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January 2010

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WHAT'S NEW

ANHC Herbarium Recognized Globally!

[Theo Witsell](#)



Click any of the above for herbarium defined, full photo descriptions, and more from our collection.

The Arkansas Natural Heritage Commission's Herbarium reached an important milestone just before the New Year. After years of painstaking collecting and preparation, we have finally accumulated and processed more than 5,000 botanical specimens! This is the minimum number required to be recognized in [Index Herbariorum \(IH\)](#), the official database of worldwide herbaria maintained by the New York Botanical Garden.

As part of inclusion in IH, our official acronym "ANHC" will now be used whenever a

specimen from our collection is cited in a scientific publication. For example, in a 2007 paper reporting a rare species of St. John's wort as newly discovered from Arkansas, the voucher specimen that documented the find was cited as "T. Witsell 06-397 (MO, UARK)". This means that specimen #06-397 collected by T. Witsell was deposited at "MO" (the Herbarium of the Missouri Botanical Garden in St. Louis) and "UARK" (the University of Arkansas at Fayetteville Herbarium). Now specimens from ANHC can be cited in publications by our staff and other scientists, and anyone can [view our listing](#) on the IH website to learn about our collection. Researchers from other officially recognized herbaria can request loans of specimens for examination, and we can request loans from other institutions for our research. In fact, we currently have loans of rare Arkansas specimens on the way from NY (the herbarium of the New York Botanical Garden) and NCU (the herbarium of the University of North Carolina at Chapel Hill).

Our entry in IH gives the following information about the collection housed in our herbarium:

The Herbarium of the Arkansas Natural Heritage Commission consists primarily of specimens collected in the course of statewide ecological and biological inventory work conducted by the Arkansas Natural Heritage Program. Many of the specimens represent species that are rare in the state or were collected from rare or unusual habitats. The goals of the collection are 1) to provide a reference collection for work performed by Natural Heritage Commission staff and their conservation partners, 2) to house voucher specimens for rare plant records in the database of the Arkansas Natural Heritage Program, and 3) to voucher plants of ecologically sensitive or otherwise significant lands, including those contained within the State's System of Natural Areas. While most specimens are from Arkansas, special care is being made to assemble a collection of plants from surrounding states that are not presently known in Arkansas but are likely to be found there.

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Staff Publications Available for Download

[Jonelle Doughty](#)



Henslow's sparrow at Warren Prairie NA.
Photo by Robert Herron.



Wolf's spike-rush in Prairie County, AR.
Photo by John Pelton.

Two staff publications are newly available for download from our website. The first takes a look at Henslow's Sparrows wintering in south Arkansas and was written by ANHC's Chief of Research Bill Holimon, with Botanist Theo Witsell as second author. The second publication evaluates the status of *Eleocharis wolfii*, or Wolf's spike-rush, in the United States. ANHC's Botanist Theo Witsell serves as second author on this publication as well. Click the links below to download, or visit our [Staff Publications webpage](#).

- **Holimon, W.C., C.T. Witsell, W.H. Baltosser, and C.W. Rideout.** 2008. [Density and habitat associations of Henslow's Sparrows wintering in saline soil barrens in southern Arkansas](#). Journal of field Ornithology 79(4):364-370.

- McKenzie, P.M., **C.T. Witsell**, L.R. Phillippe, C.S. Reid, M.A. Homoya, S.B. Rolfsmeier, C.A. Morse. 2009. [Status assessment of Eleocharis wolfii \(Cyperaceae\) in the United States](#). Journal of the Botanical Research Institute of Texas 3(2):831-854.

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New Staff



Patrick Solomon, Land Management Specialist

Patrick joined the ANHC team on January 4, 2010. He was raised in and around Texarkana, AR. As an Eagle Scout, he has spent a lot of time sleeping under the stars and exploring the natural wonders of Arkansas. After graduating with a BA in Religious Studies from Rhodes College in Memphis, TN, Patrick served as a Sustainable Agriculture Volunteer for the Peace Corps in Panama. His prior Land Management experience includes working for The Nature Conservancy's Stewardship and Prescribed Fire programs in Arkansas, Missouri, North Dakota and Minnesota.

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NATURAL FEATURES

Frost Flowers

[Jane Jones-Schulz](#)

One responsibility of the Education and Information section of ANHC is to share our rich variety of data, information and resources with the public. When the public reaches out to us with questions (send yours to arkansas@naturalheritage.org), researching the answer sometimes leads us to interesting connections.

On January 4, an email from Hot Springs Village asked if we could explain how “ice ribbons” are formed. In researching information about these unique ice formations, I saw references to several articles written by our conservation friend Dr. Bruce Means—discoverer of the Mean's giant earthworm—who we found last year while researching Arkansas endemic species. Dr. Means, president and executive director of the Coastal Plains Institute and Land Conservancy in Florida, is researching the possible adaptive significance of ice flowers and has published six articles about them over the last 20 years.



Frost flower at [Big Creek Natural Area](#).

So what are frost flowers?

Ice ribbons, sometimes known as “ice flowers” or “frost flowers,” occur when the water in the

soil remains above freezing while the air temperature falls below freezing. Warmer water in the soil is drawn up through the plant stems, either as part of the plant's natural transportation system or through capillary action. As it travels up the stem, this water cools, freezes and expands, breaking the stem walls and creating a flow of ice. As crack after crack yields a layer of ice, the total effect resembles the many layers of a flower petal. Air bubbles trapped in the ice makes it appear frothy white.

If the air is cold and still when a frost flower forms, ice layers push straight out into large silvery feathers. When conditions cause the leading edge of ice to thaw slightly as it forms, the frost flower will curl inward around the stem like cotton candy on a stick. Each layer of ice is so thin the total frost flower is almost weightless and will shatter if touched.

Frost flowers occur in many parts of the world and in many areas of Arkansas. However, only a few species of plants are known to produce them. The formations never occur in exactly the same manner from one year to the next or even from one night to the next. Native Arkansas wildflowers that mature late in the year, such as yellow ironweed (*Verbesina alternifolia*) and white crownbeard (*Verbesina virginica*), are good frost flower prospects. In fact, white crownbeard is commonly called "frostweed." Another native plant called dittany, stone mint or false oregano (*Cunila origanoides*), is also known to produce ice flowers. Stems of these plants are still green and tender in late October and have a pithy core that can hold a lot of moisture—key factors in frost flower formation. Plants that are already dead, dry and brittle before the first hard freeze will not produce frost flowers.

Frost flowers have a brief life span. The first rays of the sun soften their delicate edges, and they melt quickly, so early morning is the best time to find them. Fencerows, stream banks, roadside ditches, city weed lots, weedy gardens and moist, open woodlands all are potential frost flower sites. They often form again on the same plants with successive hard freezes until all of the moisture is driven from the stems.

Want to see more frost flower photos? Visit Dr. Mean's frost flower gallery [here](#).

FACEBOOK FANS: Did you guess the [ice flower picture posted earlier this week](#)? If you have images of frost flowers or other interesting natural features around our state, we'd love to see them posted in our fan photo gallery. If you're not yet a Facebook fan, [become one now](#)!

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Falcon Bottoms Natural Area: A Growing Success

[Chris Colclasure](#), [Jonelle Doughty](#)

In 1991, ANHC created [Falcon Bottoms Natural Area](#) with an initial land acquisition of 160 acres. Since that time, the natural area has grown to 3,210 acres through 24 separate land acquisitions—more single land purchases than any other natural area! This natural area is a classic success story exemplifying conservation strategy, dedication and partnerships. Partners include: Arkansas Attorney Generals Office, Arkansas Forestry Commission, Arkansas Game and Fish Commission, Arkansas Field Office of the Nature Conservancy, Arkansas Natural and Cultural Resources Council, North American Wetlands Conservation Council and various private landowners.



Bayou Dorcheat flowing through Falcon Bottoms Natural Area.

Why is Falcon Bottoms Natural Area so important?

Seated at the headwaters of Bayou Dorcheat in southern Nevada and northern Columbia and Lafayette Counties, Falcon Bottoms Natural Area protects approximately 6.5 stream miles of this wild and relatively unaltered stream. The natural area is largely forested, flood-prone and extends along both sides of the bayou. Bald cypress trees tower high above the slow-moving water, giving the natural area a true sense of wilderness. Adjacent floodplains—thick with willow oak, overcup oak, and the rare laurel oak—create an impressive bottomland hardwood forest. Swamps and small lakes are common, whereas topographically higher areas (less susceptible to flooding) support a mix of pine and oak on sandy soil.

These high-quality bottomland forests support seven different natural communities and more than 250 species of plants, several of which are considered species of conservation concern. Ducks, wading birds and songbirds, dependent on bottomland hardwood forests for their survival, are also common.

From its headwaters, Bayou Dorcheat flows approximately 45 stream miles in Arkansas until it crosses the Louisiana border. There it is listed as a Louisiana Natural and Scenic River from the Arkansas border to Lake Bistineau southeast of Shreveport.

Want to take a closer look at Falcon Bottoms Natural Area?

Visit the image gallery on our website for [a few photos of this unique natural area](#). For a different perspective, [watch this video](#) produced by AETN and Exploring Arkansas. But the best way to check out Falcon Bottoms Natural Area is to [plan a trip there yourself!](#)

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Old Man's Beard

[Dr. Doug Jeffries*](#), [Jonelle Doughty](#)



Scientific Name: *Usnea trichodea* Ach.

Common Name: Old Man's Beard, or Bony Beard Lichen.

Habitat: In Arkansas, it is most often found growing on the branches of cedar trees in microhabitats where high humidity or fog is common in the winter. The Old Man's Beard in these photos was found growing on cedar trees, on the edge of a bluff, on the overlook trail at Big Creek Natural Area.

Facts: This is the longest and most pendulous lichen in our region, able to reach lengths of 30 cm (2.54 centimeters equals 1 inch). It typically grows 1 cm to 3 cm a year, only becoming active when temperatures are around 50°F. It is an epiphyte, meaning it grows on another plant but does not harm its host, and is a fruticose (shrubby) lichen that takes in moisture from water vapor.

Uses: Old Man's Beard is an important food source and nesting material for some birds and small mammals. The genus *Usnea* contains usnic acid, which is an antibiotic used commercially in Asia and Europe.

**Dr. Douglas Jeffries is a Professor of Biology and Environmental Studies at the University of the Ozarks. His main area of study is Plant Ecology, and he teaches a class in Lichenology which is his professional hobby.*

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Winter Landscape: Big Creek Natural Area

[Jonelle Doughty](#)

I have long held winter as my favorite season in Arkansas. The landscape may at first glance appear drab and dreary, but less green allows me the opportunity to see things that may go unnoticed in the bustle of other seasons.



Can you see what's nestled in the native grasses? [Click photo for a closer look.](#)

Bare woodlands lead me to investigate the varied textures of tree bark—smooth, shaggy, corky, scaly. Bright green moss and trickling mountain streams stand out against the gray, muted landscape. A rabbit—nestled in dry native grasses and fallen leaves—basks in the sun blending skillfully with its surroundings. Raccoon tracks beside Big Creek beg me to follow them, as does the unmistakable sound of a waterfall. On the edge of the waterfall, I find a patch of tiny ferns and a scattering of feathers. While I will never know what kind of critter ate its dinner on this precarious yet enchanting overlook, I am satisfied knowing I spent a few minutes experiencing its world.

Why don't you bundle up, [find a natural area near you](#) and experience everything (even the littlest things) this season has to offer? A Flickr album highlighting my recent visit to Big Creek Natural Area can be viewed [here](#). And [become our fan on Facebook](#) so you can share



Bird Survival Challenge

[Jane Jones-Schulz](#)



As we endure some of the coldest weather we've seen in more than a decade, do you wonder how birds withstand wicked winter weather and other daily survival threats? Help the Celebrate Urban Birds project at the Cornell Lab of Ornithology find out with this new environmental challenge.

Celebrate Urban Birds is a free, year-round citizen-science project focused on birds in neighborhood settings. Individuals, groups, schools, libraries, clubs, businesses, and more—regardless of age or skill level—are invited to send in examples of how birds are surviving this very cold winter. Entries can be photos, videos, or other artwork (even a story or poem) describing how birds are finding the food, water and shelter they need.

Most birds respond to the cold in similar ways, but temperatures that trigger their behavioral and physiological responses vary widely. In general, the bigger the bird, the easier it is to cope with cold temperatures. Some behaviors and physiological responses that help them conserve heat include:

1. Tucking feet and legs into their breast feathers.
2. Fluffing their plumage. This traps air, creating an insulating layer.
3. Finding shelter. Birds use dense shrubs and tree cavities to conserve heat.
4. Increasing their metabolic rate, producing more body heat.
5. Shivering (produces more metabolic heat).
6. Roosting closely together with other birds. (Up to ten bluebirds have been found to roost in the same tree cavity on cold nights).

[Visit the Celebrate Urban Birds website](#) for more information then take the challenge. Get creative! The first 50 people who enter will receive a copy of the "Little Green Places" poster, and selected images and videos will be posted on the Celebrate Urban Birds website. Other prizes include a pair of Eagle Optics binoculars, bird feeders, a birdsong calendar, books, posters, cards and more. Deadline for entries is February 15, 2010.



Calendar

February 2, 2010 - Arkansas Natural Heritage Commission Meeting

The commission will meet at 9am in the first floor conference room at the Department of Arkansas Heritage.

February 2-3, 2010 – Wildlife Habitat Restoration on Private Lands Conference - Hilton Little Rock Metro Center – Little Rock, AR



ANHC is a partner in this first-ever conference which brings together professionals from agencies and organizations dedicated to habitat restoration on private lands. The two-day agenda focuses on sharing information about private lands programs, landowner success stories, successful on-the-ground techniques, and updates about farm bill programs. For additional partners and more info, [visit their website](#).

2010 International Year of Biodiversity



Biodiversity is life
Biodiversity is our life

The United Nations had declared 2010 to be the International Year of Biodiversity. This global awareness campaign is being coordinated through the secretariat of the Convention on Biological Diversity (CBD) of the UN Environment Program (UNEP). [Visit our Facebook page](#) through the year to see more information about the celebration of biodiversity in our lives.



Did you enjoy a particular story? Do you have a question for one of our experts? We love hearing from you! Please send general questions, comments, concerns to arkansas@naturalheritage.org. Individual article authors can be emailed by clicking their byline under article titles. Let us know what you think!



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