

CLAYTONIA

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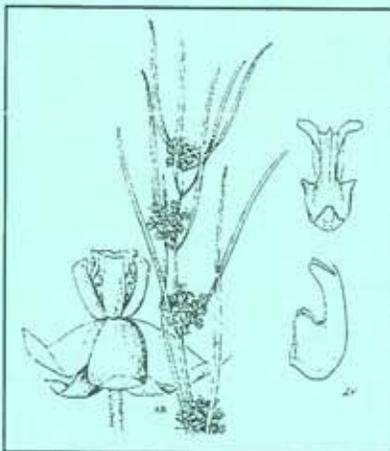
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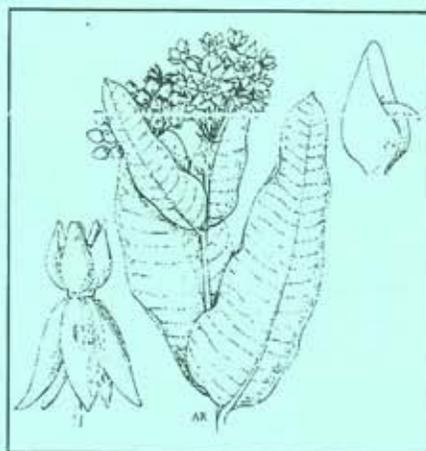
WANTED!

ALIVE AND IN ARKANSAS



ASCLEPIAS STENOPHYLLA
A.K.A. NARROWLEAF MILKWEED

THIS ELUSIVE MILKWEED WAS LAST COLLECTED IN ARKANSAS FROM LIMESTONE GLADES NEAR TABLE ROCK RESERVOIR IN 1953. IT COULD STILL BE HIDING OUT IN THIS SORT OF HABITAT IN THE SPRINGFIELD AND SALEM PLATEAUS OF THE OZARKS.



ASCLEPIAS SULLIVANTII
A.K.A. SULLIVANT'S MILKWEED

THIS SNEAKY MILKWEED IS SUSPECTED OF INHABITING PRAIRIES, GLADES, AND PERHAPS ROADSIDES IN NW ARKANSAS. IT MAY HAVE BEEN SEEN AROUND FAYETTEVILLE AS RECENTLY AS THE 1920s, BUT HAS NOT BEEN SEEN IN ARKANSAS SINCE!

SEE ARTICLE ON PAGE 2 FOR THE FULL STORY OF THE HISTORY OF THESE RARE MILKWEEDS IN ARKANSAS...

Arkansas Milkweed Found and Lost Department

by Eric Sundell

Unless they no longer occur in Arkansas, our two rarest milkweeds are *Asclepias stenophylla* (narrowleaf milkweed) and *Asclepias sullivantii* (Sullivant's milkweed), glade and prairie species that are not too uncommon on roadsides and prairie remnants to the north and northwest of our state. In Ed Smith's *An Atlas and Annotated List of the Vascular Plants of Arkansas* (1988), the two species combined receive a total of three county dots (reports based on specimens examined by Smith) and an R (reports not based on a specimen seen by Smith).

Asclepias stenophylla is one of the narrow leafed milkweeds, closely resembling *A. longifolia* subsp. *hirtella* (tall green milkweed) in its alternate arrangement of linear leaves and its crown hoods that lack distinct, protruding horns. Smith's *Atlas* documents the species from Yell and Carroll counties and posts an R for Benton County in the northwest corner of the state. The record of *A. stenophylla* from Yell Co. is based on a misidentified specimen at the University of Arkansas herbarium at Fayetteville (UARK) collected by Dwight Moore at Mt. Nebo in October, 1924—a poor specimen with few leaves and one fruit. The whorled leaf scars and stem hairs in distinct lines are the characters not of *A. stenophylla* but of the common *A. verticillata* (whorled milkweed). So scratch one dot for *stenophylla*! The good news is that the other dot is a real McCoy. The Carroll Co. record is another Moore specimen, no. 53-242, also at UARK, an August 1953 collection. The label reads "Table Rock Dam Reservoir, Sta. 16. Juniperous - limestone glade on a gentle S-E slope, 11 miles northwest of Berryville." Whether the population still exists 50 years later at Table Rock Reservoir is not known, but Theo Witsell and I have discussed leading a search party early in July when plants should be in bloom and easier to recognize and identify.

I got excited when Theo told me of a third specimen of *A. stenophylla* listed in the Natural Heritage database, an October 1978 collection from Mill Creek in Polk Co., on file at Arkansas Tech. Alas, George Johnson took a look for me and reported that it had been annotated to *A. hirtella* (now usually treated as *A. longifolia* var.

hirtella). When I later examined the specimen myself, I agreed—the stem hairs curved up, not down, a quick hand lens character to distinguish the two very distinct taxa, especially when flowers are missing. So scratch another *stenophylla* from the Arkansas flora. I don't yet know the source of the Benton County R.

Asclepias sullivantii also has had an interesting career in Arkansas. With purple flowers and a typical hood and horn crown structure, the species can be mistaken at first sight for a clasping-leafed version of the common milkweed of the Northeast, *A. syriaca* (the milkweed). Its presence in Arkansas—one Atlas dot in Jackson Co., a Grand Prairie locality—is based on Dwight Moore's collection at UARK, clearly and unambiguously labeled Blue Springs, Jackson Co. But things got a little fishy when Randy Chlapecka, the Ag Extension Agent in Newport, informed me that, despite a Blue Creek, there was no Blue Springs in Jackson Co. And when I examined another Moore specimen of *A. sullivantii*, from Bates Co., Missouri, that was collected on the very same day as his Jackson Co., Arkansas specimen, the third law of florodynamics flashed in my mind ("Even the most ardent plant collector cannot collect two plants in two different states at the same time."), sending me to my Rand McNally Road Atlas. There I found the city of Blue Springs, Missouri, population 45,000, a suburb of Kansas City, in... Jackson Co! Dwight Moore's herbarium labels were preprinted at the top "Plants of Arkansas." Typically, for out of state material, he scratched through "Arkansas" and handwrote the correct state above it. When he forgot to do this for the Blue Springs specimen, *Asclepias sullivantii* became a rare, elusive, and intriguing element in the Arkansas flora. Now the species' presence in Arkansas appeared to be only an artifact.

Except that while hunting for more information on the Blue Springs specimen, I had learned from Johnnie Gentry that Dwight Moore kept a catalog of the Arkansas flora on 4x6 inch cards in the UARK herbarium. Under *Asclepias sullivantii* Johnnie found the following tantalizing entry: "Buchholz 20145-6. June 13, 1923. Washington Co." The locality—northwest Arkansas—made sense; it was not far from known populations of the species in southeast Oklahoma. But the specimen was missing, not to be found at UARK nor at the University of Illinois, where the majority of Buchholz specimens are deposited. The species is listed in Buchholz and Palmer's 1926 "Supplement to the Catalogue of Arkansas Plants" as occurring in Fayetteville. It's also listed by Delzie Demaree in his 1943 checklist, "A Catalogue of the Vascular Plants of Arkansas," but with the annotation, "Doubtful."

So there you have it: everything you always wanted to know about the in-state occurrence of Arkansas' two rarest milkweeds! If you're in north Arkansas in June or July, be on the lookout and report all suspicious *Asclepias* to the nearest authorities: Theo Witsell and Eric Sundell.

The Yellow-Fringed Orchid Complex

by Carl Slaughter

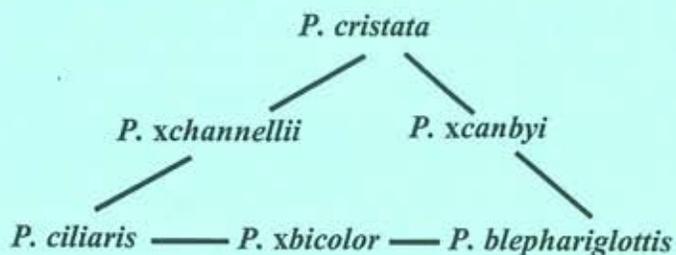
A hybrid is the offspring of the union of one species, variety, genus, etc. with that of a different species, variety, etc. Many orchids hybridize, as is evidenced by the numerous hybrids that are found in the commercial orchid growing business. A number of our native orchids hybridize and most of these have been given names. Scientifically, hybrids are identified by the placing of the small letter "x" in front of the specific name. For example, *Platanthera x bicolor* is the hybrid between *Platanthera ciliaris* and *Platanthera blephariglottis*.

One group of orchids that has received a great deal of attention in the last ten years is a group of *Platantheras* known collectively as the yellow-fringed orchid complex. This is sort of a misnomer in that one of its members is entirely white (*P. blephariglottis*) and another member's "yellow fringed" lip is white (*P. x bicolor*). Another member's (*P. cristata*) lip is crested rather than fringed. Despite all of this, everyone knows what you are talking about when you refer to the yellow-fringed orchid complex.



Platanthera cristata (Michx.) Lindley—
(yellow-crested orchid)

The following diagram is how these orchids and their hybrids are usually depicted:



The name of the hybrid is between its two parents in the diagram. Two other associated *Platantheras*, although they are not listed within the triangular diagram, are *P. chapmanii* and the monkey orchid, *P. integrilabia*. The last is white, and the *P. chapmanii* is orange. For years it was believed that *P. chapmanii* was the hybrid of the cross between *P. cristata* and *P. ciliaris*. Folsom disproved this by showing that the *P. chapmanii* seeds produced pure *P. chapmanii*, and that the Chapman orchid was found growing in isolated stands rather than with its assumed parents. There are also different pollinators.

P. x bicolor is identified by having a creamy-yellow or pale orange flower with a white lip. *P. xcanbyi* and *P. xchannellii*, a name coined by Folsom for the true hybrid of *P. ciliaris* and *P. cristata* are almost identical. The only difference is that the *P. xcanbyi* is paler and it grows alongside its parents, *P. blephariglottis* and *P. cristata*. The *P. xchannellii* is found growing with its parents. There are no *P. chapmanii* known in Arkansas. In the past those Arkansas orchids identified as *P. chapmanii* were not *P. chapmanii* but *P. xchannellii*.

The identification of the yellow members of this complex can be difficult. The following might be of help to you in distinguishing between them:

If the spur is equal or greater than the ovarian-pedicle length (20-35 mm) it is *P. ciliaris*.

If the spur is very short (4-10 mm) it is *P. Cristata*.

If the spur is about one half the ovarian-pedicle length (8-17 mm), the flower is creamy yellow, and the column does not bend downward at its apex, it is *P. xcanbyi*.

If the spur is about one half the ovarian-pedicle length (8-17 mm), the flower is an orange color, and the column does not bend downward at its apex, it is *P. xchannellii*.

If the spur is about one half the ovarian-pedicle length (8-17 mm) and the column bends downward at its apex, it is *P. chapmanii*.

As you can tell, spur length and whether or not the apex of the column is bent downward are important criteria in identifying these *Platantheras*.

In Arkansas you will find *P. ciliaris*, *P. cristata*, and *P. xchannellii*. If you find any of the others, ANYWHERE, please call me. Have camera, will travel.

Dr. R. Dale Thomas Retires

by Theo Witsell



Distinguished professor and field botanist Dr. R. Dale Thomas is retiring from the University of Louisiana at Monroe (formerly Northeast Louisiana University) on June 30th, after 37 years of service to that institution. He and his wife Barbara will be moving back to their native east Tennessee.

Dr. Thomas is one of the most important plant collectors in the history of botany, having collected over 173,000

numbers (a number being a particular plant from a particular site), and more than half a million specimens counting duplicates. This is more than any other collector in history. He has traded these specimens to more than 200 herbaria all over the world, building an international reputation for himself, and for the University of Louisiana at Monroe. He personally built the NLU herbarium from just 250 mounted specimens when he arrived in 1966, to more than 400,000 specimens today. The NLU herbarium now ranks among the top 30 U.S. herbaria.

Dr. Thomas is also an outstanding teacher, having led more than 37 graduate students through MS thesis projects, including 27 surveys of plants of Louisiana parishes and several surveys of Arkansas counties. He has developed and taught field courses in the southern Appalachians and is active in the annual Wildflower Pilgrimage at the Great Smoky Mountains National Park.

He is an active member of the Louisiana and Arkansas Native Plant Societies.

Though I did not have the opportunity to study with Dr. Thomas formally, I did learn a lot from him by studying many of his specimens at UARK, and by spending a day in the field with him in Saline County last May. He taught me many species that day but one moment particularly sticks out in my mind. We were collecting plants at the foot of a steep hillside at the Narrows, a narrow ridge separating the Middle Fork and Alum Fork of the Saline River. We were looking at some plant growing on a rock outcrop and Dr. Thomas casually pointed toward a hairy, herbaceous vine with heart-shaped leaves growing on the ground between us. "Reach down and grab me a piece of that vine, will you?", he said. This was his way of quizzing me to see if I knew this plant, for it was *Tragia cordata*, the heart-leaved stinging nettle or vine noseburn. I smiled and replied that I had gotten my share of that species earlier, alluding to the painful sting that awaits anyone who grabs it barehanded. He smiled, content that I had already learned that one the hard way, as he himself probably did decades earlier.

Dr. Thomas has done extensive research on the genus *Ophioglossum* (the Adder's tongue ferns), having published several articles on the genus. He is now recognized for having collected more specimens of the genus than everyone else in the world combined. His tireless work in both the field and the herbarium have been extremely valuable to our knowledge of the Arkansas flora. He has added countless state records to Arkansas, helping our knowledge grow from the approximately 2,600 taxa listed in Dr. Ed Smith's *Atlas and Annotated List of the Vascular Plants of Arkansas* (1988) to the more than 3,300 taxa now known from the state.

Many ANPS members have gotten to know Dr. Thomas through his involvement in the Arkansas and Louisiana Native Plant Societies. He sent the following letter asking that it be published in the *Claytonia*:

After teaching for 37 years at University of Louisiana at Monroe (formerly Northeast Louisiana University), I am retiring and will be moving to Sevier County, Tennessee. My wife and I should be settled in by September and would welcome visits from anyone in the Society visiting us. We will be about 15 minutes by backroads from the Outlet Malls in Pigeon Forge. This would be a place to stay and see the spring wildflowers or the fall colors. I have thoroughly enjoyed the many meetings and fieldtrips I have participated in with the ANPS.

Dale Thomas

Some Uncommon Composites

By John Pelton, Ouachita Chapter President

Last Saturday morning, February 15, I decided to take a tour of some Saline County sites for harbinger of spring (*Erigenia bulbosa*) and see if they were up this early. Some plants were up and budded, but hadn't fully opened, the weather being cloudy and very cool. On the drive I met one of our really old timers. When I inquired of his well-being we got into a discussion of our age, and he said, "You are just a youngster." Well, thank you, sir!

I said all that just to say that I am old enough to reflect on the recent past. I am fortunate to have such knowledgeable friends and guides as Ed Hall, Bob Clearwater, Theo Witsell, and Frances, who always has Carl Hunter's *Wildflowers of Arkansas* by her side.

As many of you know, in recent years I have focused on the genus *Tradescantia* and the genus *Sabatia*, so I sort of bypassed other abundant plant families such as the composites (family *Asteraceae* or *Compositae*). So what new composites have we seen on our photo trips recently?

Coreopsis palmata (stiff tickseed) – on mountain glades in the Ozarks

Rudbeckia subtomentosa (sweet coneflower) – along creek banks in the Ouachitas

Ratibida pinnata (grayhead coneflower) – on seasonally wet glades and ditch banks in the Ouachitas (Saline Co.)

Vernonia lettermannii (Letterman's ironweed) – among the rockbeds of the Cossatot River in the Ouachitas

Thelesperma trifidum (greenthread) – shale glades in the Ouachitas

Solidago auriculata (eared goldenrod) – on creek overflow areas, Ouachitas

Liatris squarrulosa (blazing star) – Ouachita Mountains, mostly

Helianthus occidentalis subsp. *plantagineus* (plantain-leaf sunflower) – gravel bars on the South Fork of the Fourche LaFave River

Helianthus grossiserratus (giant sawtooth sunflower) – Wow! A real giant! Eastern Arkansas on the Grand Prairie terrace.

Aster oblongifolius (sticky aster) – sandstone outcrops and shale glades in the Ouachitas

Bidens laevis (smooth marigold) – growing in floating mats in shallow water around old oxbow lakes along the Arkansas River

Cheers to you who are old enough to have memories of fieldtrips past and are young enough to look forward to fieldtrips in the future. I sort of know now why many take notes on each trip.

Happy memories,
John Pelton
Ouachita Chapter

ANPS Scholarship Awardee Earns Degree & Publishes Research

Janene Lichtenberg, who was awarded a scholarship by ANPS to help fund her Master's thesis research, sent the following letter to George Johnson, Chair of the Awards & Scholarships Committee:

I wish to express my thanks to the Arkansas Native Plant Society for awarding me with a scholarship to help fund my Master's thesis research at the University of Arkansas – Fayetteville. I completed my M.S. degree in 1999 and am now employed as a tribal wildlife biologist in Montana. The project funded by the Arkansas Native Plant Society was recently published in American Midland Naturalist. Enclosed is a reprint.

Thank you,

Janene Lichtenberg, Wildlife Biologist
Confederated Salish and Kootenai Tribes
Wildlife Management Program
P.O. Box 278 / Pablo, MT 59855

Her paper is entitled *Weak Trophic Interactions Among Birds, Insects and White Oak Saplings* and can be found in *American Midland Naturalist* 148:338-349. Research was conducted at Bear Hollow Natural Area within the Madison County Wildlife Management Area, Madison Co., Arkansas.

Arkansas Academy of Science Arkansas Flora Symposium

by Johnnie Gentry

At this year's annual meeting of the Arkansas Academy of Science (April 4-5 in Fayetteville, AR), there will be a special symposium of research presented on Arkansas' flora and related plant topics. At least 17 papers will be presented by researchers from around the state. Papers submitted as of March 1 are listed below:

- 1) **Waifs, Weeds, and Invasives: A Review of Arkansas' Non-indigenous Vascular Flora**--Johnnie L. Gentry, James H. Peck, and Sarah Nunn
- 2) **History of Arkansas Botany: Role of the University of Arkansas**--Gary Tucker
- 3) **Arkansas Vascular Flora: Additions, Re-instatements, Exclusions, and Re-exclusions**--James H. Peck
- 4) **How to Study the Arkansas Flora: A 22 Year Study of Pteridophytes**--James H. Peck.
- 5) **Arkansas' Orchids: The State of the State**--George P. Johnson
- 6) **Conservation Genetics of *Delphinium newtonianum* (Ranunculaceae)**--Edith L. Hardcastle
- 7) **Molecular Systematics of *Quercus acerifolia*: Is Maple-leaf Oak Really a Species?**--David X Williams
- 8) **On the Rare Endemic *Hydrophyllum brownei* Kral & Bates (Browne's Waterleaf)**--Travis Marsico
- 9) **A Preliminary Survey of the Vascular Flora of Yell County, Arkansas**--Brent Baker
- 10) **Occurrence and Status of *Hydrilla verticillata* (L.F.) Royale (Hydrocharitaceae) in Arkansas**--Michelle Baker and Brett Serviss
- 11) **A New Species of *Sabatia* (Gentianiaceae) from Central Arkansas**--James S. Pringle and Theo Witsell
- 12) **Additions and Noteworthy Collections for the Flora of Arkansas**--Theo Witsell
- 13) **Identification and Ecology of Naturalized Species of *Narcissus* (Liliaceae) in Arkansas**--Thomas D. Slaughter, Jason Wilis, and Brett E. Serviss
- 14) **Plants New to the State of Arkansas**--Staria Vanderpool
- 15) **An Inventory of Woody and Spring Forest Ephemerals in the Proposed Lake Bono, Craighead County**--Staria Vanderpool, J.D. Wilhide, Lynn E. Alterman, Steven C. Fowler, Jeremy L. Jackson, Tammy R. Jones, William D. Reed, James R. Samples, Lann M. Wilf, Adam S. Chappell, Ronald E. Cossey, Marcelle L. Daggett, James W. Gore, Michael A. Reed, Mary C. Scott, and Joshua H. Seagraves
- 16) **Relationships of Bottomland Hardwood Forest Communities to Flooding along the White River near Clarendon, Arkansas**--Thomas L. Foti and Joe B. Pagan
- 17) **A Comprehensive Floristic Inventory and Distribution Model of Unique Wetland Communities on Terraces Along the Ouachita River in Southern Arkansas**--Joe B. Pagan and Thomas L. Foti

Papers 1-12 will be presented Friday, 1:30-4:30 pm.; papers 13-17 on Saturday, 8:00-11:00. The order/time of individual papers will be determined.

The Academy meeting is free and open to the public. More information and directions can be found at <http://www.uark.edu/depts/gradinfo/aas/AAS.htm> or by calling the U of A at (479) 575-5555.

Arkansas' Newest Orchid: *Spiranthes lacera* var. *lacera*, the Northern Slender Ladies'-Tresses

by George Johnson

The last piece of mail that I received before I left my office for the Christmas holidays was the latest volume of the *Flora of North America* series, Volume 26, which included the *Orchidaceae*. I had been waiting for months for its publication. As I scanned the pages, I noticed something that looked out of place. In the distribution map for *Spiranthes lacera* var. *lacera*, the Northern Slender Ladies'-Tresses, northeastern Arkansas was shaded. I was a little surprised as I am preparing the treatment of the orchid family for the Vascular Flora of Arkansas Project and I didn't remember seeing any specimens of this variety in the 1000+ specimens I had examined so far, nor did I remember seeing this taxon on any previous lists for the state. For *FNA* to include a taxon for a state, the author(s) of that taxon's treatment must have seen a specimen of that plant from that state. The hunt was on.

The first thing that I did was to visit the website for the Missouri Botanical Garden (www.mobot.org) and search the Tropicos database for Arkansas' specimens of *Spiranthes lacera* var. *lacera*.

A hit was returned for a specimen collected by E. J. Palmer in 1923 on

Spiranthes lacera var. *lacera*—note the widely-spaced flowers.



Mt. Magazine in Logan County; the specimen resided in the herbarium of the University of Missouri-Columbia (UMO). I contacted the curator who kindly scanned the specimen and sent me the image files. There was no doubt, it was *Spiranthes lacera* var. *lacera*, something new for the State's checklist. I then re-examined the collections of *Spiranthes* in the herbarium at Arkansas Tech, my institution. All of our collections of *Spiranthes lacera* were clearly var. *gracilis*. Fortunately for me, I still had the orchid specimens from the University of Louisiana at Monroe (NLU) on loan, and I re-examined them. Among the specimens of *Spiranthes lacera* was a specimen of var. *lacera* from Union County that I had previously overlooked and called var. *gracilis*. We now had this new variety from two counties. Queries to the curators of the other herbaria in the state turned up an additional specimen from Jefferson County and one from Drew County. The presence of *Spiranthes lacera* var. *lacera* was now firmly established for the state of Arkansas.

Identification of the two varieties of the Slender Ladies'-Tresses is rather easy, even with the naked eye. The Southern variant, var. *gracilis*, has flowers densely crowded within the inflorescence, whereas the Northern variant, var. *lacera*, has flowers well-spaced within the inflorescence. Additionally, var. *gracilis* has few to no trichomes on the axis of the inflorescence, whereas var. *lacera* is rather densely pubescent. A nice drawing of the differences between these two varieties of the Slender Ladies'-Tresses can be found in Volume 1 of the new edition of Steyermark's *Flora of Missouri*. See Plate 117, i & j, page 571, for drawings of vars. *lacera* and *gracilis*, respectively.

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Spiranthes lacera var. *gracilis*—
note the closely-spaced flowers.

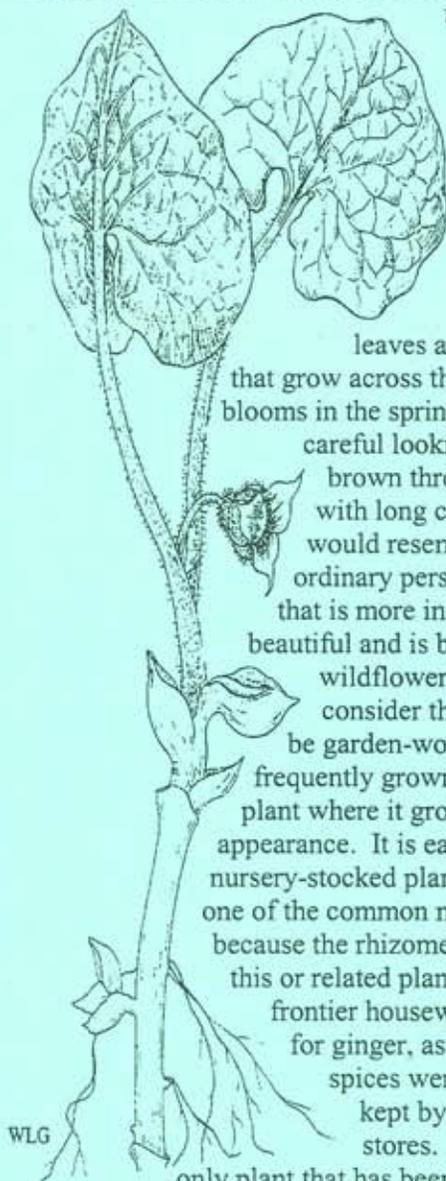


Some Notes on *Asarum canadense*

by Carl Amason

Of all the plants of the genus *Asarum* in eastern North America, a delightful group known generally as "wild ginger", apparently there is only one that is native to Arkansas. It is quite common in the mountainous areas and on Crowley's Ridge, but is not found in the western Coastal Plain, the Grand Prairie, or the Delta growing as a wild native but will grow where planted.

Unlike most of the *Asarums*, it is distinct because it is not evergreen but is deciduous and is found in rocky woodlands with leaves that emerge in spring and grow from two to six inches across. These



leaves arise from rhizomes that grow across the soil. It also blooms in the spring but it takes some careful looking to see the brown three-parted flower with long calyx segments that would resemble petals to the ordinary person. This is a plant that is more interesting than beautiful and is beloved by wildflower enthusiasts who consider this unusual plant to be garden-worthy. It is most frequently grown as a rock garden plant where it grows to its best in appearance. It is easily grown from nursery-stocked plants. Wild ginger is one of the common names for this plant because the rhizome or some part of this or related plants was used by frontier housewives as a substitute for ginger, as in these days spices were not commonly kept by general grocery stores. And this is not the only plant that has been used for a spice or for medicinal purposes.

In summer when no flowers are present, the clumps are easily told from other wildflowers as the leaves are each distinctly arising from the rhizome and are on petioles about four to six inches tall, solid pubescent green without any mottling or variegation. Eventually clumps can grow to be two feet across, and furthermore they prosper in dry, rocky soils, not in damp or wet soils, where they get little water except rain and little sun in the shade. Once a person has become adjusted to the appearance, the plants are easily discovered, identified and enjoyed. It is what would be described as a natural rock garden plant.

The end.

Ferns

by George Sinclair

Ferns are among the oldest known plants. Fossil remains in rocks and coal record their past and indicate their vastness and grandeur. In their native woodland haunts, they gain the awe and admiration of the nature lover. Foliage of varying shades of green, soft and plume-like or coarse and rugged, makes ferns delightful additions to any collection of plants. In medieval times, mysticism, fear, and superstition surrounded the ferns. People "knew" that without flowers ferns could have no seeds; they questioned how such plants could reproduce. As knowledge increased, man discovered that the seedless ferns were the most prolific "seed" producers of all plants. Unlike flowering plants with a few seed pods, the ferns shed their dust-like reproductive organs (spores) by the millions. The spores still seemed supernatural with powers to cast spells of good and evil.

The fern plant; thumb-size or tree-high, is known as a sporophyte or spore-bearing plant, and has three general parts; the leaf; the rhizome (modified stem), and the roots. The fern has adapted to almost all environmental conditions. Some have become terrestrial, at home in woods and fields, swamps and marshes, mountains and cliffs. Others epiphytic, making their home in trees. Aquatic, living in lakes and ponds. Ferns are found growing from the tropics to the Arctic Circle.

Although spores come from ferns, fern leaves do not come directly from spores. Flowering plants grow from seeds, which at one time are single cells. Twice in the life of a fern it exists as a single cell. Spores from the parent plant fall to the ground. With moisture and light, these tiny single-cell organisms, divide into orderly arrangements of cells to become little green heart-shaped plants (prothallia), so small that not only was medieval man unaware of them, but most people today have never seen these marvelous plants. As these tiny green plants mature, rhizoids reach down to supply nourishment and moisture. Near the cleft of the heart-shape, the male organs (antheridia) are formed; the female organs (archegonia) form near the bottom of the plant. A drop of moisture carries the sperm from the male organs, to the female organs, to fertilize the egg cell. The egg cell then divides to form a new fern (sporophyte) - a young plant that looks nothing like the mature fern that it becomes at maturity. This in general is the life cycle of a fern.

Fall Meeting Field Trip Reports

by Theo Witsell

I had hoped to include these in the last issue but ran out of room. Now, with more pages to work with, I thought they would still be of interest. The two field trips I went on are outlined below. Another trip went to Baker Prairie Natural Area in Harrison, but I was only able to go along for a few minutes so I can't really report on that one. If nothing else, this will give people who did not attend an idea of these sites.

LOST VALLEY

Saturday October 12, 2002 saw a wonderful field trip to Lost Valley in the Buffalo National River. We hiked down the trail that follows Clark Creek, which cut the dramatic canyon. We saw a number of late-blooming composites including wild goldenglow (*Rudbeckia laciniata*), bear's foot (*Smallanthus* or *Polymnia uvedalia*), and a number of species of *Aster*.

As we followed the trail up the hollow, someone pointed out the striped leaves of the Adam-and-Eve orchid (*Aplectrum hyemale*). The leaves were just emerging and will spend the winter and early spring sending energy to the roots. One clump had a single stalk with this year's fruit remaining. Not far from the orchids was another strange plant, the Indian pipe (*Monotropa uniflora*). Some of these were an eerie translucent white while others were a pale pinkish color. Indian pipe is a saprophyte, a plant that has no chlorophyll but gets its energy from decaying organic matter in the soil. A group of hik-

ers in my group bent down to sniff the flowers and noticed the unique scent of the Indian pipe.

Not far from the Indian pipe we came upon another non-photosynthetic plant; beech drops (*Epifagus virginiana*). These were a golden orange color and were clustered around the roots of the American beech (*Fagus grandifolia*), on which they are parasitic. The question arose as to whether there was a symbiotic, or mutually beneficial, relationship between the beech tree and the beech drops.

As we hiked up the trail the valley became more and more rugged with house-sized boulders known as the "jigsaw blocks" littering the canyon floor. These large, square rocks get their name from the fact that when you look above them at the canyon wall you can see where they fit into the wall long ago, before the freezing and thawing of water, in cracks in the rock, broke the large boulders free. On one of these rocks, someone pointed out the succulent leaves of the wood stonecrop (*Sedum ternatum*). We also saw the first plants of what turned out to be a nice population of the Arkansas alumroot (*Heuchera villosa* var. *arkansana*) - a rare plant known only from the mountains of Arkansas. It was in full bloom, its orange stamens protruding from its white flowers.

Fall color was beginning to show, with the brilliant red of the black gum (*Nyssa sylvatica*) becoming noticeable on the hillsides.

The rugged topography of the canyon provides microhabitats for a number of uncommon plant species. On the steep rocky walls and in the dripline of rock overhangs was a small population of the tassel flower (*Brickellia grandiflora*). This species, looking similar to another plant that grew nearby called white snakeroot (*Eupatorium rugosum*), is rare in Arkansas, known from only a handful of sites according to the Arkansas Natural Heritage Database. It differs from *Eupatorium* by having larger, cream-colored flowers, and triangular leaves with a flat base and long petioles.

Not far upstream from the tassel flower was a large bluff on the east side of the canyon. It stands more than 200 feet above the creek, which sculpted it long ago. At the base of this bluff is a large overhanging bluff shelter, 50 feet tall, 100 feet deep, and more than 200 feet long. It was here that I made the most interesting discovery (for me) of the trip. I was searching the dripline for more tassel flower when I noticed a small, dried out corn cob lying on the dust of the bluff shelter. I picked it up and looked at it a while before I realized the significance of it. There, in my hand, was an actual artifact from the early domestication of plants by native North Americans. The cob was about 2.5 inches long and 1/2 of an inch in diameter.

When I got home I did some research (see Kenneth Smith's book *Buffalo River Country*) and found that this bluff shelter is famous for its Native American artifacts and even got its name, "Cob Cave", because of the many small corn cobs found by early visitors to the cave. Archaeological studies have uncovered gourds and sunflower seeds as well as bits of pottery and woven baskets. Unfortunately the cave was plun-

Red # 13372

dered by treasure seekers in the past and only a few corn cobs and other relics remain.

Lost Valley is well-known for its rich spring flora and I want to encourage everyone to make a trip in the spring to see the rich displays of native wildflowers.

LEAD HILL GLADE

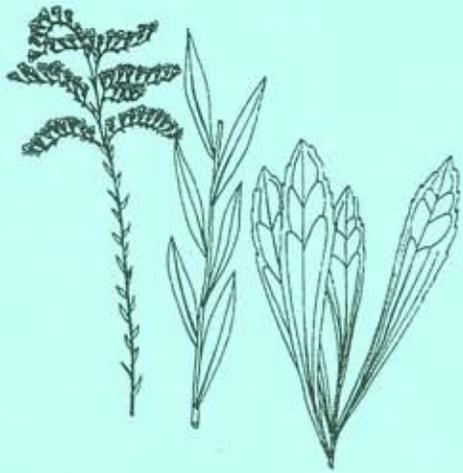
led by Linda Ellis

Give 4 to the
notice
of not going

About a dozen ANPS members stuck around until Sunday morning and made the short trip up to Lead Hill to see a fine example of an Ozark Mountain limestone glade community. The privately-owned site actually has a dry tallgrass prairie that transitions into a complex of limestone glades and woodlands. A number of rare plant species were seen including Elliott's sida (*Sida elliotii*) in flower and the evening rain lily (*Cooperia drummondii*) in fruit. There were a number of our beautiful warm-season native prairie grasses at the site including little bluestem (*Schizachyrium scoparium*), splitbeard bluestem (*Andropogon ternarius*), side oats grama (*Bouteloua curtipendula*), and three species of native dropseed (*Sporobolus* spp.). Though too late to see the peak of their show, we saw plants of the glade blazing star (*Liatris mucronata*), yellow coneflower (*Echinacea paradoxa*), and the Missouri black-eyed Susan (*Rudbeckia missouriensis*). The fall ladies' tresses orchid (*Spiranthes cernua*), and the sticky aster (*Aster oblongifolius*) were still in bloom, along with several other species of *Aster*.

The find of the day was when Linda Ellis pointed out several clumps of a goldenrod to the group. She correctly identified it as Gattinger's goldenrod (*Solidago gattingeri*) - a new record for the state of Arkansas! Dr. Sundell and I made vouchers for the Arkansas Flora Project. Linda also described the spring flora of the site, which sounds spectacular. She is leading two trips to the glade this spring! (see page 14)

There were plans to go to Carrollton Glade as well, but we found so much to see at Lead Hill that we stayed there all morning before splitting up to head home.



Solidago gattingeri

ANPS 2003 Spring Meeting
DeGray Lake Resort & State Park

Meeting Date: 25-27 April, 2003 *Laura*

Meeting Place: DeGray Lake Resort State Park & Convention Center *1-800-737-8555*

Room cost will be \$75.00 Single/Double occupancy (\$10.00 extra for each additional person). Due to the cost, only 15 rooms have been reserved. Others are reserved in town (see below). Check-in time at DeGray is 4:00 PM and check-out is 11:00 AM. The rooms will be held until March 26, 2003. Individuals are responsible for their own reservations.

We are not allowed to bring any food or drink into the meeting room. Refreshments will be furnished.

Other motels in the area:

Best Western Continental Inn
HWY 67N & I-30 (Exit 78 off of I-30)
Arkadelphia
870-246-5592

30 rooms are being held for us at the Best Western. We have a discounted rate of \$50.99 single/double occupancy. Includes continental breakfast. Give the group confirmation number (168-828) and group name (Arkansas Native Plant Society) when making reservations. This is just minutes from Lake DeGray.

Holiday Inn Express
150 Valley
Caddo Valley
870-230-1506
Room rate: \$58.50

Super 8 Motel
118 Valley
Arkadelphia
870-246-8585
Room cost: approx. \$60.00

Econo Lodge 106
Crystal Palace Dr.
Arkadelphia
870-246-8026
Room rate: \$40.00

Comfort Inn
100 Crystal Palace
Caddo Valley
870-246-3800
Room cost: \$76.99
(includes continental breakfast)

CALL LINDA GATTI-CLARK AT 501.796.4104 FOR MORE INFORMATION

THE ARKANSAS VASCULAR FLORA PROJECT PRESENTS

Native Trees, Shrubs, & Vines Identification Workshop

Join members of the Arkansas Vascular Flora Committee for a half-day workshop highlighting some of the tools and techniques used by botanists to identify plants. We will bring in local plants and identify them using technical keys and manuals. **Focus will be on native species of woody plants.**

Learn

- How plants are named
- To decipher technical terms
- To identify families of plants
- Ethical collection techniques
- To use keys and a hand-lens
- How to press plants for posterity
- And more...

Locations

Fayetteville (U of A Herbarium)

contact: Dr. Johnnie Gentry

U of A Herbarium / Biomass Research
Center 139 / Fayetteville, AR 72701
501-575-4372
gentry@comp.uark.edu

Jonesboro (Arkansas State University)

contact: Dr. Staria Vanderpool

Dept. of Biological Sciences / ASU /
P.O. Box 599 / Jonesboro, AR 72467
870-972-3082
svand@navajo.astate.edu

Monticello (U of A Monticello)

contact: Dr. Eric Sundell

School of Mathematics and Natural Sciences /
U of A Monticello / Monticello, AR 71656
870-460-1165
sundell@uamont.edu

Conway (University of Central Arkansas)

contact: Dr. Don Culwell

Dept. of Biology / University of Central
Arkansas / Conway, Arkansas 72035
501-450-5919
donc@mail.uca.edu

Directions and room numbers for each workshop will be provided upon receipt of registration form.

Registration

Space is limited so please pre-register by May 5, 2003 by sending the form on the back of this page to the location nearest you. Registration after May 5 will be on a first-come, first-serve basis until all slots are filled.

Date and Time

All workshops will be held Saturday, May 17, 2003 from 9:00 AM to 2:00 PM.

Cost

Cost for Arkansas Native Plant Society Members will be \$10 per person. Cost for non-ANPS members will be \$15 for the first family member and \$10 for each additional family member. Proceeds will benefit the Arkansas Vascular Flora Project. Make all checks payable to the "University of Arkansas" and please specify "Arkansas Flora Project" on the memo line.

Please bring your own lunch. Technical keys, hand lenses, microscopes, and plant specimens will be provided.

SEE OTHER SIDE FOR REGISTRATION FORM

What is the Arkansas Vascular Flora Project?

The Arkansas Vascular Flora Project is the first attempt to create a comprehensive, book-length treatise on the vascular plants of Arkansas. The end result will be a fully-illustrated manual with technical keys, species descriptions, distribution maps, and line-drawings of all of the approximately 3,300 plants that are known to occur in Arkansas.

This project is being coordinated by the Arkansas Vascular Flora Committee (a committee of professional academic and field

botanists) but relies heavily on the collections and assistance of amateur botanists. Active participation of skilled amateur botanists is essential to expanding our knowledge of the Flora of Arkansas.

The current projection is for the release of an updated *Checklist of the Vascular Plants of Arkansas* in 2003, an updated *Atlas of the Vascular Plants of Arkansas* in 2005 and the complete *Manual of the Vascular Flora of Arkansas* in 2010

Clip here and mail to the location you plan to attend (addresses on previous page)

Registration Form

Name(s): _____

Address: _____

Home Phone: _____

Work Phone: _____

Email: _____

Amount Enclosed: _____

Cost for Arkansas Native Plant Society Members will be \$10 per person. Cost for non-ANPS members will be \$15 for the first family member and \$10 for each additional family member. Proceeds will benefit the Arkansas Vascular Flora Project. Make checks payable to the "University of Arkansas" and please specify "Arkansas Flora Project" on the memo line.

Note: This program is designed for ages 16 and up.

**PLEASE MAIL REGISTRATION FORM NO LATER THAN MAY 5, 2003 TO THE SITE WHERE YOU PLAN TO ATTEND THE WORKSHOP.
THANK YOU.**

Notes from the Editor

by Theo Witsell

When I returned home from work this afternoon, I got out of my truck and walked through the yard admiring the showy display of spring beauties (*Claytonia virginica*) blooming all over the slopes above the sidewalk. Just last week there were 6 inches of snow there and now a wonderful display of native wildflowers. Spring is here! These spring beauties were not planted there. They are just there, perhaps remnants of the open woodland that once existed where my neighborhood now stands.

There are other white flowers blooming there too – the hairy bittercress (*Cardamine hirsuta*), and the common chickweed (*Stellaria media*). The pinks and purples of the deadnettle (*Lamium purpureum*) and henbit (*Lamium amplexicaule*) are putting on a show too, as are the striped blue and white corn speedwell (*Veronica arvensis*) and the aptly named bluets (*Houstonia pusilla*). These are weeds to the gardener, several imported from Europe and blooming before almost all of the natives, but surely they are appreciated by the insects that have little else to pollinate this time of year. I also noticed a handsome diversity of little grasses – the annual bluegrass (*Poa annua*) is already flowering and the nearly-dead nimblewill (*Muhlenbergia schreberi*) still has a few seeds clinging to it from the fall. These have arrived on their own, not planted with the St. Augustine grass and Bermuda put in by the previous owners.

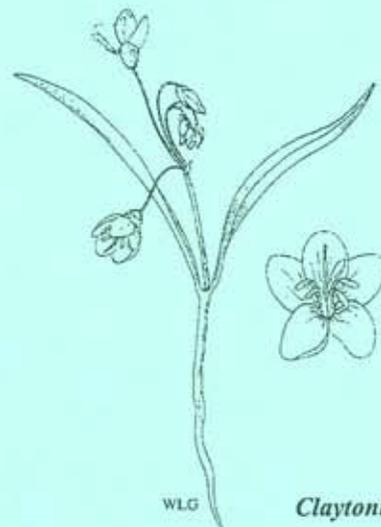
As I reached the mailbox at the foot of the stairs I noticed a big, slick, full-color folder hanging from the mailbox. It was from ChemLawnsm Company and included my own personal (and completely unsolicited) complimentary yard assessment and prescription! Prominent on the enclosed form was a list of problems noted in my yard. Hmm... how nice of them. I opened the folder. You can imagine my dismay when I saw several of the species I was admiring just seconds earlier listed under the heading “problems noted”. In fact, after reading the entire evaluation, it became apparent that anything that wasn’t turfgrass was considered a problem or potential problem.

The solution, according to the brochure, was a subscription to their ChemLawnsm treatment services. For “only \$39.95 per treatment” I can get my entire yard treated with fertilizer and herbicide to get rid of all those pesky weeds. The fine print at the bottom says that treatments are recommended every 4 to 6 weeks.

I showed my wife Tanya our evaluation over dinner and she laughed. “They will love it when we’re finished”!, she said. We are in the process of landscaping with native species. More than 100 of them. We are tearing up the sod, terracing with native stone and planting in the natives. I can see their “evaluation” now. ‘Potential problems: big bluestem, little bluestem, Indian grass, switchgrass, prairie gayfeather, Arkansas alumroot, Ouachita bluestar, butterfly milkweed...” Ha!

We all have our own opinion of what we consider attractive and we all have own philosophy for yard care. I want diversity in my yard. I want a steady succession of wildflowers and grasses with all their attendant insects and birds. I want to watch these species through the years so that my knowledge grows along with them. Somewhere along the way, gardening and lawn care have developed a purist philosophy that, when put into practice, has amounted to a *war against the indigenous and war against the wild*. I see this as an extension of the human-centered philosophy that has caused the destruction of so much native biodiversity the world over. The remedy, as I see it, lies in the raising of our collective consciousness. In the end this will come down to the individual person (and, by extension, to their lawn or garden).

If you live in town, like I do, chances are that most of the original botanical residents have been wiped out. In my neighborhood we are fortunate to have a remnant of the original landscape (Allsopp Park) to study and piece together the puzzle of what was there originally. On our walks in the park, Tanya and I have seen a variety of natives that are appropriate for our yard. The process is proving to be educational, interesting, and rewarding. Resist the depressing monotony of the boring landscape! Plant a few natives in your yard and be rewarded by the satisfaction of replacing a missing piece of your local ecosystem.



Claytonia virginica

Upcoming Events

Field Trips:

Saturday, April 5th – Explore Lead Hill Glade in

April – The owner of this exciting glade has graciously allowed us to come explore. The terrain is flat, but open, so wear a hat & sunscreen, and bring water—as well as a sack lunch. Meet at the Lead Hill Glade, about 1 mile north of Lead Hill on Highway 7, at 10:00 a.m. The turnoff is precisely at the top of the hill on the right. A driveway takes you into an open field. The building of a defunct business is visible. This glade provides excellent opportunities for photography. Contact leader Linda Ellis at 417-272-3890 for more information.

Saturday, April 12th Salado Creek and White River –

Lock 2, Batesville. 10:30 a.m. Meet at Riverside Park. Because of the travel distance to this meeting for most of our members, we would request that everyone interested in going contact Faye by phone or e-mail. Also, if the weather is extremely bad or threatening, check beforehand to make sure the trip is not cancelled. Contact leaders Faye and Hail Bryant at 870-698-1478 or e-mail rhbryant@cox-internet.com for more information.

Saturday, April 19th – Wildflowers on Mount

Magazine – At Mt. Magazine State Park. Fieldtrips and talks will explore identification, photography, and garden tips. Contact 479-963-8502 or mtmagazine@arkansas.com for more information.

Saturday, April 19th – The Flora of the Alum Fork

River – Join Ouachita Chapter President John Pelton for a trip to several botanically rich sites on the Alum Fork of the Saline River in Saline County, including the Narrows, a particularly rich site! Expect to see round-lobed hepatica, false rue anemone, spiderworts, columbine, green violet, Alabama lipfern, shooting star, and lots more. Also see one of only two Ouachita Mountain sites for walking fern. Meet at the Ramada Inn Parking Lot in Benton (just off I-30) at 10:00 a.m. or call Leader John Pelton for more information (501.316.1057).

Saturday, May 3rd – Explore Lead Hill Glade in

May – Why go to the glade twice? The diversity of plants at the glade is exceptional and merits several visits to observe the succession- also great for photography. Meet at 10:00 a.m. See April 5th for directions. Contact leader Linda Ellis at 417-272- 3890 for more information.

Saturday, May 10th – Ecology and Flora of the Grand Prairie – Join Arkansas Natural Heritage Commission botanist Theo Witsell for a guided fieldtrip of some of the last remnants of this once vast ecosystem. Learn about the broad diversity of plant species, (botanical) ghosts of the prairie, and current plans for landscape-scale restoration efforts. Call Theo at 501-324-9615 for more information.

Sunday, May 11th – Possum Trot – Meet at 10:00 a.m. at the Nail church parking lot, which is on the south side of the road, just across from the gas station/store, also on the south side of the road. If you are coming from the east, Nail is about 6 miles west of Deer on Highway 16. From the parking lot, we will car pool to the Forest Service parking site. Note: Don now has a GPS system so getting lost is not an option. This is a strenuous hike due to steep terrain, cut-over groves of magnolia trees, and the lack of a trail. Wear durable hiking shoes and bring a sack lunch. Leader: Don Mills.

Saturday, May 24th -- Devil's Den State Park -- Trails are maintained but mildly to moderately sloping. Bring a flashlight if you would like to explore the Devil's Den icebox. We hope to see the Yellow Monkey Flower (*Mimulus floribundus*). Dave Westendorf has offered to give us a tour of his backyard gardens in the afternoon, after which we intend to go out to eat and have a brief business meeting. Meet at the Visitor's Center of Devil's Den State Park, Winslow, at 10:00 a.m. Location: Devil's Den State Park can now be reached from Highway 540, the new Interstate. Turn west onto Highway 74, this is the fastest and most convenient route.

Saturday, June 7th: Chesney and Stump Prairies, Siloam Springs, Arkansas -- Joe Woolbright has been successful in restoring these two prairie sites, and we hope to have him lead the hike. The terrain is mostly flat, but bring sunscreen and water. We will eat in Siloam after the hike. Location: Meet at 10:00 a.m. at Smith Field, the local airport, located on Highway 59, just north of the Highway 412/59 intersection just inside the Siloam Springs city limits.

Other Events:

Tuesday, April 1st – Native Gardening Symposium – Location: Ferndale 4-H Center, Pulaski County. Topics will include Plants of Arkansas' Six Natural Divisions. Rare, Threatened, and Endangered Plants of Arkansas, Native Grasses of Arkansas, and others. Contact Janet Carson at 501-671-2000 or e-mail jcarson@uaex.edu for more information.

Friday, April 4th – Saturday, April 5th – Arkansas Academy of Science Arkansas Flora Symposium – U of A Campus. See article in this issue for more information.

Friday, April 25th – Sunday, April 27th – Arkansas Native Plant Society Spring Meeting – DeGray Lake Resort State Park. For more information, see page _____

Saturday, May 17th – Spring Plant Identification Workshop – Locations: UCA (Conway), ASU (Jonesboro), UAM (Monticello), U of A (Fayetteville). Sessions are 9 am – 2 pm. For more information see the registration form in this issue.

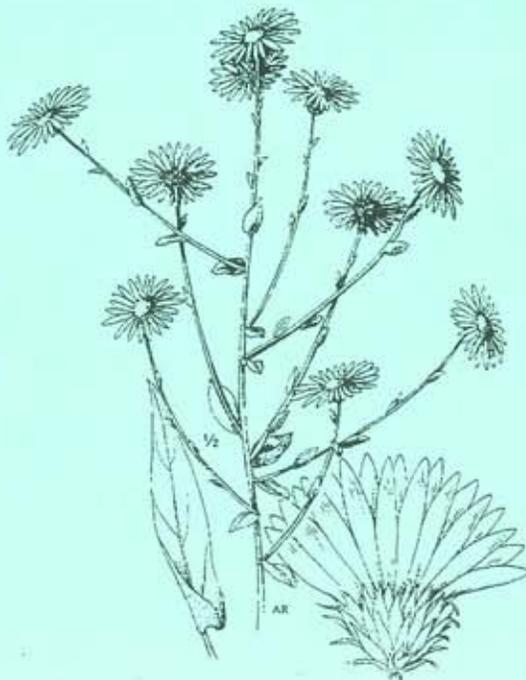
Friday, June 21st – Saturday, June 22nd – Mount Magazine International Butterfly Festival – Notable guest speakers, guided hikes, and other activities will help you explore identification, life cycles, gardening, and photographing these interesting insects. Contact 479-963-8502 or www.butterflyfestival.com for more information.

Thursday, October 23 – Friday, October 24th – Rare and Invasive Plants of Arkansas Conference – U of A Continuing Education Center (Fayetteville). The new *Checklist of the Vascular Flora of Arkansas* will be available. More information will be in the next issue of *Claytonia*.

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

