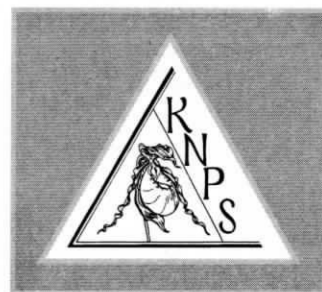


The Lady-Slipper

Kentucky Native Plant Society **DOUBLE ISSUE / Vols. 13:4-14:1** Winter/Spring 1998-99



A Message from the President:

At Long Last — SPRING!

SPRING, according to *Webster's New World Dictionary*, has more than one definition. But of greatest significance to our membership, spring is "that season of the year in which plants begin to grow after lying dormant all winter, generally regarded as including the months of March, April and May." The lengthening days and rising temperatures, however, had me ready long before March, and I can hardly wait for our traditional start to the season at the KNPS Spring Wildflower Weekend at Natural Bridge on May 1!

Greetings to each of you! I hope you share with me the exuberant feeling of being freed from the dreariness of winter. I speak for our entire board of directors in wishing you the most enjoyable, educational and refreshing experiences of this new season. We have planned our activities to offer you the widest range of possible forays and field trips. Each of these activities promises to bring you into contact with a diversity of native plant species and unique habitats, as well as the company of others who share your love for the natural world and its mosaic of beauty.

We have delayed publication of *The Lady-Slipper* in order to bring us back in sync with our regular production schedule. For a variety of reasons, including our recent redesign of the journal, we have slipped farther behind in publishing issues for you. Rather than rush the publication of two smaller issues, the board decided to produce this special double issue. We appreciate your understanding and hope you find twice as much of interest and value here.

While checking our subscriber list we noted one distressing fact. Many of us have slipped in our payment of dues to the society! Since we don't send renewal notices, we realize that this is not intentional, but I would ask you to **check the mailing label on your personal issue right**

now. If the mailing label on the back page of this newsletter notes an expiration date earlier than "December 1999," your membership is not current.

If you are among those who have forgotten, please consider including any past dues with your current renewal. We are very proud that we have been able to keep the cost of membership low, but we are also proud that we have continued to commit funds to promote educational and research activities regarding Kentucky's native flora. Remember, those funds come from your dues.

In this regard, please note the availability of our newest \$500 grant for students pursuing summer botanical courses in Kentucky or other states (p. 2).

Also, in addition to our two demonstration garden and two research grants (p. 3), the board agreed at our last meeting to pledge \$1,000 to help our Tennessee counterparts complete production of a wildflower book which will complement the Wharton and Barbour *Guide to the Wildflowers and Ferns of Kentucky* with which we're all familiar (p. 2).

We also jointly sponsored the Frog Loggers' highly successful "Orchids of Kentucky" poster (p. 5). Congratulations and appreciation are due Mark Gumbert and the Frog Loggers group for such terrific work! This is the second fine poster they have produced on behalf of Kentucky biodiversity and we would like to be able to continue our support of their efforts!

Thanks are also in order for Michael Thompson, who not only designed our impressive new web site, but has taken on the responsibility of field trip coordinator. His expertise and interests are extensive, and his web site will bring our goals to the attention of untold numbers of internet users. Be sure to log on as soon as you are able—in between forays, of course!

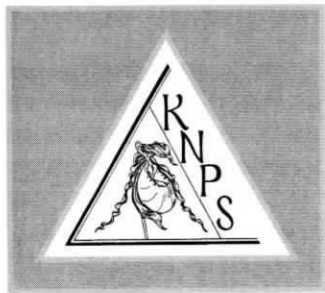
—Dr Dave

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To find the redesigned KNPS WEB SITE go to <http://sac.uky.edu/~mthom0> and click on the link to [Kentucky Native Plant Society](http://sac.uky.edu/~mthom0). Bookmark the KNPS home page to return to it directly the next time you're online.



The Lady-Slipper

is published by the Kentucky Native Plant Society [IRC 501(c)(3)] in February, May, August, and November. Production deadlines are the 1st of the prior months. Submissions of letters and articles are welcomed.

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Kentucky Native Plant Society — NEWS & NOTES . . .

Applications Due for KNPS Summer Field Botany Grant

KNPS is accepting applications for a \$500 grant for a summer field botany class. The applicant must be a student at a Kentucky college or university and the course must be a summer field class involving plant taxonomy and/or plant ecology. The class does not have to be in Kentucky. The grant can pay for tuition, books, travel, and living expenses while taking the class.

Applicants should send a Curriculum Vitae detailing their course and work background, emphasizing past botanical training, and a letter stating their reasons for taking the course and how it will further their career plans. Give one reference (with phone number and/or email), preferably a college or university professor.

Application deadline is April 19, 1999.

Send application to Dr. David Eakin, Department of Biological Sciences, Eastern Kentucky University, Richmond, KY 40475.

Your KNPS Can Use Some HELP!

To help the KNPS serve its members and realize its goals you can—

Clip native plant-related articles from your local paper for *The Lady-Slipper*. While you're at it, write one yourself!

Man a KNPS display to distribute brochures at Mammoth Cave's Springfest on April 17, or at Master Gardener festivals in Elizabethtown, KY or New Albany, IN on June 5.

If you can help, contact anyone on the list at the left!

EMAIL Anyone?

If you have an email address, and would like to be notified of last-minute native plant rescues or other time-critical native plant-related activities, send your email address to Michael Thompson at KNPS_events@hotmail.com



Officer/Board Changes

Some key KNPS positions have changed over the last several months. Secretary/Treasurer Steve Sensenig has been partially relieved of his doubled duties. He's now back to being just Secretary. Angie Begosh, Leslie County Agent for Agriculture and Natural Resources, is the new Treasurer. Michael Thompson, a biochemistry PhD candidate at UK, is the new Field Trips Committee Chair, replacing Clara Wieland. Beth Galloway, Pulaski County Agent for Horticulture, has taken over the duties as editor of *The Lady-Slipper*.

KNPS Support for Tennessee

At the January KNPS board meeting, the board supported a distribution of \$1,000 to the Tennessee Native Plant Society to assist with production of a Tennessee wildflower book. The book will be in the same vein as Wharton and Barbour's *A Guide to the Wildflowers and Ferns of Kentucky*. Many of Kentucky's native plants are also native to our southern neighbor—about a 90% overlap. It is important to lend support to adjoining states that have organized native plant societies since we all share the vision of plant conservation.

Wild Garden Makes Us an Offer

Wild Garden magazine has informed the KNPS that our members are eligible for a one-year (4-issue) subscription to *Wild Garden* for \$12.50. That's about half the regular subscription price for a well produced, beautifully illustrated "Resource for Gardening with Native Plants and for Wildlife."

Wild Garden covers native plant gardening and landscaping across the U.S., but a regular "Regional Wildscaping" section treats a dozen specific areas including our own.

Wild Garden is edited and published in Oregon, but it's printed and distributed right here at Publishers Press in Shepherdsville. Call *Wild Garden* toll-free at 1-877-628-4832 for more info or to subscribe. Tell them the Kentucky Native Plant Society sent you.

Is your membership current? Check the mailing label on the back page of this newsletter.

1998 KNPS Research Grants

The KNPS board awarded research grants in 1998 to ECU students Kim Feeman and James Beck. Mr. Beck will be analyzing the supposed hybridization between Gray Goldenrod (*Solidago nemoralis*) and Short's

Goldenrod (*Solidago shortii*). His sponsor is Dr. Pat Calie. Ms. Feeman, sponsored by Dr. Ron Jones, will do a botanical survey of the wetlands and seeps of Chester Creek in Wolfe County. Watch for reports on their research in *The Lady-Slipper*. 🌿

Is your membership current?

Check the mailing label on the back page of this newsletter.

WILDFLOWER WEEKEND at Natural Bridge State Park and KNPS SPRING MEETING — April 30–May 2

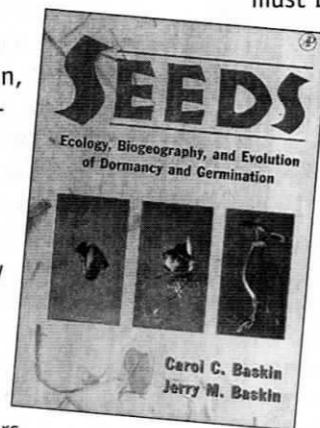
by Wilson Francis, Natural Bridge State Park

THE ANNUAL SPRING MEETING of the KNPS is scheduled for the evening of May 1 in conjunction with WILDFLOWER WEEKEND at Natural Bridge State Park. Wildflower Weekend is co-hosted by the U.S. Forest Service and the Kentucky State Parks and is planned to take place during the peak of the spring wildflower season in eastern Kentucky. Natural Bridge and the nearby Red River Gorge offer a great diversity of flowering plant habitats and species in a relatively small area. We anticipate having many field trips for amateur botanists at all levels. Just getting together with so many people interested in native plants guarantees an interesting weekend.

Our featured speaker at the meeting will be Dr. Carol Baskin, Associate Professor of Biological Sciences at the University of Kentucky. Along with her husband Jerry, Carol Baskin has carried out an enormous amount of work on the ecology and life cycles of herbaceous plants, particularly relating to dormancy and germination requirements of seeds.

The Baskins are the co-authors of *Seeds: Ecology, Biogeography, and Evolution of Dormancy and Germination*, published last year by Academic Press. It is already hailed as the authority on seed germination ecology by reviewers from around the world and it is destined to become a classic in the field of plant ecology.

In addition to her work at the University of Kentucky, Carol is currently President of the Botanical Society of America. Her presentation at Natural Bridge will make connections between the ecological life cycles of plants and our observations in the field.



A limited number of lodge rooms and cabins at Natural Bridge are being held for participants in the Wildflower Weekend. Campsites are available at the park on a first-come, first-served basis. In addition, several private motels and cabin rentals are in the vicinity. For more information about accommodations, call (800) 325-1710.

In addition to the field trips and evening programs, participants in the Wildflower Weekend are encouraged to bring their favorite 35 mm slides to enter in our photography contest. There is no charge to enter the contest, but you must be registered for the weekend to participate. You may enter up to 3 slides, and each slide

must be clearly marked with the photographer's name. The subject must be a plant that is native to Kentucky. All eligible entries will be shown at the Saturday evening program, and prizes will be awarded to the judge's favorites.

The registration table for the weekend's activities will open at 3 p.m. on Friday, April 30, and again prior to the field trips on Saturday. There will be a 4 p.m. Wildflower Walk for early arrivals

on Friday as well as an evening program at the Activities Center at 8 p.m. On Saturday, field trips will leave Hemlock Lodge at 9 a.m. and again at 1:30 p.m. The KNPS meeting and Dr. Baskin's presentation will be at 8 p.m. at the Activities Center. Field trips are scheduled again for 9 a.m. on Sunday. Registration for any of the weekend's activities is \$4.00 for individuals or \$6.00 for families.

For more information, contact Natural Bridge State Resort Park, Slade, KY 40376, (606) 663-2214 or (800) 325-1710. 🌿

WHAT:

Natural Bridge Wildflower Weekend and KNPS Spring Meeting

WHERE:

Natural Bridge State Park in Powell County, 2 miles south of the Slade exit of the Mountain Parkway on KY 11.

WHEN:

April 30–May 2, 1999

Registration – Friday from 3 p.m. and Saturday from 8 a.m.

Wildflower Walks/Field Trips – Friday at 4 p.m., Saturday at 9 a.m. and 1:30 p.m., and Sunday at 9:00 a.m.

Evening Programs – Friday at 8 p.m.; and the KNPS Spring Meeting, Dr. Carol Baskin's presentation, and results of the photo contest are Saturday at 8.

OTHER:

Registration is \$4 for individuals or \$6 for families.

For additional info or accommodations, call 606-663-2214 or 1-800-325-1710.

Also on the Wildflower Weekend agenda:

Charlie Lapham's demo of his "KNPS Indexed Floral Images" CD, a software product KNPS hopes to make available to Kentucky teachers. The CD contains line art from the 1913 Britton and Brown *Illustrated Flora of the Northern United States and Canada* indexed by both common and scientific names.

AND THE WINNER IS: Purple Coneflower — 1999 Ky. Wildflower of the Year

by Sherri Evans and Mary Carol Cooper,
Salato Native Plant Program

THE PURPLE CONEFLOWER (*Echinacea purpurea*) has been selected as the Salato Native Plant Program's 1999 Wildflower of the Year by wildflower enthusiasts from across the state. The species was selected based upon the number of nominations it received and for how well it fit the criteria for its native status, statewide distribution, seed availability, wildlife food value, and ease of cultivation.

The purple coneflower is found in open woodlands in all parts of the state except the eastern mountains and is an excellent plant for wildlife. It is a perennial from 2 to 4 feet high with alternate, lance-shaped leaves. Sometimes the base of the leaf is winged. Leaf margins are toothed and top leaves lack stems. The flower heads vary from deep purple to pale purple. Not only is it exceedingly attractive, but it is an excellent nectar source for large butterflies such as the monarch, numerous swallowtails, and for the ruby-throated hummingbird. Purple coneflower produces a large crop of seeds eaten by many kinds of songbirds and small mammals. The flower is highly valued among florists as a beautiful cut flower that retains its color for weeks.

This plant is one of our most important medicinal herbs. The entire plant is used. Historically it has been used for rabies, syphilis, snakebite, skin diseases, and blood poisoning. Today, it is used worldwide for its ability to boost the natural immune system, especially against colds and flu.

Purple coneflower seeds are available from many nurseries and are relatively inex-

pensive. They require a cold period, so plant them in the fall or early winter so they have at least 2 months of cold weather to help them germinate. You can also store the seeds in an air-tight container in your refrigerator for 2 months and then plant them directly in your garden as soon as the soil is unfrozen. 

Be Part of the Solution — Check Your Nursery's Sources

by Connie May, Shooting Star Nursery

ROADS AND NEW HOME CONSTRUCTION aren't the only threat to our few remaining natural areas. Wildflower enthusiasts can themselves become an unknowing threat to our beautiful wildflowers. I work at a native plant nursery and am shocked to see the growing number of wholesale nurseries offering native wildflowers for sale. They offer trillium, bloodroot, jack-in-the-pulpit—for 50 cents each. Orchids can be had for as little as 60 cents each. Of course, if these prices are too steep, you can buy a thousand or more and the price goes down considerably!!

At these prices, all these plants must certainly be dug from the wild. If wholesale nurseries are selling native woodland plants thousands at a time, imagine what they are doing to native populations in their areas.

Please, before you buy native plants, be absolutely sure you know where they come from. Don't simply ask if the plants are dug from the wild because too often the person you are asking may not know or may purposefully mislead you. Dig deep—ask hard questions: *Were these plants propagated here? If so, what are the propagation techniques? May I see your propagation facilities? If the plants weren't grown here, where are they from?*

Don't be afraid to ask questions—you have a right to know. If you ask enough questions, the answers (and attitude) of the salesperson will give clues to the truth. Unscrupulous or unknowledgeable nurseries are contributing to the demise of native wildflower populations. Don't be part of the problem. 



A Look at the...



by Mark Gumbert

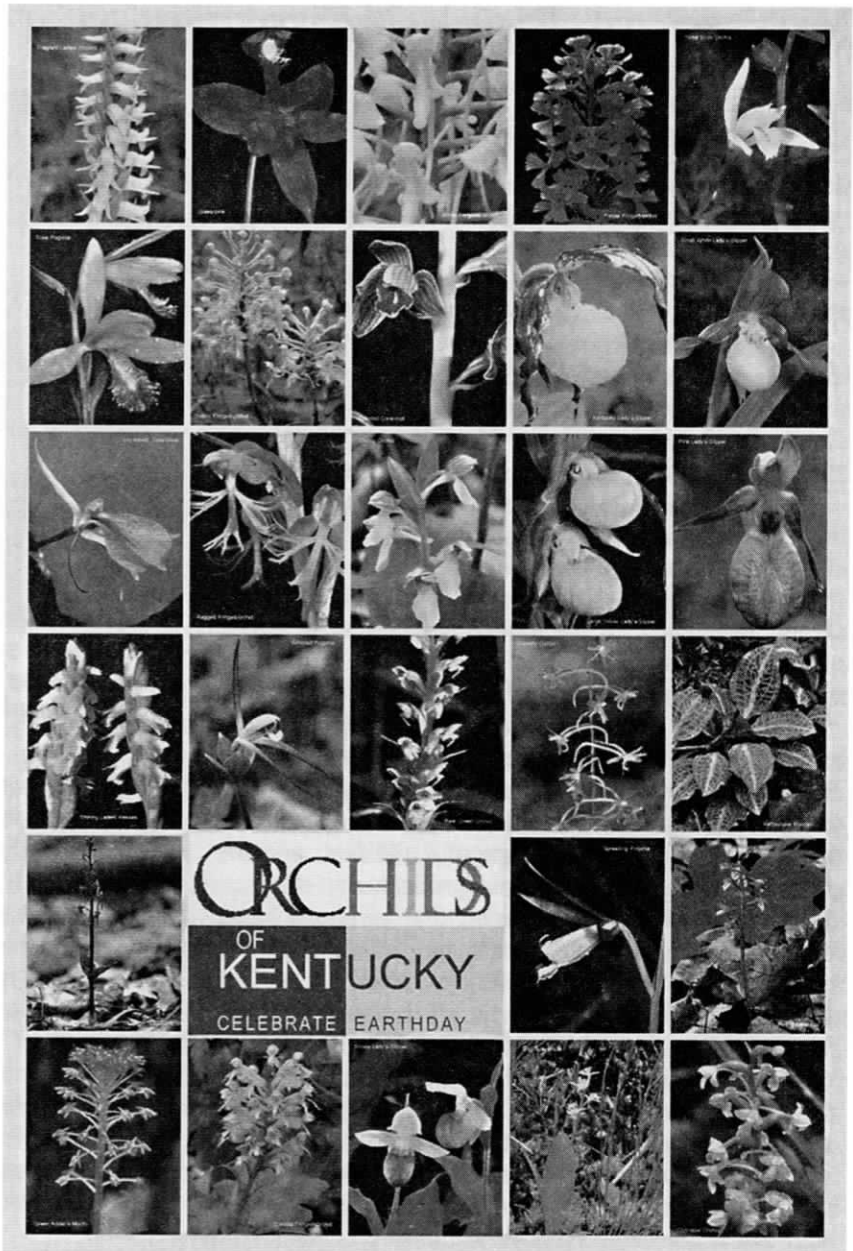
THE KENTUCKY FROG LOGGERS is a non-profit, volunteer-based effort to assess the current status of frogs and toads across the state and provide environmental education and materials to Kentucky schools. The material and programs are provided to the schools of Kentucky free of charge or at the lowest cost possible. With only one year under our belt we have produced two Kentucky natural history posters, one audio tape of the *Calls of the Frogs and Toads of Kentucky*, and we have set up volunteers to run amphibian monitoring routes in 48 Kentucky counties. We have also visited around 150 first to seventh grade classes.

Our most popular environmental education aid is by far the natural history posters. The first poster, *Frogs and Toads of Kentucky* was a huge success. To date we have printed 13,000 copies which were given to children during school programs on Kentucky's Reptiles and Amphibians or during the 1998 earth day celebration in Frankfort.

Our most recent *Orchids of Kentucky* poster will be given to school children in Louisville for the earth day celebration in April and during native plant programs at schools across the state. It has proven to be just as successful as our *Frogs and Toads of Kentucky*. The American Orchid Society has publicized it in their magazine, *Orchids*, and orders are coming in from all over the U.S.

Recently, set designers for a movie production studio contacted wildlife biologists in Tennessee in search of colorful posters. They were referred to us, and Steven Spielberg's Dreamworks, Inc., will now be using our posters in *Cast Away*. Watch for our posters in the home of the biologist mother of Tom Hanks' movie fiancée!

While we do sell our posters and tapes to individuals both in and out of state, most of our products are given to the schools of Kentucky. Funding for school programs and for production of the environmental education materials is gathered from corporations, state and federal agencies, and from Kentucky societies, clubs, and businesses. Without



their support the program will not survive. I would like to personally thank these current sponsors:

East Kentucky Power Co-op
Louisville Gas and Electric
American Electric Power
Kentucky Rural Electric
Cooperatives
U.S. Fish and Wildlife Service
U.S. Forest Service
Kentucky Dept. of Fish and
Wildlife Resources

Kentucky State Parks
Kentucky Society of Natural
History
Kentucky Native Plant Society
Bluegrass Orchid Society
London Garden Club
Corbin Garden Club
Lambert's Photo Lab



To obtain the Frog Loggers' posters or audio tape contact Joe Settles at 3550 Kenesaw Dr., #51, Lexington, KY 40515. Posters are \$10 each and the audio tape is \$7. Shipping and handling is included in the cost.

The *Orchids of Kentucky* poster will also be available at Wildflower Weekend at Natural Bridge on May 1, 1999.

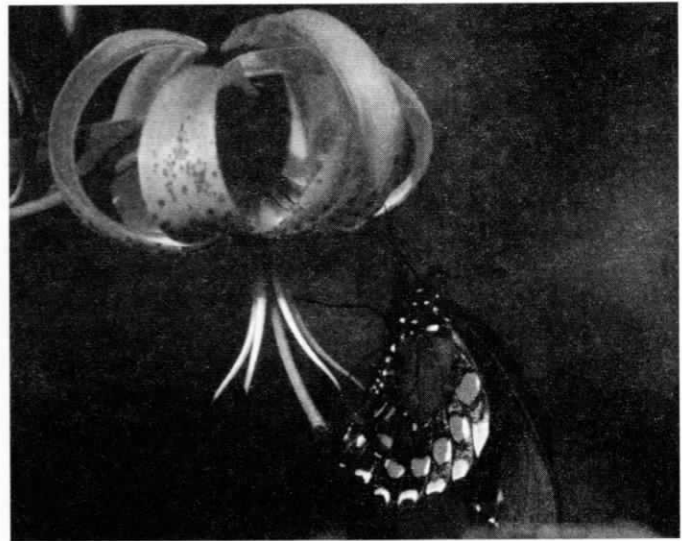
Mining on Black Mountain

by Brainard Palmer-Ball,
Kentucky State Nature Preserves Commission

OVER THE PAST SEVERAL MONTHS you may have heard something about mining on Black Mountain, Kentucky's highest peak, in Harlan County. The issue is a complex one, involving several different points of contention. The permit application that has come to the forefront is actually only a part of a substantial mining project that is already underway, having been approved in June 1992. An amendment to this permit was approved in May 1997, expanding its size to about 350 total acres. Mining began in August 1996 and as of July 1998, 70 acres have been disturbed.

A second permit was submitted in 1995 and approved in January 1996. This permit involves an area to the east of the other mine but still at about the same elevation. The current publicity has arisen from the submission of a second amendment to the original permit that in effect supercedes the second permit to include an additional 450 acres on the mountain east of the current operation.

Mountaintop removal has been mentioned in the media, but most of the permitted activities involve a strip of disturbance at elevations between 3,400 and 3,800 feet along the southern slopes of the mountain. Black Mountain actually reaches an altitude of 4,139 feet, and the core area of greatest biological significance is often considered to include the 1,300 acres that lie above 3,800 feet, so the most important areas are not actually included in what is already being mined or proposed for mining. However, two side ridges that lie off the main crest and attain an altitude of about 3,800 feet have been proposed for coal extraction methods that would include removal of all material above the coal seams being mined. These two ridges, which consist of about 22 and 44 acres, would be restored to approximate natural contour, not left flat as in typical mountaintop removal work.



Tom Barnes

A Pipevine Swallowtail samples the state's best population of Turk's cap lily on Black Mountain. The KSNPC officially lists *Lilium superbens* as a "Threatened" species in Kentucky.

All of that having been said, however, the mining already underway and as proposed to continue clearly threatens the integrity of Black Mountain's biological diversity. In addition, no one seems to know for sure how much more mining could be planned in the future on the northern side of the mountain.

For this reason, some local groups are considering filing a petition to declare the top of the mountain "unsuitable for mining," a provision allowed for in the federal Surface Mining Control and Reclamation Act of 1977 and implemented through Kentucky's administrative regulations (405 KAR 24:303, Section 8b). This regulation states that a land can be deemed unsuitable for mining if the surface mining coal operation will: "affect fragile or historic lands in which

KSNPC-listed species known only in Kentucky from Black Mountain —

VASCULAR PLANTS

Angelica triquinata, Filmy angelica
Botrychium oneidense,
Blunt-lobed grape-fern
Eupatorium maculatum,
Spotted joe-pye weed
Heracleum maximum, Cow-parsnip
Platanthera psycodes,
Small purple-fringed orchid
Streptopus roseus var. *perspectus*,
Rosy twisted-stalk

INSECTS

Pyrgus wyandot,
Appalachian grizzled skipper

GASTROPODS

Pilsbryna sp., a snail

Triodopsis dentifera, Big-tooth whitelip
Vertigo bollesiana, Delicate vertigo

BIRDS

Dendroica fusca, Blackburnian warbler
Junco hyemalis, Dark-eyed junco

KSNPC-listed species with highest quality Kentucky populations known from Black Mountain —

VASCULAR PLANTS

Agrimonia gryposepala, Tall hairy groovebur
Carex leptoneura, Finely-nerved sedge
Hydrophyllum virginianum,
Eastern waterleaf
Lilium superbum, Turk's cap lily
Sambucus racemosa ssp. *pubens*,
Red elderberry

Solidago caesia var. *curtisii*,
Curtis' goldenrod

Solidago roanensis,
Roan mountain goldenrod

GASTROPODS

Mesomphix rugeli, Wrinkled button
Vitrinizonites latissimus, Glassy grapeskin

BIRDS

Empidonax minimus, Least flycatcher
Pheucticus ludovicianus,
Rose-breasted grosbeak
Vermivora chrysoptera,
Golden-winged warbler
Wilsonia canadensis, Canada warbler

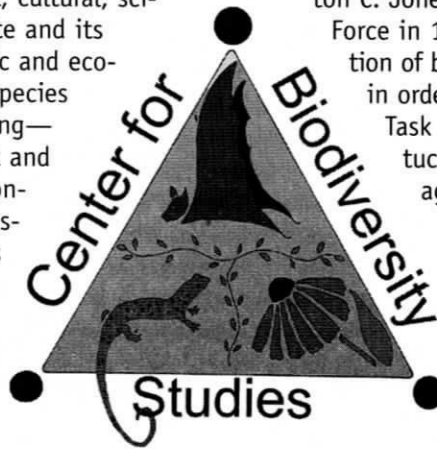
MAMMALS

Clethrionomys gapperi maurus,
Kentucky red-backed vole
Sorex cinereus, Masked shrew

Kentucky's CENTER FOR BIODIVERSITY STUDIES at Western Kentucky University

by Michael Stokes, Western Kentucky University

KENTUCKY'S BIODIVERSITY is a valuable natural resource that contributes significantly to the historical, cultural, scientific, and economic wealth of the state and its residents. However, detailed demographic and ecological information about many of the species that contribute to this diversity is lacking—information needed to develop coherent and biologically-meaningful strategies for conserving biodiversity in the face of increasing pressure from human activities. It is essential for informed decision-making that politicians, scientists and business leaders have access to enhanced, integrated sources of data on the organisms and ecosystems being affected.



Recognizing this need as well as the intrinsic and extrinsic value of biodiversity to Kentuckians, Governor Brereton C. Jones convened the Kentucky Biodiversity Task Force in 1994 to consider the status and conservation of biodiversity in the Commonwealth. In 1995, in order to accomplish the goals put forth by the Task Force, the Governor established the Kentucky Biodiversity Council and directed state agencies to cooperate with the Council in addressing these goals. The Center for Biodiversity Studies at Western Kentucky University was formed in 1998 as an integral part of the WKU Applied Research and Technology Program, a state academic Program of Distinction, (Continued on page 8)

the surface coal mining and reclamation operations could result in significant damage to important historic, cultural, scientific, and aesthetic values and natural systems."

Everyone agrees that Black Mountain is a unique biological resource. Because of its high elevation, the mountain supports an important natural system of plants and animals unique in Kentucky. A Northern Hardwoods forest type that supports numerous rare species occurs at higher elevations and is known in Kentucky only in a few small patches elsewhere in the Cumberland Mountains. However, these patches do not harbor the full diversity of species present on Black Mountain.

Nearly 40 KSNPC-listed species have been documented on the upper portions of the mountain. One of these, the Indiana bat *Myotis sodalis*, is listed as Federally Endangered. At least 12 KSNPC-listed species found on upper

parts of the mountain are known nowhere else in the Commonwealth, and the populations of another 15 KSNPC-listed species are the highest quality known in the state.

The KSNPC monitors only a small subset of the biodiversity known in Kentucky, mostly due to a lack of knowledge of many groups. Members of these lesser-known groups are also well-represented on Black Mountain. For example, approximately 40 moths have been collected on the mountain and nowhere else in the state. Similarly, there are likely other species—mosses, fungi, spiders, and beetles, to name a few—that occur in Kentucky only on Black Mountain.

Black Mountain has been the focal point of a number of limited biological studies over the past century, most of which have focused on the upper elevations. However, while we know quite a bit about Black Mountain, we do not know nearly enough. For example, just this summer a biologist working on Black Mountain discovered two high elevation plant species that are new to the state, Hobblebush (*Viburnum alnifolium*) and Roan sedge (*Carex roanensis*). This highlights the need for additional inventory work there. In fact, the most critical step towards protecting the mountain's biodiversity is to complete a biological inventory. The goal of such an effort would be to specifically define the most critical portions so that they could be targeted for further protection efforts.

The Nature Preserves Commission will be closely monitoring developments on Black Mountain. Our data services staff have handled a number of requests for information on the biological significance of the mountain, and we will continue to be involved as the situation unfolds. 

Brainerd Palmer-Ball's article first appeared in *Naturally Kentucky*, the newsletter of the Kentucky State Nature Preserves Commission. Additional information about the "Lands Unsuitable for Mining Petition" came from *The Cumberland*, the newsletter of the Cumberland Chapter of the Sierra Club, Kentucky.

A PUBLIC HEARING on designating Black Mountain unsuitable for mining will be held on April 6, 1999 at the Black Mountain Elementary School in Everts, Harlan County, KY.

The "Lands Unsuitable for Mining Petition" (#98-2) drafted for Black Mountain by Tom FitzGerald, Director of the Kentucky Resources Council, and submitted by Kentuckians for the Commonwealth asserts that the area of Black Mountain above 3,000 ft. is unsuitable for mining because it is a "fragile land" where mining could create adverse effects on biological integrity, aquatic resources, and aesthetics. It points out that Black Mountain's historic character would be violated, and that mining would likely increase landslides, erosion, flooding, and other hazards to the people living on or in the vicinity of the mountain.

For info about the Black Mountain decision-making process, check <http://www.uky.edu/~rsilver/explain.htm> or contact Kevin Pentz (606) 436-4988, kpentz@kih.net or Robert Gipe, rhgipe01@pop.uky.edu.

CENTER FOR BIODIVERSITY STUDIES (Continued)

to lead the way among state universities in bringing the vision of the Governor, Task Force, and Council to fruition.

The Center for Biodiversity Studies represents a commitment on the part of the Department of Biology and WKU to establish and maintain the facilities, resources and personnel necessary to act as a source of information, expertise and training to professional groups and the general public, as well as to be competitive in attracting external funding to support the initiatives necessary for investigation and management of Kentucky's biodiversity.

The strengths of the Center for Biodiversity Studies are our students and our capacity for information management and delivery. We have also designed the goals of the center to utilize and enhance these capabilities. The Center currently serves as an information hub for the American Society of Mammalogists and for the Kentucky Academy of Science by hosting web sites and providing the Webmasters for those societies. Additionally, personnel of the Center form the data management group for the EPA Region 4 Water Quality Technical Assistance Center. The Center and its herbarium, including the Max Medley collection, also form the core of the *Index Kentuckiensis*, an integral part of the long-awaited Vascular Flora of Kentucky.

The Center's first goal is to develop an integrated source of information and access to data relating to biodiversity in Kentucky. This effort, now under development, is called the Kentucky Biodiversity Information Network (KYBIN).

The second goal of the center is the development of the Center's natural history collections, especially its herbarium and fish collection, by expansion into a refurbished, dedicated museum facility.

The third goal is to provide services to companies, other researchers and the public. One such effort, in collaboration with the Biotechnology Center at WKU, will provide services to researchers in need of molecular analyses to answer ecological or evolutionary questions. Other services include preparing ecological impact assessments and biodiversity surveys increasingly necessary for major construction projects, consulting on biodiversity issues for interested parties, collection management and data maintenance services, and involvement in state and local decision-making on environmental issues. Currently, faculty of the Center are participating in preparing legislation for a biodiversity initiative to be presented to the state legislature in the next regular session. Additionally, staff of the Center will provide a lecture bureau for schools and agencies around the Commonwealth at the Center's expense.

A fourth goal is to coordinate, initiate and conduct baseline and applied research on Kentucky's biodiversity, including demography, ecology, and systematic status. We will utilize students at all stages of research efforts to provide them with the best hands-on education available.

The Center for Biodiversity Studies welcomes input or inquiries from everyone. Feel free to email the Director of the Center, Michael Stokes, at Michael.Stokes@wku.edu or visit our WWW site at biodiversity.bio.wku.edu. 

The 1998 Adventures of a . . .

by Charlie Lapham

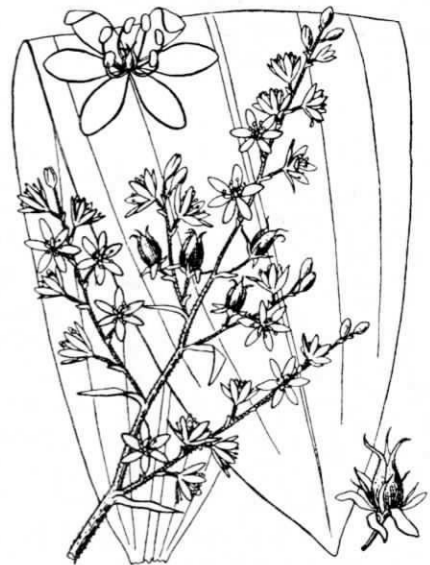
THE SEARCH FOR THE LOST *Veratrum woodii* ended in 1998 with success, but the success probably has raised as many questions as it resolved. A technical paper is in the works, but a narrative of the rediscovery adventure seems more appropriate for this forum. The intent is to include enough science so the average reader's intelligence is not insulted while keeping the story line moving along.

Veratrum woodii is a member of the lily family with a basal rosette of leaves and a peduncle (flowering stem) 2.5 to 5 feet high. The basal leaves range to a foot or more long, are elliptic to oblanceolate (widest from the middle toward the tip) and plicate (folded like an accordion bellows). The inflorescence is a more or less open panicle (a spike with side branches). The flowers are about the size of a nickel and have 6 maroon tepals. There are dozens to hundreds of flowers on a single peduncle—both perfect flowers, with ovaries and stamens, and staminate flowers, without ovaries.

Veratrum is the ancient Romans' name for a plant similar to one the Greeks called Hellebore. A common name is false hellebore. In spite of having a common name, the plant is not very common anywhere. *V. woodii* is endangered in Kentucky and once was a candidate for federal endangered species status. It's range runs from Kentucky to Oklahoma and it prefers rich woods.

E. Lucy Braun did a lot of collecting in Kentucky and found *V. woodii* in Mammoth Cave National Park in the early 1940s. For many decades afterwards, it was lost and presumed to be gone, extirpated, from the site. The Kentucky State Nature Preserves Commission (KSNPC) had searched for it unsuccessfully. While doing research for his *Wildflowers of Mammoth Cave National Park*, Randy Seymour found leaves that might be *Veratrum woodii*. He was working from E. Lucy Braun's data at the time. Dr. Julian Campbell subsequently confirmed the vegetative identification.

Botanists differ on the reliability of vegetative identifications. All agree it is best to see flowers to be sure. In this case we needed hard data for the natural heritage database. We needed a flowering specimen. I had watched these plants for two years and seen no indications that any



Britton and Brown's 1913 version of *Veratrum woodii*.

... PILGRIM IN SEARCH OF THE TRUTH

of the 200 or so plants was going to flower. They are in a mature, mixed mesophytic forest and the canopy probably had become much denser in the last 50 years. Maybe there was no longer enough light for the plants to flower. Luckily this consideration went no further than a discussion.

In June 1998, Deborah White of the KSNPC asked if I thought *Melanthium woodii* (see box at lower right) was going to bloom this year. The KSNPC had not documented the existence of a *woodii* population in many years. Deborah herself had never seen the plant. I ran over to check for the first time in '98 and there were a number of flower stalks (peduncles) forming! This was what I'd been looking for since 1996. The site was monitored weekly thereafter!

In July, Deborah visited the site and decided *Veratrum* (*Melanthium*) *woodii* was no longer lost, but there still were no flowers to confirm the ID. The plants were where Lucy Braun said they were. As usual, it was hard, once you find the site, to figure out how it had been missed in the first place. The vegetative portion, which now included peduncles, matched the plant description. If it wasn't *V. woodii*, it almost had to be something close. We counted over 200 plants and at least 20 had flower stalks. This was considered a very large population for a plant as rare as this.

As luck would have it, on July 24, shortly after Deborah's visit, the flowers were opening. The flowers varied from almost totally maroon with only a hint of green to totally green with no hint of maroon. This is not quite how *Veratrum woodii* is described in the manuals. Some of the flower stalks eventually exceeded 5 feet in length. Some of the inflorescence lengths were also oversized. One flowering stem reached my nose and I'm 6' 2" tall. This is also not consistent with the taxonomic description. Apparent inconsistencies in different authors' descriptions of stamen attachment complicate matters more.

Fortunately, I wasn't the only one to see the flowers. They remained in bloom over a month, so Deborah did get back to see them. Also, when I stopped by the Mammoth Cave Administration Building to tell them the *V. woodii* was finally blooming, I ran into Dr. Tom Barnes of UK who had his cameras with him. For once, we have decent photographs. We had a lot of good luck in this adventure.

The Missouri Botanical Manual discusses infrequent blooming of *Veratrum* species when transplanted into gardens. Dr. Wendy Zomlefer's paper about *Veratrum*s in the southeastern U.S. was more specific. According to Wendy, an average plant blooms perhaps once every 4-5 years, so our plants are not unusual in this respect. Some popula-

tions are believed to not bloom at all. So a vegetative identification is sometimes all you may be able to get morphologically (just looking at form and structure).

The KSNPC requested a herbarium specimen and this caused some difficulty. One needs a permit to collect in a National Park. Neither National Park scientific personnel nor KSNPC personnel are authorized to collect without a permit! Of course, if the plant is growing by the side of a road, it is OK for the maintenance staff to mow it. The roadsides in Mammoth Cave National Park generally resemble

(Continued on page 8)

What to Make of *Veratrum woodii*?

THE DIFFICULTY in finding enough corroborative data to even positively identify *Veratrum woodii* indicates how rare it is and the level of certainty required before the KSNPC lists a species as endangered. This plant was not only endangered, it was well on its way to extirpation.

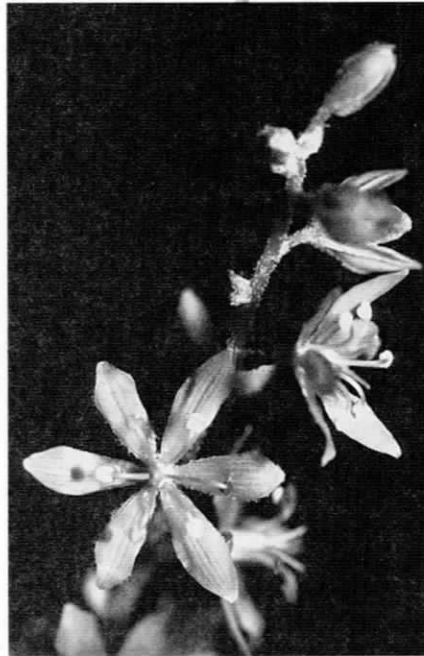
The rarity of the plant itself combined with its infrequent flowering has limited the available data. If it had not bloomed, probably the only way to confirm an identification would have been to sequence its DNA or extract alkaloids for comparison with the few known specimens of *V. woodii*. Quite a bit of work has been done on *Veratrum* alkaloids for the drug trade. New drugs with fewer side effects have replaced these drugs now. This is definitely not a plant to taste even if it weren't protected.

The slight variances of our plants from the existing descriptions are only the tip of the taxonomic iceberg for *Veratrum*. As soon as the flowers opened and the problems with the descriptions appeared, the need for expert advice became obvious. The Missouri Botanical Garden was contacted via e-mail, and Dr. George Yatskiy suggested Dr. Wendy Zomlefer who is working on the Melanthaceae family for the *Flora of North America*. E-mail is a real asset

when you need specialized information quickly, but the long term answers are not quite blowing in the wind yet.

Before and since Wendy Zomlefer published a paper in 1997 proposing that *V. woodii* and its relatives be transferred to a Melanthaceae family segregated from the Liliaceae family, no consensus has emerged. Cronquist and Fernald place the species in *Veratrum* within the Liliaceae. Britton and Brown placed it in *Veratrum* but within the Melanthaceae. Kartesz is following Bodkin who placed *woodii* in *Melanthium* within the Liliaceae. Our KSNPC follows Kartesz and lists it as *Melanthium woodii*. In addition to her other objections, Zomlefer claims *M. woodii* Bodkin is not properly published and is therefore invalid. Thorne has placed *V. woodii* in at least 2 locations at various times. Wendy goes into much more detail in "The Genera

(Continued on page 10)



Tom Barnes

A Pilgrim in Search of the Truth (Continued)

well-manicured fairways, but luckily none of the *Veratrum* plants is near a road that is mowable.

Randy Seymour has the only permit to collect at Mammoth Cave and it was not easy to get that one! Randy is a farmer who was very involved in getting his hay in when the need for a specimen arose. In retrospect, there was no rush, but none of us knew how long these plants would stay in bloom. Luckily, the weather cooperated enough, or vice versa, so Randy found a little time to collect a sample for the KSNPC. Somewhat later he also collected flowers and seeds for this project. When we asked Randy for help we discovered he had found a few plants in bloom earlier

What to Make of *Veratrum woodii*? (Continued)

of Melanthaceae in the Southeastern United States" (Harvard Papers in Botany, Vol. 2, No. 2, 1997, 133-177).

There are ecological questions, too. We had no flowering plants in 1996 and 1997 and over 40 in 1998. Is there some cause and effect relationship that synchronizes the flowering of these plants? Mammoth Cave routinely records climatic data. If we monitor plant bloom in each year we may be able to establish a correlation with a climatic factor in the prior year.

The known plants are also all on the sides of a single draw. This raises the possibility of asexual clonal reproduction rather than sexual propagation by seeds. Molecular work should be definitive if the plants are clones. However, seed production seemed pretty good this year, and horticultural members of the family are propagated from seed. If these plants do reproduce from seeds, why are there so many in one draw and none elsewhere? Does the rarity of the species suggest it can only fill a very small habitat niche?

Answers for these questions are being sought. Randy Seymour's buds, seeds and flowers will prove to be invaluable:

1. Dr. Wendy Zomlefer has funding and will do molecular work on some flowers. She hopes it will help place this genus in its correct family.
2. Dr. Zack Murrell will study the relationship between *V. parviflorum* and *V. woodii*. They may not be as distinct as they seem and many of the characters used have intermediate states. Dr. John Andersland at the WKU lab shot some very good color variation photos before the flower samples went into the freezer. Zack or Wendy, depending on who can obtain a grant, will be doing analyses from these specimens.
3. Dr. Ron Jones has a few buds in fixative that hopefully will provide chromosome numbers.
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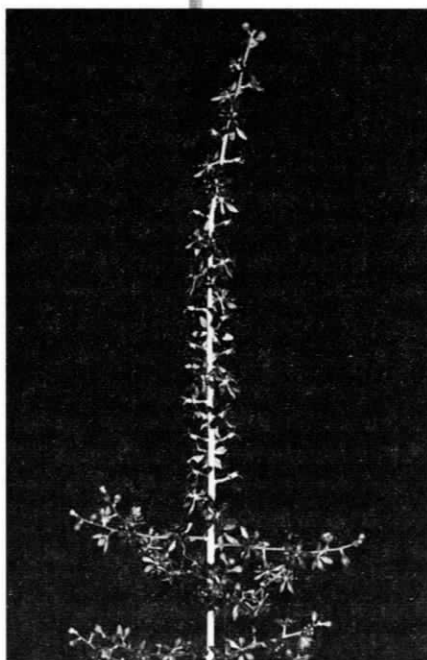
Almost daily trips were necessary to document the characteristics of this population. There was no way of forecasting when, if ever, we would have the next opportunity to observe so many flowers in one location. As much data as possible needed to be collected for future taxonomic descriptions. Plants were tagged and numbered. Whenever measurements were made, it seemed only a day or two before something else was discovered that probably needed measuring. The emphasis was on measuring whatever might be important while the opportunity existed. There would be time later to decide what was and was not important.

Eventually, more than 40 flowering plants were located in 1998 at Mammoth Cave. The outlying plants are much easier to find when in flower. Having young folks like Robert Neidlinger and Dr. John Andersland to scurry up and down some pretty steep grades also helps. The precise location of the site is best not divulged because of the rarity of

these plants. If you have a need to know, contact Mammoth Cave National Park or the KSNPC. However, if you chance upon the highest chigger density at the park, you will probably be pretty close to the *Veratrum* site. It is possible that the species is more widespread but has not been vegetatively identified yet. The Mammoth Cave site should be helpful in training botanists to identify this plant without blooms.

Since the plants were so variable and not quite like the manuals, we needed to look at herbarium samples of both *V. parviflorum*, which is green, and *V. woodii*, which is maroon. *V. parviflorum* is also on the endangered list in Kentucky, but it is only known from the eastern mountains. *V. parviflorum* proved to have different stamen structure and was glabrous (no hairs) which indicated our plants were not *V. parviflorum sensu stricta* (in the strict sense).

Finding a herbarium specimen of *V. woodii* that had been collected when it was in flower was more difficult. Four of the six specimens we have in Kentucky turned out to be only vegetative. We know of only two flowering herbarium specimens in Kentucky, excepting the one Randy mounted in 1998 for the KSNPC. Dr. Davies collected one in Jefferson County in 1942 about the time Lucy Braun found the Mammoth Cave site. It is at the U of L Herbarium which is now located in an off campus warehouse. Pat Harragan found it for me. The other was in the Max Medley collection that has finally found a home at WKU (see box at right). With the help of Dr. Julian Campbell we found the specimen in one of the cardboard boxes in the basement and it has now been catalogued into the herbarium by Robert Neidlin-



Tom Barnes

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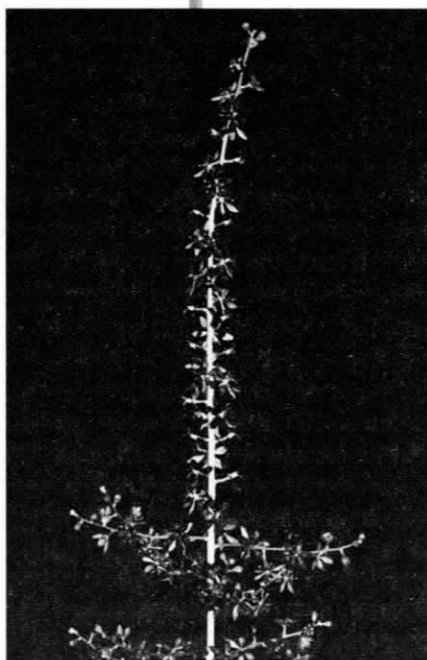
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Tom Barnes

And There's ANOTHER Discovery in Lewis Co.!

by Joyce Bender, Kentucky State Nature Preserves Commission

ON AUGUST 27, 1998, Dave Skinner, the Eastern Regional Preserve Manager for the KY Nature Preserves Commission found a plant that has never been recorded for Kentucky.

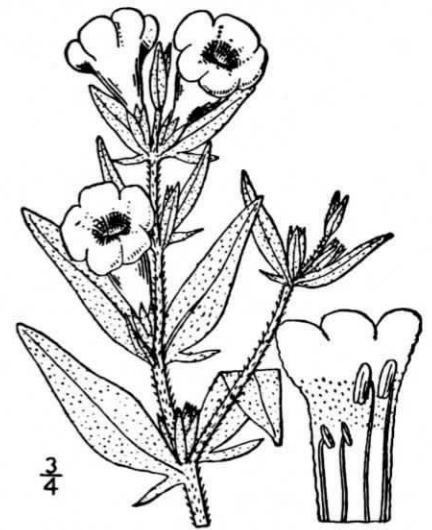
While checking on the boundary survey for Hymes Knob, a current acquisition project in Lewis County, Dave spotted a pink flowered plant on the neighbor's property. The attractive plant had half-inch diameter pink bell-shaped flowers, purplish, lanceolate leaves with light spots, and was about two feet in height.

It looked familiar, but he couldn't name it. He brought a specimen to Frankfort and asked staff botanist Deborah White to help with the identification.

Deborah identified it as *Agalinis auriculata*, the ear-leaf foxglove. Dave had seen this plant in Adams County, Ohio (right across the Ohio River from Lewis County) more than ten years before. Listed as endangered in Ohio, the ear-leaf foxglove will likely be listed as endangered in Kentucky when the rare plant list is revised.

Dave returned to the site with KSNPC staff ecologist Aissa Feldmann and found a total of 135 ear-leaf foxgloves. The site is within the preserve design that was developed for Hymes Knob, and this discovery gives even more incentive to seeing the tract protected within the nature preserve.

When asked about his exciting find, Dave responded, "It is reassuring that new species can still be discovered considering how changes in land use have removed so much of the biodiversity from large areas



Agalinis auriculata from Britton & Brown, 1913 (*Otophylla auriculata*).

of Kentucky." Keep up the good work, Dave! 🐼

This article first appeared in *Naturally Kentucky*, the newsletter of the Kentucky State Nature Preserves Commission.

ger, a student volunteer and invaluable database helper.

After studying the *woodii* specimens, it appears the Mammoth Cave plants all are *V. woodii sensu lata* (in the broad sense), at least from the morphological standpoint. They are more variable than the Gleason and Cronquist description allows, and the other descriptions are not particularly detailed.

There is a group within the Glasgow Garden Club that has been especially interested in wildflowers for a long time. Some of them can't get around very well anymore. Since one *V. woodii* flower and the blooming federally endangered sunflower, *Helianthus eggertii*, could both be seen from the car, we packed the binoculars and had a roadside outing to Mammoth Cave. It turns out that Doris McKinley found one of these plants in bloom several years ago and was not able to identify it. She sent a picture to the KSNPC who couldn't identify it either. It wasn't until Doris saw the *V. woodii* from the car that it all became clear. It isn't in the guidebooks, so Doris never had a chance. Anyone who has photographed known plants and then tried to figure out what they are three months later when the roll is processed can sympathize with the KSNPC's failure to identify one of their endangered plants from a photo. This is the second communication failure that could have profoundly changed the course of this adventure. Once again, not all failures are necessarily bad.

This is principally a tale of the adventure of discovery. A more scientific report with facts and figures and lots of detail is in process and will shortly be delivered to both

Mammoth Cave National Park in Park City and the KSNPC in Frankfort.

Over a dozen people were involved in this adventure. Cooperation was excellent and they were all PhD's helping a retired engineer! Botany is a wonderful interest for retired folks because we can do things as volunteers that would otherwise require a grant. There isn't a lot of grant money in botany, so every bit saved is very important. The KNPS certification courses can lead to some pretty interesting adventures and freedom from boredom is assured! 🐼

A Couple of End Notes...

- AT MAMMOTH CAVE, the federally endangered sunflower, *Helianthus eggertii* is right on the edge of a mowed shoulder. Special mowing instructions have just been implemented to protect it. Jerry O'Neal negotiated this compromise which probably was more difficult than anyone outside the government can imagine. Thanks, Jerry!
- THERE ARE ABOUT 20,000 UNMOUNTED SPECIMENS in the Medley collection at Western Kentucky University. Like the *Veratrum woodii* specimen mentioned above, many are rare. After storage in boxes for years, they urgently need to be accessioned and protected from insect damage. WKU is now matching donated funds to catalog this collection into its 16,000 specimen herbarium. It is a big job. Any help would be greatly appreciated by the botanical community. Even with Julian Campbell as a guide, there's only a 50-50 chance of finding a particular specimen in the boxes.

KNPS Board Members Attend NATIVE PLANT CONSERVATION INITIATIVE Meeting

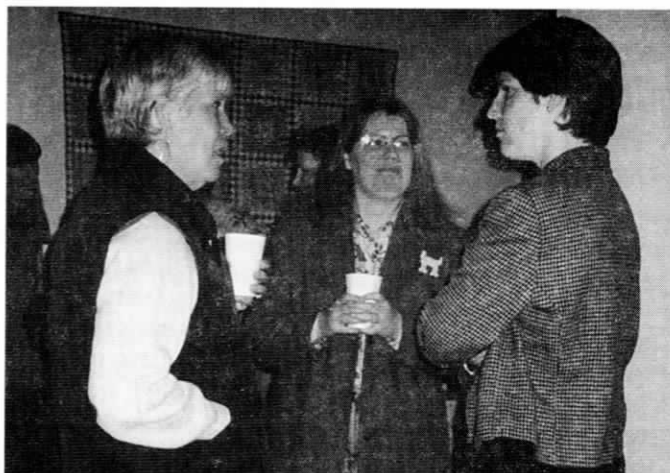
by Sherri Evans and Mary Carol Cooper,
Salato Native Plant Program

ON JANUARY 11-15, 1999, KNPS board members Sherri Evans and Mary Carol Cooper represented the Ky. Dept. of Fish and Wildlife's Salato Native Plant Program at a conference sponsored by the Native Plant Conservation Initiative (NPCI). NPCI is a consortium of federal and state agencies interested in native plant conservation and over 130 non-governmental organizations that represent the native plant conservation concerns of everyone from professional scientists, to preservationists, nature lovers and gardeners.

Taking Initiative: the Future of Native Plant Conservation was co-sponsored by and held at the Lady Bird Johnson Wildflower Center in Austin, Texas. The purpose of the meeting was to develop an action plan to steer the course of NPCI for the next 5-10 years. Conferees signed up for two of five working groups studying Restoration, Public Outreach, Exotics, Pollinators, and Information Sharing. Below are brief highlights from the groups we participated in.

Pollinators. The scientific community is tremendously concerned about the decline in pollinators of native plants, especially rare plants. The major reasons given for the decline are habitat loss and pesticides. Many pollinators, such as hummingbirds and bats, are migratory and are experiencing habitat loss on their winter ranges. One of the main problems is that there is very little specific information on pollinators of native plants. More research needs to be done, but there are few entomologists nationwide who can accurately identify major insect groups (e.g., beetles) to species. Also, just because an insect (or hummingbird or bat) visits a flower does not necessarily mean it is a pollinator. For now, the best we can do for pollinators is to protect and restore habitat, and encourage the public to minimize pesticide use and landscape with native plants.

Public Outreach. All of the issues concerning native plant conservation could benefit from more widespread public awareness and increased appreciation for the beneficial roles of native plants. Suggested vehicles for disseminating the information included prime time public service announcements, brochures, posters, videos, and providing information on the existing NPCI website. Also suggested was incorporating information on these issues into environmental education programs offered by state agencies



Olivia Kwong

Break time at the NPCI meeting for (L-R) Mary Carol Cooper (Salato Native Plant Program), Carol Spurrier (Bureau of Land Management), and Julie Lyke (U.S. Fish and Wildlife Service).

and nature centers. Sherri distributed the KNPS brochure as an excellent example of how to design a brochure.

Exotics. Invasive exotic plants are increasing by leaps and bounds and becoming more and more of a concern. There are several problems that were considered in this workshop: lack of public education on this subject, lack of legislation governing invasive exotic plants, and lack of funding for control of the problem. The general public often doesn't understand the problem of a beautiful garden plant escaping into the wild and becoming a huge problem, taking over large areas where native plants should be growing. Colorado has legislation restricting the use of 63 non-native plant species that cannot be sold in nurseries there—Kentucky has none!! Using volunteers for weed control was also discussed. The Sierra Club, Native Plant Societies, and other environmentally oriented organizations are always interested in service trips such as these.

Restoration. The ability to carry out restoration would be increased and improved by more funding such as state and federal support, corporate partnerships, *Teaming with Wildlife*, and tax incentives for ecological restoration. Awareness could be raised by using websites and portfolios, with *native* becoming as common a buzzword as *exotics*. Information sharing between practitioners using websites, and monitoring and publicizing successful regional cooperative efforts would help in restoration efforts by cutting down on time spent. Having sources of native plant mate-

Prairie Plant Seed Collectors Needed / Anyone interested in collecting native genotype prairie seed over the next few

years for a restoration project in Logan Co. should contact Tom Barnes, Forestry Ext. Specialist at the University of Kentucky

(606-257-8633 or tbarnes@ca.uky.edu). The goal is restoration of a 105-acre former corn/soybean field to native grasses. The land will be deeded to UK.

Iroquois Park Prairie & Wetland Restoration Progress / The Louisville chapter of Wild Ones held a general meeting at Iroquois Park in Louisville last

September that included a tour of the park's prairie and wetland restoration site. The restoration project is in its third year and grasses such as Big Bluestem, Little Bluestem, Side-oats Grama, Indiangrass, Prairie Cordgrass, and Broom-sedge were well established.

Cardinal Flower, Great Blue Lobelia, Soft-stem Bulrush, Cat-

UNDERSTORY

Interrelations of Note from Around the Biosystem



U.S. Secretary of the Interior Bruce Babbitt presents a Lifetime Achievement Award to Lady Bird Johnson on behalf of the NPCI.

rials available by preserving native seed sources, having a certification program for native plant material providers, by developing public and private plant propagation programs, and using native species in wildland rehabilitation and reclamation would greatly aid in native plant conservation.

Sherri proposed developing a sixth working group: **Cultural Uses**. This group would address the increasing use of native plants for landscaping and medicines which can threaten wild populations. Actions which might be considered include encouraging propagation of native plants by nurseries and landowners, and proposing regulations to limit wild collection by nurseries and pharmaceutical companies. Sherri's proposal was accepted, and she's looking for volunteer work group members (see box at right and "Check Your Nursery's Sources" on p. 2).

A luncheon was hosted at the Center for Secretary of the Interior Bruce Babbitt who presented a NPCI lifetime achievement award to Lady Bird Johnson. He gave an excellent speech on the value of native plants and discussed some of the conservation projects to be funded in the Austin

First Annual Symposium of the SOUTHEAST EXOTIC PEST PLANT COUNCIL Convened Recently

THE SOUTHEAST EXOTIC PEST PLANT COUNCIL held its first annual symposium at the Polard Auditorium and Meeting Center in Oak Ridge, Tennessee, March 18-20, 1999. The purpose of the symposium was to provide a forum for discussion of exotic pest plant issues throughout the southeastern U.S.

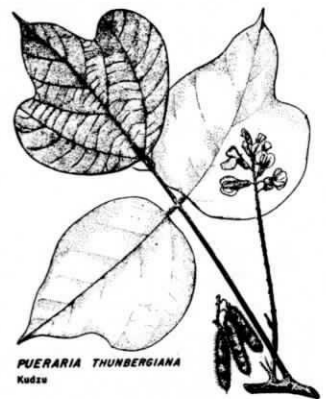
Presentations featured discussions on control and management of exotic pest plants, research, public policy issues, native plant use, and restoration. An afternoon of Knoxville-area field trips were followed by presentations that illuminated pest plant-related issues and activities at the urban Ijams Nature Center, Native Gardens native plant nursery, the Pistol Creek Greenway riparian landscape demonstration project, and the 4-year-old Cades Cove native grasslands and wetlands restoration project in Great Smoky Mountains National Park.

The keynote address given by Dr. Dan Simberloff of the University of Tennessee addressed the risks, costs, and benefits of using biological controls to manage pest plants. Other presentors discussed everything from the latest in attempts to control Kudzu to efforts to restore American Chestnut. ☺

area. He made it known that the pollinators issue is of primary concern to him and he has directed all Dept. of the Interior agencies to address that issue in the coming years. In fact, there were many National Park Service, Bureau of Land Management, and U.S. Forest Service people on the Pollinators working group.

It was an honor to have lunch with Lady Bird Johnson and empowering to see the far-reaching effects that one person can have on a region. 🚶🚶

A Kentucky Exotic Pest Plant Council is in the process of formation. Anyone interested in participating should contact Joyce Bender at the Kentucky Nature Preserves Commission, (502) 573-2886 or email her: bender@nrepc.nr.state.ky.us



KUDZU! (from *Legumes for Erosion Control & Wildlife*, USDA, 1941)!!

Sherri Evans is looking for volunteers for a *Cultural Uses* work group for the Native Plant Conservation Initiative. Anyone interested can contact Sherri at work (502-564-5280) or at home (sevens007@aol.com).

Check out the NPCI website, too. It's at www.nature.nps.gov/npci

tails, and Sedges were among the wetland plants seen. Other wildflowers and legumes included Downy Sunflower, Black-eyed Susan, Ironweed, Partridge Pea, and Rattlesnake Master.

New Natural Areas Director at Bernheim / Bernheim Arboretum and Research Forest has appointed Margaret Shea as

its first Natural Areas Director. Margaret will be responsible for managing the 12,000-acre Research Forest. Her previous work as Director of Science and Stewardship for the Kentucky Chapter of The Nature Conservancy and with federally listed rare plants at the state Nature Preserves Commission, will help her make the Research Forest a

prominent part of Bernheim's program. First on her agenda?—biological inventories of the natural communities and species that live in the forest with an emphasis on rare communities and species that may be at risk of disappearing.

Kentucky Kids and the American Chestnut Project / Kani

Meyer of the Bernheim Arboretum education dept. says their American Chestnut Teacher Training Project (sponsored by the Howard Hughes Medical Institute) started last September with a very successful series of workshops for teachers. Thirty-four teachers from Lebanon Junction Elementary, Cedar (continued on page 14)

Classes / Conferences / Meetings

NATIVE PLANT SEMINAR in the Works for June 26, 1999 at Salato Center in Frankfort

A ONE-DAY NATIVE PLANT SEMINAR promoting the ethical use of Kentucky native plants for wildlife, public and private landscaping, and other economic purposes being planned for June 26, 1999 at the Salato Wildlife Education Center in Frankfort. Organizers of the seminar are expected to include representatives of the Salato Center, the Salato Native Plant Program, the KNPS, the Louisville and Frankfort chapters of the Wild Ones, the Kentucky State Nature Preserves Commission and the University of Kentucky.

The seminar is intended to be of particular value to Kentucky nurseries and landscapers interested in promoting native plants, members of the public who want to landscape with wildflowers, and collectors and users of native plants for food, medicinal, and aesthetic purposes.

Presentations might include: planting a residential prairie, propagating native plants, changing attitudes toward landscaping in America, weed ordinances and their relation to natural landscapes, invasive exotics in the nursery trade, responsible collection of native herbs and medicinals, etc.

Registrants and anyone who wants to help with the seminar, suggest presentations, or speak on the mentioned or related topics, should contact:

Sherri Evans or **Mary Carol Cooper** at the Salato Center (502) 564-7863 or (800) 858-1549.

The seminar is expected to run between 8:30 a.m. and 4:30 p.m. and a registration fee of \$25 will be charged. 

1999 SUMMER CLASS at the Gulf Coast Research Laboratory, Ocean Spring, Mississippi

"COASTAL AQUATIC AND WETLAND PLANTS," a course on the keying and identification of coastal aquatic and wetland vascular plants is being offered at the Gulf Coast Research Laboratory in Ocean Spring, Mississippi June 14-25, 1999.

Habitats visited will include barrier islands, salt flats, sea grass beds, salt marsh, brackish marsh, freshwater marsh, pitcher-plant savannahs, and deep-water swamps.

The two-week course will be useful for anyone interested

in wetland biology, especially consultants. Dr. Ronald Jones of Eastern Kentucky University, will be the instructor and 2 hours credit will be offered at both graduate and undergraduate levels. The cost of about \$400 for undergrad, \$450 for grad includes tuition, room, board, and books. There are dorm rooms and a cafeteria at the Lab. 

For more information about the Gulf Coast summer class, contact—

Dr. Ron Jones at ECU
606-622-6257
biojones@acs.eku.edu
or Dr. Cynthia Moncrief at the Gulf Coast Research Laboratory
228-872-4260
cmoncrie@seahorse.ims.usm.edu

1999 JOINT FIELD MEETING in Northern Indiana —

THE 1999 JOINT FIELD MEETING of the Northeastern Section of the Botanical Society of America, the Torrey Botanical Society, and the Philadelphia Botanical Club will be held in northern Indiana from June 20-24, 1999. This area has an interesting mix of vegetation and flora, combining species typical of the prairie border and boreal regions with the deciduous forests of the Midwest.

The meeting will include three days of field trips to savannah and prairie sites in northwestern Indiana, and to fens and mature forests in the northeastern part of the state. Sites to be visited will include the Jasper-Pulaski and Pigeon River areas, and the field trip leaders will include some well-known Indiana botanists. Evening programs will introduce regional plant ecology and floristics.

The estimated meeting price of \$225 includes air-conditioned housing (Sun.-Wed. nights) and meals (Sun. evening-Thurs. breakfast) on the campus of Manchester College as well as transportation to the field sites.

For more info, contact:

Dr. David J. Hicks
djhicks@manchester.edu
(219) 982-5309
Biology Department
604 College Avenue
Manchester College
North Manchester,
IN 46962 

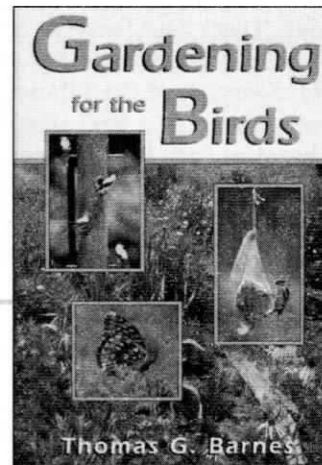
(Continued from page 13)

Grove Elementary, Bernheim Middle, St. Benedict, and the Adult Learning Center are now designing outdoor classrooms to plant the American chest-

nuts their classes are growing.

Hot Off the Press #1 / Tom Barnes' book started life as *Birds, Butterflies and Black-eyed Susans as Close as Your Back-*

yard. Brevity being the soul of sales, however, the University Press of Kentucky proclaimed it instead to be *Gardening for the Birds*. Thankfully the breadth of subjects treated in the book stayed the same. Tom Barnes is associate extension professor of wildlife in UK's Department of Forestry, and his book offers lots of Kentucky-specific and re-



gional information about anything and everything that could help our fellow creatures feel at home in our yards. Native wildflowers attractive to butter-

UNDERSTORY

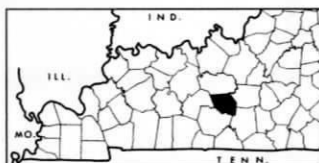
1999 KNPS Field Trips & Other Events

April 3, Saturday — Service Trip at Floracliff, the Mary E. Wharton Nature Preserve in Fayette Co. The KY Nature Preserves Commission invites KNPS and Sierra Club members to help remove non-native, invasive plants from the Preserve. A modest picnic lunch will be provided. After work, we'll take a walk to see early spring wildflowers and Elk Lick Falls. Call Martha Payne at (606) 498-5894. Limit 12.

April 17, Saturday — A First Visit to Laurel Gorge in Elliott County. This trip was cancelled last year due to severe weather. We will try again to explore this mesophytic gorge where North and South Appalachia meet. We will see lovely spring flora, especially *Trillium* species. Bring a lunch. Moderate walk with some off trail and possible small creek crossing. Call Clara Wieland at (606) 266-5548. Limit 20.

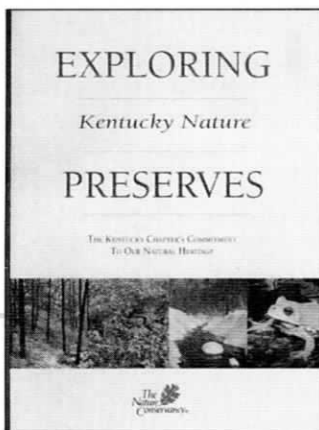


April 17-18, Saturday-Sunday — Springfest Wildflower Weekend at Mammoth Cave National Park. Park naturalists, representatives of The Nature Conservancy, KY Nature Preserves Commission, KNPS and others will lead hikes to see spring blossoms and birds. Conservation groups will have displays in Mammoth Cave Hotel, and an afternoon of naturalist programs will be offered in the Visitor Center Auditorium on Saturday. Call the park at 502-758-2254 for schedule and pre-registration for most walks.



April 22-24, Thursday-Saturday — Spring Wildflower Pilgrimage at Great Smoky Mountains National Park.

The pilgrimage includes trail hikes, motorcades, photographic tours, and flower ID and photo workshops in areas where spring wildflowers grow in quantity and variety. See www.goldsword.com/wildflower/ or call 423-436-1290 for details and modest registration fees.



flies and hummingbirds, host plants of Kentucky butterflies, native trees, shrubs, grasses, and ferns—it's all still there.

Hot Off the Press #2 / If you want to know the details of the Kentucky Chapter of The Nature Conservancy's preserves, this book gives locations, visitation status, protection ranking, nat-

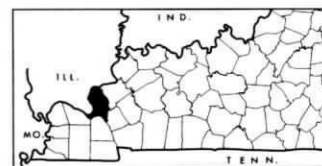
ural history, and stewardship objectives for 28 TNC-managed preserves. It includes descriptions of another 17 preserves where the Ky. Chapter is cooperatively involved with other academic, state, or national

April 30-May 2, Friday-Sunday — Wildflower Weekend and KNPS Spring Meeting at Natural Bridge State Park.

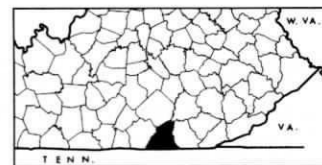
Co-hosted by the KY State Parks and the US Forest Service. See page 3 or call Natural Bridge State Resort Park 606-663-2214 or 800-325-1712 for more information.



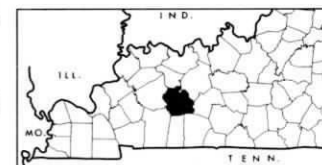
June 28, Saturday — Mantle Rock, Kentucky Nature Conservancy. Join us in a tour of Mantle Rock in Livingston County. The Nature Conservancy will perform a controlled burn of a portion of the preserve in March in an attempt to restore native grassland habitat in the area. The effects of this should be evident by the time of this trip. Species such as St. Andrew's Cross, Orange Grass, Little Blue-stem, and Prickly Pear may be found in abundance in and around the area. Cindy Campbell will lead. To sign up call Michael Thompson at (606) 271-2410 or register via email at KNPS_events@hotmail.com. Limit 20.



July 31, Saturday — Wildflower Photography Workshop. Learn the tricks of the trade from John MacGregor of the US Forest Service. After a brief slide show at the Service's office in Stearns, we're off to shoot nearby orchids and summer composites. Contact Michael Thompson 606-271-2410 or KNPS_events@hotmail.com to sign up. Limit 20.



August 28, Saturday — Cypress Creek, Muhlenberg County. Late summer is the best time to visit wetlands in Western Kentucky. Join us for an afternoon canoe trip to Cypress Creek. Be sure to bring plenty of insect repellent and your waders, we will be getting wet! Wayne Long will lead. Call Michael Thompson at (606) 271-2410 or email him at KNPS_events@hotmail.com to sign up. Limit 8.



preservation interests. *Exploring Kentucky Nature Preserves* is \$5.00 from the Ky. Chapter's office. Call 606-259-9655.

Lexington Contracts Restoration Fever / David Swenk, Lexington's Urban Forester, is looking for help to plant 35,000 red oaks, green ashes, yellow poplars, redbuds, and other native

trees. "A fully functional, viable forest" on 70-80 acres of Coldstream Research Park in Lexington is the goal. It may be the largest urban reforestation effort ever. Planting will take place April 9-10, and 16-17, 1999. If you can help, call the Volunteer Center of the Bluegrass, 606-278-6258.



Kentucky Native Plant Society MEMBERSHIP FORM

Memberships are for the calendar year (Jan.-Dec.). Our dues are modest, please keep your membership current. *Membership expiration date is listed at the top of your mailing label.*

Name(s) _____

Address _____

City, State, Zip _____

KY County _____

Tel.: (Home) _____ (Work) _____

Membership Category (check appropriate boxes):

Annual — ☐ \$7 -Individual ☐ \$10 -Family

Lifetime — ☐ \$100 -Individual ☐ \$140 -Family

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

Membership \$ _____

Gift (optional) \$ _____ Gifts are tax deductible. [IRC 501(c)(3)]

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

Return form & dues to: KNPS Membership, c/o Dept. of Biological Sciences, Eastern Kentucky University, Richmond, KY 40475

Is Your KNPS Membership Current?

If the mailing label below lists an expiration date prior to December 1999, your membership is not current. Please complete the form at left and return it with your dues to continue your support of the Kentucky Native Plant Society and its goals.

Thank you!

Kentucky Native Plant Society
c/o Department of Biological Sciences
Eastern Kentucky University
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Richmond, KY 40475-3102

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