now secure. KNLT, a private, nonprofit organization, and KSNPC, a state agency tasked with protecting the finest examples of Kentucky's natural diversity, will continue working to acquire funds to protect additional land for the preserve and to insure its perpetual management and stewardship.

"This old-growth forest community is awe-inspiring and truly one of the crown jewels of Kentucky's nature preserve system," said Kentucky's Department for Natural Resources Commissioner Hugh Archer. "There is much more work to do, including securing an additional 4,000 acres of forest to complete the preserve design. With continued private donations and a strong commitment by the state, Blanton Forest State Nature Preserve can provide an unparalleled opportunity for research and education, passive outdoor recreation and the best kind of economic development opportunity for the region."

For more information about Blanton Forest, the work of the Kentucky State Nature Preserves Commission or Kentucky Natural Lands Trust, please visit these web sites:

www.kynaturepreserves.org

and

www.blantonforest.org

Editor's note: Blanton Forest State Nature Preserve is located in extreme southeastern Kentucky near the community of Keith in Harlan County. The preserve is on Pine Mountain, north of U.S. Highway 119 and west of the city of Harlan. From Interstate 75, exit on to U.S. Highway 25 East at Corbin. Continue on U.S. 25 East through Barbourville to Pineville. In Pineville, turn left off of U.S. 25 East onto U.S. 119, crossing the Cumberland River at the Exxon Station/Happy Mart. Continue travelling east on U.S. Highway 119 for 23 _ miles, then turn left on KY 840. There will be a sign for KY 840 and Camp Blanton at this point. Follow KY 840 (Watts Creek Rd.) for about 2 miles until encountering the parking area for the preserve adjacent to Camp Blanton. The preserve is open daily during daylight hours.

From Rowan Co.: Smart Progress Opposes Interstate . . .

MOREHEAD, KY—Sept. 24, 2001. The Commonwealth of Kentucky, using Federal highway funds under the Transportation Equity Act of the 21st Century (TEA-21), is in the process of approving plans for an interstate connector road through the heart of the Daniel Boone National Forest near Morehead. Local environmentalists, university professors and students, and business owners have formed the group Smart Progress to fight the road project.

Smart Progress contends the road project will adversely impact national forest species that are protected under the Endangered Species and Wild Bird Conservation Acts including Virginia big-eared and Indiana bat populations, the eastern puma, and several varieties of plants native to the area. The road will also bisect an uninterrupted 12-mile stretch of the Sheltowee Trace, Kentucky's longest national recreation trail. Local business owner and Smart Progress member, Kim Rice, says "This road violates every precept of good forest systems management. It also violates the U.S. Forest Service's own directives regarding sustainable forest systems and their stated goals regarding environmental, ecosystem, and habitat management and protection."

Local opposition also centers on the road's potential for creating unplanned sprawl due to lack of local zoning laws, its origination from real estate speculation rather than demonstrated need, its escalating cost, and insufficient and untimely opportunities for public participation in the decision-making

Hall's Prairie: A Reality

by Tom Barnes

It was a great day for a dedication! Not a cloud in the sky and temperatures in the mid 70s. It was on the morning of October 20, 2001 that Hall's Prairie, a 105-acre tract of land in Logan County, was officially dedicated.

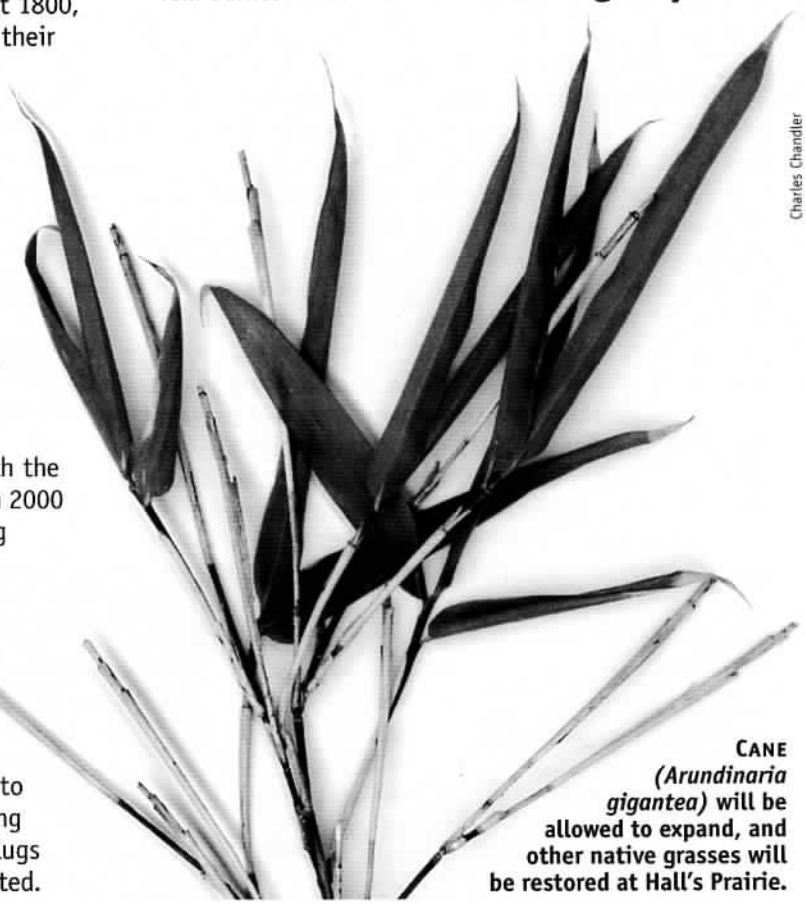
Although it had been in the Hall family since about 1800, Monroe and Judy Hall of Indianapolis, IN, donated their former family farm to the University of Kentucky with the intention of returning it to native grassland. Hall's Prairie is located directly across highway 68 from the town of Auburn, KY, and the goals of converting it from agricultural use to native tall grass prairie are to:

1. restore the land to native grassland using only native genotype materials
2. create a refugium for rare and uncommon prairie or grassland plants to harvest seed for other restorations
3. create opportunities for passive recreation and scientific and educational activities.

The restoration of Hall's Prairie began in 1999 with the seeding of some native grass species. On Earth Day in 2000 the Louisville Wild Ones helped plant both sun-loving and wetland wildflowers in appropriate areas. Last summer about a dozen ladies tresses orchids were rescued and relocated to the property and all survived the fall growing season. Some native genotype royal catchfly was also planted this fall. In the spring a riparian forest will be restored along one boundary, an existing canebrake will be allowed to expand, and eastern gamagrass will be planted along a drainage ditch. Thousands of native wildflower plugs collected by UK faculty and students will also be planted.

We invite your help with this project. If you can collect native genotype seeds from the Mississippian Plateau region, we welcome your generosity. Just let us know the species and where it came from. We also would welcome your help with plantings, and if you know of sites where rescuing rare plants is warranted, we'd be glad to make those plants part of the project. For more information, please contact

Tom Barnes – 859-257-8633 or tbarnes@ca.uky.edu



Charles Chandler

Cane *(Arundinaria gigantea)* will be allowed to expand, and other native grasses will be restored at Hall's Prairie.

. . . Connector Road Near Morehead

process. "According to calculations provided by the firm hired to conduct the project's Justification Study," says Ms. Rice, "this road will cost taxpayers 5.47 times more than any potential benefit derived from it. This is only one of the negative realities that its supporters chose to ignore."

According to Ms. Rice, although both of Kentucky's senators and the U.S. Transportation secretary routinely refer those who oppose the road to KY Transportation Cabinet secretary James Codell, Mr. Codell has staunchly supported the project from it's inception and has so far demonstrated little interest in investigating the environmental, financial and public-participation issues that have been raised. In the case of impacts on a national forest, says Rice, this amounts to "federal government's abdication of its responsibilities in allowing such decisions to be controlled and driven by state and local government officials and real estate speculators potentially motivated by personal, political, and financial gain."

Although two public meetings regarding the project have been held, Ms. Rice says "Smart Progress contends that the majority of citizens in the area were not aware of the project until the March 2001 public meeting at which such advanced design plans were presented that the public was left with the impression that the project was 'a done deal.'" While it believes local opinion and needs have not been fully considered, the group holds that final decisions about using national forest lands must be made with the good of the entire nation in mind and with respect to their national and environmental significance as valuable ecosystems.

"Smart Progress," says Ms. Rice, "intends to use every legal means at our disposal to fight this expensive, unnecessary destruction of valuable, important, treasured national forest land and we invite like-minded groups and individuals to join us in that effort." For more information, contact Smart Progress at

smartprogress@yahoo.com

or Kim Rice at

dkrice@kih.net

Eggert's Sunflower Rescue at Mammoth Cave National Park:

Text and photos by Charlie Lapham

THOSE WHO ATTENDED the KNPS 2001 spring meeting know our society was asked to help relocate a population of Eggert's sunflower *(Helianthus eggertii)* from a road construction site in Mammoth Cave National Park (MCNP). The KY Sierra Club Wilderness Volunteers and the Student Conservation Association (SCA) interns at MCNP joined in this project.

This particular site was discovered about 10 years ago by Dr. Ron Jones of Eastern Kentucky University at what was then Wondering Woods just outside the national park. While looking for adjacent populations of the sunflowers, he met the caretaker for Wondering Woods and explained that this was the only known site in Kentucky for *Helianthus eggertii*. When he got back to the office he informed the Kentucky State Nature Preserves Commission of his find. Anxious to acquaint themselves with a new Kentucky species, Mark Evans and Landon McKinney drove down to inspect the site in a state vehicle. Not knowing exactly where or what they were looking for, they were searching along the road when the Wondering Woods caretaker showed up. What were they looking for, he asked them, *Helianthus eggertii?* Needless to say they were quite shocked.

Since that time, Wondering Woods has been added to Mammoth Cave National Park and additional populations of Eggert's sunflower have been found there and at other locations within the park. This was a critical factor in deciding to attempt a relocation of the roadside population.

In an effort to save seeds from the population, we used bags made out of tulle from Wal-Mart. This is the traditional wedding veil material. We used blanks about a foot square, then hemmed one edge with a drawstring inside. Folding up the loose end and sewing up the two sides made bags that could be easily closed with the drawstring. Most Eggert's sunflower plants had several flower heads and we tried to get half a dozen or more heads into each bag. The heads were not necessarily on the same plant.

Originally scheduled for September 8 but postponed for drier weather, the bagging took place on the afternoon of September 13. Charlie Lapham, Mark DePoy and Rick Olsen spent most of the afternoon applying the bags. Some plants were still blooming so Mark came back a week later and bagged most of them. We used about 400 bags on the 1500 plants.

Just prior to the relocation effort on October 27 the bags were collected. Each bag with its gathered stems was collected as a unit since opening the bag outdoors was tried once and the wind immediately blew the contents away.

Arlene Lapham had foot trouble and consequently got to clean the seed. In spite of our bagging efforts there were still some open heads and some of those contained seed. A small box full of open heads was collected. Arlene got 400 seeds out of them, but it took all day to process them. The seeds are small, about 144 seeds to the gram. Some bags contained over 100 seeds. Other bags had weevils in them and those bags contained no usable seed.

The Friends of *Eggertii*—before.

Collecting Eggert's sunflower seeds at the roadside site.

Loading the truck with transplants.

A Report . . . . . .

Transplants and transplanters arrive at a very nice golf course which is about to be further improved by the addition of Eggert's sunflower.

It took about 48 hours to clean the seed. The total harvest—44 grams—was somewhat over 6,000 seeds. This is quite a bit better than we expected. The tulle provided sufficient ventilation to avoid mold in the flower heads, and it also did a good job of containing the seed during its ripening and maturation. The yield from the bagged heads was at least 10 times the yield of the unbagged heads. Half a dozen bags had holes in them, but still contained seed—apparently birds made the holes to extract insects.

After collecting the last of the seeds on October 27, about 15-20 volunteers from the various sponsors transplanted over 1000 Eggert's sunflower plants to other sites in the national park. One site has seen many uses in the last 100 years. It started off the 20th century as a golf course for Mammoth Cave tourists. By the 1930s it had become a CCC camp and 30 years later it was resurrected as a Job Corps center. In its latest reincarnation, it is two years into being restored to the prairie-like vegetation that likely existed prior to construction of the golf course. It was great fun traipsing through the 7-foot tall grasses to get to the areas that had been prepared for the sunflower transplants. This site, and another relocation site, a prairie Near Crystal Onyx Cave, are scheduled for Mammoth Cave's first controlled burns this winter.

The transplanting itself was accomplished by removing clumps of plants with shovels. The sunflowers' above-ground vegetation was mostly dried up and finished growing for the season. Care was taken to try to leave about 4 inches of soil around each stem with its root system. It seemed the plants must be pretty tough to have sustained themselves in the hard and gravelly soil conditions at the side of the road. Some were already starting to send out rhizomes with buds for next year's growth. We had 6 large plastic tubs and the theory was to fill the tubs with transplants and rotate them from the original site to the new sites. It didn't take long, however, to run out of tubs. Most of the plants ended up being wrapped in newspaper for the move.

Due to intermingled root systems and the difficulty of distinguishing multiple-stem plants from colonizing individuals, it is hard to say how many plants were finally moved. By the end of the afternoon, the general consensus seemed to be that we moved over 1000. Mark thinks we moved 80% of the roadside population, it looked more like two-thirds to me. Anyway, it was a lot.

It's also hard to count all the thanks that are owed to all who participated. For more pictures and maybe a spring update, check the web site at

http://www.scrtc.com/~lapham/Eggertii/EggertiiHome.htm

Mammoth Cave's SCA interns had prepared planting sites.

The Friends of *Eggertii*—after.

SASSAFRAS (*Sassafras albidum*): An Early Colonial Commo

by Rob Paratley, Curator, University of Kentucky Herbarium

"Sassafras was of most rare vertues in phisick for the cure of diseases." —Thomas Harriot, 1588

"This tree at one time created greater interest in the old world than any other American product, not excepting tobacco." —John Lloyd, 1908

IN THE EARLY 1600s, the English established fledgling colonies on the eastern seaboard of the New World. It soon became clear that gold and other precious metals were not to be had, and mercantile interests focused on two plants. In the ensuing decades, companies would be established whose purpose was to develop these plants into major European commodities. One, of course, was tobacco, which, for better or worse, is a multinational phenomenon to this day. The second plant was introduced to European cities at about the same time as tobacco. Unlike the "tawny weed," which required intensive cultivation, this was a tree harvested directly from the woodlands of the eastern seaboard from central Florida to southern New England. For the next 200 years or more, the hulls of ships bound for English ports left Charleston, Tidewater, and Baltimore filled with the branches and woody roots of sassafras.

Sassafras is a familiar early successional tree, seeding into old pastures and sprouting back in cut over or burned woodlands throughout the state. When we walk past its spindly, twisted trunks, we probably give little thought to its former significance. We may enjoy the scent of the crushed leaves, scratched bark, or dug root, and may even know that volatile oils found in glands in the plant's tissues are the source of the fragrance. These oils, traditionally termed essential oils by spice dealers and herbalists, help classify sassafras in the large, mostly tropical Lauraceae family. Trees and shrubs of this family have long provided essential oils and tropical timber.

Far Eastern spice plants loomed very large in the economies of post-Medieval Europe. Cinnamon, cassia, and camphor (genus *Cinnamomum*), all from East Asian trees of the Lauraceae, were among the valuable Eastern spice commodities which set the so-called Age of Exploration in motion. Early explorers, trying to establish safer spice routes to the East, set off west and encountered the New World. Eager to demonstrate to their royal patrons the new lands' commercial potential (initially mistaken, of course, for India itself by Columbus), they collected any plant with a spicy fragrance or vouched for by initially forthcoming indigenous peoples. These samples were shipped back along with animals, native ornaments and implements, and other curiosities. The royals and mercantile classes of the seagoing European powers were impressed enough with some of these souvenirs to step up their transoceanic efforts. The better part of New World geography was rewritten from that point on.

Sassafras was one of the early plants to attract attention. Explorers were well aware of the importance of *Cinnamomum*, and sassafras looked, and more importantly, smelled enough like the Far East spices to warrant serious consideration. Widespread use by native peoples further stimulated interest. A probably apocryphal note asserts that "the wind-swept fragrance of sassafras trees" enabled Colombus to convince his mutinous crew to hold on and that land was near (Hutchens, 1991). In any case, it was not Columbus himself who brought sassafras to European attention, but a later unnamed French explorer of the Gulf region, perhaps initially mistaking the plant for cinnamon itself. Some sources credit the French with the name, as a corruption of saxifrage, a plant with some (questionably) similar medicinal properties (Grieve, 1931). Liberty Hyde Bailey (1951) offers the possibility that it was derived from the Spanish "salsafras," a reference to its spicy qualities. The Spanish established control of Florida and adjacent regions, and apparently learned of sassafras from the French. It didn't take very long for sassafras to find its place in the European pharmacopeia, first in France and Spain.

The first printed mention of the plant came in 1577 from a book called *Joyfull Newes out of the Newe Founde World* by Nicholas Monardes, a Spanish physician-botanist (some will recognize his name as the commemorative genus name for bee-balm, *Monarda*).

> The Frenchemen, which had been in Florida at that tyme, when thei came into those partes, thei had been sick most of them, of greevous and variable diseases. and that the Indians did showe them this Tree, and the manner how they should use it, and so thei did, and thei healed themselves of many evilles, which surely it doth bring admiration, that one onely remedy should doe so variable, and so marveilous effectes... [Later] our Spaniardes did begin to cure themselves with the water of this Tree, and it did in them greate effects, that it is almost incredible. (Vogel, 1970)

A French Jesuit, Paule Le Jeune, later in 1656 described the tree and attributed an assortment of benefits to its use.

> ...the most common and wonderful plant in those countries is that which we call the universal plant, because its leaves, when pounded, heal in a short time wounds of all kinds; these leaves, which are as broad as one's hand, have the shape of the lily as depicted in heraldry; and its roots have the smell of the laurel. (Thwaites, 1925)

He notes the significance of the plant's aroma and its similarity to the Mediterranean laurel, *Laurus nobilis*, namesake genus of the Lauraceae, and long revered in ritual, medicine, and as a spice. Note too the significance Le Jeune placed on the bilobed "mitten" leaf of sassafras. Perhaps this is a late and far-fetched example of the Medieval Doctrine of Signatures (where the form of a plant gave hint of its use or importance to humans, as created by Divine plan.)

In their first contacts with Native Americans of Virginia and New England, the English had a similar introduction to the tree. At the ill-fated Roanoke Island, Thomas Harriot's 1588 mention of sassafras (see front quote) is the earliest in English. In his *A briefe and true report of the new found land of Virginia* he claimed sassafras "to bee farre better and of more uses than... lignum vitae (*Guaiacum officinale*, a Caribbean tree whose oil and resins were much prized by European physicians)." Another early English report to the Crown reported that once the Virginia colony was settled, "sassafras, and many other rootes and gummes there found will make good marchandise and lading for shipping (Vogel, 1970)."

nmodity Plant

Indeed, as the new century dawned, the Jamestown colony became obsessed with collecting sassafras for export. Eighteen years before the Pilgrims landed, Captain Bartholomew Gosnold was charged with scouting for sassafras along the New England Coast. Apparently its price had by this time risen to 366 pounds sterling! The captain recorded that the Indians helped cut and carry out sassafras for shipment to English ports. The following year Bristol merchants formed a company "to send to Virginia for the sole purpose of gathering sassafras (Peattie, 1950)."

Sassafras was recorded in the *Pharmacopoeia Londinensis* in 1618, and, along with tobacco, became the principle export of the Virginia colony. By the 1620s, sassafras price fluctuations, caused by oversupply followed within a few years by an upsurge in demand, were recorded in financial reports of the day. Sassafras was important enough for Sir Walter Raleigh to have complained publicly of patent infringement on a particular sassafras preparation (Vogel, 1970). M. Grieve in her *A Modern Herbal* (1931) records that by the 1630s sassafras was being cultivated on the Continent. She also described the raw commodity shipped across the Atlantic: "The roots are imported in large, branched pieces, which may or may not be covered with bark, and often have attached to them a portion of the lower trunk." By the early 1600s a very popular sassafras tea called saloop (mixed with sugar and milk) was sold on street corners in European cities. What exactly was all the fuss about?

Sassafras had been traded for over 100 years when François-Xavier de Charlevoix illustrated it in his 1744 *Histoire et description générale de la Nouvelle-France.*

MONARDES LISTED a number of ailments cured by sassafras, mentioning dropsy (water retention and swelling), liver and stomach ailments, headaches, kidney stones, and "agues," an old term for malaria. John Gerrard in his *The Herbal or General Historie of Plantes* (1635) called it the ague tree, discussing the "deobstruent" (unblocking) actions of its wood and root and giving a similar set of indications. Because sassafras tea made one sweat, it was often employed to break a fever. A number of stories circulated concerning rapid and dramatic cures, many in reputable print sources. John Lawson, in his *History of North Carolina* (1714) related this graphic story of a nearly-miraculous cure by a native medicine man of lameness in one of his party:

> After he had viewed it [the lame leg], he pulled out an Instrument, something like a comb...with fifteen Teeth of a Rattle-Snakes... With these he scratched the place where the Lameness chiefly lay till the Blood came, bathing it both before and after Incision, with warm Water, spurted out of his mouth, This done, he ran into his Plantation and got some Sassafras root... and dried it in the Embers, scraped off the outward Rind, and having beat it betwixt two Stones, applied it to the Part afflicted, binding it up well. Thus, in a day or two, the Patient became sound.

The rapid cure of chronic complaint was apparently typical of claims being made at the time. In a letter to fellow botanist Peter Kalm, John Bartram told of a Virginia woman who had cured herself of severe foot pain and walking disability by rubbing the injured parts with sassafras oil, obtained in this case from the fruit (Bartram, 1751). A Virginia colony testimony from 1734 included sassafras in a recipe for avoiding cancer:

> Let him drink Sassafras Tea every morning, live temperately, upon light and innocent Food; and abstain entirely from strong liquor. The Way to prevent this Calamity [cancer], is, to be very sparing in eating Pork, to forbear all salt, and high season'd Meats, and live chiefly upon the Garden, the Orchard and the Hen-House. (Duke, 1986)

Here is a role for sassafras in preventive medicine, and as a part of what is otherwise a very sensible recipe for healthy living.

For more than 200 years, sassafras was a plant of many uses in the American colonies and the brand new nation. Grieve's *A Modern Herbal* (1931) described the bark and wood as having a fragrant odor, aromatic, with a somewhat astringent taste. These qualities explained why sassafras quickly found its way into many non-medicinal applications. She noted that the essential oil, extracted from the root, was used in "the coarser kinds of perfume, and for scenting the cheapest grades of soap. The oil used in perfumes is also extracted from the fruits. The wood and bark furnish a yellow dye." In Louisiana, sassafras leaves were referred to by Creole cooks as filé, used as a bay-like spice and as a thickener of the spicy stew filé gumbo and other sauces (Hocking, 1997). A chutney-like spice was also made from the powdered root (Couplan, 1998). In Virginia, it was used to flavor local brews of beer (Grieve, 1931), while pioneers in the northern edge of the tree's range boiled sassafras and added it to their maple syrup.

Later, well into the 1800s, sassafras was used to flavor and enhance the effects of many of the numerous bitter patent medicines which made their way across the country in traveling medicine shows. A concoction called "Godfrey's cordial" was marketed and popular for a time. Its main ingredients were opium and sassafras (Duke, 1986). In addition to its importance on the medicine show circuit—it was an important ingredient in a popular concoction called "Kickapoo Oil"—it was used to flavor a variety of drug store items like toothpaste, mouth wash, soaps, and perfumes (Hocking, 1997). When flavored tobacco became faddish, sassafras was one of the flavors used (Uphof, 1968). It is still used as a flavoring agent for sausages and other dishes in some parts of Appalachia (Crellin and Philpott, 1990). Flavoring a soft drink called root beer is perhaps its best-remembered use, and the aroma particularly of the root bark is suggestive of the drink. Although the ingredients in root beer varied through colonial history

(Continued on page 8)

SASSAFRAS (Continued)

and from place to place—greenbrier (*Smilax*) was the original flavoring; wintergreen (*Gaultheria procumbens*) and sweet birch (*Betula lenta*) were also important in pre-20th century soft drinks—sassafras took its place as an important source for this popular drink.

While never an important commercial timber, sassafras wood has had a variety of uses as well, particularly in colonial times and on a local scale. The wood is characterized by Uphof (1968) as weak, brittle, soft, coarse grained, orange brown in color, and durable in the soil. It has been used for ox-yokes, casks and barrels, and light boats, as well as for its yellow dye. In some places, especially the Deep South, the aromatic wood was thought to drive away lice and insects. Cabin floors and bedsteads were often made of sassafras because of this supposition (Peattie, 1950).

Most of its uses continued to be medicinal well into the 1800s. In the Deep South, oil of sassafras was actually combined with lignum vitae (referred to above) and brier into a therapeutic tea to induce sweating to break fevers, called a diaphoretic by herbalists (Bown, 1995). The many references to treatment of malaria ("ague") certainly relates to its indication as a diaphoretic. A soothing tea was prepared for sore throats, and, as a topical application, used for sore eyes. In fact, sassafras pith was officially indicated as a mucilaginous demulcent for eye inflammation well into the 20th Century (Duke, 1986). Mucilage is a tissue found in some plants which, because of its ability to absorb water and become soft and pasty, is often used in medicinal applications to soothe irritations and inflammations. Sassafras was made into mucilage by macerating the pith of the root (or occasionally branches) in water. Mucilaginous properties kept its popularity high through the 1800s, as evidenced by this excerpt from an 1854 letter by C.J. Cowle to a pharmaceutical dealer: "How goes the sassafras pith? It ought to sell well in cholera times, for the mucilage given out by it surpasses if possible that of the elm, if such substances must be good for lacerated bowels (Crellin and Philpott, 1990)."

Sassafras tea in Appalachia has been used as a diaphoretic and diuretic (to induce urinating), as well as to soothe the irritated respiratory passages in bronchitis, or the stomach upsets of gastritis and indigestion. It was used widely in the mountain country as a "nerve tonic" and as a blood cleanser or "blood builder... Sulfur and honey are sometimes added; this decoction is usually taken in spring when people are feeling sluggish (Bolyard, 1981)." Peattie (1950) reported that "...for generations, it was administered, in connection with black cherry and various other unpleasant ingredients, to pioneer children as the dreaded spring tonic. Older people left out the unpleasant ingredients and simply sipped sassafras tea." Nursing Appalachian mothers drank the tea to slow down the expression of their milk. A tincture (solution in alcohol) was given to women to relieve the pain of menstruation and childbirth. South Carolina African-American mothers gave sassafras tea to their children to "bring out the measles" (Duke, 1986). Folk wisdom also had it that sassafras could counter the effects of alcohol, so perhaps was used in some instances to sober up the inebriated.

Pennsylvania Germans ("Dutch") called sassafras *fiewerbaum* (fever tree), indicating their most important use for the tree. They also used the fruit to make a wine for colds and here too it was popular for thinning the blood in springtime (Vogel, 1970). The oil of the root, a more potent and concentrated application, was used for a variety of ills in folk medicine in the South—relief of stings, bites, and to rid the body of lice (Duke 1986). One herbalist stated, "The old timers added it to lye soap and said it was good for skin conditions (Crellin and Philpott, 1990)."

Harvesting for local use has changed little for many generations. Deni Bown (1995) described the harvesting process. "Leaves are picked and dried in spring for powder. Roots are lifted in autumn and dried for decoctions, liquid extracts, powders, and tinctures. Root bark is distilled for oil. Root pith is dried for macerations." Appalachian herbalist Tommie Bass claimed that there were four varieties of

European trade in culinary and medicinal herbs was one engine that drove exploration in the 16th–18th centuries. North America's sassafras quickly assumed a natural place in commerce next to its oriental and old world relations (left to right) cinnamon *(Cinnamomum zeylanicum)*, camphor *(C. camphora)*, and laurel *(Laurus nobilis)* as well as its new world neighbor, lignum vitae *(Guaiacum officinale)*. Illustrations are from Hermann A. Köhler's 1887 *Medizinal Pflanzen*.

sassafras, and explained his use of the red variety:

> The best way to find out which kind is to dig the roots and note the color. If it is the red variety, the bark will turn red. The red sassafras has berries; the other varieties do not... The red sassafras is used for a root tea... as a spring tonic. Use dry or green bark. Dig as needed. I've often dug it in January. A double handful of roots makes a half gallon of tea. Wash the roots, cut up in small pieces, and dry in the sun. It keeps well, but watch out for worms. You can also use leaves gathered after August... I've sold carloads of root bark over time. I can't keep it in stock, it goes so fast. After you've made the tea, you can use the sassafras to put around the tomatoes. (Crellin and Philpott, 1990)

Note the references to its continued popularity in Appalachia, and to its insect repellant qualities in the vegetable garden. The color Bass referred to is that of the root after drying, and he asserts that only one variety bears fruit. Bass insisted that red sassafras is more effective than white. Gray's manual (Fernald, 1950), notes two varieties for sassafras, red and white, differentiating them by leaf and twig pubescence but saying nothing about any other differences.

From the *Foxfire* series on Appalachian life and crafts came a short feature on the sassafras tea and jelly of woodswoman Pearl Martin:

> Pearl told us that she could gather the roots any time of year without affecting the taste of the tea. However, the roots should be gathered young, so they'll be tender... Four average sized roots are boiled in a gallon of water for 15–20 minutes. She then strains it, and serves it either hot or iced, sweetened with either sugar or honey.

The feature included pictures of Pearl digging and washing roots, scraping and discarding the root outer bark, and bringing the roots to a boil in a stove top kettle (Wigginton, 1977).

James Duke (1986) summarized the illnesses which Americans and Europeans have treated with some preparation of the oil: the tea was drunk for relief of arthritis, acne, bronchitis, catarrh (infection of the mucous membrane), dropsy, dysmenorrhea (painful menstruation), dysentery, fever, gonorrhea, gout, hypertension, kidney trouble, syphilis, and typhus. Externally, an application of sassafras oil might be used as a rubefacient (counter-irritant) on bruises, rheumatism, sprains, or swellings. Its efficacy in alleviating these various ills is largely undocumented.

As part of a second installment on sassafras, I will discuss the changing attitudes toward the plant since the 1800s. Its reputation began to tarnish by this time, and the story of its fall from favor as the "universal plant," including serious health implications of some clinical research, will be covered. The days of large-scale shipping to Europe, or even processing into root beer, are long gone, but sassafras continues to be used today by some herbalists, particularly in the rural South. FDA bans and media health warnings aside, sassafras tea is prepared and drunk by people like Pearl Martin to "sweeten the blood," and the root can still be found as a seasonal item in the produce sections of some Ozark and Appalachian supermarkets (Couplan, 1998).

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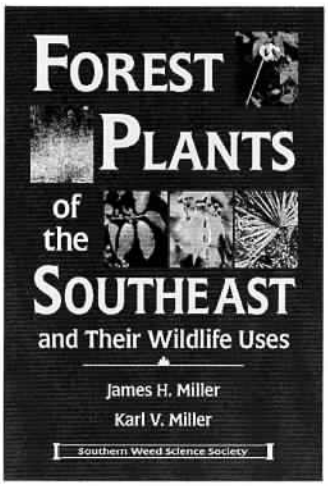
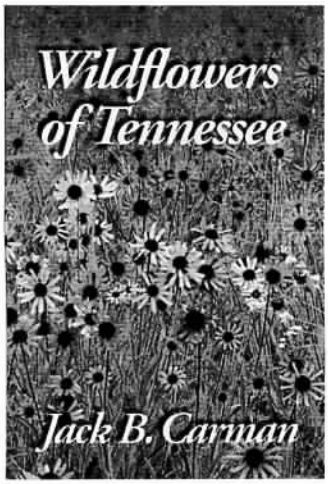
Two Book Reviews:





Miller, James H. & Karl V. Miller. 1999. *Forest Plants of the Southeast and Their Wildlife Uses.* Southern Weed Science Society. 454 pp. ISBN 0-9673140-0-3. $36.00 (includes shipping).

I RECENTLY BECAME AWARE of this publication on the forest plants of the southeastern United States. The book begins with a brief introduction that includes a list of the genera, with common names and page numbers, organized by forbs, grasses-sedges-rushes, woody vines, shrubs, palms, cane, cactus, ferns, and lichens. The introduction also provides a short discussion and color map of the physiography of the southeastern U.S., and an explanation of the format of the book, which is as follows: for each genus described the following information is provided—scientific and common names, family name, description of the growth form, leaves, flowers and fruits, followed by a listing and discussion of the common species in the group, with plant uses by mammals, birds, and sometimes butterflies.

The book provides descriptions of 180 genera and 330 species of plants, with species being selected for their frequent occurrence in the southeast U.S., or if they are valued wildlife plants, wetland plants, or important invasives. The text is very well illustrated with excellent color photographs, often including close-ups of twigs and fruits. Some of the species depicted are rarely photographed, as in the case of *Ilicium floridanum*, the florida anise, and this photograph is particularly outstanding.

Covering the southeastern U.S., the book includes some species not native to Kentucky, but the great majority of the species also occur in our state, and included are some species considered rare in Kentucky, such as one of the wild azaleas —*Rhododendron canescens*. The book concludes with a glossary, a list of references, a list of genera by family, an index of wildlife species, and an index to scientific and common names.

Overall I was very impressed with the book, and am glad to add it to my library. All proceeds from the sale of the book support the Southern Weed Science Society's graduate program. It can be ordered from:

Southern Weed Science Society
1508 West University Ave.
Champaign, IL 61821-3133
217-352-4212
e-mail: raschwssa@aol.com

Submitted by Ron Jones

Carman, Jack B. 2001. *Wildflowers of Tennessee.* Highland Rim Press. Softcover, 6" x 9", 433 pp. ISBN 0-9708418-0-9. $27.95 (plus $6 insured shipping).

THE PUBLISHER CALLS *Wildflowers of Tennessee* a comprehensive field guide for Tennessee wildflowers, and it's easy to believe that it's so. The species treated in the book include a good many that are often considered too common or invasive to dignify in an illustrated field guide as well as others that are seldom seen in either Kentucky or Tennessee. In the first case, it's sometimes difficult for a non-professional to actually discover a common plant's genus and species. In the second, while he or she may know a rare plant's name and all its kin, published photos showing what it actually looks like may be about as rare as the plant itself. This book extends into both ends of that range and covers a whole lot in between.

Altogether, over 1100 species of Tennessee's showier, non-woody, vascular plants are treated. There are 780 nicely photographed and reproduced illustrations, most of which are provided by the author. A small group come from nine other photographers including a scattered few from Kentucky contributors John MacGregor and Wally Roberts. Unillustrated species are described with enough detail to differentiate them from those that are.

With so many species included, this book should be useful for much of the eastern U.S., especially the Central and Southern Appalachians, and the Ohio, Tennessee and mid-Mississippi river valleys. Consistently ordered species descriptions are helpful for reference and comparison and their composition side by side with their illustrations makes them easy to use. Families are arranged phylogenetically. Genera within families, and species within genera are arranged alphabetically.

All in all, *Wildflowers of Tennessee* is very nicely done. Kentucky will soon have a new, current field guide of its own, but this book will continue to be a good benefit of being a good neighbor to Tennessee. Order from:

Highland Rim Press
P.O. Box 2853
Tullahoma, TN 37388
866-668-9686; book@WildflowersTN.com

Purchases can also be made through Ebay's "buy it now" option at:

http://www.ebay.com

or through the publisher's website:

http://www.WildflowersofTennessee.com

Submitted by Charles Chandler

KIIS Ecuador Trip / June 17–July 16, 2002

by Ron Jones

The Kentucky Institute of International Studies (KIIS), based at Murray State University, is a consortium of universities and colleges dedicated to providing quality international education. This summer KIIS will offer many courses in many countries including one that I will teach in Ecuador.

I taught in the Ecuador program in the summer of 2000, had a great experience, and am currently making plans for this summer. The course I will teach, "Tropical Biodiversity and Conservation," can be taken at either the graduate or undergraduate levels for 4 hours credit. Two other professors will also be going on the trip. Dr. Richard Sambrook, of EKU, will teach classes in geography and ecotourism, and Dr. Charles Mason, of Morehead State University, will teach courses in geology and earth science. Students can take one or two classes for up to 7 hours credit.

The trip's general itinerary is as follows—on June 17, fly from Cincinnati to Quito, Ecuador (9000 ft elevation), stay a few days to tour museums and visit Cotopaxi Volcano; drive by bus to Banos with its volcanic hot baths; about the 7th day, continue over the eastern range of the Andes to the Rio Napo (upper Amazonia), stay at an ecotourism lodge about 5 days; drive back to Quito, then fly to the Galapagos (600 miles off the coast), visit the islands and sight-see about 6 days; fly back to Quito and drive north to Guandera Biological Reserve in the Andes for 3 days; visit Otavalo and vicinity for shopping (leather and woven goods bargains); then back to Quito to depart on July 16.

Along the way, the class gets excellent exposure to the incredible diversity of Ecuador—its people, plants and animals, and the beautiful landscapes. Landscapes will range from Amazonian rainforests in the Rio Napo, to desert-like habitats on the islands, to cloud forests and snow-capped volcanic peaks in the Andes. Ecuador is first in the world in biodiversity—it has more species per area than any other country. Students will learn the major vegetation types, as well as dominant plants and animals for different habitats. We will observe the many endemic species of the Galapagos—including reptiles, birds and plants.

We will also encounter many different types of people in Ecuador's complex cultural landscape. Many indigenous people continue to maintain their traditional and often colorful dress and attempt to preserve their social traditions. The course will emphasize the urgency of the major efforts that are needed to preserve Ecuador's incredible biodiversity.

Portions of the trip are physically demanding, including some strenuous hikes over muddy or mountainous terrain (up to 4 hours duration), boarding and exiting canoes and boats (often on rocky or slippery terrain), and long bus rides.

The trip's cost, $3500, includes airfare, all ground and water transportation, most meals, and tuition for up to 7 hours credit. Most students bring about $500 for extra spending money, and there are a few other costs associated with the program, i.e., textbooks, passport fees, inoculations, etc. Some grants and loans are available for this program. For more information contact me—

E-mail: ron.jones@eku.edu
Phone: 859-622-6257

or visit the KIIS web site at:
http://www.kiis.org

Visit the KNPS Website at: http://www.knps.org

WANTED...

- **Articles for *The Lady-Slipper.*** Articles can be about anything related to native plants that you find interesting. They can be submitted in any word processor or typewritten format on paper, on disk, or via e-mail. *Please contact any member of the Editorial Committee listed on page 2.*
- **Lots of volunteers to watch the KNPS booth** at two events: **"Arbor Day in the Arboretum"** at the UK-LFUCG Arboretum in Lexington on April 20, 2002, and the **Salato Center Native Plant Sale** in Frankfort on April 27, 2002. *Please contact Charles Chandler, 859-278-5085, or cdchandler@att.net*
- **KNPS members interested in serving the society** in any special capacity. *Please contact any of the officers or board members listed on page 2.*
- Would you like to be e-mailed about last-minute native plant rescues or other time-critical native plant-related activities? *Send your e-mail address to* Michael Thompson at: *michaelwthompson@home.com*

Kentucky Native Plant Society
Membership Form

Memberships are for the calendar year (January–December).

Name(s) _____

Address _____

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KY County _____

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☐ Add me to the email list for time-critical native plant news.

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Membership Categories: *Annual* – ☐ $7/Individual ☐ $10/Family
Lifetime – ☐ $100/Individual ☐ $140/Family

☐ *This is a renewal.* ☐ *This is a new membership.*

Membership $_____

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Total $_____ (payable to *Kentucky Native Plant Society*)

Return form & dues to:
KNPS Membership, P.O. Box 1152, Berea, KY 40403

KNPS Service Trip to Restore Short's Goldenrod Habitat, February 2

Sat., February 2, 2002 – Blue Licks State Park, Robertson Co., KY. Come help us finish a job that we started in November! Before a southern Indiana population of Short's goldenrod was discovered last summer, the federally endangered species was known only from about a two-square mile area around Blue Licks State Park. You can help enlarge and enhance its habitat by carrying out cut cedar trees and branches to burn piles. Participants should wear work clothes, sturdy boots, and gloves. To register contact:

Dave Skinner (502-573-2886 or david.skinner@mail.state.ky.us) or **Mary Carol Cooper** (859-277-0656 or marycarolc@aol.com)

Mark Your Calendar for These Native Plant-related Events in 2002

Sat., Feb. 23 – Field on Fire, 1–3 pm, Bernheim Arboretum, Clermont, KY. Margaret Shea will explain the reasons and technique for prescribed burns to restore and maintain native grasslands. Call 502-955-8512 for minimal cost and registration.

Sundays, March 17, 24 & April 7, 21 – Spring Wildflower Walks, 1:30–3:30 pm, Bernheim Arboretum, Clermont, KY. Follow the wildflowers from forest to field with Dr. Varley Wiedeman. Take one, or all walks. 502-955-8512 for minimal cost and registration.

Sun., March 24 – Wild Edible and Medicinal Plant Walk, 1–4 pm, Bernheim Arboretum, Clermont, KY. Ecologically benign foraging with author Kevin Duffy. Registration & details at 502-955-8512.

Sat. March 30, Bernheim Volunteer Workday, 8 am–12 noon, Bernheim Arboretum. No charge to help Bernheim's staff clear native grasslands of invasive cedars. Register at 502-955-8512.

Sat., April 20 – Arbor Day in the Arboretum, 10 am–2 pm, UK-LFUCG Arboretum, Lexington, KY. Volunteers are needed to help with the KNPS display. See contact info on p. 11.

Sat., April 27 – Salato Center Native Plant Sale, 9 am–4 pm, Salato Wildlife Education Center, Frankfort, KY. Volunteers are needed to help with the KNPS display. See contact info, p. 11.

Fri.–Sun., May 3–5 – Natural Bridge Wildflower Weekend & KNPS Spring Meeting, Natural Bridge State Resort Park, Slade, KY. Reservations and info: 800-325-1710 or 606-663-2214. Details to follow.

Sat., June 1 – Salato 4th Annual Native Plant Seminar, Salato Wildlife Education Center, Frankfort, KY. Details to follow.

If you have not already done so, NOW is the time to

Send in your Membership Renewal for 2002!

Please use the Membership Form on page 11.

(Newsletter return address only. See p. 2 for contact information.)

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