

CLAYTONIA

The Newsletter of the Arkansas Native Plant Society

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Earleaf False Foxglove (*Agalinis auriculata*) Rediscovered in Northwest Arkansas after 120 years!

by Burnetta Hinterthuer



Illustration by Linda Ellis

On September 6th, 2003 the Ozark Chapter of the Arkansas Native Plant Society visited Saunders Heights in Carroll County. Mary Reuter, Wendy Carroll, Linda Ellis, Patrick Pruitt and Burnetta Hinterthuer were present on the excursion. We were hoping to be able to locate species that had not been documented in Carroll County before and provide voucher specimens and location information to Dr. Johnnie Gentry at the University of Arkansas for the Arkansas Flora project.

During the field trip, Linda Ellis, who is a botanical illustrator for the Flora of Missouri update project, became excited when we found a rather nondescript member of the figwort family (Scrophulariaceae). Until I looked carefully, I was not impressed - especially since she mentioned that its habitat in Missouri was buffalo wallows and I didn't think of this limestone bedrock road as being a good place for buffalo to wallow!

But, the base of the leaves flared out into ear-like lobes and identified the plant as *Agalinis auriculata*. Linda knew from her previous work in Missouri that the plant was considered rare on the global level because its habitat had been largely destroyed in the past hundred years. In this case, the plant was growing on limestone bedrock in shallow soil, possibly where a seep is located. There were several in the population.

Although the plant is not spectacular in appearance, its identity excited us. It had not been encountered in northwest Arkansas since F. L. Harvey collected it in Benton County in 1883. Mary Reuter has been trying to get us to Saunders Heights for a couple of years and now we know why.

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The field trip that September day yielded several new county records, but it was the *Agalinis auriculata* that really excited us. For several years, the Arkansas Natural Heritage Commission has been on the lookout for this plant in northwest Arkansas, knowing of the collection from 1883. It has been found in southwestern Arkansas in the blackland prairies and in prairie habitat in the Missouri Ozarks, so they had expected (and hoped) to rediscover it in northwest Arkansas. Finding a plant that has been unseen in an area for so long definitely creates a sense of awe. We do plan follow-up trips to this site in the coming year. Looking at a topographic map, we noticed other interesting peaks in Carroll County and can't help wondering what else is there. If you would like to become a member of the Ozark Chapter of ANPS or request a newsletter, contact Mary Reuter at 870-423-2498 or email reuter@bscsystems.com

More Notes on *Agalinis auriculata*

by Theo Witsell

I was most excited when I received emails from Linda and Burnetta telling me of their exciting rediscovery (after 120 years!) of this very rare species in the Arkansas Ozarks. As Burnetta mentioned, it had been missing from northwest Arkansas for a long time and that makes this discovery particularly interesting. Even more interesting, perhaps, is the unusual biology and ecology of this species. Earlier this fall I attended the Natural Areas Association Conference in Madison, Wisconsin. There was a paper given there that taught me a lot I didn't know about *Agalinis auriculata*.

Agalinis auriculata has gone by many different names and has been in several different genera in the figwort family (Scrophulariaceae). It has been called *Tomanthera auriculata*, *Agalinis auriculata*, *Gerardia auriculata*, and *Otophylla auriculata*. It is a hemiparasite, which means that it can survive on its own, but does much better when it forms underground connections to the roots of a host plant, partially sucking nutrients and water from the host, and partially getting them on its own. According to the research presented at the NAA Conference, large, robust plants with many flowers were found to have connected to host plants, and smaller plants with only a few flowers were found to be without hosts. *Agalinis auriculata* has been found to have a narrow range of host plants, all of which are members of the sunflower family (Asteraceae) and all of which are prairie and glade species. Genera found to function as hosts include the rosinweeds (*Silphium* spp.) and the native sunflowers (*Helianthus* spp.).

Another thing I learned at the NAA Conference is that *A. auriculata*, and the entire genus *Agalinis*, has been taken out of the figwort family altogether. The latest classification, based on molecular genetics, puts these plants in the

broomrape family, the Orobanchaceae. This makes sense ecologically, considering the number of parasitic species in the Orobanchaceae.

In Arkansas, there are several populations known from the chalk barrens and blackland prairies of southwestern Arkansas (Hempstead County) and it is presently known in southwest Missouri from Newton, Cedar, and St. Clair Counties. The association with buffalo wallows is indicative of its dependence on prairie habitat, but the dry rocky glades of the Ozark Plateau are also suitable. Both habitats are rare today. The prairies are all but gone now, having been converted to fescue pastures, plowed for beans, or covered over by urban sprawl. The glades are at risk too, from development, but also from succession to dense cedar thickets in the absence of fire from the landscape. Whatever name you call the plant, and whatever family you want to put it in, this was a tremendous find! Congratulations and thanks to the Ozark Chapter of the Arkansas Native Plant Society!



Agalinis auriculata in Carroll County, Arkansas! Photo by Linda Ellis.

HAVE YOU SEEN THIS PLANT IN ARKANSAS?

If so, please call the Arkansas Natural Heritage Commission at 501.324.9615 or email theo@arkansasheritage.org.

A Bipolar Orchid Hunt (in a Shakespearean Manner)

by Carl Slaughter

In June of this year David McAdoo in North Carolina called me and asked if I would like to photograph the orchid *Spiranthes longilabris* in the Green Swamp of southern North Carolina. And, by the way, he could give me a map to the location of the Shadow-Witch Orchid in northern South Carolina. Mania commenced. Of course I would. The time for the outing was set for November the first. Jannene made the travel plans, first to the orchid sites, then to Charleston, South Carolina to see the city.

October the 25th, phone call, come now, the orchids are blooming. Oh depression! Will we, after all that driving, get there too late? We leave the next day, cutting the driving time from three days to two. Depressed all the way.

I go straight to the swamp. I will go to the motel later. I walk for two hours, in the area that I thought they would be. No *longilabris*. Depression deepens. Are they gone, or am I in the wrong place? Due to the sudden departure I did not put David's phone number in the car. Depression very deep. We check into the motel and begin to mope. I suddenly remember that I have some information that just might have his phone number listed. It does! Depression lessens, mania returning. I call David. I am looking in the wrong place. Frank, from South Carolina, was there the day before and had flagged all the orchids. The mania makes it hard to sleep that night.

We arrive at the pine savanna early the next morning. The blue flags and *Spiranthes* are found and the photos are made. I am feeling very good at this point. Now for the *Ponthieva racemosa*, the Shadow-Witch.

The next morning we arrive at the site of the Shadow-Witch. As I look down the side of the embankment I see 150-200 of the orchids, ALL IN SEED. Depression returns. Then I see a single plant in full bloom and perfect. Photos are taken and I am again euphoric.

The next day, while taking pictures of Fort Sumpter, I discovered that my camera's ASA was set at 6 and I was using 100 ASA film. For my purposes all of the pictures that I had taken were useless. Depression returns. I had made too many mistakes on this trip. Most are not being mentioned in this narrative to avoid embarrassment. Am I becoming senile? After a brief check I determined that I do not have dementia. It is no consolation to know that all of the mistakes are the result of stupidity and not from a biochemical or physical cause.

At this point I felt as if I was reliving MacBeth's dagger scene, paraphrased here – "Is this an orchid I see before me? Its petals before my hand? Come, come let me touch thee. I see thee still yet I have thee not. Are thy not a beautiful flower sensible to feeling as to sight? Or are thy just a flower of the mind? A false creation perceived by the heated depressive brain?"

To make a long story short, I corrected the ASA, retraced the 150 miles, rephotographed the orchids, and returned home with a euphoric mind.

There are two morals in this story. The first is if your outing ends in a manic state, it was a success. The second is that it is good to share a mania, but it is even better to have help in sharing a depression.



Ponthieva racemosa (Walt.) Mohr.
The Shadow-Witch

No Dam For the Eleven Point

by Linda Ellis

Some of you may have heard recently of yet another attempt to start a dam project on the Eleven Point River. Channel KAIT 8 in Jonesboro, AR reported on Oct. 2, 2003 that an old debate is resurfacing in Randolph County over a river described as "possessing unique beauty". Back in the late 1950's, several area businessmen lobbied for building a dam but received strong opposition from area residents and environmentalists.

This most recent attempt at a Water Valley dam project was for a reservoir in Randolph County that would back a lake up into Missouri. The Pocahontas chamber of commerce set up a town meeting to determine the degree of interest in the project. A local opposition group lead by Joe and Ellen Hansen organized concerned local residents and attended the meeting in force. The Chamber also received e-mails from people all over the United States opposing this dam.

Oct. 7th, the Chamber voted unanimously not to pursue the reviving of this project. Six reasons were giving for this decision:

1. Such projects were deauthorized in 1977 by Congress and no funding was available.
2. The Army Corps of Engineers doesn't build lakes for recreational reasons.
3. Such a project wouldn't even make it through the first phase of an environmental study because of the number of endangered species on the Eleven Point.
4. This river is already listed as a Wild and Scenic waterway.
5. Other reservoirs in the area have already eliminated a large number of clear-water streams.
6. The Eleven Point offers "recreation and aesthetic values" that cannot be duplicated once destroyed.

The Hansens and their opposition group have agreed to stay together and be vigilant in case this idea comes up again. In a highly karst region such as this area of Arkansas and Missouri, a project like this would be questionable in the very least. Instead of destruction of the environment, other ways need to be found to help the area economy. Eco-friendly tourism and festivals to highlight the area's history will be discussed by local residents, opposition groups and businessmen. If you have ideas to help the region, contact the Randolph Co. (Pocahontas) Chamber of Commerce.

Plants of Christmas Time

by George Sinclair

Mistletoe is one of the traditional plants of Christmas time, along with holly and ivy. Arkansas has only one species of mistletoe, *Phoradendron serotinum*, a small evergreen, parasitic shrub that grows on the limbs of several hardwood trees. It produces its own food as other green plants do, but robs its host of water and minerals in the process. The male and female flowers are on separate plants, appearing as small yellowish bumps near the ends of the branches. The fruits are small, round, white, sticky berries and are considered to be toxic. The leaves are small (two inches) and the branches and stems are brittle. Birds and mammals eat the fruit.

Most of the traditions around mistletoe developed in England and Europe. The Christmas custom of hanging mistletoe (and kissing under it) may have its origin in a range of traditions, the most obvious being that mistletoe is a fertility symbol. As an evergreen parasitic plant on its deciduous host, it can be a symbol of the life-force/fertility of the tree through the winter.

The Druids of ancient Britain valued mistletoe as a sacred plant, which held magical powers. They were said to hold the mistletoe of oaks as especially valuable. Oak itself was a magical tree. Combine this with the fact that mistletoe is fairly rare on the oak in Britain, then it is easy to see why oak mistletoe would be highly valued. Mistletoe was seen as a plant of peace (possible origin of the kissing tradition), and was harvested during rituals that involved golden sickles, white bulls, and sheets to stop the cut mistletoe from touching the ground (otherwise it would lose its power).

Arkansas has six species of native holly: Carolina holly (*Ilex ambigua*), deciduous holly (*Ilex decidua*), yaupon holly (*Ilex vomitoria*), American holly (*Ilex opaca*), Georgia holly (*Ilex longipes*), and winterberry (*Ilex verticillata*). All have male and female flowers on separate trees.

American holly is the most familiar because of its use as an ornamental and the use of the foliage with bright red berries as a Christmas decoration. American holly is a tree of the lowlands and does not seem to grow well above the elevation of 240 feet above sea level. Deciduous holly is also used as a Christmas decoration. When the leaves fall off in the fall this shrub is very showy with red berries and makes a great Christmas decoration.

An Annotated Checklist of the Orchids of Arkansas

Dr. George Johnson, Arkansas Tech University

With the *Checklist of the Vascular Plants of Arkansas* nearing completion, the known diversity of many families of the state's flora can now be expressed with confidence; in this case, the Orchidaceae, the orchid family. Using Ed Smith's *An Atlas and Annotated List of the Vascular Plants of Arkansas* (2nd edition, 1988) as a starting point, a thorough review of the literature, field studies, and the examination of over 1100 herbarium specimens at herbaria within and from outside of the state has documented for Arkansas 43 orchid taxa, representing 18 genera, 36 species, 4 infra-specific taxa, and 3 hybrids. With continued fieldwork, it is very likely that additional taxa of orchids may be documented for the state, especially along Arkansas' borders with Louisiana, Mississippi, Oklahoma and Texas.

All taxa are native except for one species, *Epipactis helleborine*. *Spiranthes cernua* and *Spiranthes vernalis* are the most widespread taxa, occurring in 48 and 51 counties respectively. *Cypripedium reginae*, *Cypripedium parviflorum* var. *parviflorum* X *Cypripedium parviflorum* var. *pubescens*, *Epipactis helleborine*, *Liparis loeselii*, *Platanthera flava* var. *herbiola*, *Platanthera nivea*, and *Spiranthes cernua* X *Spiranthes odorata* are the least widespread taxa, each occurring in a single county. Twenty of the orchid taxa known for the state (46.5%) are of conservation concern and are tracked by the Arkansas Natural Heritage Commission. Five taxa of orchids have been erroneously reported for the state, three of which have previously been excluded. *Calopogon tuberosus* var. *simpsonii* and *Spiranthes magnicamporum* are excluded here for the first time.

Nomenclature for all taxa follows that of the *Flora of North America* (Volume 26). Where nomenclature differs from that of Smith's *Atlas* (1988) or Smith's *Keys* (1994), the names used by Smith are listed as synonyms in brackets. Many common names exist for each orchid that occurs within the state. Those listed here are considered to be the "primary" common name and will appear in the Checklist.

Annotated Checklist:

Aplectrum hyemale (Muhl. ex Willd.) Nutt.; Adam-and-Eve.
Calopogon oklahomensis D. H. Goldman; Oklahoma grasspink; of Conservation Concern.
Calopogon tuberosus (L.) Britton, Sterns, Poggenb. var. *tuberosus*; tuberous grasspink; of Conservation Concern. [*C. tuberosus* (L.) Britton, Sterns, Poggenb.]
Corallorhiza odontorhiza (Willd.) Poir. in F. Cuvier var. *odontorhiza*; autumn coral root. [*C. odontorhiza* (Willd.) Poir. in F. Cuvier]
Corallorhiza wisteriana Conrad; Wister's coral root.

Cypripedium kentuckiense C. F. Reed; Kentucky lady's-slipper; of Conservation Concern.
Cypripedium parviflorum Salisb. var. *parviflorum*; southern small yellow lady's-slipper. [*C. calceolus* L. var. *parviflorum* (Salisb.) Fernald]
Cypripedium parviflorum Salisb. var. *pubescens* (Willd.) O. W. Knight; southern large yellow lady's-slipper. [*C. calceolus* L. var. *pubescens* (Willd.) Correll]
Cypripedium reginae Walter; showy lady's-slipper; of Conservation Concern.
Cypripedium parviflorum Salisb. var. *parviflorum* X *C. parviflorum* Salisb. var. *pubescens* (Willd.) O. W. Knight; hybrid southern yellow lady's-slipper.
Epipactis helleborine (L.) Crantz; broad-leaved helleborine orchid; non-native, introduced from Europe.
Galearis spectabilis (L.) Raf.; showy orchis.
Goodyera pubescens (Willd.) R. Br. in Aiton & W. T. Aiton; downy rattlesnake plantain.
Habenaria repens Nutt.; water-spider orchid; of Conservation Concern. [*Platanthera repens* (Nutt.) A. W. Wood]
Hexalectris spicata (Walter) Barnhart var. *spicata*; crested coral root; of Conservation Concern. [*H. spicata* (Walter) Barnhart]
Isotria verticillata (Muhl. ex Willd.) Raf.; large whorled pogonia.
Liparis liliifolia (L.) Rich. ex Lindl.; large twayblade orchid.
Liparis loeselii (L.) Rich.; Loesel's twayblade orchid; of Conservation Concern.
Listera australis Lindl.; southern twayblade orchid.
Malaxis unifolia Michx.; green adder's mouth orchid.
Platanthera ciliaris (L.) Lindl.; yellow fringed orchid.
Platanthera clavellata (Michx.) Luer; small green wood orchid.
Platanthera cristata (Michx.) Lindl.; yellow crested orchid; of Conservation Concern.
Platanthera flava (L.) Lindl. var. *flava*; southern tubercled orchid; of Conservation Concern. [*P. flava* (L.) Lindl.]
Platanthera flava (L.) Lindl. var. *herbiola* (R. Br.) Luer; northern tubercled orchid; of Conservation Concern.
Platanthera lacera (Michx.) G. Don in Sweet; green fringed orchid.
Platanthera nivea (Nutt.) Luer; snowy orchid; of Conservation Concern.
Platanthera peramoena (A. Gray) A. Gray; purple fringeless orchid; of Conservation Concern.
Platanthera Xchannellii Folsom; Channell's fringed orchid; of Conservation Concern. [*P. ciliaris* (L.) Lindl. X *P. cristata* (Michx.) Lindl.; *P. Xchappmanii* (Small) Luer, mis-applied]
Pogonia ophioglossoides (L.) Ker Gawl.; rose pogonia; of Conservation Concern.

Spiranthes cernua (L.) Rich.; nodding ladies'-tresses. [*S. cernua* (L.) Rich. var. *cernua*]
Spiranthes lacera (Raf.) Raf. var. *gracilis* (Bigelow) Luer; southern slender ladies'-tresses.
Spiranthes lacera (Raf.) Raf. var. *lacera*; northern slender ladies'-tresses; of Conservation Concern.
Spiranthes lucida (H. H. Eaton) Ames; shining ladies'-tresses; of Conservation Concern.
Spiranthes odorata (Nutt.) Lindl.; fragrant ladies'-tresses; of Conservation Concern. [*S. cernua* (L.) Rich. var. *odorata* (Nutt.) Correll]
Spiranthes ovalis Lindl. var. *erostellata* Catling; northern oval ladies'-tresses; of Conservation Concern.
Spiranthes ovalis Lindl. var. *ovalis*; southern oval ladies'-tresses; of Conservation Concern.
Spiranthes praecox (Walter) S. Watson in A. Gray et al.; giant ladies'-tresses; of Conservation Concern.
Spiranthes tuberosa Raf.; little ladies'-tresses.
Spiranthes vernalis Engelm. & A. Gray; grass-leaved ladies'-tresses.
Spiranthes cernua (L.) Rich. X *S. odorata* (Nutt.) Lindl.; hybrid nodding-fragrant ladies'-tresses.
Tipularia discolor (Pursh) Nutt.; crane fly orchid.
Triphora trianthophora (Sw.) Rydb. in Britton subsp. *trianthophora*; three birds orchid. [*T. trianthophora* (Sw.) Rydb.]

Excluded Taxa:

Calopogon tuberosus (L.) Britton, Sterns, Poggenb. var. *simpsonii* (Small) Magrath; Simpson's grasspink. This variant of the species was listed in Smith's Keys (1994). The plant was a robust, mis-identified specimen of *C. tuberosus* var. *tuberosus* at UARK from Saline County (Moore, D.M., 6 Jun. 1950, 50188). Var. *simpsonii* is restricted to Florida (Goldman et al. 2002 in FNA Vol. 26).
Cypripedium candidum Muhl. ex Willd.; white lady's-slipper.
Platanthera leucophaea (Nutt.) Lindl.; eastern prairie fringed orchid.
Spiranthes laciniata (Small) Ames; lace-lipped ladies'-tresses.
Spiranthes magnicamporum Sheviak; great plains ladies'-tresses. The listing of this taxon for Little River and Sevier Counties (Singhurst et al. 2002 in Castanea) is based on mis-identified specimens at BAYLU (Little River County, Holmes, 17 Oct. 1999, 10720, Singhurst and Baldrige; Sevier County, Holmes, 17 Oct. 1999, 10730, Singhurst and Baldrige). Dissection of flowers indicated that these plants were actually *S. cernua*.

George P. Johnson
 Herbarium (APCR)
 Arkansas Tech University
 Russellville, AR 72801
 george.johnson@mail.atu.edu

Editors Note: Needless to say, if you know of locations of any of the excluded taxa in Arkansas, contact Dr. Johnson. If you know of the location of any of the taxa of conservation concern please contact the editor or the Arkansas Natural Heritage Commission.

New Grand Prairie Publication

New Grand Prairie Publication

Located in the Mississippi River Delta of eastern Arkansas, the **Grand Prairie** covered approximately 900,000 acres, with 320,000 acres consisting of tallgrass prairie. Although prairies flourished on the Grand Prairie for thousands of years, very little remains today. As land was cleared for rice production in the early 20th century, much of the original Grand Prairie landscape was lost. Tallgrass prairies, and a variety of other natural communities, are now very rare and limited to small fragments. As a result of habitat destruction, a number of plant and animal species have been eliminated from the Grand Prairie, with many more clinging to the very few patches of suitable habitat that remain. Even though much has been lost, the potential currently exists for large areas of prairie to be restored to some locations across the region.

The Arkansas Natural Heritage Commission (ANHC), in partnership with the U.S. Fish and Wildlife Service (USFWS), has produced a booklet titled **The Grand Prairie of Arkansas: past, present, and future**. The booklet details the natural history and status of the Grand Prairie of eastern Arkansas and includes a map depicting the original distribution of prairie across the region. The booklet also details prairie restoration activities currently being conducted by the ANHC, USFWS, and other federal and state agencies. For a free copy of the booklet call the ANHC at 501.324.9619 or e-mail your mailing address to arkansas@naturalheritage.org.

Invasive Plant Species of Arkansas Field Guide Available

The Field Guide to the Non-Native Invasive Plants of Arkansas is now available. This guide was compiled and edited by Jude Jardine of the Arkansas Native Plant Society and contains an illustrated glossary and factsheets for some of the worst nonnative invasive plant species in Arkansas. It is illustrated with color photographs and includes detailed species accounts with identifying characters, life history information, range and habitat information, and strategies for control.

The guide is available for \$10 to ANPS members and \$12 for non-members. Copies can be obtained from Jude Jardine / 206 Branch St. / Lonoke, AR 72086. Call Jude for more info at (501) 676.5535 or email: jardinejk@earthlink.net

Tallgrass Prairies in Arkansas: Part I

By Theo Witsell

The tallgrass prairies of North America are one of the most heavily-impacted ecosystems in the world. Their story is a sad one, marked by massive destruction and the wholesale decimation of the landscape. More than 99% of the North American tallgrass prairie has been destroyed. The scattered remnants are priceless records of what was (not so long ago), and they are the seedbanks (literally) for the future survival of the prairie. Many people outside of Arkansas, and a good many who live here, are surprised to hear that there are tallgrass prairies in the state. We do have them, though, and they are treasure troves of biodiversity! This will be the first installment of a several part article on the prairies of Arkansas. To begin, let's discuss just what makes a tallgrass prairie a tallgrass prairie and take a look around the state at the different prairie regions.

All sorts of naturally treeless areas get called "prairies", but here we will focus on those areas dominated by four species of native, warm season grasses. These grasses, sometimes collectively referred to as "the big four" are big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), Indian

grass (*Sorghastrum nutans*), and switchgrass (*Panicum virgatum*). As the name implies, they are tall grasses—reaching more than 8 feet on a good site. They are the dominant grasses in the tallgrass prairies of Arkansas and serve as a sort of backbone to the prairie ecosystem.

So, why is the prairie prairie? The answer usually has to do with the amount of water available to plants and, in Arkansas, with the properties of the soil. The prairie regions of the midwest United States receive low amounts of rainfall and this is partially responsible for the prevalence of prairie there. Arkansas, by contrast, is fairly well-watered. The secret to our prairies typically lies in an impermeable clay (or rock) layer in the subsoil not far under the surface of the ground. This layer keeps water from penetrating very deep and becomes very dry during the summer. These conditions, in combination with frequent fires, give grasses and forbs a competitive advantage over most woody plants.

Arkansas has (or had) five major regions of tallgrass prairie. The floristic makeup of these prairie regions is similar. They often share the same dominant species, but differ remarkably in which other species are present or absent. Our prairies also grade into several other natural communities, most notably glades, savannas, and open woodlands. These communities often share many of the same species and species associations with the prairies.

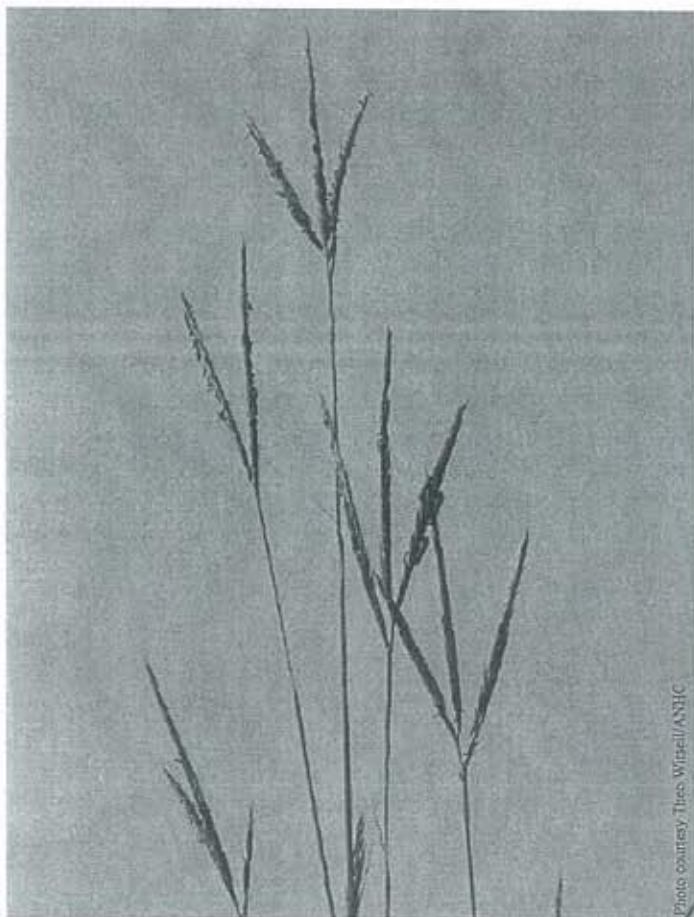
Prairies typically have their highest diversity in two families of plants; the Poaceae (grasses) and the Asteraceae (the plants in the sunflower family). Many of these plants are commonly referred to as "prairie species" and occur primarily in prairie and prairie-like habitats. They can tolerate summer drought and can withstand or even benefit from frequent fires which burn them down to the ground. An interesting fact about prairie plants is that in many cases, the majority of the plant's biomass is beneath the soil, not above it. In addition to these families, hundreds of species from other families are at home on the prairie, with strong representation from the legumes (Fabaceae), mints (Lamiaceae), sedges (Cyperaceae), mustards (Brassicaceae), milkweeds (Asclepiadaceae), the carrot family (Apiaceae), the figwort family (Scrophulariaceae), and many others. We'll explore the plants more in future issues.

For now, in the interest of space, here is a very brief overview of the five major prairie regions of Arkansas.

I. The Grand Prairie

Major Counties: Lonoke, Prairie, Arkansas

The Grand Prairie region is the largest of Arkansas' prairie



Big bluestem (*Andropogon gerardii*) seedheads. Prairie County.

Photo courtesy Theo Witsell/ANHC

regions. It covers more than 900,000 acres in eastern Arkansas on an area of relatively high ground known as the Grand Prairie Terrace. Of this area, approximately 400,000 acres consisted of open grassland prior to settlement by Europeans. The balance consisted of savanna, upland hardwood forest, shrubby "slash" woodlands along headwater streams, herbaceous wetlands, and bottomland hardwood forest along major streams. Of the 400,000 acres of grasslands, only about 430 acres have survived the plow.

Remnants to visit include:

Railroad Prairie Natural Area (Arkansas Natural Heritage Commission)

Roth Prairie Natural Area (Arkansas Natural Heritage Commission)

Konecny Prairie Natural Area (ANHC)

Downs Prairie Natural Area (ANHC)

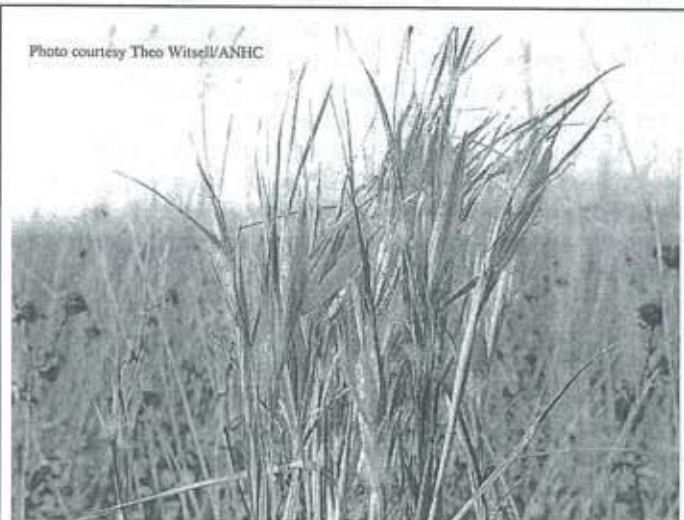


Photo courtesy Theo Witsell/ANHC

Elliott's bluestem (*Andropogon gyrans*) is one of the less common grasses of the tallgrass prairie. It is sometimes called bird-of-paradise grass because the leafy bracts subtending the inflorescence makes it resemble the tropical plant by the same name. Railroad Prairie Natural Area. Prairie County.

II. The Arkansas Valley Prairies

Major Counties: Franklin, Sebastian (and scattered eastward)

The Arkansas Valley prairies occur from Conway west all the way into Oklahoma. These prairies typically occur over a shaley clay substrate. Remnants to visit include:

Jewel Moore Prairie Preserve (University of Central Arkansas Campus, Conway)

Cherokee Prairie Natural Area (ANHC & The Nature Conservancy)

H. E. Flanagan Prairie Natural Area (ANHC)

Presson-Oglesby Preserve (The Nature Conservancy)

III. The Ozark Prairies

Major Counties: Washinton, Benton, Boone

The Ozark prairies typically occur over calcareous clay soils derived from limestone and/or dolomite. Large prairies occurred around Fayetteville, Rogers, Siloam Springs, and Harrison. Remnants to visit include:

Baker Prairie Natural Area (ANHC & The Nature Conservancy)

Searles Prairie Natural Area (ANHC)

Chesney Prairie Natural Area (ANHC)

IV. The Blackland Prairies

Major Counties: Clark, Hempstead, Howard

The Blackland Prairies are associated with dry, calcareous soils in the southwestern part of the state. Remnants to visit include:

Terre Noire Natural Area (ANHC & The Nature Conservancy)

Grandview Prairie Wildlife Management Area (Arkansas Game and Fish Commission)

Columbus Prairie Preserve (The Nature Conservancy)

V. South Arkansas Prairies

Major Counties: Ashley

The south Arkansas prairies were concentrated in Ashley County and extended into Morehouse Parish, Louisiana. Remnants to visit include:

Sadly, there are no protected remnants in the Arkansas portion of this region but small fragments remain in a transmission line east of Crossett and at the Crossett airport.

PLEASE REMEMBER THAT THESE ARE PROTECTED AREAS. ENJOYMENT AND PHOTOGRAPHY ARE ENCOURAGED BUT DIGGING OF PLANTS AND OTHER UNAUTHORIZED COLLECTION IS STRICTLY PROHIBITED AND PUNISHABLE BY LAW.



Photo courtesy Theo Witsell/ANHC

Ashy sunflower (*Helianthus mollis*). Railroad Prairie Natural Area.

Fall 2003 Minutes

ARKANSAS NATIVE PLANT SOCIETY

General Meeting

Saturday, September 27, 2003

The general meeting of the Arkansas Native Plant Society was called to order at 7:25 o'clock, p.m., at St. Joseph's Catholic Church hall in Paris, Arkansas, by the President, Mary Ann King.

SECRETARY'S REPORT: The last sentence of the minutes should be "this" fall. Lana Ewing moved that the report be accepted as amended. Carl Amason seconded. The minutes were approved as amended.

TREASURER'S REPORT: The report was distributed to the members by Treasurer, Barbara Little. Jude Jardine moved that the report be approved; Eric Sundell seconded. The Treasurer's Report was approved.

NOMINATING COMMITTEE: Lana Ewing reported that the Nominating Committee was nominating the following members for offices: Historian, Carl Amason; Secretary, Judy Logan; Publicity, Sue Clark. The nominees were elected by acclamation.

OLD BUSINESS: Johnny Gentry spoke to the group asking for funding for the Flora Project to collect specimens, conduct field work, and to begin work on the Atlas. Dr. Gentry will report on the use of the funds next fall. The Executive Board recommended awarding \$5,000 to Dr. Gentry. Jude Jardine moved that ANPS award the \$5,000; Linda Gatti Clark seconded. The motion passed.

Barbara Little read thank you notes from the Audubon Camp scholarship recipients. Sue Clark moved that \$500 be allotted for children to be sent to the Audubon Camp next summer. Catherine Heppinstall seconded. The motion passed.

Jude Jardine had available 50 binders of the Field Guide to Invasive Non-native Plant Species in Arkansas for members to purchase. The actual cost of the Guide was \$7.79, which included paper, ink, and the binder. Jude estimates that 75-100 more can be printed. She has \$114 left which would probably pay for the ink cost. She will take some to the meeting on invasive plants in October. The information concerning the Guide will be put on the ANPS website and in the Claytonia.

The motion was made by Clint Soward that members pay \$10.00 for the Guide and \$12.00 for non-members. Catherine Heppinstall seconded. The motion passed. Everyone is responsible for obtaining and paying for additional updates from Jude.

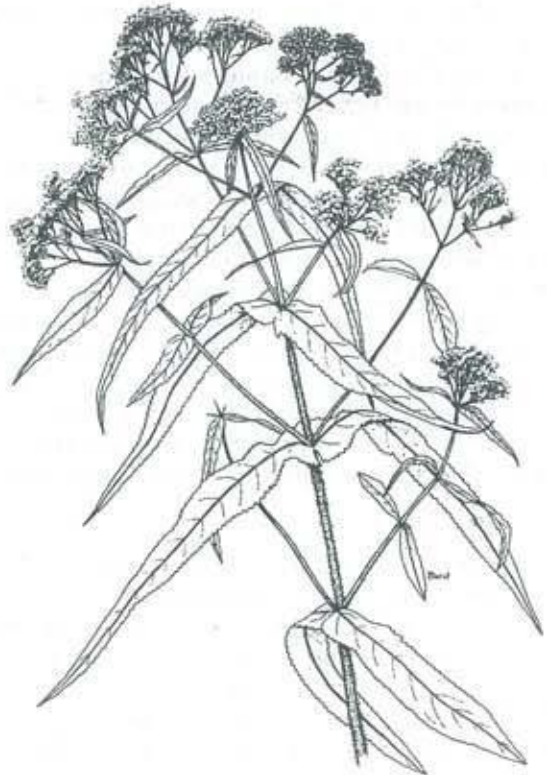
NEW BUSINESS: Barbara Little reported on a talk she had with Donna Gardner, the Plants Manager at the Arkansas Highway Department. She is developing an incentive program to reward people doing a good job on their roadside protection of natives. There is a need to develop a communication system with people who do construction and maintenance on the highways, and a need for a rescue program. Barbara would like to receive information from people and advice on incentives.

Mary Ann King announced that Jasper, Arkansas, is being considered for the Spring, 2004, meeting and Camden for the Spring, 2005, general meeting.

The Sunday morning field trip will be at the Cherokee Prairie Natural Area about 20 miles west of Paris, out of Charleston, Arkansas. Interested members will meet at Caulksville at the gas station at Highways 22-23 at 8:30 A.M.

There being no further business, the meeting was adjourned at 9:00 P.M.

Respectfully submitted,
Sue Clark, Secretary



Eupatorium perfoliatum L.
boneset

University of Tennessee Herbarium and Dept. of Botany Threatened

Editors note: Here we go again! The following letter was received on December 23, 2003. As we learned in Arkansas last summer, sometimes it takes public support to save herbaria and botany programs. Please consider taking a few minutes to help out by writing a letter.

Colleagues:

The possible demise of the herbarium at Iowa seems to be another symptom of academic malnutrition that is destined to a state of starvation. We are heading toward a third world status by crippling our informational foundations in whole plant systematics. This trend is infecting all programs where whole plant science is being replaced by emphasis on structural and mechanistic [mostly molecular] aspects of plants.

This letter is to make you aware of another grave situation that threatens the existence of the Department of Botany at The University of Tennessee, Knoxville. For reasons not totally known, the Botany Department has been placed on a university list for review and consideration for dissolution. This decision has been spun from the upper administration, to identify programs and departments within the university that don't meet selected criteria for productivity. In the case of Botany, we do not meet the quota of undergraduate majors, among other criteria. Since we are a department nested in a Division of Biology, we are not competitive with Microbiology, Ecology and Evolutionary Biology, and Biochemistry/Cellular and Molecular Biology. These other departments appear more productive because they benefit from higher numbers of majors; many of which are preparing for pre-professional, health careers [Medical, Dental, Pharmacy, etc.]. Hence it is unusual for such motivated students to select a Botany major for their undergraduate degree.

It is my personal belief, and shared by many colleagues, that a comprehensive university like Tennessee, will be self-abasing by dumping its Botany Department. It is a poor investment by the powers of upper administration to assure [guarantee] that a presence of strong plant sciences will continue at Tennessee by distributing faculty into other surviving departments. The core and heart of a centralized botanical faculty will be fragmented; and it is likely that attrition will result as faculty retire, or relocate, and their positions will be filled by other sorts. Another key element is the fate of the Herbarium and its staff. While we have been told [promised] that no faculty or key staff will be furloughed by a reorganization, that may be no more than a belief in faith.

As most of us are veterans of administrative chess, we expect that a decision to dissolve Botany has already been made. And now we are only stepping through the process to legitimize and validate the decision.

However, I invite any of you who wish to join the resistance to write a letter of concern that addresses the irreversible consequences of loss to the national and international community of Plant Scientists. In the least, I would want my administrators to have to read the written word of concerned colleagues in the face of their decision.

If you choose to voice your concern, send a letter to:

Dr. Stuart Riggsby, Dean
College of Arts and Sciences
Alumni Memorial Building
University of Tennessee
Knoxville, TN 37996

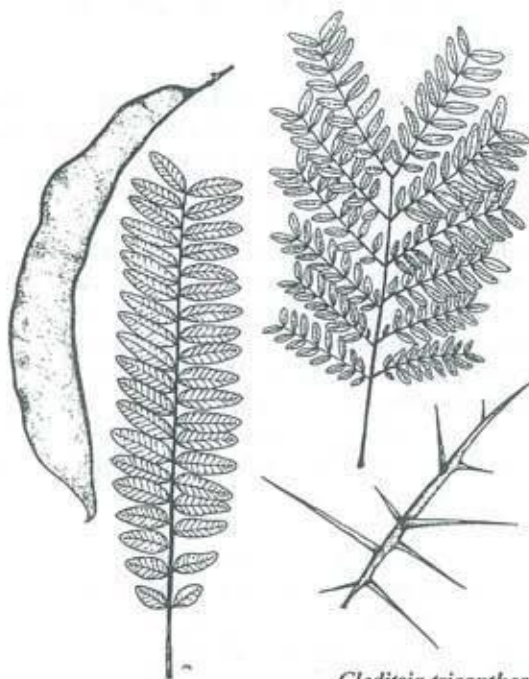
and a copy of that letter to:

Dr. Edward Schilling, Head
Department of Botany
437 Hesler Biology Building
University of Tennessee
Knoxville, TN 37996

just to keep everyone honest.

Respectfully,

David K. Smith
Associate Professor and Curator
Department of Botany
UT-Knoxville
dsmith22@utk.edu



Gleditsia tricanthos L.
honeylocust

Mount Magazine Field Trip Report

by Scott Star

On a sunny, breezy, unseasonably cool September Saturday, about 30 native plant enthusiasts explored both south- and north-facing slopes just below the summit of Mt. Magazine, the highest peak in Arkansas. Eric Sundell and Carl Amason led the way, identifying plants and interpreting environments for the benefit of experienced and novice plant watchers.

The south facing exposure was a narrow, sun-drenched bluff prairie, or glade, located just below the foundation of the original Mt. Magazine Lodge. A portion of the area had been mowed at least once during the season. This, thin, blufftop soil and droughty conditions so close to the mountain's peak, may explain the stunted profile of a number of species.

Herbaceous plants observed on this site included Indian tobacco (*Lobelia inflata*), blue sage (*Salvia azurea*), flowering spurge (*Euphorbia corollata*), whorled-leaf milkweed (*Asclepias verticillata*), aromatic aster (*Aster oblongifolius*), rock pink (*Talinum calycinum*), nailwort (*Paronychia virginica*), nodding onion (*Allium cernuum*), wild petunia (*Ruellia* sp.), Canada and common goldenrod (*Solidago canadensis* and *S. petiolaris*) and, in the shade of an eastern redcedar, white snakeroot (*Eupatorium rugosum*).

Three of the big four tallgrass prairie grasses, Indian grass (*Sorghastrum nutans*), little bluestem (*Schizachyrium scoparium*), and big bluestem (*Andropogon gerardii*) were also found on this site. Besides the eastern redcedar (*Juniperus virginiana*), woody species included blackgum (*Nyssa sylvatica*), Sumac (*Rhus* sp.), post oak and black oak (*Quercus stellata* and *Q. velutina*), and an ancient downy serviceberry (*Amelanchier arborea*).

A short drive took the group to the top of a similar ridge and over to a north-facing slope. Just beyond the parking area, along the wooded edge, we found hawthorn (*Crataegus* sp.), blackhaw (*Viburnum prunifolium*), possumhaw (*Ilex decidua*), Mexican plum (*Prunus mexicana*), American hophornbeam (*Ostrya virginiana*), and climbing dogbane (*Trachelospermum difforme*).

Along the main trail, heading off to the west, ladies' tresses orchid (*Spiranthes* sp.) were numerous and one Indian pipe (*Monotropa uniflora*) was discovered. A recently discovered WPA era staircase dropped off the trail to the northeast. Various ferns were perched in damp pockets and wild hydrangea (*Hydrangea arborescens*) cascaded down the rocky slope. Further along, hundreds of white snakeroot (*Eupatorium rugosum*) dotted the steep, north slope above a trail that traversed the mountain. In open areas wreath

goldenrod (*Solidago caesia*), dittany (*Cunila origanoides*), and spreading aster (*Aster patens*) were sited.

Plant Identification by E-mail

Sponsored by T. M. Sperry Herbarium, Pittsburgh State University.

A "modern" way to stay sharp on plant identification is now available by e-mail. I had been playing around with some of my photos and sending them to friends to see if they could ID them for fun. I soon realized that my initial "test group" really enjoyed trying to ID a plant from a photo by e-mail. The idea is not to make anyone a professional taxonomist, but to give the mostly general public the opportunity to receive a plant photograph and then scan the field guides to see if they can identify it. And with winter coming on, the photos are a reminder of what to look forward to for 2004 and beyond. It is strictly for fun and learning. Each week, generally on Sunday, I provide a photo with a few characteristics, and sometimes with habitat and/or location. The plants are mostly common species from the central midwest. Some examples sent thus far include the Michigan Lily, Woundwort, and Ozark Wake Robin. When a wildflower photo is sent by e-mail for the week, I generally add a few comments about the previous week's photo. Each month, I put everyone's name that responded, right or wrong in the ID, in a bowl and draw one name. I then print off a 8 x 10 photo of a wildflower and send it to them. So there is some reward for attempting to make an identification. Once someone informs me by e-mail they wish to be placed on the list for identifying wildflower photos, I send them an overview of how the program works. If they send a wrong identification, I will send them a little more information. It may be one or more characteristics, the family name, or possibly the genus name. After they provide me with several attempts that are incorrect, I will give them the correct name. The following is all I request from the E-Mail Plant ID:

Provide a species name and its common name. Provide a scientific family name and the family's common name.

That is it. It is all for fun. Nothing to buy! It is my hope that each participant will enjoy the photos and learn a little more about the species, and of course, sharpen their identification skills.

Dr. Stephen L. Timme
T. M. Sperry Herbarium
slt@pittstate.edu
sltimme@mobill.net

ANPS 2004 Spring Meeting

Jasper, Arkansas

Spring 2004 Arkansas Native Plant Society Meeting

March 26-28, 2004

Jasper, Arkansas – in the Heart of the Ozarks!

Location:

Evening programs and the business meeting will be at the Jasper Senior Center located at 100 E Clark Street. This is located across from the Conoco, two doors down from the Newton County Courthouse in downtown Jasper. 870.446.5531. Email: ncsac@jasper.yournet.com.

Speakers:

Friday. 7 pm. **Phillip Moore** (Botanist with the Arkansas Highway and Transportation Dept.) will speak on "Highway Maintenance, Mitigation, and Enhancement" and Dr. Ron Doran will give a slide show on his experiences living and working among the spectacular scenery and plants in South America.

Saturday. 7 pm. **Dr. Johnnie Gentry, Sarah Nunn, and Travis Marsico** of the Arkansas Flora Project and the U of A Herbarium will speak on their work on the Flora of Arkansas Project. This will be followed by the ANPS Business Meeting.

Field Trips:

Field trips are planned on Saturday and Sunday morning. Exact times and locations to be announced.

Lodging:

Gordon Motel in Jasper, Arkansas: Phone 870-446-5252
16 rooms available. Call early to reserve.

Riverview Motel in Jasper: 870-446-2616 Rates: \$42-45 + tax per two person occupancy. They have 17 rooms and will hold 6 for us. So call early!

For those who do not mind the 20 minute drive into Harrison, Arkansas. Super Eight has offered to hold rooms for us until mid-February and give us a group rate. There is a continental breakfast that is free with the room. Rates are \$42 + tax/two bed -two person occupancy. Non smoking rooms will be reserved. They have smoking rooms in addition and they will be able to accommodate you, but call early. Phone: 870-741-1741.

In the past, the Ozark Chapter of ANPS has reserved the Buffalo Lodge through the Newton County Resource Council. It is an excellent place to stay. In the main house, 12 people can easily be accommodated. There are four separate bedrooms and a bunk room with five single beds. In addition, the bunkhouse is available and can sleep another 10 people. There are three bathrooms in the main house and an additional bathroom in the bunkhouse. If any of you would like to stay at the Buffalo Lodge, located approximately 8 miles west of Jasper on Hwy. 74, please contact Burnetta at 479-582-0317 or at bhintert@hotmail.com. After she gets an idea of how many wish to stay there, she can call and reserve the lodge. Do so as soon as possible as the Lodge gets booked up in a hurry. The cost will be less than the motels as the basic cost is \$150/first two people and a \$10 fee for each person over that. Expect the cost to run between \$20-\$25/night. The Lodge includes a large kitchen area and two separate sitting areas in addition to a large front porch. There are also several cabins and bed and breakfast lodges in the area. To check these out, use internet to access: Newton County Chamber of Commerce.

Some Notes on *Chamaelirium luteum*

Carl Amason

Chamaelirium luteum is considered by some to be one of the most desirable and attractive wildflowers to occur in Arkansas. It is not the most common plant and is mostly found in moist but well-drained areas adjacent to streams and other wet lands where water does not stand. It is in the *Liliaceae* or lily family but I have no idea why such a delightful wildflower should be called "Devil's bit", and at the other extreme "fairy wand" among so many other common names. It must have been used for so many medicinal purposes by the pioneers who needed any medicine that they could improvise. The species is a dioecious perennial plant, meaning that the plants are composed of single, spikelike racemes of white flowers that are either all female or all male. Both come from early spring basal rosettes of mostly obovate form, giving way to an erect stem with leaves diminishing in size up to two feet tall. The sex differences of the racemes are apparent; female plants are taller and more leafy than the male plants and the racemes of the female are described as whiter, and the flowering stems having progressively smaller leaves to a terminal group of flowers ("wand"), growing over two feet tall and the male blossoms on a curved raceme, much smaller. Both sexes have basal rosettes of leaves. These are considered to be beautiful rare plants and should be propagated by seeds rather than by collected plants.

For herbarium specimens, the plants turn yellowish, hence the specific name of *luteum* which means yellow or yellowish. It is garden worthy but a bit more demanding than other wildflowers. The plant is relished by the native white-tailed deer and this makes for the plants to be rarer in the wild. And in the wild, they are usually found locally but in few numbers. They seldom make large colonies so this is a species to really enjoy where they are seen.

-The End

New ANPS Members

Wow. We're really growing! The following new members have joined the Arkansas Native Plant Society since the last issue of *Claytonia*:

John & Margaret Alexander (Pine Bluff, AR)
 Ruth Andre (Hector, AR)
 Cathy Bayne (Marshall, AR)
 Joellen Beard (Little Rock, AR)
 Stephen & Christine Beauchamp (Hot Springs Village, AR)
 George W. Bledsoe (Hot Springs, AR)
 Ellen Carpenter (North Little Rock, AR)
 Shannon Chamberlin (Little Rock, AR)
 Kay Cromwell (White Hall, AR)
 Beth Erwin (Collinston, LA)
 David Felts (Pine Bluff, AR)
 Susan Hardin & Barry Haas (Little Rock, AR)
 Meryl Hattenbach (Little Rock, AR)
 Katrina Hayes (Portland, TN)
 Steven Hunter (Fort Smith, AR)
 Olin Karch (Lawrence, KS)
 Sharon Keller (Mountainburg, AR)
 Pat King (Hagarville, AR)
 Gelene G. Macdowell (Fort Smith, AR)
 John T. McBride (Shreveport, LA)
 Charlotte McIntyer (Little Rock, AR)
 Tim McMillan (Fort Smith, AR)
 Maria Melnechuk (Little Rock, AR)
 Carolyn Minson (Hot Springs Village, AR)
 Becky & John Morgan (Arkadelphia, AR)
 Sarah Nunn (Fayetteville, AR)
 Charlotte Parnell (Hot Springs, AR)
 Karl & Matilda Pheiffer Foundation (Piggott, AR)
 Lucinda M. Reynolds (Mountain Home, AR)
 Eugene Seavers Jr. (Little Rock, AR)
 Tim Scott (Benton, AR)
 Michael Thennes (Alexander, AR)
 Cindy Tisdale (Little Rock, AR)
 Gay Vekovius (Shreveport, LA)
 Leah & Anthony Wilcox (Sarasota, FL)
 Jason D. Williams (Cherokee Village, AR)
 Olivia Wyatt (Little Rock, AR)

We welcome these new members to the ANPS!

Flora Project Memorials

A donation was made to the Arkansas Flora Project in memory of Marion Moriarty (4 Caparoso Lane, Hot Springs Village, AR 71909) by Don Crank.

Contact Dr. Johnnie Gentry at 479.575.4372 for info on memorials.

ANPS Classifieds

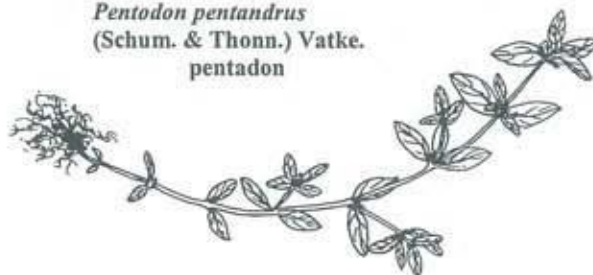
Beginning this issue, a limited amount of space will be available in each issue of Claytonia for classified ads. If you are looking for seeds of a particular plant, sites for a research project, etc., please send a brief classified to the Claytonia address. The following were received for inclusion in this issue:

My name is Lindsey Bell, and I am a junior biology major at the University of Arkansas. I am beginning research in the spring, supervised by a professor, for my thesis project. My research centers around *Hottonia inflata* (water violet), a plant that grows in the wetland areas of Arkansas. I am searching for reliable sites from which to collect samples of this plant. I would greatly appreciate receiving any information about locations in Arkansas where this plant can be found. Thank you. Lindsey Bell / 502 West Maple / Fayetteville, AR 72701 / Email: leb04@uark.edu / Ph: 501.733.4137.

I am working on a comprehensive floristic inventory of Saline County for my Masters thesis at the University of Arkansas at Little Rock. I am looking for sites in Saline County where I can collect plant specimens. I am particularly interested in the following habitats: pastures or hayfields that aren't solid monocultures of fescue or Bermuda grass (both wet and dry), seeps or bogs, open (non-forested) wetlands, forested swamps and flatwoods, sandbars and other disturbed wet areas, old grown-up yards, burned-over or otherwise open woods (especially wet pine woods), glades of any kind, and any other unusual habitat. If you have land that I could collect on (or know someone who does), please get in touch. Theo Witsell / 501.614.8465 (H) / 501.324.9615 (W) / theo@arkansasheritage.org / or write the Claytonia address. Thanks.

I am looking for seeds of the following: *Carya cordiformis* (bitternut hickory), *Carya glabra* (pignut hickory), *Carya myristiciformis* (nutmeg hickory), *Carya ovalis* (red hickory), *Fraxinus caroliniana* (pumpkin ash), *Prunus rivularis* (creek plum), *Viburnum acerifolium* (mapleleaf viburnum), *Viburnum ozarkense*, *Viburnum rafinesquianum*, *Symplocos tinctoria* (sweet leaf or horse sugar), *Amorpha paniculata*, *Hamamelis macrophylla* & any native *Ribes* or *Vaccinium*. I'll trade seeds or plants or pay postage. Thanks. MaryAnn King / P O Box 200 / London, AR 72847 / office@pineridgegardens.com.

Pentodon pentandrus
 (Schum. & Thonn.) Vatke.
 pentadon



Notes from the Editor

by Theo Witsell

Several years ago I heard a song called "They Can't Put It Back" by Rich Kirby and Michael Kline, two folksingers from the southern Appalachians. The song was about the way the coal industry in Kentucky and West Virginia was changing the landscape forever by removing the tops of the mountains to get at the coal underneath. In this particular procedure, at least as it was done at the time, the forest was clearcut and the dirt and rock were removed from the mountain tops and pushed into the adjacent hollows, right on top of the streams and caves and whatever else was down below. The end result, after the coal was removed, was a relatively barren, "averaged out" landscape with a surface lower than the mountains and higher than the valleys. Needless to say, this sort of activity is hard on the water quality, not to mention the native plants and animals. It doesn't take an ecologist to realize that many of the things that were there before are now gone forever, at least from that particular place.

The lyrics of the song made a lasting impression. They tell of an enormous walking dragline, a piece of strip-mining equipment that can do the work of a thousand men, in a fraction of the time - a marvel of human engineering that stands ten stories high and eats rocks. This machine is capable of incredible feats. It is so efficient at removing the rocks and dirt on top of the coal, but, as the song points out, it isn't capable of operating in reverse...

*"Oh, the ground it can eat, it's a sight...
it can rip out a hundred tons in a bite...
it can eat up the grass, it's a fact...
but it can't put it back..."*

These words returned to me at an ecological conference in Georgia a few weeks ago. I was looking at a display with a wonderful and detailed map showing the vegetation of Kentucky. There were many shades and colors showing where the various oak-hickory and oak-pine associations occur in the landscape, where the prairie and savanna regions are, etc. I noticed large areas that were represented in solid black, an unusual color in a vegetation map. These areas were concentrated in the Ridge and Valley and Cumberland Plateau Natural Divisions. Must be some sort of glade or unusual geologic formation, I thought. When I looked next to the black color in the map legend, the words "mined lands" stared back at me. I looked back at the map, unprepared for how much of the landscape was mapped as such. The words flooded my head as I stared at the map...

*"Look at that big machine go...
took that shady grove a long time to grow...
It can rip it out with one whack...
but it can't put it back..."*

Later, flying back to Little Rock after the conference was over, I looked out over the vast Mississippi Alluvial Plain of eastern Arkansas. From 30,000 feet it looks flat as a pancake (though it isn't really). It was on this same flight from Atlanta to Little Rock, ten years earlier, that I looked out on this same landscape and realized what I was to do with the rest of my life.

Conservation. It was looking out that window in 1993 that I first understood how much of the bottomland hardwood forest and the swamps were gone. The realization that, in just 150 years, we had decimated the largest bottomland hardwood forest in North America had a big impact on me. My life and its path changed right there on the plane. Looking back, it was well worth the price of the ticket. Now, ten years later, I was looking down on the same sea of scraped earth thinking of eastern Kentucky.

As I stared down at the ground I pondered the Kirby and Kline lyrics. Can we put it back? In some ways, the story of the bottomland hardwoods is similar to the story of the mined lands. They will never fully recover. They'll never be the same as they once were. In other ways though, the bottomland forests are different. They are more resilient. If we restore the hydrology, the patterns of water on the ground, we can replant these forests. It is much easier than putting those mountains back in Kentucky. After a while, I looked down and saw that we were flying over the Grand Prairie. It is perhaps a better analog to the mined lands. The prairie is a very complex ecosystem with intricate associations of plants and animals. There are more species here than in the bottomland forests, and it is even further gone. In the Grand Prairie, only 0.1% of the grasslands remain. 430 acres at last count, out of about 400,000* in the 1830s when the Louisiana Purchase was surveyed. As an exercise in stating the obvious, that's 99.9% destroyed.

Even the isolated little remnants are rich with life, despite the altered hydrology, herbicide drift, landscape fragmentation, and invasive species that plague them. The Railroad Prairie Natural Area - a stretch of abandoned railroad right-of-way averaging about 100 feet wide and extending, in broken segments, from Carlisle to DeValls Bluff along the north side of State Highway 70 - is a good example. The presence of the railroad kept this strip safe from the plow. For prairie, with all its complexity and diversity, cannot survive the plow.

I stop by the Railroad Prairie whenever I am in the area to collect plants and look for new populations of some of the rare species there. An ongoing inventory project has documented more than 360 different kinds of plants from this little sliver of prairie and woodland. Not only is this a substantial diversity, but many of the species found there are far, far away from the other places they are known to occur. Over the years a number of species have been found there that link the Grand Prairie with the coastal prairies of Louisiana and Texas. There is pine barrens purpletop (*Tridens ambiguus*), shortleaf skeletongrass (*Gymnopogon brevifolius*), wrinkled jointtail (*Coelorachis rugosa*), pineywoods dropseed (*Sporobolus junceus*), Maryland milkwort (*Polygala mariana*), and the rare savanna milkweed (*Asclepias obovata*). There are other species that are disjunct from our Ozark Mountain prairies including prairie dropseed (*Sporobolus heterolepis*), tall dropseed (*Sporobolus compositus* var. *compositus*), early goldenrod (*Solidago juncea*), and downy

gentian (*Gentiana puberulenta*). Still other species are very far from their main range, like the sand cherry (*Prunus pumila* var. *susquehenae*), which is seldom found south of the upper Midwest.

Many of these species were found for the first time in the last year, though dozens of great botanists have worked the area since Thomas Nuttall traveled through in 1819! Perhaps they had just been overlooked. Perhaps they are showing up as the result of better management in recent years, particularly the reintroduction of rejuvenating prairie fire. Fire, we now understand, is essential to the life of the prairie. With these treasures still being found, we can only imagine what was lost with the other 399,570 less fortunate acres.

Now there is even more reason for hope. Today a new chapter is being written in the history of the Grand Prairie. People are beginning to work toward putting some of the prairie back. Seeds are being collected and new grass is growing in propagation fields in the region. Inventory is continuing and the picture is coming together of what grew where. It is true that we cannot entirely replace what has been lost, but we can do our best to put back as many of the pieces as possible. It is logical. It is right. It is our responsibility.

Happy New Year!

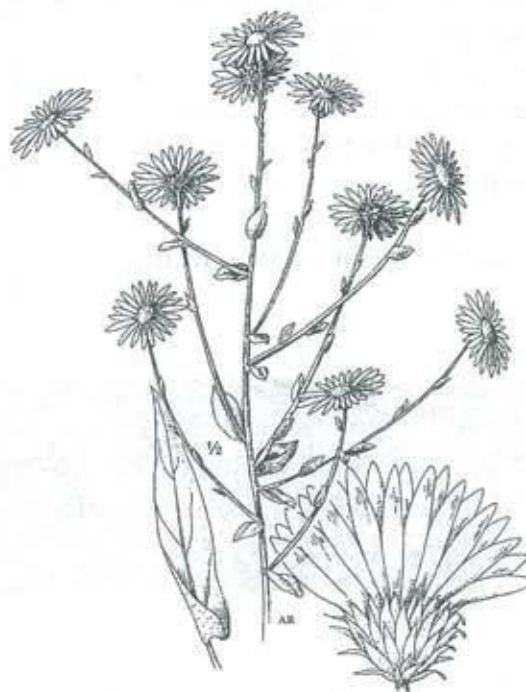
P.S. I got a number of complaints about the last issue arriving mangled beyond recognition. Hopefully the envelopes will solve this problem. Thank you.

* Earlier estimates put this figure at approx. 320,000 acres but recent data from digitized original land survey plats put the area at about 400,000 acres.

PLEASE SEND SUBMISSIONS/SUGGESTIONS TO:

**219 Beechwood St.
Little Rock, AR 72205**

anpsclaytonia@yahoo.com



Aster patens—late purple aster

Arkansas Native Plant Society Membership Application

Please check the appropriate box below.

Membership Categories:

- ☐ \$10..... Student
- ☐ \$15..... Regular
- ☐ \$20..... Supporting
- ☐ \$25..... Family Membership
- ☐ \$30..... Contributing
- ☐ \$150... Lifetime Membership (55 and over)
- ☐ \$300... Lifetime Membership (under 55)

- ☐ New Member
- ☐ Renewal

- ☐ Address Change

NAME(S) _____

ADDRESS:

Street or Box _____

City _____

State _____ Zip Code _____

Telephone _____ - _____ - _____

Email address _____

Please cut and send this form along with any dues to:

**Eric Sundell, Membership ANPS
Division of Mathematics and Sciences
University of Arkansas at Monticello
Monticello, AR 71655**

