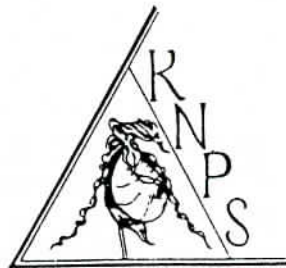


# Kentucky Native Plant Society *NEWSLETTER*

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Vol. 7. No. 3. August, 1992

## Message from the President

by Landon McKinney, Kentucky State  
Nature Preserves Commission, Frankfort

Based on numerous requests from members, I am pleased to announce that with this issue of our newsletter we begin a series entitled "What's Coming Up In Kentucky". This series is designed to inform our members about the wildflowers and other native plants that they might expect to see during each respective season. For the most part, and, out of necessity, this series will deal with our more common species. We hope that all of you will find this series both informative and useful.

As I mentioned in the previous newsletter, my initial intent was to poll our membership as to its ideas on improving our society, its newsletter, and its direction. While this may yet become necessary, I would like to suggest several opportunities of which everyone can take advantage. First, I would like each of you to take a few minutes and write down your thoughts on our organization. This may include what you like about our society, what you do not like, what you would like to see more of or less of, and any thoughts that you might have on goals, projects, etc. I would like you to mail your comments to me at my home address (1031 Tamworth Lane, Frankfort, KY 40601). Second, I would

like you to make plans now to attend our Fall meeting announced elsewhere in this newsletter. At this meeting everyone will have an opportunity to voice opinions on our society and its direction during our general business meeting. Here are two exceptional opportunities for each of you to provide input and I would hope that everyone will take advantage of at least one of them.

Our Fall meeting should prove to be an interesting one. We have some good speakers lined up and are planning at least one informative fieldtrip. The meeting was designed to be as centrally located as possible and to incur minimum expense. Please mark your calendars and plan to attend this brief but informative meeting.

## Fall Events and Field Trips

Please contact Clara Wieland at (606) 266-5548 if you have a special plant or ecosystem to share with us or any ideas or requests for field trips. Also if anyone wishes to help plan these trips and wants to be part of the "TRIPS" Committee - come join us.

**SATURDAY, SEPTEMBER 12 - ROAM  
THE RED BIRD DISTRICT - 10:30 A.M.  
Eastern Time**

Julian Campbell, Botanist for the Kentucky Chapter of the Nature Conservancy, will lead us on a trip to one of the least populated areas of Kentucky. Along the ridge and creek we may see Max Medley's newly described Rosinweed (*Silphium wasiotensis*) and other fall delights. Meet at the Red Bird Ranger District Office. From points north take I-75 south to London and go East on the Daniel Boone Parkway. Exit the Parkway at Big Creek/Red Bird (Between Manchester and Hyden). Go South on Rt. 66 for 3 miles to the District Office (Note: Rt. 421 joins Rt. 66 for a short distance). Moderate hike of 4-5 miles.

### **SEPTEMBER 18, 19, 20 - MUSHROOM WEEKEND AT NATURAL BRIDGE**

Sponsored by the Kentucky Society of Natural History and Daniel Boone National Forest. It will feature David Dennis, Biological Illustrator from Ohio State University, and expert nature photographer, John MacGregor. Field trips are also planned. Call Wilson Francis, Natural Bridge State Park, at 606-663-2214.

### **SATURDAYS, SEPTEMBER 19, 26, OCTOBER 3, 10 - 9:00 A.M. - Noon Eastern Time - KNPS CERTIFICATION COURSE - PLANT ECOLOGY FOR THE AMATEUR NATURALIST**

Do you want to see more than just a sea of green leaves when you look at a forest? Do you want to understand why azaleas don't do well in the clay soil and bright sun of your front yard? We will study how environmental factors and species interactions influence the patterns of abundance and distribution of plants in nature.

Dr. Douglas N. Reynolds is an Associate Professor with the Department of Natural Science at ECU.

Saturdays, 9 am - noon

Sept. 19, 26, Oct. 3, 10

Tuition \$76 Memorial Science 71, ECU

See pg. 3 for more information.

### **SUNDAY, OCTOBER 4 - PINE CREEK BARRENS 10:00 A.M. Eastern Time**

Barry Dalton, Director of Science and Stewardship for the Kentucky Nature Conservancy, will show us this special grassland community in Bullitt County. Several rare species are part of this natural area including the great plains ladies' tresses (*Spiranthes magnicamporum*) and the silky aster (*Aster sericeus*) that may be in bloom. Barry will also show us part of the glade that has been restored and describe plans for controlled burning. Due to the sensitivity of the site, this visit will be limited to twenty people. Please call Clara Wieland at 606-266-5548 or Julian Campbell at 606-271-4392 for reservations and directions. Easy walk.

### **SATURDAY, OCTOBER 17**

## **FALL MEETING**

**ROOM 224  
THOMPSON COMPLEX  
NORTH WING**

**WESTERN KENTUCKY  
UNIVERSITY  
BOWLING GREEN, KY**

(For a map of WKU's Campus, see the last page of this newsletter)

### **Theme - Native Plants**

**Schedule** - (Note: All times are Central Time)

9:00 a.m. - 10:30 a.m. Board Meeting for all officers and board members

10:30 a.m. - 11:30 p.m. - General Business Meeting for all members

11:30 p.m. - 1:00 p.m. - Lunch on your own

### **Speakers**

1:00 p.m. - 1:45 p.m. - Late Summer and Early Fall Wildflowers  
Kenneth Nicely - Western Kentucky University

1:45 p.m. - 2:30 p.m. - The "Big Barrens" Region of Kentucky  
Julian Campbell - The Nature Conservancy

3:00 p.m. - 5:00 p.m. - An informative field trip will be planned and coordinated between Kenneth Nicely and Julian Campbell.

**SATURDAYS, OCTOBER 24,  
NOVEMBER 7, 21, DECEMBER 5 - 1:00  
- 4:00 P.M. Eastern Time - KNPS  
CERTIFICATION COURSE - BASIC  
BOTANY FOR THE AMATEUR  
NATURALIST**

This course is aimed at the amateur naturalist, and no previous background in botany or science is expected. If you have ever wondered how plants are built, both on the inside and outside, how they carry out

their various functions such as water and food conduction, growth, and reproduction, then you will be interested in this course. Hands-on learning will be experienced by all participants in a fully equipped botanical laboratory using microscopes to examine the detailed structures and functions of plants.

Dr. Ronald Jones is a Professor of Biological Sciences at EKU.

Please pre-register by Oct. 16. A book fee of \$10 will be payable to instructor at the first class.

Saturdays, 1 - 4 pm

Oct. 24, Nov. 7, 21 and Dec. 5

Tuition \$76 Moore 202, EKU

See below for more information.

### **Kentucky Native Plant Society Certification Program In Native Plant Studies**

The two courses listed in the schedule above are being offered by KNPS as part of a curriculum developed to educate KNPS members in native plant studies. Additional courses in field botany, wildflower cultivation, wetlands and conservation are being planned. If you are interested in enrolling in either class, registration forms can be found in the Community Education brochure sent by EKU to all members in late August or on the last page of this newsletter. For more information, please contact Ron Jones, Biology Dept. or Doug Reynolds, Dept. of Natural Science, EKU, Richmond, KY 40475.

## Wildflower Program Becoming Very Popular

by Carl Wells

(Ed. note: This is reprinted from the July 15, 1992 issue of "Transportation Tips" from the Division of Maintenance and Transportation Cabinet)

The wildflower plantings being established on highway rights-of-way are beginning to evolve into an array of colors at various locations throughout the Commonwealth.

The wildflower program began in 1988 as an effort to gain information about plant species, plant color schemes, and seeding methods. We relied upon the expertise of the University of Kentucky College of Agriculture to assist us in selecting wildflower varieties that were adaptable to the roadside landscape and not pose a problem for the adjacent agricultural community. We were trying to select varieties that are native to Kentucky.

Through this process we have selected some 25 different varieties which should provide a full spectrum of color from spring into summer and on into the fall.

Our seeding methods have been varied, but our best success has occurred through the use of a no-till seeder where wildflower seeds are drilled into the turf areas that have been treated with a herbicide.

We currently have 25 acres seeded to wildflowers at 31 locations throughout Kentucky. While not all sites have been total successes, we are pleased with the results we have achieved at several locations this spring. But there is still much to learn, as seed in some areas did not germinate and weeds such as nodding thistle, smart weed, and ragweed are dominating other areas.

Specific information on this program, especially locations of wildflower sites, can be obtained from the Division of Maintenance.

The program is in its infancy and with each passing day we gain new information.

## Virginia Spiraea, A Federally-Endangered Shrub in Kentucky

by Margaret Shea, KY State Nature Preserves Commission

Growing on water-swept gravel bars and stream banks, Virginia spiraea (*Spiraea virginiana*) enjoys the open sunlight of this rough environment. The species does best in areas that are periodically scoured by water with an intensity that will prevent establishment of overstory trees but not uproot the shrubs. Virginia spiraea was listed as federally threatened in 1990.

A member of the rose family, Virginia spiraea is a clonal shrub, often found in dense clumps. The stems of the species are upright, arching, and 2-10 feet tall with little branching. A wispy spiral often forms at the tip of the stem. Leaves are alternate and their size and degree of serration is variable. The inflorescence is a corymb of cream-colored flowers that open in late June-July.

Virginia spiraea is known from 31 stream systems in Georgia, Kentucky, North Carolina, Ohio, Tennessee, Virginia and West Virginia. Population sizes are usually small and there is little evidence of successful sexual reproduction in the species. Prior to the 1992 field season, the only known sites for the species in Kentucky were in the south-central portion of the state along the Rockcastle River and one of its

tributaries.

Funds from the United States Fish and Wildlife Service allowed the Kentucky State Nature Preserves Commission to search for new locations of the species. Many miles of streambanks and gravel bars were explored in June and July of this year, and fortunately, the results were exciting. A new population was discovered in Lewis County, Kentucky, in the northeastern portion of the state. Additional locations for the species were also discovered along the Rockcastle River and a tributary. Although the Lewis County site is a significant range extension for the species within Kentucky, the site is just south of a population discovered in Ohio in 1991. Additional inventory for the species is already planned for the 1993 field season when, perhaps, we will be able to fill in the gap between the known populations in Kentucky.

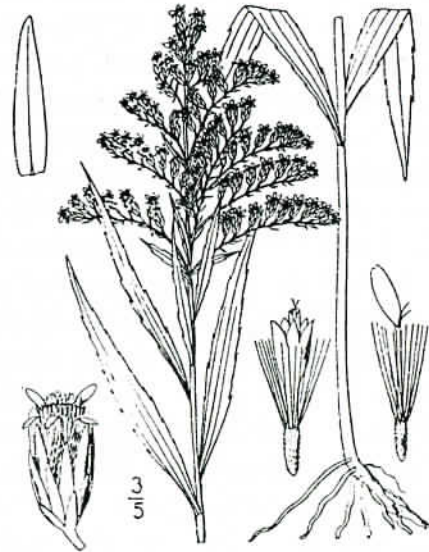
## What's Coming Up In Kentucky

by Landon McKinney (KSNPC) and David Taylor (USDA Forest Service)

Beginning with this issue of our newsletter, we will make an effort to inform our members of the wildflowers and other native plants that they might expect to see during the coming months. In no way could we cover all possibilities but we will try to highlight some of the more common species that one might encounter.

As we enter into late summer and the fall of the year, one plant family clearly dominates the landscape without which we would have little to talk about. The sunflower family (*Asteraceae*) comes into

full force during this time of the year. One cannot travel any distance at all without seeing the yellow of the goldenrods, the purple of ironweed, the pink of Joe-pye weed, or later on, the blues of the asters.



*Solidago canadensis*. From Britton and Brown, Illustrated Flora of the Northern United States and Canada

The goldenrod group, which includes the Kentucky state flower, consists of approximately 35 species statewide. In fact, in any given county you can likely find 12 to 15 species of goldenrod. You can easily appreciate goldenrods without understanding the sometimes subtle differences between the various species. While the flower heads always appear similar, take some time to notice differences in leaves, the shape of the inflorescence, or habitat. Roadsides and old fields will normally provide haven for one of only several species such as the early goldenrod (*Solidago juncea*) or the common goldenrod (*S. canadensis*). Forests or

woodland borders harbor species such as the rough goldenrod (*S. rugosa*) or the blue-stemmed goldenrod (*S. caesia*). A delightful find would be the sweet goldenrod (*S. odora*), which inhabits sandy, old fields or native grassland remnants. Crush a leaf or two, sniff, and immediately visions of an old-fashioned licorice stick come to mind.

Goldenrods are insect-pollinated and a large patch can provide quite a menagerie of insect visitors. Insect watching in a patch of goldenrod can be quite interesting.

It would seem appropriate that here we take some time to dispel a commonly held myth about goldenrods. Over the years they have been blamed as a major cause of allergic rhinitis (Hayfever). Nothing could be further from the truth. As we mentioned previously, the goldenrods are dependent on the insect world for pollination. The major culprit during this time of the year is ragweed (*Ambrosia trifida* and *A. artemisiifolia*). Coincidentally, the ragweeds are another member of the sunflower family. Their flowers are quite small and are not noticed by insects, and thus the ragweeds must rely on the wind for pollination. It is their wind-borne pollen that can create the itchy eyes and runny nose of the hayfever sufferer.

Well, let's get back to the subject at hand by mentioning two other commonly occurring species which inhabit old fields and roadsides. The purple flower heads of ironweed (*Vernonia gigantea*) or the pinkish flower heads of joe-pye weed (*Eupatorium fistulosum*), either alone or when combined with goldenrod, create an impressive display of color.

While the fall of the year brings about an onslaught of autumn colors, let's not forget to take notice of the blues, purples, and sometimes, whites of the asters as they begin to dominate the landscape.

There are approximately 30 species of asters occurring throughout the fields and forests of Kentucky. As is the case with the goldenrods, one need not attempt to identify the various species to appreciate their beauty or the sometimes subtle differences between them. Our prettiest species has to be the New England aster (*Aster novae-angliae*). It inhabits old fields and roadsides throughout most of the state.



*Aster novae-angliae*. From Britton and Brown, Illustrated Flora of the Northern United States and Canada.

As part of this and future installments of this series, we are providing a list of some of the more common plants in flower during this time of the year. Most of these may be found throughout the state. While not etched in stone, preferred habitats are indicated after each species based on the key provided at the beginning of the list. While many of fall's flowers are common roadside species, let's not take them for granted. The colors they provide can easily rival any spring floral display. So enjoy the fall of

the year and the colors of the season.

Old fields, roadsides = OR  
 Forests, woodland borders = FW  
 Glades, native grasslands = GN  
 Wet areas = WA

Wingstem - *Actinomeris alternifolia* - OR,FW  
 Big Bluestem - *Andropogon gerardii* - GN  
 Broomsedge - *A. virginicus* - OR  
 Heart-leaved Aster - *Aster cordifolius* - FW  
 New England Aster - *A. novae-angliae* - OR  
 Spreading Aster - *A. patens* - OR,GN  
 Frost-weed Aster - *A. pilosus* - OR  
 Crooked-stem Aster - *A. prenanthoides* - WA  
 Short's Aster - *A. shortii* - FW  
 Sticktight - *Bidens cernua* - WA  
 Tickseed Sunflower - *B. aristosa* - WA  
 White Turtlehead - *Chelone glabra* - WA  
 Purple Turtlehead - *C. obliqua* - WA  
 Tarweed - *Cuphea petiolata* - OR,GN  
 Flatsedge - *Cyperus* spp. - WA  
 Eastern Willow-herb - *Epilobium coloratum* - WA  
 Mist Flower - *Eupatorium coelestinum* - WA  
 Joe-pye Weed - *E. fistulosum* - OR,WA  
 Boneset - *E. perfoliatum* - OR  
 White Snakeroot - *E. rugosum* - FW  
 Late Thoroughwort - *E. serotinum* - OR  
 Stiff Gentian - *Gentiana quinquefolia* - GN  
 Soapwort Gentian - *G. saponaria* - WA  
 Purple-headed Sneezeweed - *Helenium flexuosum* - WA  
 Autumn Sneezeweed - *H. autumnale* - WA  
 Alum-root - *Heuchera villosa* - FW  
 Hairy Hawkweed - *Hieracium gronovii* - OR,GN  
 Cardinal Flower - *Lobelia cardinalis* - WA  
 Indian Tobacco - *L. inflata* - OR,FW  
 Downy Lobelia - *L. puberula* - OR,GN

Evening Primrose - *Oenothera biennis* - OR  
 Field Milkwort - *Polygala sanguinea* - GN  
 Smartweed - *Polygonum* spp. - WA  
 Tall White Lettuce - *Prenanthes altissima* - OR,FW  
 Hoary Mountain Mint - *Pycnanthemum incanum* - OR,FW,GN  
 Slender Mountain Mint - *P. flexuosum* - OR,GN  
 Beak Rush - *Rhynchospora* spp. - WA  
 Little Bluestem - *Schizachyrium scoparium* - OR,GN  
 Blue-stemmed Goldenrod - *Solidago caesia* - FW  
 Common Goldenrod - *S. canadensis* - OR  
 Early Goldenrod - *S. juncea* - OR,GN  
 Gray Goldenrod - *S. nemoralis* - OR,FW,GN  
 Sweet Goldenrod - *S. odora* - OR,GN  
 Rough Goldenrod - *S. rugosa* - FW  
 Elm-leaved Goldenrod - *S. ulmifolia* - FW  
 Indian Grass - *Sorghastrum nutans* - GN  
 Ladies-tresses - *Spiranthes* spp. - OR,GN,WA  
 Blue Vervain - *Verbena hastata* - OR,WA

## The Milkweed Family

by Jim Conrad

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Blossom formula: 5-5-5  
 Fruit: a follicle which is a dry fruit that splits open, usually present in pairs  
 # of species in world: about 2000  
 # of species in Kentucky: about 16  
 Native mostly to tropical and subtropical regions.  
 Most species are herbs, vines, or shrubs with opposite leaves and milky juice. Best-known members are common milkweed, butterfly weed, and angle-pod.

---

Though in the tropics there are several genera in the Milkweed Family, or Asclepiadaceae, most Kentuckian flower-sniffers are familiar with just one genus -- *Asclepias*, the genus of the common milkweed so abundant along our roads, and the orangish-red-flowered butterfly weed. In other parts of the world, the family is a bit more diverse and spectacular. In Madagascar I've seen milkweeds of the genus *Sarcostemma* looking like succulent, leafless, very slender spikes of asparagus and species of *Stapelia* looking just like brown dog-turds lying beneath shrubs.

In the tropics, if you find a plant full of white latex or milk and it has opposite leaves, you can be fairly certain that you have either a member of the Milkweed Family or the closely related Dogbane or Hemp Family, the Apocynaceae. Without flowers, it's often hard to differentiate between these two families. The way I tell the difference between an asclepidaceous flower and an apocynaceous flower is to see whether it's halfway similar to the blossom of Kentucky's common milkweed, the anatomy of which is described below.

Milkweeds have always been among my favorite plants. My history with them goes back to the early 1950's when one day, along a fence row of our western Kentucky farm, I tore a milkweed's leaf, saw milk ooze out, and took a slurp. That milk was awfully bitter.

Of course, by being bitter the milkweed's milk was just "doing its job." Milkweed milk, actually a kind of alkaloid-rich latex, provides the milkweed with a chemical defense that keeps bitterness-avoiding critters like me from eating the plant; milkweed milk is part of the plant's chemical warfare against nibbling invaders.

How milkweeds and other plants with milky latex, such as the spurges and

hempweed, developed their bitter defenses is a subject of debate. Recently, a theory surfaced suggesting that early in milkweed evolution the plants had no latex-producing cells. But one day a kind of latex-producing, free-ranging fungus took up residence inside the plants, and began paying rent with bartered latex. The deal was this: The milkweed plant gave the fungus a place to stay; in return, the fungus provided a bitter latex. As eons passed, the milkweed evolved interior conditions ever more congenial to the fungus' needs, so that today the milkweed's latex-producing cells lie so snugly within the plant's general plumbing that they look like they've always been there. That's just a theory, remember.

Of course, in nature no innovation stays new and 100% effective forever. Nowadays, a few bug species have evolved that positively thrive on milkweed leaves. During the summer our common roadside milkweed (*A. syriaca*) is eaten with relish by two species of medium-sized bugs which are red with black dots. By the way, if you very gently hold one of these species, the four-eyed milkweed beetle, between your fingers, it'll move its thorax up and down, and squeak like a little mouse!

In the fall, when milkweed pods open up, milkweed seeds fill us with admiration. Riding the wind beneath silky parachutes bursting with sunlight, they sail hard across November soybean fields to who knows what exotic rootedness? I've always said that if ever I got to be a plant, I'd volunteer to be a milkweed.

Milkweed flowers are especially interesting. In *Asclepias* blossoms you look for the usual stigma, style, ovary, and stamens in vain; milkweed blossoms are nearly as complex and hard to interpret as orchid flowers. That's because, in terms of flowering-plant evolution, the Milkweed



Family, along with the Orchid Family, is a fairly modern one. The general trend in Angiosperm evolution, we're told, is toward reduction, simplification and even fusion.

Figure 1 shows a typical *Asclepias* flower. You can see that the calyx and corolla are comprehensible, but everything else looks a bit far-fetched. Milkweed blossoms have evolved a rather unique and highly specialized strategy for effecting cross pollination with other milkweeds. Here's how milkweed-flower pollination works:

An insect, maybe a bee or a butterfly, visits an inflorescence of milkweed blossoms looking for nectar. It inserts its proboscis into the flower's corona, a crown-like

structure atop the flower, characteristic for all milkweeds. In *Asclepias* this corona is composed of five cuculli (singular cucullus), each of which consists of a hood and a beak. The hood is like a cup, with nectar pooled at the bottom. While the insect is supping, its leg or sometimes, even its proboscis, gets wedged in the enlarged, notched opening between the stiffened rims of the anthers, the anther wings.

At least in some *Asclepias* species, short bristles beneath the anther wings deter the downward movement or removal of the trapped body part. When the insect finally pulls his leg upward, the leg catches inside the arms of the upside-down Y-shaped pollinarium (plural pollinaria). As Figure 1 shows, the pollinarium consists of two pollinia; pollinia consist of masses of waxy, stuck-together pollen grains; milkweeds don't have the kind of yellow, powdery pollen of which we usually think. The two pollinia hang from a central corpusculum by means of two arms, the caudicula.

Pollination works like this: When the insect manages to pull its leg from the earlier-mentioned trap, the whole Y-shaped pollinarium is ripped from its place, sticks to the insect's tarsus as the insect flies away, and eventually, if everything goes OK, a pollinarium finds itself deposited inside another blossom's stigmatic chamber, where the pollen grains germinate in more or less the traditional way.

The next time you find a flowering milkweed, gingerly poke a pin into the opening between a milkweed flower's anther wings, force it upward as if it were a bee tarsus being removed, and you just might find stuck to the point of your pin a tiny Y-shaped pollinarium! When, with a hand lens, you look at milkweed flowers in the field, often you can see the pollinariums' corpuscula barely visible at the top of the

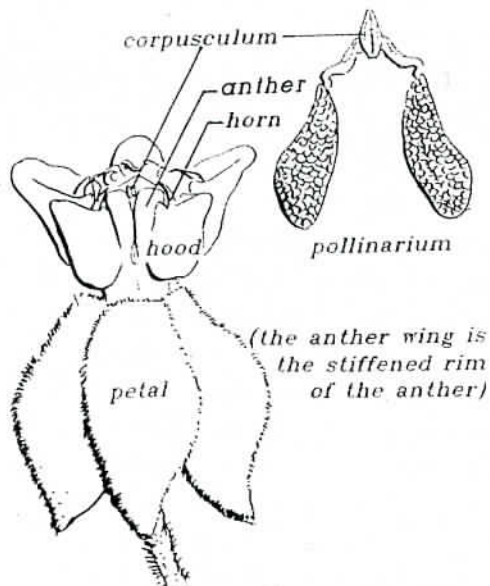


Figure 1

## Common Milkweed flower

*Asclepias syriaca*

stigmatic area; they're little blackish spots. If you see a corpusculum, the pollinarium still is waiting to be removed; if the dark spot is absent, then a pollinator has beat you to it. Freshly opened milkweed flowers should have five corpuscula; flowers that have been visited by several pollinators may have fewer, or none.

Sometimes this fancy pollination system doesn't work. Several times I've discovered broken-off bee legs stuck in the sinus between the anther wings! Other times I've found the entire stigmatic area eaten away, apparently by bugs who lacked the finesse to sip their nectar from the hoods!

Thinking about all this, I get philosophical. It seems that when we study any complex natural phenomenon in detail, we pass through certain stages of understanding. At first we endure dead ignorance. Later we're pleased and astonished at how complex yet how well-ordered and smoothly functioning the system is; but if we stick to the subject, eventually we find that even the most sophisticated systems sometimes go awry (broken-off bee-legs), or sometime are vulnerable to brutality (chomped-off stigmatic areas). Of course, insights such as these account for why sometimes the great thinkers say that they learn about real life by studying the ways of nature.

Making enough passages through a number of learning processes, we become wise in a way that keeps us from getting too excited, or too depressed, about anything.

On the other hand, even the most jaded of us sometimes may dream of being a milkweed seed on a brisk, sunny, November day, sailing on brilliant wings across a Kentucky soybean field...

## News and Announcements

The American Horticultural Society has discontinued its special rates for affiliate memberships, effective July 1, 1992. Thus, KNPS will no longer handle these memberships. If you are interested in continuing your membership in this organization at their new rates, contact them directly at 7931 East Boulevard Drive, Alexandria, VA 22308 or phone 1-800-777-7931.

## Book Reviews

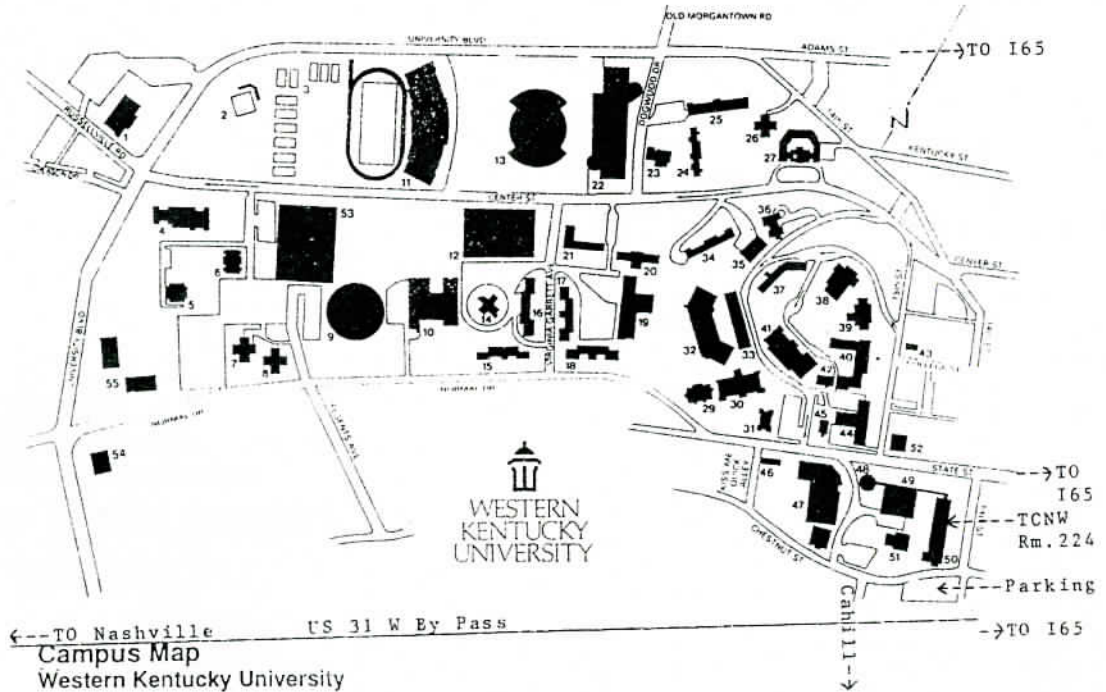
(Ed. Note: These reviews are by the staff of the New England Wildflower Society)

### Southern Wildflowers


by Laura C. Martin, illustrated by Mauro Magellan. Atlanta, GA: Longstreet Press. 1989. 272 pp. Reviewer: Mary P. Sherwood

Most of the more showy of the southern native wildflowers are given two pages of text with a facing page of a full size painting. The myths and legends of each are explored in addition to the medicinal and culinary uses. At the end of each plant's biography there is a brief summary giving the family name, species description, blooming period, natural habitat, and propagation and cultivation suggestions. At the end of the book are appendices on planting a wildflower meadow and creating a woodland garden. The book is written in simple English and is useful to the beginner and hobbyist, as well as attractive to look through.

### Map to the site of the Fall Meeting



### Registration form for KNPS Certification Courses

 Return to: Leigh Ann Sadler • 202 Perkins Conference Center • Eastern Kentucky University • Richmond, KY 40475-3127  
**Make checks payable to EKU**

**Registration Form**

Name \_\_\_\_\_ Birthdate \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Daytime Phone \_\_\_\_\_ SS# \_\_\_\_\_  
 Course Title \_\_\_\_\_ Date \_\_\_\_\_ Tuition \_\_\_\_\_  
 Course Title \_\_\_\_\_ Date \_\_\_\_\_ Tuition \_\_\_\_\_  
 Total Enclosed \_\_\_\_\_

Visa/MasterCard is a payment option. Please complete the information below if you wish to use this service.

Name(s) \_\_\_\_\_  
 Account Number \_\_\_\_\_  
 Expiration Date: Month/Year \_\_\_\_\_ Daytime phone # \_\_\_\_\_  
 Signature \_\_\_\_\_

Richmond, KY 40475  
Eastern Kentucky University  
Department of Biological Sciences  
**The Kentucky Native Plant Society**

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The Kentucky Native Plant Society, Inc. was founded in 1986 as a botanical organization for all persons interested in the native flora and vegetation of Kentucky. The goals of KNPS are to serve as a medium of information exchange, to promote native plant conservation, public education in botany, and botanical research in Kentucky. Annual dues of \$5.00 (Family \$7.00) may be sent to KNPS, c/o Tom Bloom, 900 Keenon Rd., Harrodsburg, KY 40330.

The KNPS NEWSLETTER is published quarterly (Feb., May, Aug., Nov.). Please notify us four weeks in advance of any changes of address. Back issues of the NEWSLETTER are available for \$1.00 each. Send articles and correspondence to:  
Dr. Douglas N. Reynolds, Editor, KNPS NEWSLETTER, Department of Natural Science, Eastern Kentucky University, Richmond, KY 40475.  
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