



Kentucky Naturalist News

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Falls of the Ohio (Louisville, Ky)
Meets every third Thursday of each month except
Jan, Jul, Aug & Dec at the Louisville Nature Center,
3745 Illinois Ave. Call President Chris Bidwell at
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Photo by Dave Luzader

Editor's Notes:

Spring seems to be my favorite time of the year. Wildflowers and the green tones of new leaves make you want get out and immerse yourself in the natural environment.

A great way to immerse yourself in the natural environment is to attend our Spring Conference at Pine Mountain State Resort Park, April 26-28, 2013. Go to our website for the registration form and more information. (www.ksnh.org)

Make sure you keep your email address up to date. Failed email addresses are deleted from my list. If your email changes just email us at webmaster@ksnh.org and treasurer@ksnh.org.

A Note from the President



As we near the end of winter, I think many of us should consider ourselves extremely lucky that our area did not suffer from the extreme snow storms that much of the country received. Mother Nature has definitely been showing herself in full force to our country this year. Over the past few weeks I have start-

ed noticing the first few signs of the approaching spring. The first sign occurred one evening as I left work for the drive home, and realized that the sun was just beginning to set. It has been totally dark at the same time the week before. The days were definitely getting longer and each day had to be one more day closer to spring. Today, as I backed out of the garage, a small dot of purple in the landscaping next to the driveway caught my eye. The crocuses were blooming....spring must be very near! Soon the sounds of spring peepers and wood frogs will begin to emanate from the wetlands just down the road. I am not sure about all of you, but to me, that sound.....is the true sign that spring has arrived.

This year marks the 75th Anniversary of the Kentucky Society of Natural History; a great milestone that I am very proud to a part of. Special commemorative shirts and pins have been produced to mark this occasion and will be available for purchase at the Spring Conference. I am hoping we can have two of the best conferences ever, in celebration of this momentous year. With the coming of spring, our 2013 Spring Conference is rapidly approaching. April 26th will be here before we know it, and we will all gather at Pine Mountain State Resort Park for an incredible weekend. I want to thank all of the officers and board members that have helped get a great agenda of field trips and speakers put together. It should be a great conference!! Check the website for agenda details and registration forms.

Our Fall Conference will be held here in southern Ohio at Shawnee Lodge within the beautiful Shaw-

nee State Forest, occasionally referred to as "The Little Smokies". Many of our field trips will be into the numerous nature preserves of Adams County. This area, boast some of the highest biodiversity in the state of Ohio and is home to several state and private nature preserves including the famous 13,000+ acre Edge of Appalachia Preserve System. I am already in the process of meeting with several of that area's naturalist to plan out a full agenda. Mark your calendars for October 18 - 20th, 2013.

As we celebrate this 75th Anniversary of our organization, I hope as many of you as possible will join us for our two statewide conferences. Wear your KSNH apparel proudly and get the word out to other individuals that share our love of nature, just what KSNH has to offer! Let's make this one of the best years yet for the Kentucky Society of Natural History! I hope to see you all at Pine Mountain in April!

White-Nose Syndrome Found at Two Kentucky State Parks

FRANKFORT, Ky. – White-nose syndrome, a disease deadly to hibernating bats, has been found in caves at Carter Caves State Resort Park and Kingdom Come State Park.

White-nose syndrome (WNS) was first identified in New York in 2006 and has rapidly spread throughout the eastern United States and Canada. The disease is caused by a newly discovered fungus and has killed millions of bats since its discovery. There is no known cure for white-nose syndrome and biologists believe it is being spread by infected bats. The disease does not pose a threat to people, pets, or livestock.

Since the first documented case in Kentucky in April 2011, biologists have discovered 25 likely infected or confirmed WNS sites, spanning the state from Trigg County in the west to as far east as Carter and Letcher counties.

Bats with the disease were found recently at Carter Caves, near Olive Hill, in caves that are not open to the public. The three caves where bats with the disease were found are Bat, Saltpetre and Laurel Caves, which were closed in 2008 as part of the effort to stop the spread of the fungus causing the disease.

Carter Caves is home to about 40,000 Indiana bats, which are federally endangered. The majority of those are found within Bat Cave, which is also part of the Bat Cave State Nature Preserve.

The Kentucky State Parks require guests who take tours in two caves at Carter Caves State Resort Park to disinfect their footwear and to not wear clothing that has been worn in other caves. These steps, begun in the fall of 2011, are intended to limit the spread of the disease, which disrupts bats while they hibernate in the winter, leading to starvation or dehydration. The name

comes from the appearance of white fungus that grows on the muzzle and other body parts of hibernating bats.

Carter Caves plans to continue conducting public tours of Cascade and X-Cave.

A bat with the disease also was found in January at Line Fork Cave at Kingdom Come State Park during a routine cave survey. The cave is gated and not open to tourists. This cave is in Letcher County, located inside the 225-acre Kingdom Come State Park Nature Preserve and is home to the federally protected Indiana bat.

Earlier this year, officials at Mammoth Cave National Park in south-central Kentucky announced that white-nose syndrome had been found in a cave at that park.

The spread of white-nose syndrome through Kentucky is significant because of the untold thousands of bats that hibernate in the state's vast network of caves. Bats play a key role in the health of our ecosystems. They are the primary predators of night-flying insects, consuming forest and agricultural pests. An analysis published by Science magazine showed that pest-control services provided by insect-eating bats save the U.S. agricultural industry at least \$3 billion annually.

WNS has been found in the following counties in Kentucky: Bell, Breckinridge, Carter, Christian, Edmonson, Hart, Letcher, Trigg, Warren, and Wayne.

Kentucky Department of Parks News Release



Little brown bats in NY hibernation cave. Most of the bats exhibit fungal growth on their muzzles. Photo by Nancy Heaslip, NY Dept of Environ. Conservation.

Nature Photography: Tips for Photographing Nature's Wonders

Photographing nature takes more skill than simply pointing and shooting a camera. Understanding your subject and your equipment is crucial to taking excellent nature shots. Although nothing compares to viewing nature's beauty in person, a skilled nature photographer can capture a glimpse of that beauty. You too can learn how to take breathtaking nature photos!

Being Prepared for Nature Photography Means More Than Bringing Your Equipment

When it comes to photographing nature, a photographer must be able to do more than just properly frame a shot. Experienced nature photographers anticipate and prepare for their best shots.

A good nature photographer studies the subject to be photographed days or weeks prior to the day of the shoot. If the subject is a bird, insect or other animal, you can prepare by understanding feeding and nest-building habits, for example. If you plan to photograph flowers or other plants, you should examine the effect of daylight on your shot at various times.

To become truly skilled in photographing nature, practice with your camera until it becomes a part of you. Be familiar with the various settings and adjustments so that you can respond quickly to changes without losing opportunities for great shots.

Compiled by Dave Luzader

Kentucky Rocks

A mineral is a naturally occurring solid with a definite chemical composition and crystal structure. Rocks are naturally occurring solids composed of one or more minerals. Rocks are identified by the minerals they contain and are grouped according to their origin into three major classes: sedimentary, igneous, and metamorphic. Each group is subdivided on the basis of texture and mineral composition.

Most of the rocks found in Kentucky are sedimentary. Sedimentary rocks are formed from (1) the weathering and transport of pre-existing rocks and (2) the chemical precipitation of sediments. Examples of sedimentary rocks are limestones, sandstones, and shales. Igneous rocks result from the cooling of molten rock or magma to create rocks like granites, basalts, and rhyolites. Metamorphic rocks have been physically and mineralogically changed by heat and pressure to form another type of rock; for example, the sedimentary rock limestone will become the metamorphic rock marble; the sedimentary rock shale will become the metamorphic rock slate; and the igneous rock granite will become the metamorphic rock gneiss (pronounced nice). Igneous and metamorphic rocks are not common in Kentucky but have been observed in glacial drift in northern Kentucky, and have been found as constituents in sandstones in eastern Kentucky and in very deep wells drilled throughout the State.

Compiled by Dave Luzader

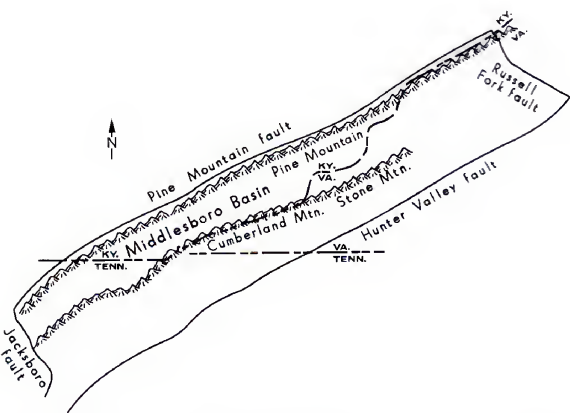
Pine Mountain, Kentucky's True Mountain

Compiled by Berl Meyer



Pine Mountain, located in southeastern Kentucky, is one of the most outstanding landscape features in the Commonwealth. Unlike many peaks which carry the term "mountain," Pine Mountain is a magnificent ridge that reaches approximately 125 miles from near Jellico, Tennessee, on the southwest to Elkhorn City, Kentucky, on the northeast, extending through an area of great geologic and historic interest.

The area of Pine Mountain has been recognized for many years for its scenic beauty. A general account of the Commonwealth of Kentucky, prepared by the Geologic Survey of the Commonwealth for the Centennial Exhibition in Philadelphia in 1876, stated that the area of the upper Cumberland River affords some of the finest scenery of the whole Appalachian chain. It is not the highest mountain in eastern Kentucky, but with its spine-like crest, majestic cliffs, wooded coves, and assemblage of diverse rock formations, it is a strikingly attractive scenic feature.



Through most of its length, Pine Mountain is, and has been, a conspicuous barrier to transportation, especially on its northwest face where many points rise 1000 to 2000 feet above the streams which parallel it. For nearly 90 miles no stream crosses the mountain, and in the entire distance of 125 miles, only about a half dozen roads afford passage from one side to the other.

Pine Mountain has long been known by professional geologists and students of earth sciences as a unique feature

in Kentucky geology. Geological literature for almost a century has attempted to describe its features and explain its origin. A selected list of scientific references which have been beneficial to the present writer, and should be equally helpful to those who wish to explore the more technical aspects of the subject, is presented at the end of this report. For those interested in any particular segment of Pine Mountain, the reader's attention is invited to the new detailed geologic maps which have been prepared for this area. These maps depict the nature and distribution of the rock formations at the surface of the ground and the associated structural features.

In addition, all of the area under discussion is covered by a recent series of topographic maps, scale 1:24,000 with 20- or 40-foot contours, published by the United States Geological Survey. These maps show roads, streams, towns, and the location and elevation of many of the salient natural features. They are of inestimable value to anyone spending time hiking or exploring landscape features in this area. Some examples of these maps are shown elsewhere in this report.

In spite of the comparatively large amount of geologic literature written about the Pine Mountain area, it has only been in recent years that many nonprofessional people, except those who reside in the area, have realized the beauty and scenic attraction of this part of Kentucky. Today three State parks, Pine Mountain, Kingdom Come, and Breaks Interstate parks; a community park at Jenkins; and the picturesque and scenic Little Shepherd Trail are developed so that more people can enjoy this mountain region. The majority of the great rock formations are accented by the array of native plants and trees. In the springtime the mountains are decorated with blooming redbud, rhododendron, and mountain laurel; in the autumn the multicolored leaves of the hardwoods make the woodlands appear to be ablaze.

A knowledge of the geology of an area guides the geologist in his search for needed minerals; assists the engineer in his design and construction of structures to improve our environment; and aids the tourist in understanding the landscape features. The spectacle of Pine Mountain is more than a sight-seeing tour. It is an adventure into the geologic mystery of the past and the scenic beauty of the present.

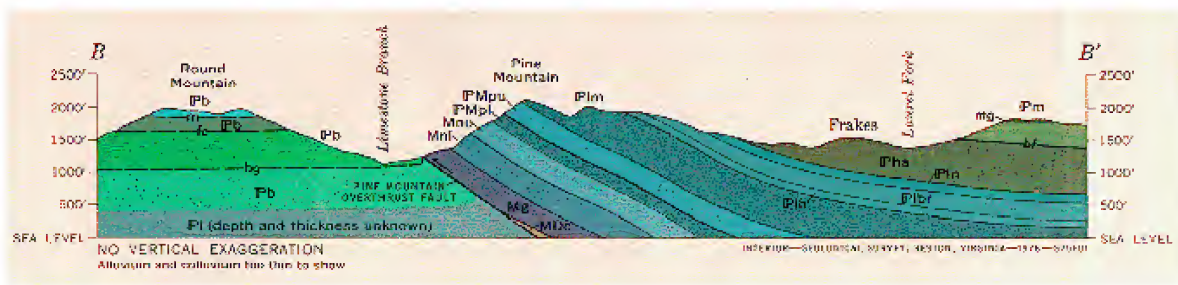
GEOLOGIC SETTING

The geologic story of Pine Mountain began some 400 million years ago when the area was covered by great bodies of water. In the Pine Mountain area these seas lasted more than 75 million years. During this time various muds, sands, shell fragments, lime oozes, and plant material accumulated on the ocean bottoms and in lagoons and bays much as they do today. Mud became clay and shale. Loose sand, gravel, and silt became sandstone, conglomerate, and siltstone. Shells, shell fragments, lime oozes, and chemical lime precipitates became limestone. Plant accumulations became coal.

Rocks in Pine Mountain are layered like a cake. The lowest layer is the oldest (Devonian), whereas younger rocks (Pennsylvanian) cap the mountain ridge. Mississippian shales, siltstones, limestones, and sandstones occupy the interval between the Devonian and Pennsylvanian, but this description applies to many places in the eastern Kentucky mountain region. The thing that makes Pine Mountain different from most of the other Kentucky mountains is that it is a single, long mountain ridge resulting from geological events which have turned rock layers upward to relatively high angles, exposing rock formations which are normally 2000 feet or more below the surface of the ground.

Geologically, Pine Mountain is a long, even-topped, erosion fault scarp, the steep face of which faces the northwest. It is part of a four-sided block of the earth's crust, approximately 125 miles long and 25 miles wide, known as the Cumberland overthrust block. This block is bounded on each side by earth fractures called "faults"—Pine Mountain fault on the northwest, Hunter Valley fault on the southeast, jacksboro fault on the southwest, and Russell Fork fault on the northeast. The Cumberland overthrust block is a trough-shaped body which mountain-building forces within the earth pushed laterally for a distance of some 6 miles from the southeast. These crustal movements are thought to have taken place near the close of Paleozoic time, some 230 million years ago.

Pine Mountain, a long monoclinial ridge, forms an upturned rim of the trough-shaped overthrust block. Its steep face to the northwest, overlooking the Cumberland Plateau, is capped by the outcrop of the resistant basal conglomeratic sandstone of the Pennsylvanian System, known as the Lee Formation.



Cumberland Mountain, which contains historically famous Cumberland Gap, is a mirror image of Pine Mountain. Cumberland Mountain presents a steep face toward Virginia and Tennessee, with rocks which form the back slope dipping toward Kentucky.

Pine Mountain is a striking contrast to the adjacent Cumberland Plateau. The linear character of its crest, the abrupt outer northwest-facing escarpment, and its gentler southeastern (back) slope with great dipping rock slabs and irregular boulders present a remarkably uniform picture throughout its entire length and set it apart from the maze of less rugged irregular hills and sinuous streams of the plateau.

Although the area of Pine and Cumberland Mountains is considered as part of the Cumberland Plateau, the narrow-crested linear ridges are more typical of the Appalachian Valley-and-Ridge type features.

The crest of Pine Mountain rises gradually from the southwest toward the northeast, with elevations ranging from less than 2200 feet in western Bell County to more than 3200 feet in southern Letcher County.

Probably the highest elevation on Pine Mountain is 3273 feet above sea level, a point approximately 4 1/4 miles (airline) east of Whitesburg. From here eastward, peaks along the crest reach elevations between 3000 and 3100 feet.

Throughout its entire length Pine Mountain is cut by notches or gaps, 200 to 700 feet below nearby peaks, which are probably related to ancient, but now obsolete, drainage systems. Notable among these are Bear Wallow Gap (2040 feet), Salt Trace Gap (2180 feet), Shell Gap (2620 feet), Hurricane Gap (2240 feet), Scuttlehole Gap (2580 feet), and Skegg Gap (2510 feet).

Cumberland River breaches Pine Mountain at Pineville. This is the only instance of a present-day stream cutting through the mountain in Kentucky. Russell Fork crosses Pine Mountain in Virginia at the Kentucky State line, creating the gorge commonly known as "Breaks of the Sandy." At the opposite end of the mountain near Jellico, Tennessee, Clear Fork has cut a deep rocky valley through the mountain; it is referred to locally as "The Gorge" or "The Narrows."

The principal communities are located in the valleys well below the mountain crest. Pineville is at an elevation of about 1015 feet; Harlan (of Justified fame), 1190 feet; Cumberland, 1440 feet; Whitesburg, 1160 feet; Jenkins, 1520 feet; and Elkhorn City, 820 feet.

The sandstones which cap Pine Mountain consist primarily of clean quartz sand. Locally, concentrations of quartz pebbles are present. The sandstone varies in color from off-white, gray, and tan to reddish and brown, with the tan and browns predominating. The color is due primarily to iron oxide staining. Precipitous sandstone cliffs abound on the north face of Pine Mountain, some of them with sheer faces of 200 feet. The unusual combination of the harshness and beauty of these rocks never ceases to fascinate the visitor. Occasionally one will observe a pit where soft, poorly cemented sandstone was once dug for mortar sand or similar construction use. Elsewhere there are hard ledges producing jutting rock masses or an occasional waterfall.

Approximately half way (or a little more) up the north face of Pine Mountain one may encounter a thick limestone formation. Referred to by geologists as the Newman Limestone, it is the thickest and most extensive limestone unit exposed in this part of Kentucky. Thicknesses of 300 feet are common. It is Late Mississippian in age and thought to be generally correlative with the cave-bearing limestones of Carter, Rockcastle, Pulaski, and other eastern Kentucky counties as well as those of the Mammoth Cave area of south-central Kentucky. A number of caves have been reported to be present in the Newman Limestone along Pine Mountain but none are commercialized. Springs may also be present. This limestone is the principal source of rock in this area for roadstone and concrete aggregate. Commercial limestone quarries are present in Harlan, Letcher, and Pike Counties. The oldest rocks exposed within the Eastern Kentucky coal field are found at the foot of Pine Mountain.

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[Kentucky Wetland Restoration](#) [Attracts Endangered Cranes](#)

Posted by [Ray Toor, NRCS Kentucky](#), on February 1, 2013 at 3:45 PM



Scott County Indiana Muscatatuck River Bottoms, March 5-2007.
Photo credit Mark Trabue.

A wetland restoration project completed by USDA's [Natural Resources Conservation Service](#) in Kentucky has attracted the fancy of a pair of endangered whooping cranes.

In early November, a pair of whooping cranes were discovered on a property in western Kentucky that was recently restored with NRCS' help. The restoration to bottomland hardwood wetlands included tree planting and the creation of shallow water areas for migratory wildlife on nearly 900 acres of former cropland that was put into a conservation easement.

The cranes have been residing on the conservation easement since December 2012, roosting and feeding in the shallow water areas. This is a significant sighting because by the 20th century, the majestic bird was nearly wiped out.

Before human interference, there were, it is believed, 15,000–20,000 whooping cranes in the U.S. But in the 1800s, the whooping crane population was drastically reduced by habitat loss and hunting, and by 1860 the birds were thought to number only about 1,400. In 1941, there were only 15 whoopers left in the entire country.

Whooping cranes are almost entirely white. The body and wing feathers are a bright white, except for the outer tips of the wings, which are black. But the most noticeable characteristic of the whooping crane is the large red crown on the head that extends from the cheek, along the bill, and over the top of the head.

With a height of approximately 5 feet on stilted legs, whooping cranes are the tallest birds in North America, and have up to a 7.5-foot wingspan.

Although these birds are tall, they only weigh about 15 pounds. They primarily eat crustaceans, small fish, insects, amphibians and reptiles. They will also eat grains, marsh plants and acorns. The primary habitats of whooping cranes are wetlands, marshes, mudflats, wet prairies and fields.

A team of NRCS, FWS and [Kentucky Department of Fish and Wildlife Resources](#) biologists confirmed the identification of the birds after interviewing the landowner and visiting the conservation easement. The landowner of the conservation easement is happy with the restoration efforts, and the fact that “big, white, pretty birds” have decided to stop in and visit on their migration route.

Whooping cranes are still critically endangered, but with continued wetland restoration efforts, there is hope for their future.

NOTES FROM THE NATURE NUT
By: W.H. (Wally) Roberts – Spring 2013
“PILEATED WOODPECKERS”

Ten years will have passed on June 1, 2013, since Karen and I moved to Hawthorne Pointe (HP). As most of you know, our main reason for moving to HP was the fact that a dedicated nature preserve was part of our homeowners association property. Although our nature preserve is only about 15 acres, we are surrounded by wooded, hilly tracts on three sides, and a wetland woods on the other.

Karen and I have observed and recorded 128 different bird species from our condo during the past ten years. One of the first species we heard and saw was the pileated woodpecker (*Dryocopus pileatus*).

When we set up our bird feeding station, we purposely included special suet cake feeders that are designed for the large pileated woodpeckers. These feeders have an extra long tail perch so the pileated woodpeckers can brace themselves...similar to pecking on a tree.

It took a few months for the pileateds to come to our feeding station, but not one of the birds ever fed even though they flitted close around our feeders. We continued to see and hear the birds for the past nine plus years.

For the first time, about the second week in February, 2013, a brave female showed up and fed for the first time on suet cakes in the large woodpecker feeders. Three days later, she brought her mate with her and both birds have been feeding almost daily about twenty-five feet from our patio.

Pileated woodpeckers are our largest woodpeckers and are almost the size of a crow. The pileated woodpecker is the real life model for Walter Lantz' "Woody Woodpecker" of cartoon fame. These large and loud birds are especially impressive with beautiful large red crests, jungle-like calls, and loud drumming that sounds like a wooden mallet beating on a tree. Pileateds do not have the undulating flight pattern of other woodpeckers, but fly more like a crow with steady wing beats.

The pileated woodpecker's range is large, and they prefer deep mature woods, but can often be found in the ecotone regions between woods and creeks and woods and roads. Their favorite food seems to be carpenter ants, and they are often found feeding near the lower parts of the forest such as

on rotten dead stumps of fallen trees. They usually start nesting around the beginning of March and usually only have one brood per year. They tend to use the same nest for several years, and you can always tell the holes made in trees by pileated woodpeckers because they are oval in shape.

Often times, it has been a pleasure to show this impressive bird to non-naturalist types who were very skeptical when I talked about this beautiful and impressive bird. Both sexes are about the same size and color with the males having a red mustache below the bill while the female does not.

I urge you to take some extra time this spring and more closely observe these truly beautiful birds. If possible, find their nesting sites, then sit and observe them with your binoculars.

The spring birding season is rapidly approaching, but it will be short in duration. I urge you to take to the field as often as possible and enjoy the beauty of nature..."the greatest show on earth."

Common Dittany or Stonemint: *Cunila organoides* (L.) Britt.



Common Dittany, or Stonemint, is a perennial member of the mint family (Lamiaceae). First described and published by Carl Linnaeus, it was reclassified into today's valid botanical systematic by Nathaniel Lord Britton in 1894. Common Dittany grows 8- 16 inches tall in dry, rocky, sandy, mesic, open woods, clearings, slopes and prairies in noncalcareous (calcium carbonate-limestone) areas. It does not tolerate shade. Found mainly in the eastern United States, it is infrequent in most of Kentucky except for the Bluegrass and limestone regions. It is listed as extinct in New York. As a mint family plant, Dittany has a square stem, nearly sessile/opposite leaves and an aromatic scent when the foliage is crushed. Dittany's scent has also been described as a pleasant or a pungent diesel oil/gas smell. The tubular pinkish to purple flowers, about 3/8-1/2" long, have 2 protruding stamens and occur in terminal cymes. Dittany blooms from July into November. The wiry/multi-branched stem appears semi-woody at the base and will last well into the winter season. Seeds (nut-

lets) are up to 1.3 mm long at maturity and are smooth.

Dittany (*Cunila organoides*) gets its genus name – *Cunila* – from Latin meaning thyme; Latin *konos* meaning cone in reference to Dittany's flower shapes; or from Greek *konilee* meaning marjoram as dittany is similar. The species name, *organoides*, is from Latin which means resembling oregano.

Dittany (dittanies is the plural term) has many common names. Dittany is derived from several sources: *dytane*, *detane* or *dytan* (M.E.); *dictane* (O.F); *dictum* (Latin); or *di'ktamon* (Greek). These sources of the word dittany may be akin to *dikte* – a mountain in Crete where a similar mint herb (*Origanum dictamnus*) abounded. Dittany is an English girl's name meaning "of Britain". Another common name is *stonemint* as dittany prefers dry, sandy, rocky hillsides. The name *Mountain Dittany* is also used in several localities due to its frequent hilly mountain habitat. Also known as *Maryland Dittany*, particularly in the northeast United States, as Maryland was one of the first sites that dittany was discovered and described. Because of its similarity to oregano, dittany is also referred to as *wild oregano*. A relatively uncommon name is *Sweet Horsemint*, as equines are supposedly fond of dittany. One of the most unusual names for dittany is *gas plant* or *burning bush* due to its diesel oil scent which has been reported to be flammable.

Medical/folklore usages for dittany are numerous. The Cherokee and Iroquois used a tea made from its twigs/leaves as a remedy for headaches, fever, colds, stomach ailments, analgesia, snake bites, "women's" problems, and as a stimulant. Cherokees also used a concoction to treat scalp complaints and chewed the root for bleeding or sore gums. Inhaled steam from burning dittany was used to clear sinuses and relieve headaches. An essential oil found in dittany (*cunila oil*) is used as an aromatic to induce menstruation and sweating. "Oil of dittany", another dittany essential oil, was used as an antiseptic and an insect repellent – especially horseflies. Eugenol, a potent anti-aggregant (blood thinner) found in dittany, may possibly benefit patients with certain blood, stroke, and cardiovascular disorders. Other compounds as thymol and carvacrol in dittany are known muscle relaxers and have been used in massages and warm baths to relax strained muscles or other musculoskeletal disorders. Modern herbalists use dittany for rashes, measles, decreased urine flow, flatulence, spasms, and as a carminative.

Dittany is the herb of Venus in astrology and in folklore its juice may repel "venomous beasts". For you Muggles – Harry Potter fans – the dittany mentioned in this epic work is not our dittany. Two European plants are also known as dittany: *Dictamnus alba* (white or false dittany) of the Rue or citrus family and *Origanum dictamnus* (Crete dittany) in the mint family. As the latter has a more significant history of being used medicinally, this is the dittany J. K. Rowling probably had in mind when writing her renowned Harry Potter saga. The dittany in Harry Potter is used extensively for treating wounds, especially those caused by "splinching".

Lastly a rare natural occurring phenomenon of dittany is the forming frost crystals, ice flowers, ice ribbons, and/or frost flowers along the base of the stem in winter. It is theorized that the square stem struc-



ture facilitates capillary water movement up from the soil. Water is pushed through the stem to the exterior through small openings allowing the ice/frost flowers to form. Water in the stem becomes “super cooled” – temperature of slow-moving capillary water to below freezing but ice has not begun to form. If and/or when an ice crystal forms on the exterior stem possibly from frost, the super cooled water penetrates the stem – forms as ice on the ice crystals externally. As more water leaves the capillaries/conductive tissue of the stem to the exterior, the ice flowers continue to grow. Once super cooled water turns to ice the plant stem will rupture and larger formations may form from exterior moisture. Dittany (*Cunila organoides*) is one of the 5 widely recognized plants to form ice flowers - White Crownbeard (*Verbesina virginica*), yellow wingstem (*V. alternifolia*), and long branch and hoary frostweeds (*Helianthemum canadense* and *H. bicknellii*) are the others. Thirty-four other plants have also been cited as forming ice flowers but this phenomenon is far less documented and observed than that of dittany. It is dittany’s ability to form ice flowers that gives it yet another common name – the ice mint or ice plant!

On a winter hike be sure to look for dittany and signs of ice flowers. If one hikes the south trails leading to the Summit at Iroquois Park there is a chance of observing these ice flowers as dittany is quite common on these south-facing rocky slopes. This summer take time to crush some of this mint’s leaves and smell the aromatic odor – can you smell diesel oil?

Chris Bidwell

President of the Falls of the Ohio Chapter - KSNH

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Kentucky Naturalist News

Official Newsletter of the Kentucky Society of Natural History

Volume 71 Number 2 Summer 2013



A Note from the President

Summer time greetings to everyone, I hope all of you are having a great summer, filled with all the joys and fun that summer brings. Whether its family barbecues, swimming, hikes in our beautiful natural areas, or family vacations; summer is a time for relaxation. It was great seeing everyone at Pine Mountain this spring. The spring conference was a great success, even if we did have some rainy weather.

Our fall conference will be October 18th – 20th, here in southern Ohio. Some “early bird” activities are being planned for during the day on Friday for those who would like to arrive on the 17th. The conference will be held at Shawnee State Park near Portsmouth, Ohio and we will be staying at the Shawnee State Park Lodge. The lodge is a beautiful facility featuring a variety of room styles, cabins, indoor swimming pool and game room, and a wonderful restaurant. There is also camping in the state park and several hotels in Portsmouth (approximately 15 miles away).

Shawnee State Park sits in the middle of the 63,000 acre Shawnee State Forest. Originally established in 1922 with the purchase of 5,000 acres of land which had been cut over for timber and ravaged by fire; Shawnee State Forest is now Ohio's largest continuous stand of forest. That same year, land acquisition was begun for the Theodore Roosevelt Game Preserve. In the 1930s, the Civilian Conservation Corps (CCC) had several camps in the forest and were responsible for the construction of many roads into the previously inaccessible area. The CCC also constructed five small lakes and the historic Camp Oyo Boy Scout Camp. Also called “The Little Smokies”, Shawnee's natural beauty has attracted visitors for many years, especially during spring wildflower time and of course the fall color season. Hopefully fall color will be at its peak when we are there this fall.

Several of our field trips during the conference will be throughout the forest and also into the extensive nature preserves of Adams County, just east of the forest. My home county, boast approximately 20,000 acres of designated nature preserves. The largest of these preserves is the Edge of Appalachia Preserve System that is managed by the Cincinnati Museum of Natural History and the Nature Conservancy. Many of the key areas within the preserve were originally discovered by the infamous E. Lucy Braun. Lucy researched the eastern deciduous forest of United States for many years, and most of us are familiar with her exploits in Kentucky. Living in Cincinnati and teaching at the University of Cincinnati; Adams County was her “back yard”. She did more research on plant communities here, than any other area. On some of our field trips we will be walking the in steps of Lucy as we explore this great natural area. Besides the extensive forest areas, Adams County is famous for its remnant prairies. With the conference being in October, many of the prairie plants will still be evident, especially the various tall grasses.

For more information on any of the areas we will be visiting this fall please check out the following websites:

Shawnee State Park, <http://www.dnr.state.oh.us/parks/shawnee/tabid/788/Default.aspx>

Shawnee Lodge and Conference Center, <http://shawneeparklodge.com/>

Edge of Appalachia Preserves, <http://www.cincymuseum.org/nature>

Registration for the conference is now open and a registration form is available on the KSNH website. Members should make their own reservations at Shawnee for their rooms. Information about room rates and contact numbers are available on the registration form and also on the lodge's website. I am in the process of putting together a great agenda and several local agencies including the Cincinnati Museum of Natural History, Ohio Department of Natural Resources, as well as several local naturalists. I hope to see you all this fall, have a great summer!



www.ksnh.org

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Arches of the Cumberland (Slade, Ky)
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Falls of the Ohio (Louisville, Ky)
Meets every third Thursday of each month except Jan, Jul, Aug & Dec at the Louisville Nature Center, 3745 Illinois Ave. Call President Chris Bidwell at 502 896 4834 or email: mach5049@gmail.com

Fall Conference 2013
Shawnee Forest State Park
Portsmouth, Ohio
October 18-20, 2013

In Remembrance

We wish to extend our condolences to longtime member, Judith McCandliss, on the death of her husband, Grady Edward Clay, Jr. who died on March 17.

Summer 2013 Falls of the Ohio Chapter

Our July picnic is on 7/18 from 6-9 at Jefferson County Memorial Forest.

From 4-6 there will be a walk at the "Chestnut Farm", a short 15 minute car-pool ride from the Visitor's Center and led by Cindy Payne.

Hope everyone has a great summer. Drive safely. Be aware of ticks – they are everywhere. Check after every outing. Remember good hiking shoes, camera, water, and friends will heighten any outing. Make plans for the Fall Conference at Shawnee. Watch the website for updates. Thanks for all your support for KSNH.

Chris Bidwell

Falls of the Ohio chapter president

Geology and Battle of Island #10

Berl Meyer-Contributor

Despite its location practically in the middle of the United States, Island No. 10 is perhaps the Civil War's most inaccessible major battlefield. The land-scape looks much different today than it did 150 years ago, even though the property has never been developed. Over the last century and a half another battle has altered Island No. 10—one fought over time between man and the river. The river has won.



The Kentucky Bend Even in peacetime, treacherous turns made the Kentucky Bend difficult for riverboats to navigate. Although the bends upstream of New Madrid, Mo., lacked elevated positions, they provided the Confederates temporary strongholds that delayed Federal advances while stronger defenses were being constructed downstream.

Gray's Map No. 1 Confederate Captain Andrew B. Gray, a respected topographical engineer who had helped to survey the U.S.-Mexico border before the war, drafted a series of maps to accompany official Confederate reports. A narrow, wet-weather channel cut across the Missouri peninsula. Rebels used the boat Winchester in it to make it inaccessible to the Union.

1888 River Map A 20th-century Army Corps of Engineers map indicated that alterations in the river's course had made more significant changes to the battlefield. Maps today show "Island No. 10" as a landing on the Tennessee shoreline, near the historic position of the Confederate batteries, but that place of land is not a direct remnant of the wartime island.

The battle between blue and gray took place in the spring of 1862, when Union and Confederate forces faced off in a month-long stalemate along the Mississippi River just upstream from New Madrid, Mo. Within the side-ways "S-bend" where the river snaked through the junction of Kentucky, Tennessee and Missouri, Confederates built a formidable series of river defenses. Unlike positions farther south, such as Fort Pillow and Vicksburg, these strongholds sat low to the river. Well-sited batteries along the shoreline and on Island No. 10 created a "kill zone" that deterred passage by even the vaunted Federal ironclads, and a vast surrounding area of lowlands and swamps protected against a direct assault by land.

On the river itself, Union naval forces under Flag Officer Andrew H. Foote duelled with the Confederate batteries, using new 13-inch mortar boats in an attempt to smash the defenses. Even after army forces under Brig. Gen. John Pope captured New Madrid on March 14, the defenses centered at Island No. 10 kept the Federals from opening the river bend. Through the remainder of March, Pope's engineers labored to clear a bypass canal around the troublesome defenses. Finally, after two of Foote's gunboats made a daring run past the position, the

Federals mustered sufficient combat power to cross over to the Tennessee shore. That move cut off the Confederate defenders and resulted in their surrender on April 8.

At a cost of fewer than 100 casualties, Pope and Foote had untied the first knot in the critical campaign to open the Mississippi. The low cost of their victory was in striking contrast to the butcher's bill being compiled nearby at Shiloh. The triumph at Island No. 10 also served to boost the fortunes of Pope, who was reassigned to the Eastern Theater—and ignominy at Second Bull Run—months later.

The Union engineering operations around Island No. 10 were just the beginning of several significant alterations to the landscape. The sharp bend in the Mississippi was notoriously difficult to navigate, and the Army Corps of Engineers built a series of levees and flood control structures in an effort to manage the river.

The Mississippi's course now cuts deeper into the waterway's bends, covering many of the Confederate positions. Despite these alterations in the terrain, however, a 2011 American Battlefield Protection Program study estimated that 37,000 acres of core battlefield area remained intact. The "Big Muddy" might still have something to say about that.

Craig Swain writes from Leesburg, Va. Check out his blog, "To the Sound of the Guns."



Island #10 Sign on the Tennessee Side



Our KSNH Group that journeyed with Berl Meyer on the New Madrid Trip.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Wolf Creek National Fish Hatchery

50 Kendall Road

Jamestown, KY 42629

2013 SCHEDULE OF EVENTS

June 1: 27th Annual Kids Fishing Derby 9 – 3 PM CST

June 11: Friends of Wolf Creek NFH, Inc. Meeting 1- 2 PM CST (Russell County Tourist Commission)

June 18: Family Nature Club: Bird Beak Buffet 5 – 6:30 PM CST

June 24: Longest Day of Play 8:00 a.m. – 1 0 a.m. CST

July 2: Family Nature Club: You Grab The Line, I'll Grab the Pole 5 – 6:30 PM CST

July 9: Friends of Wolf Creek NFH, Inc. Meeting 1 – 2 PM CST

August 10: Project WET Training 9am-3:30/4pm CST

August 13: Friends of Wolf Creek NFH, Inc. Meeting 1 - 2 PM CST (Russell County Tourist Commission)

August 20: Family Nature Club: Lost in the Woods 5 – 6:30 PM CST

September 3: First of the Year Meeting 4-H Fishing Club 5 – 6:30 PM CST

September 10: Friends of Wolf Creek NFH, Inc. Meeting 1- 2 PM CST

September 11: 2nd Annual Wounded Warriors Fishing Derby

September 17: Family Nature Club: Group Initiatives 5 – 6:30 PM CST

September 24: 6th Annual Catch A Smile Senior Fishing Derby

September 25: 6th Annual Reaching for Rainbows Special Needs Kids Fishing Derby

October 1: 4-H Fishing Club: Biologist-in-Training 5 – 6:30 PM CST

October 5: Movies at the Hatchery: Earth 10 – 12 PM CST

October 8: Friends of Wolf Creek NFH, Inc. Meeting 1- 2 PM CST (Russell County Tourist Commission)

October 15: Family Nature Club: Micro-World 5 – 6:30 PM CST

October 15: Russell County 4th Grade Outdoor Eco Adventure Day 9 – 1:30

October 26: Hatchery Fall Fest 6 – 8 PM

November 2: Movies at the Hatchery: A Sense of Wonder 10 – 12 PM CST

November 5: 4-H Fishing Club: Fish Ecology 5 – 6:30 PM CST

November 12: Friends of Wolf Creek NFH, Inc. Meeting 1-2 PM CST

November 19: Family Nature Club: Cooperative Compass 5 – 6:30 PM CST (Russell County Library)

December 3: 4-H Fishing Club: Guest Speaker 5 – 6:30 PM CST

December 7: Movies at the Hatchery: Winged Migration 10 – 12 PM CST

December 10: Friends of Wolf Creek NFH, Inc. Meeting 1-2 PM CST (Russell County Tourist Commission)

December 17: Family Nature Club: Night Hike 5 – 6:30 PM CST (Russell County Library)

****All events take place at Wolf Creek National Fish Hatchery unless specified. No payment required.**

For more information or pre-registration on any of the above mentioned programs, please contact:

James Gray, Project Leader

270-343-3797

James_gray@fws.gov

Pitcher Plants

Compiled by Dave Luzader

Pitcher plants are carnivorous plants whose prey-trapping mechanism features a deep cavity filled with liquid known as a pitfall trap. It is widely assumed pitfall traps evolved by episcidation (infolding of the leaf with the axial or upper surface becoming the inside of the pitcher), with selection pressure favoring more deeply cupped leaves over evolutionary time. The pitcher trap evolved independently in three eudicot lineages and one monocot lineage, representing a case of convergent evolution. Some pitcher plant families (such as Nepenthaceae) are placed within clades consisting mostly of flypaper traps, indicating that some pitchers may have evolved from the common ancestors of today's flypaper traps by loss of mucilage.

Foraging, flying or crawling insects such as flies are attracted to the cavity formed by the cupped leaf, often by visual lures such as anthocyanin pigments, and nectar bribes. The rim of the pitcher (peristome) is slippery, when moistened by condensation or nectar, causing insects to fall into the trap. Pitcher plants may also contain waxy scales, protruding aldehyde crystals, cuticular folds, downward pointing hairs, or guard-cell-originating lunate cells on the inside of the pitcher to ensure that insects cannot climb out. The small bodies of liquid contained within the pitcher traps are called phytotelmata. They drown the insect, and the body of it is gradually dissolved. This may occur by bacterial action (the bacteria being washed into the pitcher by rainfall) or by enzymes secreted by the plant itself. Furthermore, some pitcher plants contain mutualistic insect larvae, which feed on trapped prey, and whose excreta the plant absorbs. Whatever the mechanism of digestion, the prey items are converted into a solution of amino acids, peptides, phosphates, ammonium and urea, from which the plant obtains its mineral nutrition (particularly nitrogen and phosphorus). Like all carnivorous plants, they grow in locations where the soil is too poor in minerals and/or too acidic for most plants to survive.

The North American genus *Sarracenia* are the trumpet pitchers, which have a more complex trap than *Heliamphora*, with an operculum, which prevents excess accumulation of rainwater in most of the species. The single species in the Californian genus *Darlingtonia* is popularly known as the cobra plant, due to its possession of an inflated "lid" with elegant false-exits, and a forked "tongue", which serves to ferry ants and other prey to the entrance of the pitcher. The species in the genus *Sarracenia* readily hybridize, making their classification a complex matter.

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Reference source: http://en.wikipedia.org/wiki/Pitcher_plant

Smallpox Cure ?

In the late 1800s, it is believed that the Micmac Native Americans of Nova Scotia used an herbal remedy—a botanical infusion derived from a species of the pitcher plant—to treat smallpox, reported *Chemistry World*, a publication that features important research published in *Royal Society of Chemistry (RSC)* journals.

Now extracts of the plant could serve as a crucial defense in the event of biological warfare.

Through *in vitro* experiments, Jeffrey Langland, co-chair of the research department at Arizona State University in Tempe, and his colleagues have discovered this botanical extract inhibits replication of the variola virus, which causes the contagious disease.

"There is much skepticism on herbal medicine but what our results illustrate conclusively is that this herb is able to kill the virus and we can actually demonstrate how it kills the virus," Langland told *Chemistry World*. "It takes this herb out of the realm of folklore, and into the area of true scientific evidence."

While the World Health Organization declared smallpox eradicated in 1979, the remote possibility exists that terrorists groups could have acquired stocks of the virus following the 1991 collapse of the Soviet Union, which

developed smallpox as a biological weapon during the Cold War, BBC reported.

Dr. Kanatjan Alibekov, also known as Ken Alibek, the chief scientist at Biopreparat (the Soviet Union's former major biological warfare agency) from 1987 to 1992, later revealed to Central Intelligence Agency (CIA) officers that "unemployed or badly-paid scientists are likely to have sold samples of smallpox clandestinely and gone to work in rogue states engaged in illicit biological weapons development," states BBC. According to Alibek, the Kremlin Guard Force (KGB) understood that once eradicated, the smallpox virus had the potential to be "the most powerful and effective weapon ever created to eliminate human life."

While smallpox vaccinations can be and still are administered to at-risk groups including some members of the U.S. military and researchers working with pox viruses, the serious side effects of the vaccine make it hard to justify administering to everyone, Chemistry World reported. "Developing therapies is therefore important in order to treat people if a bioterror event does occur," the publication states.

"With smallpox, it is obviously impossible to see if this herb is effective in the human body unless a bioterror release of the virus occurs," Langland told Chemistry World. "We are in the process of doing animal studies to confirm our results in at least this type of whole animal system."

Read more at <http://indiancountrytodaymedianetwork.com/article/native-american-smallpox-remedy-could-be-instrumental-in-event-of-bioterror-attack-104166>



We'd like to welcome the newest members to the Kentucky Society of Natural History.

William Napper

Sarah McCartt

Charles & Hotensia Mayer

Carol Hyatt

Walter Borowski

Micah Perkins

Cody Elmore

Steven Price

Wild Comfrey – *Cynoglossum virginianum* (L)

Photo by Susan Wilson



Wild Comfrey is one of those spring wild flowers that gets little notice. Although it is frequent in Kentucky most hikers overlook this beautiful plant as its pale blue-lilac flowers can easily be missed. Sometimes spelled comfry or comphry, wild comfrey is a native perennial found primarily in the eastern United States – mainly centered in Kentucky and Tennessee and their surrounding states. Found in forest areas in the open understory where low temperature and low competition allows it to thrive. It does well in full sun to partial shade in rich soil. Wild comfrey is an erect unbranched plant that has hairs on the stem and leaves. It can reach a height of up to 36 inches. The lower petioled leaves in a basal rosette are oblong and can be up to 8 inches long while the upper leaves are lanceolate and clasp the stem. The beautiful deeply 5-lobed flowers are up to ½ inch wide on short racemes which often droop. Wild comfrey flowers are well above the leaves and their color can vary from pastel blue, pale blue, lilac, blue-violet to almost white. It blooms early April to early June. Prickly seed pods have 1 - 4 nutlets and are “hitchhikers” on animal fur and human clothing.

Wild comfrey (*Cynoglossum virginianum*) was given its binomial name by Linnaeus. In the borage or forget-me-not family of plants. The name borage has many reported etymologies but most references cite it from the Latin “borra”, which means rough hair or short wool in regards to the wild comfrey’s hairy foliage. The genus name *Cynoglossum* is from the Greek: “cynos”, of a dog and “glossa”, tongue and refers to the rough dog-tongue shaped basal leaves. Wild comfrey’s species name – *virginianum* – means of or from Virginia, where comfrey was first recorded and named in honor of the English “virgin queen”, Elizabeth I (1533-1603). Wild comfrey, the common name, also has several reported sources: Latin (*confirma*), Middle English (*cumfirie*), and French (*cunfirie*). All these roots mean to heal, unite, or grow together in reference to wild comfrey’s usage in healing broken bones.

Wild comfrey has several other common names based on its medicinal usages or appearances. Cited examples include small wild bugloss, consolida, houndstongue, houndstooth, dog’s tongue, heal all, ass ear, boneset, bruisewort, gumplant, knitbone, beggar’s lice, beggar-ticks, sheep bur, dog bur, dysentery root, dysentery weed, soldier’s sticktight, Virginia mouse ear, Virginia sticktight, winged pigweed, and woodland hound’s tongue. The medical usages of wild comfrey are varied and quite interesting. Used by the Cherokee our native wild comfrey (*C. virginianum*) was used as a poultice for burns, a demulcent, a sedative for coughs, a catarrh, and for hemoptysis. Other usages included dysentery, broken bones, diarrhea, goiter, scrofulous tumors, ulcers, anti-inflammatory, pain killer, kidney ailments and “milky urine”. Dried leaves were smoked like tobacco. A root tea was used for body itching, cancer, genital rash, and gonorrhoea. A root syrup was used for cloudy, odiferous urine. Wild comfrey was even used as a fish poison. Based on the Doctrine of Signatures, wild comfrey’s “viper” shaped seeds were used to treat snakebites and a decoction of these “hooked” seeds was used to improve memory. Herbalists have used this plant to treat similar conditions including digestive and respiratory ailments. In folklore wild comfrey was used as a love charm. The clinging seeds/seed pods were believed to attract and keep one’s love close at heart. The dog-tongue shaped leaf, if worn in a shoe, was to ward off dog attacks and rabies. Wild comfrey, stowed in luggage, would bring safety to travelers by warding off evil and danger. Wild comfrey, also placed in luggage, was to prevent theft or loss – this may help next time you air travel! Wild comfrey is astrologically controlled by Saturn and Capricorn.

Nutritional usage includes young tender leaves cooked as greens or used in a salad. Dried leaves make a tea. Supposedly Abraham Lincoln said, “My mom used to say it (wild comfrey) made a good tea but I don’t know what for. It has a pretty flower.” One of the assumed fantastic usages of wild comfrey and the reason that I chose to write about this plant was an old belief, originating in Europe, where a bride-to-be was to bathe in a wild comfrey bath before marriage in order to restore her hymen and thus ensuring or restoring her virginity! This custom survived many decades despite a 100% failure rate.

Using common names of plants for medical, herbal, dietary, or folklore purposes can be confusing and lead to fatal results. In the case of wild comfrey there are two other borage family plants often referred to as “comfrey” or “wild comfrey”. These two Asian/European aliens were introduced to America in the 18th-19th centuries

for their supposed medical assets. These exotics are *Cynoglossum officinale* (hound's tongue) and *Symphytum officinale* (comfrey or Old World comfrey). Both are also called "wild comfrey" and thus can be mistaken as to which plants are to be discussed for usage. The non-native comfrees are loaded with pyrrolizidine alkaloids which have proven to cause fatal pancreatic and liver cancers. Since July 2001, the FDA and Federal Trade Commission banned any internal usage, external usage on open wounds, and usage while pregnant of products containing these alkaloids. Products with "comfrey" and these pyrrolizidine alkaloids have been removed from the commercial United States market. Herbalists/self-practitioners from the 19th century through today suggest our wild comfrey (*C. virginianum*) be used (erroneously) as a substitute for these two exotics. Our native wild comfrey is also on the FDA poisonous plant database. A search of the literature however has not shown any human fatalities from eating, drinking, or smoking the leaves of our native wild comfrey. The only side effect documented with our wild comfrey is a contact dermatitis some people get from handling the plant's hairy stems and leaves. As our "wild comfrey" is in the borage family with its toxic alkaloids, it is best to avoid any usage – especially if it is to be taken internally. Depending on which "wild comfrey" is being suggested for any usage, make sure which genus-species is actually being discussed. Using the wrong (exotic) "wild comfrey" for even short periods or in low dosages can be fatal. One other caution, the leaves of our native wild comfrey can be confused with *Digitalis purpurea* (foxglove) which contain powerful/toxic levels of the cardiac glycoside – digitoxin that can cause death from ingestion.

Wild comfrey (*C. virginianum*) like many native wildflowers is threatened by habitat loss through, logging, development, climate changes, fire suppression, and theft. Wild comfrey is of special concern in Connecticut and endangered in Florida and Maine. Wild comfrey can be propagated easily from seeds sown outdoors in the fall. If sowing indoors, seeds must be stratified. Seeds may be collected after the flower has faded. Properly cleaned and allowed to dry, seeds can be efficiently stored. In the wild, ants play a major role in the propagation of wild comfrey. The seeds have a fleshy-nutritious structure (elaiosome) attached to them which is rich in lipids and proteins. The ants take the seeds with their elaiosomes to their colonies and feed it to their larvae. The seed is taken to the ant's waste area which is rich in nutrients from the ant's frass and the wild comfrey seeds can germinate. This symbiotic type of seed dispersal is myrmecochory, from the Greek for ant (*myrmex*) and dispersal (*kore*).

Our wild comfrey is a beautiful and interesting late spring wildflower. As with all our native wildflowers they should be respected, protected, and admired. Marvel at its structure and delicate blue flower color. Be astonished at its recommended medical and folklore usages. BE advised, however, this beautiful plant may/can be toxic. For brides-to-be, a one-time wild comfrey bath would be okay!

Chris Bidwell
KSNH Falls of the Ohio Chapter president

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The KHLCF protects another 2,000 acres

Dennis Bengé, will protect more than 1,800 acres. Bengé bequeathed \$200,000 to the Kentucky State Nature Preserves Commission because of his love of nature and wildlife; the commission then directed the money towards this purchase.

At least four federally listed species are found on the site—the blackside dace and the Cumberland arrow darter are fish found only in this region, as well as the Cumberland elktoe and Cumberland papershell mussels. According to KNLT Executive Director Hugh Archer, there is at least one endemic cave beetle found here and may be other species unknown to science in the remote area. Habitat for the federally endangered Indiana bat is also found along Pine Mountain and potentially protected by this acquisition.

Laurel Fork is part of the larger Pine Mountain project area; the KHLCF and KNLT have worked with several agencies to protect thousands of acres along Pine Mountain in Whitley, Bell, Harlan, Letcher and Pike counties. Archer Bengé is the eighth state nature preserve on Pine Mountain and the 61st state nature preserve dedicated in Kentucky.

The KHLCF is funded in part by the sale of “Nature’s Finest” license plates. For more information, visit <http://heritageland.ky.gov> or contact Zeb Weese at 502-573-3080.

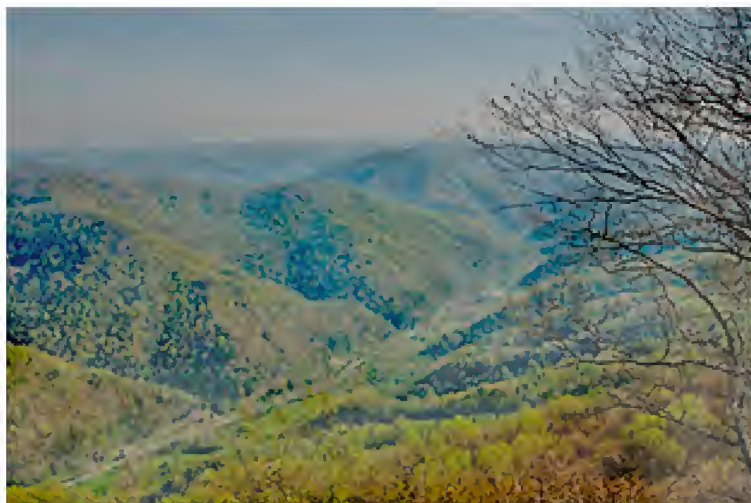


Photo by Dave Luzader

Notes from the Nature Nut – Summer 2013 By: W. H. (Wally) Roberts

During mid-May, our friends Doris and Tom Mattingly, and Karen and I decided to take a trip to observe plants and birds at Minor Clark Fish Hatchery, Clack Mountain, and Carter Caves State Resort Park. We stayed in one of the new cabins at Carter Caves; but, on the way, we stopped to do some birding at the Hatchery near Morehead.

The Minor E. Clark Fish Hatchery is operated by Kentucky Department of Fish and Wildlife Resources. It is the second largest hatchery in the United States. The 300 acre hatchery has 124 acres of water divided among 100 ponds. Nearby Cave Run Lake provides the hatchery with as much as 8000 gallons of water per minute.

The Hatchery is one of the premier birding spots in Eastern Kentucky. I always watch for raptors, shorebirds, wading birds, waterfowl, and swallows, bald eagles, and osprey. When visiting in the fall and winter, make sure to check the empty ponds for pectoral, spotted, and least sandpipers, lesser yellowlegs, semipalmated plovers, and killdeer. Great blue herons, little green herons, and wood ducks are abundant during season. The Hatchery grounds are open year round during daylight hours.

After birding, we stopped for lunch in Morehead and headed to Carter Caves. The cabins at Carter Caves are very nice and are tucked into the woods on fall-a-way lots. They have two bedrooms and baths, full kitchens, great rooms, fireplaces, and exceptional covered porches from which you can observe nature including a large population of red-headed woodpeckers.

During our trip, we returned one early morning to the Hatchery to observe birds, listen for spring breeding bird choruses, and have a picnic style breakfast. I decided to return to Morehead via Clack Mountain to bird and observe spring wildflowers. Both turned out to be exceptional that day. We recorded many more spring warblers, saw many wildflowers including a surprisingly large patch of small yellow lady-slippers.

On the way home, we stopped at Cracker Barrel Restaurant in Morehead for breakfast and, fortunately, encountered long time KSNH life members, Foley and Margarete Partin who live in Clearfield which is just outside Morehead. I'm sure many of you remember the Partins as they were very active members of KSNH who, along with friends, attended many KSNH Conferences, especially those at Pine Mountain.

Foley told me that he is 82 years young and no longer able to attend activities, but he still looks forward to reading The Kentucky Naturalist News. Margarete is still as gracious as ever, but admits to having some health issues of her own. They asked that we extend their best wishes to all KSNH members and, as always, encouraged us to continue with the work of promoting Kentucky's good nature.

The American Goldfinch

The American Goldfinch is an abundant and widely distributed species in temperate North America, common in summer in weedy fields, river flood plains, early second growth forest, and orchards and suburban gardens—habitats where they find their major foods and suitable nesting sites. As the breeding season wanes, flocks form as the birds enter the autumn (Prebasic) molt and prepare to move to winter habitats. Many northern populations migrate, with the occurrence and extent of migration varying with sex, age, and latitude. Wintering flocks are nomadic, their movements closely tied to food supply. During the winter months the species is common at bird feeders.



The American Goldfinch is both sexually and seasonally dimorphic. The males in their bright yellow summer plumage are a familiar sight, but the less brightly colored females are often overlooked. Both sexes are frequently misidentified in their muted winter plumages. The difference between winter and summer plumages is the most striking of any of the cardueline finches and results from a spring (Prealternate) body molt, unique among carduelines.

This goldfinch is also unusual because it is one of the latest breeders of all temperate zone passerines. In the East, it normally waits to nest until late June or early July. Although the cause of this delay is not well understood, there is a close relationship between the flowering of thistles (*Cynareae*), an important food plant, and the start of nest building. In addition, the physiological effects of spring molt may prohibit early nesting.

This goldfinch's nesting season is a short one. In the East, the last eggs are laid in mid-Aug. As a result, most pairs have time to produce only one brood in a season, although experienced breeders frequently produce two broods if eggs are laid early and the first brood is successful. To permit such second nestings, a female abandons the first brood to her mate, and then leaves to find another mate.

The American Goldfinch is almost exclusively granivorous. It consumes little insect matter, even when feeding nestlings, suggesting that the species is well adapted to obtaining its protein requirements from a seed diet. This diet may explain why the Brown-headed Cowbird (*Molothrus ater*) fails to survive in goldfinch nests. Even though cowbirds hatch successfully, their growth is retarded and almost all die before they can leave the nest.

Recent interest in this species has centered on the control and function of its striking yellow plumage and orange beak coloration. These colors are derived from carotenoid pigments, which birds and all other vertebrates acquire from their diet. Females prefer to mate with males that exhibit the brightest colors and thus may acquire the most skilled foragers in doing so. The American Goldfinch is also well-known for its susceptibility to the mycoplasma conjunctivitis outbreak, which has infected and killed many members of its cardueline finch relative—the House Finch (*Carpodacus mexicanus*)—in the Eastern United States but has had relatively few other wild bird hosts. Finally, it has become a model species for studies of physiological responses to cold tolerance and of grassland-bird sensitivity to habitat disturbance and pesticide use.

Recommended Citation

McGraw, Kevin J. and Alex L. Middleton. 2009. American Goldfinch (*Spinus tristis*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/080>
doi:10.2173/bna.80



Fall Conference 2013
Shawnee Forest State Park
Portsmouth, Ohio
October 18-20, 2013

Registration Form is on our website

<http://www.ksnh.org>

**You will need to make your own
reservation for lodging.**

<http://shawneeparklodge.com/>



Kentucky Naturalist News

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A Note from the President



Well, it appears fall has finally started to arrive in southern Ohio. With daily temperature in the 60s and evening temps dipping down into the 40s, I believe summer is finally stepping aside to usher in the beauties of fall. The signs of fall are appearing everywhere; farmers are beginning their harvests, slight changes in the colors of the forests, goldenrods and asters blooming everywhere, and crystal clear brisk evenings. The amazing splendor and beauty of fall is nature's last attempt to show herself off before the bleak colorless days of winter. As William Cullen Bryant said, "Autumn.....the year's last, loveliest smile."

The coming of more "fall like" conditions begins to bring memories of previous autumn seasons, and one highlight of every fall for the past 23 years has been the KSNH Fall Conference. As I worked over the summer months to put together the agenda and make arrangements for our 2013 Fall Conference at Shawnee State Park Lodge, it seemed like I was trying to think so far into the future. Now, it is just around the corner. In one month, we will all gather as friends and colleagues to once again enjoy and share the beauties of nature. I hope I have put together an agenda that will let all of you enjoy the splendors of fall in southern Ohio. Those of you, who have visited Shawnee and the Edge of Appalachia Preserves in the past, know what an amazing area it is. From field trips to featured speakers; from great food to great views; from moments of private reflection to times of reunion and fellowship with friends; the Fall Conference should have something for everyone. What a great way to wrap up KSNH's 75 Anniversary year. As the coming of fall represents the gradual ending of the year, it also represents the gradual ending of my term as president of KSNH. It has been an honor to represent such an amazing organization. KSNH was introduced to me by Allen and Betty Lake over 20 years ago. From our first conference on, gathering with KSNH was like gathering with family. So many things have happened in our lives over the all these years. Many members have seen the birth of both of our sons, and have watched them grow into the young men that they are today. We have shared moments of joy with many of you, and unfortunately moments of sorrow also. Several years ago, we established a life membership with the Society and we honestly feel that is the case.....we are members for a life time. Thank you to all of you for making my job as president a pleasure. We are blessed to have many very active members, willing to help out and give advice. I want to thank all of board members for their service, and their assistance over the past couple years. The activities of KSNH are definitely a team effort; each member of the team brings his or her own specialties to the team. Having this team behind me, my job was easy. I have great confidence in Chris Bidwell, current vice president, that he will do great things for KSNH as he takes over the presidency in 2014. I will give him any assistance and advice that he desires. It has been a pleasure to serve as your president, and I will continue to serve KSNH in any way the organization sees fit.

"Autumn is the eternal corrective. It is ripeness and color and a time of maturity; but it is also breadth, and depth, and distance. What man can stand with autumn on a hilltop and fail to see the span of his world and the meaning of the rolling hills that reach to the far horizon?" Hal Borland



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Falls of the Ohio (Louisville, Ky)
Meets every third Thursday of each month except Jan, Jul, Aug & Dec at the Louisville Nature Center, 3745 Illinois Ave. Call President Chris Bidwell at 502 896 4834 or email: mach5049@gmail.com

FALL 2013

Hope everyone had a good summer. We are about ready to wrap up this year with lectures/outings in September, October, November, and our Christmas dinner. I'm turning the Falls Chapter presidency over as of January 1, 2014. I want to give my full attention to our State conferences so as to get more member participation. We have a great Fall Conference planned at the Shawnee State Park in Portsmouth, Ohio on October 18-20, 2013. Jeff Foster has worked hard to deliver an interesting and enjoyable program. Those who attended the Spring Conference at Shawnee several years ago recall what a great place it is to visit. Lots to see and do and learn. Please try to support this KSNH conference by attending. I look forward to being State President and working with our Chapter presidents.

Chris Bidwell

❁ *In Remembrance* ❁

Long time member of KSNH, Paul Rassinier
Passed August 2013

My favorite article published in the Filson Club Quarterly was one written by a local geologist, Angelo George. He was a student of Dr. James Conkin, my former geology professor at the University of Louisville. Angelo has written many articles and books on Kentucky's Hydrology and Caves. I was so impressed by this article; I invited Angelo to be a guest speaker at one of our Kentucky Society of Natural History meetings back in the late 70's. He gave a fascinating presentation, which our members truly enjoyed and we hope you will as well. This will be a three part series because of its length. -----Berl Meyer

**THE LEGEND OF ELEVEN JONES' CAVE,
JEFFERSON COUNTY, KENTUCKY
BY ANGELO I. GEORGE**

Louisville, Kentucky

A paper read before The Filson Club, June 4, 1973

INTRODUCTION

Eleven Jones' Cave on the South Fork of Beargrass Creek is perhaps the single most famous cave in Jefferson County, Kentucky. There are more documents associated with this one cave than with any other cave in this county. It has attracted an assortment of legends and tall tales, some of which have been elevated to the position of myth. It is the main objective of this paper to give a lucid account of the spelean history and exploration of the Eleven Jones' Cave.

The Eleven Jones' Cave is located in northwest Jefferson County and is 1600 feet southeast of the intersection of Eastern Parkway and Poplar Level Road, on the west bank of Beargrass Creek bordering the Louisville Cemetery. The cave is developed in the upper member of the Louisville Limestone at an elevation of 448 feet above sea level. A perennial spring discharges from the entrance into the creek.

Remember the old days when your grandfather sat by the fireside and related his childhood experiences of post-Civil War Louisville? One of his stories might have been how he used to venture way back into Eleven Jones' Cave which ran for miles under the city. The only entrance that he could remember was the one located on the gently sloping side of the Louisville Cemetery hill -- but he had heard that other more impressive entrances existed elsewhere within the city. Growing up in Louisville a child could sometime hear tales about skeletons, skulls, and especially a story about a long bony skeleton hand protruding from one of the walls in the cave.

Who were the Eleven Joneses? Were they really road agents who retreated to the innermost depths of the cave to stash their booty in eleven man-made rooms? Is there really a set of iron gates barring the main passage, guarded by a cannon? Were the Joneses ever counterfeiters? Did local boys unearth a genuine Civil War Confederate saber? Perhaps some of these questions can be answered; others will always remain unanswered.

The Eleven Jones' Cave legend has been retold and embellished with many variations and themes over the past 124 years; most of the story possesses little historic validity. Essentially the legend of the cave is as follows: The Jones brothers were scoundrels who specialized as highwaymen, bank robbers, counterfeiters, and cutthroat killers. There were eleven gang members in all. The Eleven Jones gang used a cave opening on Beargrass Creek as their hideout. In this cave they carved out eleven man-made rooms in which they stored their ill-gotten gains consisting of silver plates, gold and jewels. Some of the rooms served as their living quarters. Finally the Joneses died or just disappeared leaving their treasure to the first adventuresome cave explorer who might find it. Since the big rooms in the cave have never been found, it is concluded that they were sealed by a collapse of the cave roof.

According to the legend, the entrance to the cave was at one time big enough to drive a horse and carriage through, but subsequently has shrunk to its present smallness. Proceeding into the cave one was supposed to find a set of iron gates barring the way into that portion of the cave, with a keg of beer fastened to the top of the gates. Leading up to the gates were steps carved in the stone floor. Directly on the other side of the gates a cannon could be seen, and this whole section of the cave was supposed to be heavily fortified against trespassers. There are a number of entrances elsewhere in the city of Louisville from which people have reportedly made a physical connection with Eleven Jones' Cave. Graves from the cemetery above have collapsed into the cave; there is even a long bony skeleton hand protruding from one of the walls. Civil War artifacts have been found buried in the passage of the cave. The cave is so extensive that many people have become lost in its maze of passages.

• HISTORY OF THE CAVE LEGEND

That Eleven Jones' Cave, situated on Beargrass Creek south of Eastern Parkway, did not receive notoriety as an historical site in the early history of Louisville is evident upon reading McMurtrie's account of the springs in the Beargrass Creek vicinity:

Beargrass Creek, which gives its name to the fertile and wealthy settlement through which it passes, is a considerable millstream affording a plentiful supply of water eight or ten months in the year. It rises by eight different springs ten miles east of Louisville, that unite and form the main body of the creek within two miles of that place. This, like the preceding one, sometimes disappears, pursuing a secret course for a quarter of a mile together, sub-

sequently emerging with a considerable force.

This is all that Dr. McMurttie relates about the springs of Louisville during the 1820's. So, in just twenty-six years (between 1822 and 1848) this spring cave became famous as the Eleven Jones' Cave. It should be pointed out that this cave was known to locals as a spring as early as 1831. At that time the land upon which the cave is located was owned by David H. Meriwether and his wife, Lydia. On May 25, 1831 the land was transferred to Joseph Barbour. This is the first deed that makes a direct reference to the spring as a definite geographical boundary marker. Other deeds for that land were checked back to 1788 (Deed Book 1, William Merriwether), but this land was so big (260 acres) that the spring did not figure as a land boundary station.

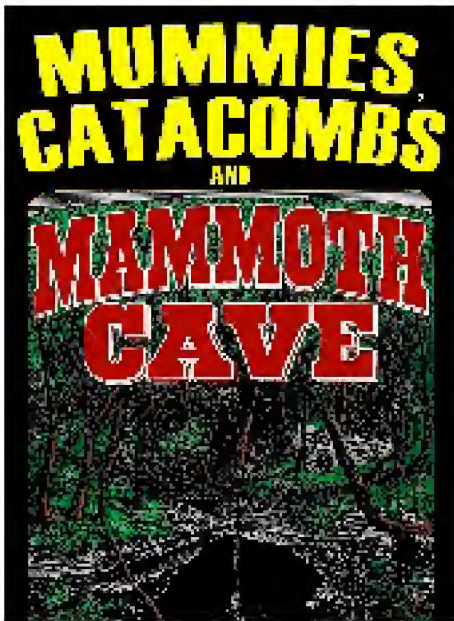
As yet the author has not found any direct evidence to substantiate the existence of a person or persons named Eleven Jones but, surmising, there must have been someone by that name who either lived on that land or passed through in such a spectacular fashion that the cave was named for him. Two of the early landowners in Louisville around 1783 were Levin Powell and John R. Jones. Powell bought some land in northwestern Louisville in 1783, while Jones bought a piece of land in the same area in August 1785, and in December of the same year purchased two more sections of land. Neither Powell nor Jones ever owned the land upon which the cave is situated. One note of speculation:

Was there some connection between these two families -- such as a Powell daughter marrying a son of Jones, and as a consequence, an heir was named Levin Jones? More research will have to be undertaken before any positive answers can be generated on this subject.

The spring cave was later named "Eleven Jones' Cave" and was known as such by Thomas Goss who came to Louisville in 1848. His son Joseph relates his childhood recollection of the cave in Robert Barry's 1913 Courier-Journal article. Since Thomas Goss was the first long-term owner of the land on which the cave is located why was not the cave named "Goss' Cave" rather than "Eleven Jones' Cave?" Thomas Goss and many other Germans migrated to the United States around 1848 and settled in Louisville fleeing from political upheavals that were occurring in their native land as well as in France and Italy. The name "Jones" for the cave had the longevity and veracity needed to supersede all other attracted names resulting from land ownership.

What really did happen in or near the cave during the twenty-six year hiatus between 1822 and 1848 (cut off date)? Does the United States Army saber found in the cave in 1949 have any particular bearing upon the legend of the cave since the saber was in general use from 1830 to the time of the Civil War? Could the cave have gained its notoriety around the 1830's due to some incident that took place there producing a name trauma that is still with us today? *To be continued in the Winter 2013 Newsletter.*

New Book by Angelo George, Local Louisville Geologist.



Publication Date: October 1, 2013 | ISBN-10: 0971303835 | ISBN-13: 978-0971303836 | Edition: Second Edition

Mummies, Catacombs and Mammoth Cave recounts the discovery of Indian mummies in American caves. Over three thousand years ago Native Americans used caves as their workplace, home, and site for burials. Many are found in the Mammoth Cave area. The book traces the exploits of a number of Indiana Jones kind of adventurers and their amazing discoveries of mysterious catacombs and caves full of Indian mummies. A catacomb of prehistoric Indian mummies was reported in an 1808 travelogue. A pioneer discovery of a dry cave full of well-preserved Indian mummies adjacent to Lexington, Kentucky - The first burials reported of this nature in an America cave. Three years later, saltpeter miners began to dig up mummies in a cave near Mammoth Cave. One of these, Fawn Hoof, the best known of all the mummies, was taken to Mammoth Cave and exhibited. In 1816, newspapers carried Nahum Ward's report of a swashbuckling cave exploring adventure. It was an adventure like no other - stupendous rooms, exploring miles of passage, seeing sparkling formations and a petrified Indian mummy. The mummy really captivated people's attention. Tourist traveled to the cave to see this wonder of nature and relive the adventure, making Mammoth Cave a top tourist destination as a famous abode of prehistoric Indians. Today, Mammoth Cave is the longest cave in the world - with surveyed passages measuring over 400 miles in length.

KSNH Welcomes New Members

John J. Cox - Arches of the Cumberland

Perri Eason - Falls of the Ohio

KENTUCKY SOCIETY OF NATURAL HISTORY (KSNH)

2013 NATURAL HISTORY/BIODIVERSITY GRANT RECIPIENTS

The KSNH Grant Committee is proud to announce the following grant recipients for 2013:

Jonathan Baxter

Department of Biological Sciences, Eastern Kentucky University

“Population Estimation of Kentucky Arrow Darter in Clemons Fork, Breathitt County, Kentucky”

Erin Grabarczyk

Department of Biological Sciences, Eastern Kentucky University

“The Influence of Parental Alarm Calls to Different Predatory Threats on the Behavior of Nesting Eastern Bluebirds”

Brenee Muncy

Department of Forestry, University of Kentucky

“Assessing the Effects of Surface Mining on Stream-Inhabiting Amphibian Populations”

Micah Perkins

Ph.D. Candidate in Biology, University of Louisville

“Dietary Resource Partitioning Among Water Snakes in Northwestern Kentucky”

KSNH BERNADINE MEYER MEMORIAL SCHOLARSHIPS

Trent Garrison

Geology Department, University of Kentucky

“Coal Mine Fire Emissions and Runoff as Contributing Factors to Surface Water and Ground Water Contamination”

Kandice Smith

Department of Geography and Geology, Eastern Kentucky University

“Sources of Nutrient and Fecal Microbe Contamination in the Otter Creek Watershed, Madison County, Kentucky”

Special Request from Wally Roberts, KSNH Grant Committee Coordinator

We were pleased again to be able to give the previously mentioned grants for 2013. Funding often prevents us from fully granting requested research amounts. This year we received twelve grant applications and, due to shortage of funds, we were only able to award six partially funded grant requests. We thank you for your previous generosity and ask you to consider remembering KSNH in the future. KSNH is a fully non-profit 501-C3 corporation and all donations to the scholarship/grant fund are fully tax deductible under law. Please consider KSNH when planning your memorial and gift giving strategies in the future.

Notes from the Nature Nut
By: W. H. (Wally) Roberts

Fall 2013

The Fall Conference of the Kentucky Society of Natural History (KSNH) will be held at Shawnee State Park in the Shawnee State Forest of Ohio. The dates of the Conference are October 17-20, 2013. This time frame represents the best opportunity to see fall color in one of the premier fall color destinations in Ohio.

The forested hills of Shawnee are part of the Appalachian Plateau and this area never had true mountains. In fact, all of Ohio's hill country is a feature of stream erosion on a raised plain and is often referred to as the foothills of the Appalachians. The hills of Shawnee have been dubbed by the locals as "Ohio's Little Smokies". From the highest points in the forest, ridge after ridge appears to roll away toward the horizon in a gentle blue haze. This distinctive color comes from moisture in the air which is generated by the 63,000 acres of forest.

Lands for the forest were acquired in 1922, and it was operated as Theodore Roosevelt State Game Reserve. In the 1930's, six Civilian Conservation Corps camps were located in the area. It was, at this time, that many of the roads and lakes of this inaccessible area were constructed. The roads are still in excellent shape, some gravel and some paved and, with close attention to detail, the locations of the six camps can still be found. While driving the roads, look for stands of pine trees, five man-made lakes, and some old foundations on flat valley locations between the surrounding hills.

A variety of vegetation grows in the rugged unglaciated hills of Shawnee State Forest. Several species of oaks, hickories, sassafras, and native pitch and short leaf pines populate the ridges. Mid-slope areas support oaks and hickories, as well as soft and hard maple, basswood, yellow poplar, buckeye, black gum, white ash, red elm, and hackberry. Sweet gum, beech, black cherry, black walnut, sycamore, birch, and butternut can also be found in the bottom land areas and coves. With this wide variety of biodiversity, one can see why fall color is so spectacular in this part of the country.

I recommend taking a drive through Shawnee State Forest to observe its fall foliage splendor. The roads are well marked and maintained, and all you need is a forest map which is available at the Park and/or Forest Headquarters. I will try to ensure that these maps will be available on our registration table.

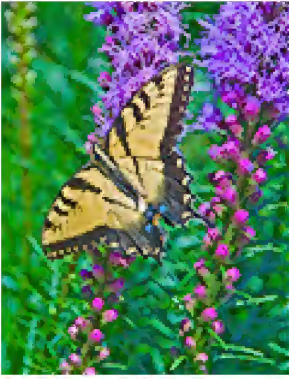
Some of the more beautiful spots are Wolfden Lake on State Forest Road (SFR) #25, Bear Lake area on SFR #4, the old fire tower overlook on SFR #6, and Boy Scout Camp (OYO) area on State Forest Service Road #1. Other colorful areas are Pond Lick Lake on SFR #2, Picnic Point overlook on SFR #8, and a must see stop at the Buckeye Dairy Bar just east of the intersection of Ohio State Highway #125 and U.S. Highway #52. This last, beautiful site includes trees, ice cream, sundaes, milk shakes, burgers, coney dogs, pizzas, subs, and, if you are so inclined, a nice miniature golf course.

Sure hope you are planning to attend the KSNH Fall Conference at Shawnee. We have many interesting speakers, hikes, and tours planned. The lodge, rooms, and cabins are beautiful and the Park is only 160 miles from Louisville.

Karen and I hope to see you there. Let's have a great turnout. Look for information and registration forms on our website (ksnh.org)...we think you will be glad you did.

Partial information in this article was obtained from Ohio State Park and Forest information sheets.

Create a Butterfly Garden



Butterflies are some of the most beautiful and interesting creatures on Earth. By planting a butterfly garden with all of the right kinds of plants and flowers that butterflies love to feed on and lay eggs on, you will certainly have a yard full of butterflies throughout the growing season. Butterfly gardens can be any size - a window box, part of your landscaped yard, or even a wild untended area on your property.

Creating a butterfly garden should start with some serious research to learn which kinds of butterflies are native to your area. You can learn that from our article "Butterfly Gardening by Area". Make a list of all of the different kinds of butterflies you would like to attract, and then learn which flowers and plants they both feed on and lay eggs on. All of the plants will certainly be native to your area and therefore easy to grow with the right conditions and care. Adult butterflies will visit for a longer period if they find plants to

lay their eggs on. These are called 'Host Plants' and you can read about them in our article on "Butterfly Host Plants."

Once you have done your research and know which kinds of plants you need, you should learn about the plants and flowers. What do they look like? How tall do they grow? What conditions do they thrive in? Perhaps print small pictures from the internet of each plant and flower so that you can begin to plan your butterfly garden by placing the pictures in the order in which you will want to plant them. In this way you can get a very good estimate of how much room you will need, and what your finished butterfly garden will look like.

Check with a local greenhouse about getting these plants and flowers. Find out which ones are annuals and which are perennials. You may want to plant the annuals in the front of the garden or away from garden fencing because they will need to be replaced each year. Perennials will come back year after year so these should be near the back of the butterfly garden and left alone to grow and thrive. If your local greenhouse cannot get you the plants you need, check in catalogs that sell bulbs or online and order them. Be sure to learn when and how to best plant them, especially if you must purchase bulbs and start the plants from scratch.

You can add some butterfly garden accessories like a Butterfly House, which has slots the ideal size for keeping birds out while giving butterflies protection from the wind and weather, and are beautiful garden decorations. You could offer an additional nectar source close by to supplement your flowers. By providing both the food and shelter butterflies need you can prolong the butterfly's stay in your garden and draw in others.

Once you have designed and started your butterfly garden, you can be proud that you have made a habitat for butterflies in your own yard, which helps with the conservation of the many species of quickly disappearing butterflies today. You will certainly want to place your favorite outdoor furniture near so that you can enjoy all of your visitors day after day.

There are two types of plants that you will want to consider in your butterfly garden plan. Nectar plants, which are the plants that butterflies like to feed on, and host plants, which are plants that butterflies lay their eggs on and their caterpillars like to eat. You may also wish to add some adornments to your butterfly garden that will also help to attract butterflies, like a butterfly or two and some butterfly feeders.

Different butterflies prefer different nectar plants, and some like more than one. Providing several different types of nectar plants in your butterfly garden that have varying blooming stages is the ideal way to attract butterflies throughout the season. Be sure to have several types that bloom in the late summer and early fall because this is when butterflies are the most populous. For the best-looking butterfly garden plan, make sure to put the taller plants and flowers, such as roses behind the shorter ones. Most people like to start with a large butterfly bush in the corner and work around it with smaller plants and flowers.

Adult butterflies will visit for a longer period if they find plants to lay their eggs on, which you can read about in our host plants article. The young caterpillars feed on the host plants until they form their cocoons. Baby caterpillars eat quite a lot and will make your plants look as if they are being destroyed, but don't worry about that, this is necessary for their survival. If you don't want to look at the eaten plants, simply plant them in the center or the back of your butterfly garden.

There are a couple of things to watch out for when you design your butterfly garden. Don't plant your host plants too far away from your nectar plants. It is best to mix them or place them right next to each other. The butterflies will want to lay their eggs closer to the plants that their young will feed on. Also, never use insecticides on your butterfly garden. Remember that butterflies are an insect species and these chemicals will kill them. If you follow these few tips, and find the right plants for your butterfly garden, you will help to save the butterflies and have a wonderful place in your yard to enjoy all season long.

This article is free to distribute and the source is: <http://www.TheButterflySite.com>

KENTUCKY STATE FAIR QUIZ Sept. 2013

I had the pleasure to attend the Kentucky State Fair twice this year. This event is full of nature related events and information. Facts and trivia were encountered everywhere. I thought a matching game would be a **good way to pass on just a few “Fair Facts” I picked up at this year’s fair.**

- | | |
|--|--|
| a) baby camelids: camels, llamas, alpacas, vicunas, and guanacos _____ | 1) year Freddie Farmbureau introduced |
| b) baby sheep _____ | 2) Iroquois “meadow lands” – KY word origin possibility |
| c) Ken-tah-ten _____ | 3) horse’s rump/buttock |
| d) tsi’yu-gunsini _____ | 4) “Unbridled Spirit” |
| e) 1902 _____ | 5) 40 bushels per acre |
| f) 1816 _____ | 6) 1st Kentucky State Fair |
| g) 1907 _____ | 7) cria |
| h) 1908 _____ | 8) power plant fuel |
| i) 1956 _____ | 9) tobacco |
| j) 1958 _____ | 10) Ky State Fairgrounds 1st permanent site for the State Fair |
| k) soy beans _____ | 11) cosset |
| l) corn _____ | 12) 1st official Ky State Fair at Churchill Downs |
| m) bituminous coal _____ | 13) Louisville named official home of KY State Fair |
| n) anthracite coal _____ | 14) Cherokee Chief (aka Dragging Canoe) who warned white settlers they would be purchasing a “dark and bloody ground” when buying land in Kentucky |
| o) State motto _____ | 15) “United we stand, divided we fall” |
| p) State slogan _____ | 16) marijuana – even if it is illegal |
| q) KY top cash crop _____ | 17) Ky Fair and Exposition Center opens |
| r) KY #2 cash crop _____ | 18) highest ranking coal (graphite is higher) |
| s) numnah _____ | 19) saddle pad/ blanket |
| t) croup _____ | 20) 150 bushels per acre |

Chris Bidwell

KSNH

President, Falls of the Ohio Chapter

answers – a-7; b-11; c-2; d-14; e-12; f-6; g-13; h-10; i-17; j-1; k-5; l-20; m-8; n-18; o-15; p-4; q-16; r-9; s-19; t-3.

KENTUCKY SOCIETY OF NATURAL HISTORY
ANNUAL FALL CONFERENCE
Shawnee State Park & The Edge of Appalachia Preserve
Adams & Scioto Counties, Ohio
October 17 – 20, 2013

Thursday, October 17, 2013 (Early Bird)

4:00 Check In at Lodge

6:00 Meet in Lodge Lobby to car pool to Eulett Center

7:00 BBQ on The Edge!

Join us for a relaxing evening at the Cincinnati Museum of Natural History's Eulett Center, on the Edge of Appalachia Preserve

Featured Presentation:

Caterpillars of The Edge: Beauty, Deceit and Defense

Chris Bedel, Preserve Director, Cincinnati Museum Center

Friday, October 18, 2013

Full Day Field Trip

9:00 – 5:00 Forests, Ancient Serpents, Meteors, and Prairies
Rating: Easy (primarily a driving tour)
Trip Leader: Jeff Foster

5:00 – 7:00 Dinner on your own.

7:00PM Evening Meeting

Featured Presentation: The Sunshine Corridor
Stephan Montgomery, Appalachian Forest Project Manager
The Nature Conservancy, Ohio Chapter

Photography Presentation – Susan Wilson

Review of Saturday Field Trips – Jeff Foster

Saturday, October 19, 2013

All Saturday field trips will originate at the Eulett Center on the Edge of Appalachia Preserve. Drive time to the Center is approximately 30 minutes.

Morning Field Trips

9:00 – 12:00 The Sunshine Corridor Rating: Moderate Length: 1.5 miles

Trip Leader: Stephen Montgomery or Pete Whan, TNC

9:00 – 12:00 NEW Buzzard Roost Rock Trail and Adelaide's Cliffs Rating: Strenuous Length – 3 miles
roundtrip Trip Leader: Chris Bedel, CMC

9:00 – 12:00 Lynx Prairie: In the Footsteps of E. Lucy Braun

Rating: Easy Length: 1 mile

Trip Leader: Rich McCarty, TNC

12:00 – 1:30 Lunch: On your own

Afternoon Field Trips

1:30 – 4:30 Bryophyte Foray

Rating: easy Length: 1 mile

Trip Leader: Dr. Allen Risk, MSU

1:30 – 4:30 The Devil's Tea Cup & Pope's Pulpit Rating: Moderate Length: 1 mile

Leader: Eric Davenport, CMC

5:00 - 7:00 Dinner: On Your Own

7:00 Saturday Evening Program

Student Presentation:

A Floristic Inventory of the Vascular Plants of Rowan Co. Sphagnum Swamp: A Rare Wetland Habitat
Kelly Modaff, Morehead State University

Feature Presentation:

Live oak (*Quercus virginiana*) forests of Cumberland Island, Georgia, in 3D: aka, what's up in the trees?
Dr. Allen Risk, Morehead State University

Presentation of KSNH Naturalist of the Year Award

Door Prizes

Sunday, October 20, 2013

7:00AM Board Meeting – All board members are encouraged to attend.

9:00 – 12:00 Field Trip Leader: Jeff Foster

For the Full Agenda in PDF go to our website: www.ksnh.org

Charlestown Under the Stars

October 12 - 7:00 to 10:30 p.m.

Co-sponsored by the Louisville Astronomical Society, this event will focus on stargazing. What is out under the night sky tonight? Learn about telescopes, look at the moon and Venus, discover the summer and fall constellations, bring your telescope that you haven't figured out how to use and we will show you. If weather is overcast, we will hold the event in the park office with an astronomy slide show and telescopes for examination.

Charlestown State Park is 1 mile east of the intersection with Hwy 3 (Charlestown) on Hwy 62. Turn right. Gate fees apply - \$5 per vehicle, Indiana residents, \$7 per vehicle, non-residents. Programs are free with admission. Event by the Clark Shelter House near Trail 2.

Regards,
Alan Goldstein, Certified Interpretive Planner
Falls of the Ohio State Park
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Clarksville, IN 47129-3135 USA
(812) 280-9970 ext. 403
www.falloftheohio.org

www.facebook.com/falloftheohio

Fall Conference 2013 at Shawnee State Park is Oct. 17 - 20. If you haven't registered, call the Shawnee Park Lodge at 866.850.1588.