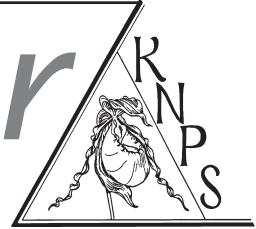


The Lady-Slipper



Kentucky Native Plant Society

Number 22:3

Fall 2007

A Message from the President

Summer gives way to fall, or at least that is how it is supposed to happen. With our record breaking heat and drought of the summer continuing it feels like July or August. Water of course is a critical issue throughout all of Kentucky and this will continue to be an issue in the years to come. For the first time in years, I did not spend much time in the field this past summer and the times I was out and about it was almost depressing to see how dry the state really is. In far western Kentucky I noticed several cypress swamps that had huge mud flats in early August because water levels were so low. In the past week I have been out in the field and am amazed and how many trees are dying as a result of the late frost and extended drought. In addition, the true effects will not be seen as many species simply may not leaf out next spring. The drought of course has also affected our wildlife with blue tongue and hemorrhagic disease killing off deer in large numbers across the entire state. So it seems like everything has been affected and our native herbs and wildflowers are also struggling with the lack of water. Let us hope that significant rain comes soon to our parched land.

We will be holding our fall board meeting soon and hope to come to some resolution on issues that have been hanging around for some period of time including the potential for moving to an electronic newsletter, new and upcoming field trips for next year, and of course planning for our fall and spring member meetings. As always, please forward any concerns or requests to any board member or me so that we might address this at one of our meetings. Speaking of meetings, most of you are aware that Randy Westbrooks is coming to Kentucky and will provide a program at Otter Creek Park on invasive plants. The Kentucky Society of Natural History and the University of Kentucky, Department of Forestry (along with Pat Haragan) are helping to support this event and we are hoping for a large crowd. We are not charging any admission for the event, and hopefully this will help bring in some new members to KNPS and KNHS.

One final note, and perhaps something to look forward to in the spring. The forthcoming book, *The*

continued, page 4

KNPS

Annual Fall Conference



November 3, 2007
Otter Creek Park,
Kentucky

Join The Kentucky Native Plant Society for this exciting conference at the scenic Otter Creek Park which contains 2,600 acres including grand views of the Ohio River (Brandenburg, KY near Louisville).

11:00 a.m. Keynote address

Invasive Plants - Coming to Kentucky
by Randy G. Westbrooks, Ph.D.

Invasive Species Prevention Specialist
U.S. Geological Survey

12:00 p.m. Discussion to establish early detection and rapid response teams

12:30 p.m. Lunch (Bring your own)

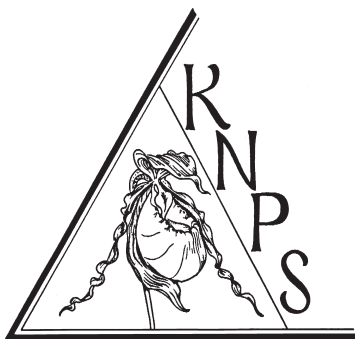
2:00 p.m. hike led by Bryan Lewis, park naturalist

Family cabins are available for rent. Contact Pat Haragan for more information (caribpat@aol.com). Call 502-574-4583 (in Louisville) or (502)942-3211 (elsewhere) for park information. This event is being sponsored by the KNPS with support from the Kentucky Society of Natural History, University of Kentucky Department of Forestry and Pat Haragan.



In this issue--

President's Message	1
Botanical Timeline for Kentucky	2
The Heartbreak of Psoralea	4
KNPS Native Plant Studies	9
Ollie Combs	10
Recovering Kentucky Treasures	10
Calendar of Events.....	12



The Lady-Slipper

is intended to be published by the Kentucky Native Plant Society [IRC 501(c)(3)] in March, June, Sept., and Dec. Deadlines are the 15th of the prior months, but Editorial Committee members welcome article submissions at any time.

Send dues and inquiries about membership status to: KNPS Membership, P.O. Box 1152, Berea, KY 40403. FOR ALL OTHER BUSINESS contact an appropriate Officer / Board Member below:

KNPS Officers—

President: Thomas G. Barnes - Department of Forestry, University of Kentucky, Lexington, KY 40546-0073, 859-257-8633, tbarnes@uky.edu

Vice-president: Patricia D. Haragan - 713 Greenridge Lane, Louisville, KY 40207, 502-894-0674, patricia.haragan@olmstedparks.org or caribpat@aol.com

Secretary: Amanda McKinney - 3964 Woodchase Drive, Erlanger, KY 41018, (859) 283-5377, honey.adm@hotmail.com

Treasurer: Kathleen Jones - P.O. Box 1152, Berea, KY 40403

KNPS Executive Board Members—

Dave Luzader - 5646 Taylor Mill Rd., Taylor Mill, KY 41015, 859-356-8581, d luzader@insightbb.com

Jason (Zeb) Weese - Kentucky State Nature Preserves Commission, 801 Schenkel Lane Frankfort, KY 40601, (502) 573-2886, zeb.weese@ky.gov

Tara Littlefield - 353A Woodland Ave Lexington Kentucky 40508, 859-333-9887, tara.littlefield@ky.gov

Alan Nations - 13020 Mitchell Hill Rd, Fairdale, KY 40118, alan.nations@incitebb.com, 502-235-8068

Native Plant Studies Certification Program Director - Landon McKinney - ASC Group, Inc., 1616 Burlington Pike, Suite A, Florence, KY 41042; 859-283-5377; lmckinney@ascgroup.net
Co-Directors: Ron Jones and Margaret Shea

The Lady-Slipper Editorial Committee - Landon McKinney (see contact info above) and Ron Jones - Biological Sciences, Eastern Kentucky University, Richmond, KY 40475, 859-622-6257, ron.jones@eku.edu

The Lady-Slipper design and production - Amy McIntosh, 255 Sunset Ave., Richmond, KY 40475, 859-626-5207, amy_mcintosh@eku.edu

Webmaster - Dave Luzader (see contact info above)

Botanical Timeline for Kentucky

Continued from Issue 21:2

By Ron Jones

Note: some of this information was extracted from www.eqc.ky.gov and from <http://www.huntington.org/Education/TimeLine.html>. Also note that newly described plant species for Kentucky are only listed if they are now state-listed, or if they were described after 1975. A few national or international events of significance to Kentucky botany are also listed.

Also note that full citations are not given for journal articles, and for those interested, most of these articles since 1985 are cited in a new publication in the upcoming issue of the *Journal of the Kentucky Academy of Science*, and others are cited in the papers by Fuller, also cited in this new article.

At the brink of the 20th century, world population had surpassed 1.5 billion. Slavery in the United States had been abolished for less than forty years. Women could not yet vote. The continents were considered to be fixed in place. Only light microscopes were available to study cellular details. Scientists recognized simply two kingdoms of living beings, and about 100,000 species of plants. There were 10 known essential plant elements, and botanists were convinced (wrongly) that oxygen produced during photosynthesis was derived from CO₂. The American chestnut dominated the deciduous forests of eastern U.S.

1900—Kentucky's population is a little over 2 million.

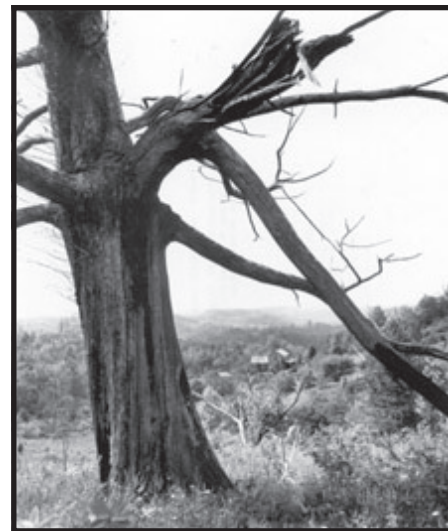
1900-1903—publications on Kentucky forage plants and broom-rapes by Harrison Garmon, curator of the College of Agriculture Herbarium at the University of Kentucky Kentucky.

1904—Chestnut blight from Japan was detected in the New York City area, at the Bronx Zoological Park. It is likely that the fungal pathogen, *Cryphonectria parasitica*, arrived with importation of Asian chestnut trees about 1890. This disease quickly advanced to destroy nearly the entire native population of American Chestnut, until that time the largest of eastern trees and one of the most significant forest dominants in the Eastern deciduous forests. Eventual timber loss was estimated at \$400 billion.

1907—Timber production peaked with 913 million board feet cut. Most of Kentucky's forest had been timbered by the 1920s, and except for a few isolated stands, Kentucky had been effectively clearcut.

1911—Kudzu was brought to the U. S. from Japan for soil improvement, erosion control, and livestock forage. It spread rapidly throughout the southern United States, and is now a serious weed across much of Kentucky.

1913—*The Woody Plants of Kentucky*, by H. Garman, an updating of the work done by Sadie Price. Garman and his colleague, Mary Didlake eventually built the Ag



Dead chestnut in Blue Ridge Mountains; Photo courtesy of the Forest History Society

herbarium to about 20,000 specimens, with a focus on weeds, crop plants, and grasses.

1919—Kentucky’s first state forest, Kentenia, was created.

1922—First significant surface mine, in Hopkins County, Kentucky; draglines (large area surface mine machines) built by 1923; surface mining increased after the 1940s in western Kentucky and continued until the 1970s; today underground mining accounts for almost 89% of mining in the Western Kentucky Coalfields.

1924—*Primeval tracts of Kentucky*, by W.R. Jillson, who lamented the sad state of Kentucky’s landscape, even at this early time, and listed the few remaining areas that remained in a natural state: a few western swamps and lowlands, the highest craggy ridges of Pine and Cumberland Mountains, a few old growth tracts in southeastern counties, a few coves and hollows and sandstone outcrops on the western edge of the eastern coalfields and in Grayson and Breckinridge counties, and some box canyons and entrenched streams in eastern and south-central Kentucky.

1924—State park system in Kentucky established, and Pine Mountain State Park being the first.

1926—Mammoth Cave National Park was authorized by Congress and the act signed by President Coolidge, later fully established in 1941 and dedicated in 1946.

1926—Kentucky adopts the goldenrod as the state flower and the cardinal as the state bird.

1929—Bernheim Forest established in Clermont, KY.

1929-1940—The Chestnut blight had arrived in Kentucky

by 1929, and by 1940, had decimated the state’s American Chestnuts.

1931—first state wildlife management area, the Jones-Keeney Wildlife Management Area, in Caldwell County.

1933—Tennessee Valley Authority created in 1933.

1935—Save Kentucky’s Primeval Forest League, formed by E. Lucy Braun and members of the Garden Club of Kentucky, after her speech concerning a rare tract of old growth forest, on Lynn Fork of Leatherwood Creek, in Perry County. This was one of the first conservation organizations in the state, and was formed mainly to save this old growth tract, which included a tuliptree nearly 24 ft in circumference. The group was unsuccessful and the tract was clearcut in 1937.



Hemp harvest in Lexington, Kentucky; *Photo courtesy Lexington History Museum*

1937—Daniel Boone National Forest (originally Cumberland National Forest) established.

1937—Marijuana and hemp are banned in the U.S. by the passage of the Marijuana Tax Act in the U.S. Congress. Hemp was again allowed to be grown during World War II but banned afterward. In the previous 50 years Kentucky had become one of the leading producers of industrial hemp, and had developed a particular genetic variety, called “Kentucky Hemp,” which was unsurpassed in quality. The seeds of this particular variety were stored for a period in some government facilities, but have now been lost. Many Kentucky farmers continue efforts today to get permission to grow this versatile crop.

1938—Kentucky Dam is initiated, its construction backing up the Tennessee River for 184 miles and



Pine Mountain with chestnut snag; *Photo by Lucy Braun, courtesy of Library of Congress*

Continued from page 1

Rare Wildflowers of Kentucky is in production. The excellent text written by botanists Deborah White and Marc Evans of the Kentucky State Nature Preserves Commission, coupled with my photography, should make this a fine addition to the library of any native plant lover or naturalist in the state. It will be a 9 x 9 trim size with approximately 200 full color images and will showcase the beauty and diversity of the wildflowers many never get a chance to see in the state. Here is an excerpt from the book by Deborah White:

"The majority of the plants considered rare in Kentucky are species that are at the edge of their natural range. Kentucky is a meeting ground for many different regional floras - Gulf Coastal Plain flora from the south, Appalachian flora influences in the east, Great Plains flora in the west and a few species are associated with northern temperate forests. A plant may be common in the southeastern U. S., from the Gulf Coastal Plain for instance, and barely reach this state at the northern edge of their range. For any species, life at the edge of its natural range comes with a lot of pressure. These peripheral populations must adapt to environmental situations that are more extreme than the rest of their home range. It may be colder for instance, than in the south. For this reason, the genetic make-up of these peripheral populations is often more diverse than those populations in the center of distribution. They have more tools in their tool chest to respond to environmental change."

"Small white lady-slipper for instance, occurs in open wetlands in the northern and midwestern states (Minnesota, Nebraska, North Dakota, and then east to New Jersey). But in the southern part of its range, such as here in Kentucky, it occurs in the driest type of habitat in the region, limestone glades. This difference from one extreme habitat to the other is no doubt manifested in the genotypes, the different genetic make-up, of these populations - despite being the same species. The overall adaptability of this orchid may have been expanded as it adapted to the southern habitats. There is evidence that the world is becoming warmer, so small white lady's-slipper may need the southern genes to survive long term climate changes."

~President Tom Barnes



The Heartbreak of Psoralea

By Carol Ann McCormick, Assistant Curator UNC Herbarium

Many first-time visitors to the UNC Herbarium ask, "Do you have any really rare plants?" My answer is, "Yes, hundreds! This is the main repository for rare plants inventoried by the North Carolina Natural Heritage Program."

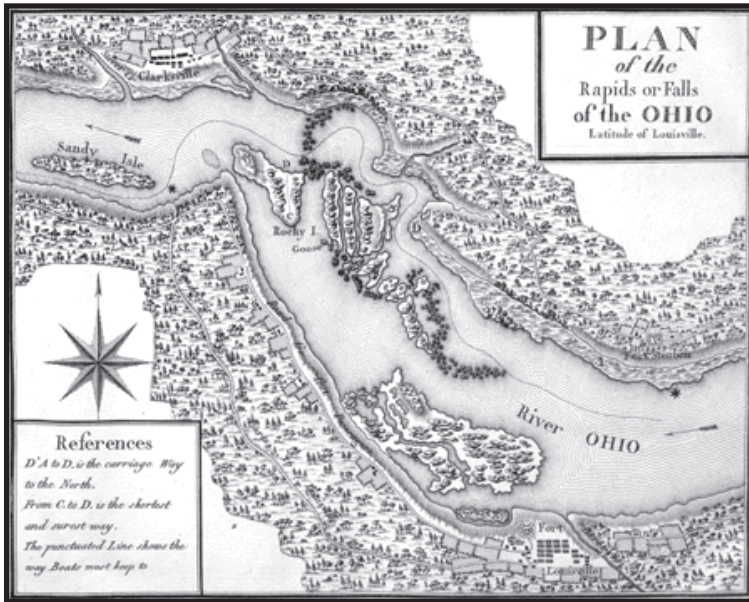


UNC Herbarium Accession #566869

If that fails to impress, I show them Accession #566869: *Psoralea stipulata*—now categorized as *Orbexilum stipulatum* (Torrey & Gray) Rydberg—collected by C. W. Short in 1842. *Orbexilum stipulatum*, commonly called Falls-of-the-Ohio Scurfpea, is an Ivory-billed Woodpecker of the plant world: it was last seen in 1881 and is presumed extinct. Biologists cling to the hope that it too will be rediscovered.

All known specimens of *Orbexilum stipulatum* were collected between 1835 and 1881 from a single location: Rock Island, Falls of the Ohio. Though some herbarium specimens claim this location as Indiana or Ohio, the river channel is within the Commonwealth of Kentucky (the Northwest Ordinance of 1787 defined the Indiana state line as the north bank of the Ohio River¹). The Falls of the

Ohio is a 26-foot drop over a series of rapids and rock shelves in a 2-mile stretch of the Ohio River. Louisville, Kentucky and Clarksville, Indiana, grew up at this navigational barrier. Rock Island, one of the larger islands in the cataract, "is (or was) a small Devonian limestone island of the Falls of the Ohio River and within the Louisville, Jefferson County, Kentucky corporate limits. Most of the island was destroyed in the 1920s as a consequence of building U.S. Dam No. 41 ... and the Louisville Hydroelectric Plant."²



Map of the Falls of the Ohio; www.fallslanding.org

Charles Wilkins Short, M.D. (1794-1863) made many collections of *Orbexilum stipulatum* over a 20-year period, all from Rock Island. The UNC Herbarium specimen, collected by Short in 1842, is in perfect condition. Asa Gray (1810-1888) praised Short as "the first in this country to prepare on an ample scale dried specimens of uniform and superlative excellence and beauty...the vast improvement in the character of dried specimens now generally made by our botanists may be mainly traced to the example and influence of Dr. Short."³

Will Falls-of-the-Ohio Scurfpea be rediscovered in the wild? Suitable habitats—flood-scoured riverbank bedrock, gravel bars, and limestone barrens and glades—exist nearby in Kentucky and Indiana. Happily, another Rock Island refugee was recently discovered in Indiana. *Solidago shortii*, named in honor of C. W. Short by Asa Gray, had disappeared from Rock Island by the late 1860s. It was believed extinct until a population was discovered in 1939 by Dr. E. Lucy Braun in Kentucky more than 160 km east of Rock Island. In 2001, during a botanical inventory of the Blue River in Indiana, researchers found a population of *S. shortii*. This site is "perhaps Indiana's largest and most diverse example of the brush prairie gravel wash community....situated at the base of a south-facing slope

bordering the Blue River...1.8 km upriver from the Ohio River."⁴

Is *Orbexilum stipulatum* alive and well, lurking on some gravel island in southern Indiana or northern Kentucky, awaiting rediscovery like *Solidago shortii*? Perhaps, but optimism must be tempered by the probable [sic] lack of a seed source: although he observed the plant over a span of 20 years, Short never saw it in fruit, nor was he able to cultivate it.⁵ For now, all we have are herbarium specimens.

While the UNC Herbarium is proud to be the conservator of such a rare specimen, we sincerely hope not to add many more species to our "exist only as herbarium specimens" list. Our goal is to preserve the flora of forests, streams, dunes and islands so we can enjoy them were they belong—in the wild.

References:

1. NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Va. Available <http://www.natureserve.org/explorer> (accessed 24 July 2007).
2. Baskin, J. M., D. Isely, and C. C. Baskin. 1986. Geographical origin of the specimens of *Orbexilum stipulatum* (T. & G.) Rydb. (*Psoralea stipulata* T. & G.). *Castanea* 51 (3): 207-210.
3. Gray, A. 1963. Dr. Charles Wilkins Short. *Amer. J. Science* 86: 130-139.
4. Homoya, M. A. and D. B. Abrell. 2005. A natural occurrence of the federally endangered Short's Goldenrod (*Solidago shortii* T. & G.) [Asteraceae] in Indiana: Its discovery, habitat and associated flora. *Castanea* 70 (4): 255-62.
5. Vail, A. M. 1894. A study of the genus *Psoralea* in America. *Bull. Torrey Bot. Club* 21 (3): 91-119.
6. <http://homeinsightbb.com/~sintax202/map10.html> (accessed 24 July 2007).



Check out our website at

www.knps.org

for membership forms, upcoming events,
past newsletters,
and grant information

creating 2,400 miles of shoreline, and covering 160,000 acres, the largest man-made lake in eastern U.S. Likewise, other dams across Kentucky have now permanently flooded many thousands of acres of formerly terrestrial habitats in the state.



Kentucky Dam dedication, 1944; *Photo courtesy of TVA files*

1940—E. Lucy Braun describes a new species, *Arabis perstellata*, for Kentucky, which later becomes one of the state's federally endangered species.

1942—*A catalog of the vascular plants of Kentucky*, by Frank T. McFarland, the first checklist for the state in almost a century. It listed 1702 taxa for Kentucky. In the previous two decades McFarland along with his colleagues and students (B.B. McInteer, Thomas N. McCoy, and H.T. Shacklette) initiated botanical studies across the state, adding about 1000 specimens a year to the herbarium. McCoy produced a major updating of the ferns of the state in 1938. McFarland and his associates announced that they were laying the groundwork to produce a book, the *Flora of Kentucky*.

1942—E. Lucy Braun describes *Solidago albopilosa*, a new species for Kentucky, and which later becomes one of the state's federally endangered species and is recognized as one of only two endemics in the state (the other being *Leavenworthia exigua* var. *laciniata*).



Solidago albopilosa;
Photo www.fs.fed.us

1943—*Annotated catalog of Spermatophytes of Kentucky*, by E. Lucy Braun, treating 1824 taxa, and was a much more extensive treatment than McFarland's, in that it included information on habitat and county distributions. This catalog remained the only checklist of the state for the next 50 years. Braun produced several other works of significance

for Kentucky botany in the 1940s, including major vegetation studies of Pine and Black Mountain.

1945—*Floristics and vegetation of the Devonian-Mississippian black-shale region of Kentucky*, by Mary E. Wharton. This was the first floristic study of a major physiographic region in the state, documenting over 1000 species in the area. A complete set was deposited at the

University of Kentucky Herbarium.

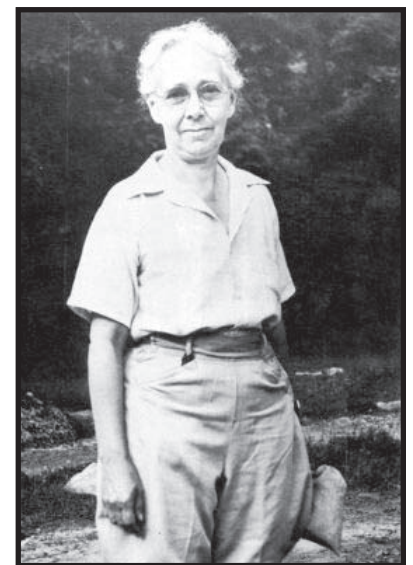
1947—Developed during WW II, the herbicide 2,4-D was introduced in the U.S. for weed control.

1948—The UK Herbarium, having grown to about 30,000 specimens, was completely destroyed by fire on November 12, a catastrophic loss for Kentucky botany. (Willem Meijer always suspected that the fire was deliberate, but for reasons unrelated to the herbarium). The original specimens donated by Robert Peter in 1876, the sets of specimens from the work of McFarland and associates, and the recently deposited Wharton specimens, were all lost. McFarland and McInteer began a new herbarium, but all their plans to produce a major book on the state flora would go unfinished, and they retired in the 1950s.

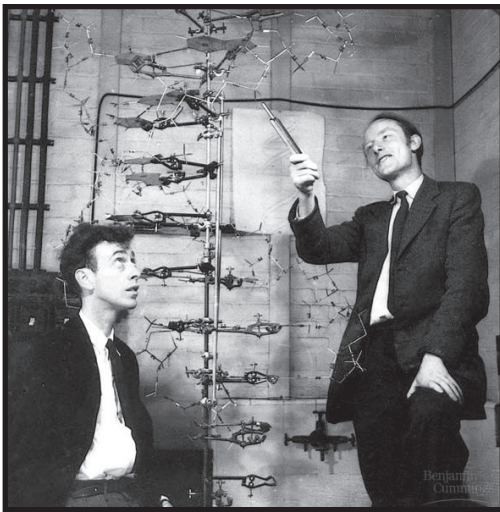
1948—*Safeguarding Kentucky's natural resources*, by V. Briscoe et al. This was one of the first publications that addressed the need to preserve the diminishing resources of the state.

1950—The U. S. National Science Foundation was established, eventually funding numerous biological studies in Kentucky.

1950—*Deciduous Forests of Eastern North America*, by E. Lucy Braun. This classic work provided



E. Lucy Braun;
Photo www.ESA.org



Watson and Crick;
Photo www.chem.ucsb.edu

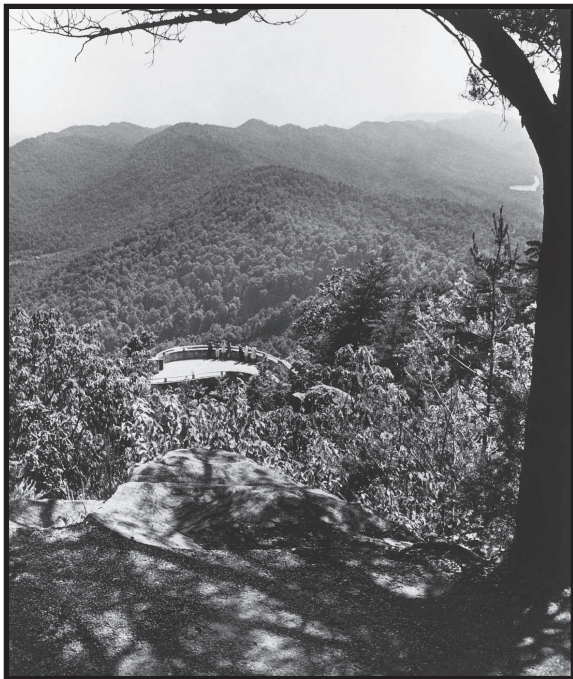
structure of DNA, revolutionizing the study of biology, and leading to dramatic new methods to analyze plant and animal species and their relationships.

1959—Cumberland Gap National Historic Park dedicated.

1960—Kentucky's population reaches 3 million, an increase of 1 million in past 60 years.

1961—Percy A. Davies dies at the age of 65 while still active in the department of Biology at the University of Louisville.

Davies became very active in the late 1940s and 1950s in supervising graduate student studies and conducting several botanical investigations himself. He was particularly interested in the life of Charles W. Short and his namesake, *Shortia galacifolia*, and had several projects planned at the time of his death. He was followed at the University of Louisville by Arland Hotchkiss and William S. Davis.



Cumberland Gap overlook;
Photo www.dhr.virginia.gov

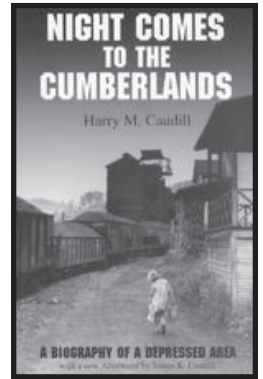
1961—Murphy's pond purchased by The Nature Conservancy.

the first comprehensive treatment of the vegetation of eastern U.S., and remains today one of the foundations of modern forest classification. In the book Braun provides much information of the forests of Kentucky.

1953—Watson and Crick discovered the

1962—*Night Comes to the Cumberlands*, by Harry Caudill; and *Silent Spring*, by Rachel Carson, alerting the public to the environmental and social problems of the mountains and to the dangers of pesticides.

1963—Land Between The Lakes created by the TVA, after the construction of Lake Barkley, which began in 1959. This established a National Recreation Area and protected thousands of acres of forest, but also required



the removable of whole towns and over 900 families, many of them descendants of Revolutionary War soldiers.

1964—The Surgeon General's Report connected smoking with lung cancer, heart disease, emphysema,

and other diseases.



Rachel Carson;
Photo www.csc.gallaudet.edu

1964—*Kentucky Forest Survey*, the first comprehensive survey of timber resources by the state, ranking Kentucky 8th in hardwood timber volume and 4 in hardwood timber logs in the U.S.

1965—Muhlenberg County ranks first in nation in coal production; Ollie Combs lies down in front of a bulldozer near her home in Honey Gap, Knott County, to protest strip mining, drawing the attention of the nation (see accompanying article).

1966—Kentucky passes revised strip-mining bill (largely spurred on by the actions of Ollie Combs) with strengthened enforcement and reclamation practices.

1969—Lilley Cornett Woods purchased by the state; maintained by the Division of Natural Areas, Eastern Kentucky University.

1970—First Earth Day; Clean Air Act passed by congress and signed by President Nixon; Environmental Protection Agency established.

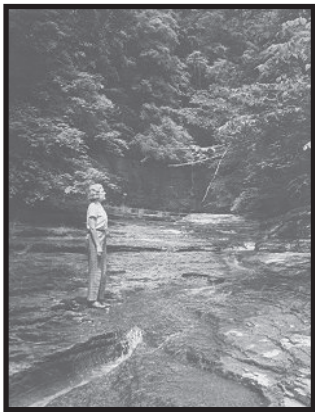


Strip Mining in Kentucky; Photo www.appvoices.org

1970s to present—Surface mining increased dramatically after 1970 in eastern Kentucky, and continues today, with about 40% of mining in the area from strip mines.

1971—*A Guide to the Wildflowers and Ferns of Kentucky*, by Mary E. Wharton and Roger W. Barbour. This book and the later one on woody plants in

1973 were the only state-wide guide books available for Kentuckians for over 30 years.



Mary Wharton at FloraCliff
Photo www.floracliff.org

1972—Willem Meijer publishes booklets on the tree flora and Compositae of Kentucky. Meijer had arrived at UK in 1968, and was preceded by curators Dale Smith and E.T. Browne.

1972—Kentucky Wild River Program

established, to this date 9 rivers have been so designated.

1972—Kentucky Natural Resources and Environmental Protection Cabinet established.

1972—Kentucky Environmental Quality Commission established.

1973—*Trees and Shrubs of Kentucky*, by Mary E. Wharton and Roger W. Barbour.

1973—Endangered Species Act passed the U.S. Congress and was signed by President Nixon;

The KNPS's goals:

To serve as the Kentucky native plant education resource;

To support native plant research;

To support efforts to identify and protect endangered, threatened, and rare native plant species;

To promote appreciation of the biodiversity of native plant ecosystems;

To encourage the appropriate use of native plants.

Kentucky leads the nation on coal production, and continues as #1 until 1987, since ranking second or third to Wyoming or West Virginia.

1973—An ecological investigation of Panther Rock, Anderson County, Kentucky, by W.S. Bryant, a Ph.D. dissertation at SIU. Bryant, of Thomas More College, went on to become one of the state's most prolific writers on the vegetation of Kentucky and on the life of Rafinesque.

1975—Kentucky Chapter of The Nature Conservancy established.

1975—*Basal area and Climax status in mixed forest systems*, by M. Held and J. Winstead, an influential paper on identifying old growth forests in eastern U.S. Winstead, of WKU and later Morehead State, and his associates conducts a number of other significant studies, including the first on the virgin forest at Rock Creek, in Laurel County.

1976—Kentucky Nature Preserves Commission established; Red River dam project ends when the governor withdraws state support, after much public outcry.

1977—Surface Mining Control and Reclamation Act, passed by the U.S. Congress and signed by President Carter.

1978—*Index herbariorum kentuckiensis*, by J. S. Lassetter, the first study of the status of herbaria in Kentucky. This work was followed up additional surveys of the same title (II, III, and IV) reported by Jones (1987), Jones, Eakin, & Clark (1995), and Jones and Thompson (2006).

1979—Blackacre, in Jefferson County, becomes the state's first state nature preserve.

1979—B.E. Wofford and R. Kral describe a new species, *Arenaria cumberlandense*, for Kentucky and Tennessee, and

which is now known as *Minuartia cumberlandensis*.

1979—A new species, *Carex appalachica*, is described for Kentucky by J. Webber and P. Ball, and is now a state-listed species.

1979—Another new species for Kentucky and the southeast, *Stachys eplingii*, is described by J. Nelson. It is now considered endangered in the state.

1979—M.J. Fuller, of Murray State University, publishes the first compilation of literature on Kentucky botany,

extending back to the late 1700s. It was updated in 1989 and included 806 references. Fuller and her graduate students, included M. Woods and J. Grubbs, go on to conduct several major floristic surveys in western Kentucky.

1980—*Ferns and Fern Allies of Kentucky*, by Ray Cranfill. This was the first comprehensive treatment, with keys and maps, of a major group of plants in Kentucky.



To be continued

NATIVE PLANT STUDIES: CERTIFICATION PROGRAM MEMBERSHIP SURVEY RESULTS

Thanks to everyone who responded to our survey questionnaire. While our certification program continues to be a success, we needed input from our members on improving the program's course offerings and the program's accessibility.

While several members expressed an interest in the existing program offerings in Richmond (EKU) and Highland Heights (NKU), others wanted to see the certification program offered in Bowling Green, Elizabethtown, Ashland, Louisville, and somewhere in western Kentucky like Murray State University. Louisville and Bowling Green were the most frequent choices.

While most everyone preferred the current schedule of three hours per Saturday for four consecutive Saturdays, several expressed an interest or even a preference for two weekends each involving Saturday, an overnight, and Sunday. This scenario would certainly be more fieldtrip oriented.

Most responders had no similar, previous course experience. However, several had experience with the Master Gardener Program in their respective communities.

As far as the courses that seemed to draw the most interest, most of the existing courses were pretty well equal. Gardening and landscaping with native plants did seem to draw a slightly greater than average amount of interest. The only courses not currently offered on a regular basis that were mentioned by several responders were courses on grasses and medicinal and edible plants.

Other suggestions included a course on the identification of alien pest plants and also providing one-day workshops across the state.

All suggestions will be considered as we continue to improve the program. We have tentatively set our sights on developing the program in the Louisville area, perhaps at Bernheim. Some may remember that this was attempted once before but failed, largely due to a lack of an adequate number of instructors. Currently, we believe that this problem has been fixed.

The Community Education outlets at our regional universities are our best allies in administering our program. Beginning the program at EKU in Richmond was obvious for its proximity to Lexington and the numbers of members in and around the Lexington area. As well, the program's success at NKU is largely due to the numbers of members we have in the Northern Kentucky/Greater Cincinnati area. Louisville would be the obvious next step for the same reasons. Otherwise, the amount of interest (numbers of members) in other portions of the state would have to be analyzed to determine the viability of offering the program elsewhere.

Once again, thanks to all who responded to our survey.

Landon McKinney, Director, Native Plant Studies Certification Program

Knott County Hall of Fame: OLLIE COMBS

by Corbett Mullins

Editor's note: If you think one person cannot make a difference, consider the effect of this single act by Ollie Combs.

Ollie Combs was born on July 12, 1904, in Perry County, the daughter of Jasper and Winnie Ritchie. After the passing of her husband, Balis Combs, she became known as "Widow Combs." Most of her life way spent as a homemaker and a mother who enjoyed quilting, gardening, and raising chickens. Widow Combs was characterized as a frail, but fearless mountain woman.

In November 1965, at the age of sixty-one, she found her place in Kentucky and local history when she was arrested. She was carried down a mountainside by the Kentucky State Police and placed in jail for confronting strip mining bulldozers and the powerful, influential coal operators. Her statement before being placed in jail was, "I have never been in trouble. I just want to live my life in my hollow and be left alone."

Widow Combs spent Thanksgiving Day in 1965 in the Knott County jail, accompanied by her two sons, Jessie age twenty, and Lincoln, age seventeen. The three were fed a chicken dumpling Thanksgiving dinner prior to their release. Mrs. Combs said, "they

treated me real good in jail. I had a private cell and good clean bed. I didn't have any trouble sleeping."

She had climbed the mountain behind her Honey Gap home and placed her life in jeopardy by using her body to defy the onslaught of strip mining bulldozers. She was motivated by the fear that dirt and debris would destroy her home. Widow Combs told the politically powerful coal operators, "We live hard; I don't bother nobody, but you have invaded my home. I don't want my home destroyed, it's all I've got left."

She probably did more than any other Kentuckian to draw attention to the most controversial issue of the 1960's, strip mining. The publicity of her actions led to tough strip mining legislation in the 1966 session of the Kentucky General Assembly. In 1977, Widow Combs was invited to the White House to witness the signing of federal strip mining law.

Widow Combs, a member of the Clear Creek Regular Baptist Church died at the age of eighty seven. She was buried in the Ingle Cemetery at Fisty, Kentucky in Knott County.

For more information on Knott County, see the Knott County Kentucky Kinfolk website, at <http://www.rootsweb.com/~kyknott2/>, maintained by Gloria Marcum.



Recovering Kentucky Treasures

By Jo Meyerkord, *Communications Coordinator*
Center for Plant Conservation

The Center for Plant Conservation salutes the Kentucky Native Plant Society, because we know you appreciate your native plants! Native plants are the hallmark of home, the tapestry of the familiar landscapes we hold dear. They deserve attention and good stewardship, yet today 15% of our native flora is documented to be in steep decline or considered at risk. Kentucky has 2030 species of native plants, 275 are state listed as endangered or threatened by the Kentucky State Nature Preserve Commission.

We know you value your Kentucky natives for more than their role in your own identity and sense of place, and you want to preserve these precious assets. Eight plants in Kentucky are listed on the Federal Endangered Species list, but more are of conservation concern. The Center for Plant

Conservation's Participating Institutions are currently working with 24 Kentucky native species, working to stay ahead of the curve and secure them against extinction. You can review them by clicking on "National Collection" on our website: www.centerforplantconservation.org, and searching for Kentucky.

Headquartered in St. Louis, CPC is a network of 36 botanical institutions involved in the study, preservation, conservation and restoration of the nation's imperiled native plants. The network of botanists has been studying imperiled plants for more than 20 years. CPC's goal is to recover all imperiled plants across the country, so that native plants are thriving again.

Many of the endangered plants of Kentucky also occur in other states. Due to similar geography and habitats the range of a particular species may extend through multiple regions. Although there are not yet any CPC

Participating Institutions located within the boundaries of Kentucky, CPC's surrounding institutions are working with a number of native Kentucky plants. Scientists from highly-regarded botanical institutions are working together to research, cultivate and restore these Kentucky plants. Some of these institutions include the Chicago Botanic Garden, Missouri Botanical Garden, The Holden Arboretum, The North Carolina Arboretum, Mercer Arboretum and Botanic Gardens, The Arnold Arboretum of Harvard University, North Carolina Botanical Garden, The New York Botanical Garden, Brooklyn Botanic Garden, The Morton Arboretum, and the New England Wild Flower Society.

Securing and restoring vulnerable plant species is challenging and involves many different scientific specialties. Collaboration is essential to succeed in restoring these species, and CPC is all about partnerships! CPC institutions are working in communities nationwide monitoring, securing seed and working with local and federal agencies to restore habitats and rare populations. Kentucky's native plant heritage is protected by the Kentucky State Nature Preserve Commission (naturepreserves.ky.gov.) Their report on Kentucky's native flora is a comprehensive assessment of the status and needs for local natives. Partnerships with the Kentucky Natural Heritage Program and similar organizations make it possible to make a difference on the ground within the state. Find those working to conserve plants in Kentucky on our website, in our conservation directory, which is searchable by state.

Surprisingly enough, Short's goldenrod, *Solidago shortii*, depends on disturbance for survival. The Blue Licks area of northern Kentucky, where this perennial herb primarily grows, is known to have been a gathering site for the large herds of bison that once roamed the American Midwest. Mineral springs near the Licking River served as a source of salt that attracted the animals. The salt attracted so many animals that annual visits by the bison completely denuded some of the areas around the salt licks, causing a natural cycle of disturbance in the habitat, creating the ideal conditions for Short's goldenrod. The few spots where this plant is found today include overgrazed pastures, and it seems to require eroded bare ground to become established. Many scientists now believe that the decline of this plant in the Blue Licks area probably resulted from the disappearance of the bison and the disturbance they generated.

Because this plant is seemingly unable to take advantage of other disturbed habitats and disperse readily into new

sites, it was thought not to spread any further than a four square mile area of the Kentucky Blue Licks. However, recently, scientists discovered a population of the species in southern Indiana. The largest population today is at the Blue Licks Battlefield State Park, which is protected by the Kentucky State Nature Preserves Commission. But many smaller populations are privately owned and face continued threats from habitat modification. The conservation team at the Missouri Botanical Garden maintains a collection that includes both seeds and plants of the species.



Short's Goldenrod;
Photo by Tom Barnes

Educating the public on native species is a crucial tool in spreading the work of Kentucky's imperiled natives. In a recent survey, a surprising number of students were unable to identify plants as being alive. Parents and educators may be interested in "Plants in Peril, a guide to exploring biodiversity and rare native plant conservation for middle school educators." This lesson plan was developed by CPC as a means of reaching youth with native plant information and help start a dialogue with kids about native plants. Available at the CPC website by clicking on "Education Tools."

While CPC's institutions are working everyday with our scientific standards and protocols to make a difference for Kentucky's vulnerable plants, it is a big job. In addition to partnerships with agencies, there is a role in support, education, and volunteerism for everyone who wants to help. You may already be active in helping control invasive species, monitoring rare plant sites, cleaning seed or entering data for a conservation project. If you're just getting started, the conservation directory is a good source of information.

Building support for plant conservation and stewardship is one of CPC's priorities. CPC has established a plant sponsorship program to build sustainable funding for vulnerable plants. For each sponsored species, funds are provided annually to assist in restoration efforts. These funds have already significantly supported work for a number of Kentucky natives. Short's goldenrod is only partially sponsored. If you'd like more information about CPC or plant sponsorship visit our website or call 314-577-9450. Let's work together to ensure Kentucky's imperiled plants populations are restored for future generations!



Calendar of Native Plant-related Events

Invasive Species Volunteer Workdays:

November 3, 2007

Natural Bridge State Park

Help stop this invasion of exotic plants by volunteering to assist the naturalist staff in pulling and cutting some of the worst invaders. This is great opportunity for individuals and groups to improve the environmental health of our public lands! Each volunteer day begins at 9:00 am at Natural Bridge's Hemlock Lodge, and ends whenever you get tired! Preregistration is encouraged, contact Brian Gasdorf at 606 663-2214 or brian.gasdorf@ky.gov for more info.

November 10, 2007

Volunteer invasive species workdays at Floracliff SNP (Fayette County), 1 p.m. EST, the second Saturday of each month. Join in the effort to remove bush honeysuckle from the preserve as part of an ongoing effort to protect our native species. To register please contact Beverly James at floracliff@aol.com, <http://www.floracliff.org/news>

KNPS Annual Fall Conference

November 3, 2007

Otter Creek Park, Kentucky

11:00 a.m. Keynote address

Invasive Plants – Coming to Kentucky
by Randy G. Westbrooks, Ph.D.

12:00 p.m. Discussion to establish early detection and rapid response teams

12:30 p.m. Lunch (Bring your own)

2:00 p.m. hike led by Bryan Lewis, park naturalist

For more information, see page 1.



SEE PAGE 2 FOR CONTACT INFORMATION.

*(Return address below is for
POST OFFICE USE ONLY.)*

Kentucky Native Plant Society
c/o Department of Biological Sciences
Moore 235
Eastern Kentucky University
521 Lancaster Ave.
Richmond, KY 40475-3102

NON-PROFIT ORG. U.S. POSTAGE PAID RICHMOND KY 40475 PERMIT NO. 116
