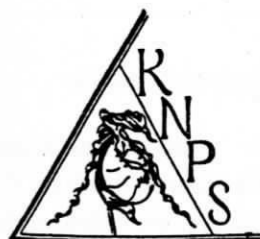


The Lady-Slipper

The Official Newsletter of the Kentucky Native Plant Society



Volume 12, Number 2

Spring/Summer 1997

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President's Message

David A. Eakin

We want to thank all of you who participated in the Spring Wildflower Weekend at Natural Bridge State Resort Park. Attendance was good with about 200 registrants even though the weather was touch and go with showers. Surprisingly, only about half of the registrants are on our current membership roll. Thanks again to Wilson Francis *et al* for all the work done in preparation. Members and new introductions alike enjoyed informative and entertaining presentations by Drs. Alan Mills of Berea College and John Thieret of Northern Kentucky University, who spoke on "Wildflower Photography" and "Poisonous Plants," respectively.

We owe a special debt of thanks to Charles Chandler who, almost single-handedly, has seen to the distribution of about 3000 of our new brochures. If you would be willing to help us in this effort, please contact me at Eastern Kentucky University. The design has been highly praised by all who have seen it, but more importantly, the brochure seems to be getting our message across to those who read it. Judging from the number of new memberships, we feel that our money was well spent. Indications are that KNPS membership has swelled by about 10% since introduction of the new brochure. We are nearing the 700 member mark - certainly a milestone in the history of the Society!

In our next issue, we will have a report on a survey done by Charlie Lapham. He has provided us with important information on the distribution of our membership. He continues to help us glean vital information from our expanding database. At our spring meeting, Charlie was recognized for his monumental and innovative work in designing *Index Kentuckiensis*. This began as a special project within the KNPS certification program. Not only did Charlie successfully complete the Certification Program, but his efforts earned him the first Special Achievement Certificate in Native Plant Studies. We are now considering ways to make the Certification Program in Native Plant Studies more accessible to our members across the Commonwealth. If you have an interest in becoming certified, please contact me or Ron Jones at EKV. The following members also received their Certification at the meeting:

Judith Baron, Clara Es-Stel Wieland, Katrina Reffett, Daniel Thompson, Kim Feeman, Arlene Lapham, Wayne Long, Delores Nelson, Rebecca Pass, and Steve Sensenig.

Congratulations to all!

We also awarded twenty-eight Life Membership Certificates at this meeting. We must apologize to a few of our new life members whose paperwork was still "in the mill" when we made up our list. I assure you that you will receive public recognition for your commitment to the goals and objectives of the KNPS. We sincerely appreciate your generous financial commitment!

You should be aware of a few changes in the KNPS Board. Charlie Lapham has

assumed the position of Vice President, while Clara Wieland continues to chair the field trip committee. There is a need to fill vacancies on the committee, so if you would be willing to lend her a hand please give her a call. We have appointed two new board members to fill vacant positions, and genuinely welcome Dr. Jim Martin of Western Kentucky University and Jan Jenneman of Salvisa, Kentucky. They are a welcome addition to an already active and committed group of individuals serving on the board.

Two Demonstration Garden Grants have been awarded and one Student Research Grant. We will provide you with more details in our next issue. Have a safe, wonder-filled summer season, and don't forget to take advantage of any walks and field trips in your area of the State!

Dr. Dave

David Eakin may be reached at Biological Sciences Department, Eastern Kentucky University (606) 622-2258.



KNPS Membership Survey Results

Judith Weckman

A membership survey was included in the November 1996 KNPS newsletter. The goals of this survey included obtaining feedback on how to use KNPS funds, evaluating current content and identifying additional topics for the newsletter, and soliciting participation from the membership for various KNPS activities. Thirty-seven people responded out of the approximately 600 current members. The results should be viewed simply as suggestions from 37 members rather than interpreted as a representative poll of members' views of priorities.

Members were asked first to rate the importance of the following in terms of what KNPS should support:

- field botany research grants
- native plant demonstration garden grants
- production of a 10 year newsletter review booklet
- updated brochure to promote the society and increase membership

Of these, most respondents were in agreement that field botany research was "very important" followed by support for native plant demonstration gardens. Less agreement was expressed for the importance of an updated brochure and only six individuals rated the production of a 10 year booklet as "very important."

Respondents offered a variety of suggestions in regard to, "*What additional types of projects, if any, should the KNPS underwrite?*" Suggestions included: offer more classes and field trips; offer certification program courses at Western Kentucky University; provide educational publications on native plants in landscaping, for erosion control, and the menace of exotic plants; use KNPS funds for conservation of native plant communities; support database efforts that document species biodiversity; provide educational materials that help define what native species are; and purchase land for species propagation and re-introduction and for research.

The survey also asked members to provide input about the newsletter. Members were given several alternatives to check in answering, "*What kinds of articles have been most interesting to you?*" The percentage of the 37 respondents who checked each article type is listed below:

• rare plants	73%
• plant communities	68%
• field trip reports	67%
• Pat's Weed Patch	67%
• botanical history	59%
• current botany research	59%
• Plant Places	51%
• news items	43%
• Curators' Corner	35%

As indicated above, the greatest interest was expressed for articles about rare plants, plant communities, field trip reports and topics covered in Pat's Weed Patch.

Members were also asked about the kinds of articles they would like to see in the newsletter. Suggestions included:

- landscaping with native plants
- plant communities
- eliminating invasive plants
- restoring second growth lands
- guidance on where to see wildflowers
- propagating native plants
- book reviews
- regional efforts in plant conservation
- conference highlights that members have attended
- profiles on individual KNPS members

Seventeen of the 37 (46%) respondents indicated "yes," to "I would like to read selected articles from other regional Native Plant Society newsletters."

Although all of the above responses are from only a small group of members, it is important to let the membership know about the results of the survey. Those of you who would like to revisit that November copy and send in your views on these topics are still encouraged to do so.

Those members who have the interest and expertise to write articles about any of the topics highlighted above are also encouraged to do so.

Judith Weckman lives in Berea, Kentucky and works at Berea College. She is co-editor of the KNPS newsletter and may be reached at (606) 986-9341, ext. 6494.



After the Weed Patch

by Dennis Feedback

Some time ago I wrote of the problem of weeds invading wildflower plots ("The Weed Patch," Kentucky Nurserymen's Association Newsletter May/June 1993) and how the uninformed public views them. That article assumed that the measure of success for a wildflower plot was a pure stand of wildflowers without invasion by undesirable plants at a site. An observation I made this summer revealed another measure of success by which to judge such an endeavor.

Over the past few years I have been a customer and visitor to a local herb and perennial wildflower nursery. I pass this establishment daily and thus keep up with the state of affairs of bed and gardens visible from the road. This enterprise chose to advertise and promote their business by planting a most diverse and attractive garden by the road where motorists could view their wares. The garden was meticulously tended and mulched and presented an impressive sight with its wildflowers and herbs.

This nursery business did quite well and in due course outgrew their facility. They moved to a large city, in fact two cities, and the old facilities were sold as farm land. The beautiful garden along the road, in the course of one year, became the weed patch of my earlier article. Though the business was gone and all the beds and gardens were invaded by weeds, I still observe the wildflowers and other perennials that grow there.



This nursery was located on a very rural road. Right-of-way maintenance is minimal; it consists of occasional mowing of the narrow strips of fescue and natives that grow between the pavement and fences. The native plants are a typical assemblage of central Kentucky plants, nothing rare, unusual or even noteworthy. However, the second summer after the nursery had departed I started to notice plants I had not observed before. The plants were growing on the right-of-way and in adjacent fields a short distance (1/4 mile) or so from the old nursery in both directions. These new plants were the same plants in the old display garden. Because I

have observed none of these plants in the immediate area, I assume they have sprung from seeds produced in the old display garden.

I am sure that most people, if they even notice, shake their heads and say, "What a shame, that beautiful garden turned into a weed patch. A failure." I disagree. This planting has accomplished something of lasting value. I do not know how long these new plants will survive with the right-of-way and farming activities they are now living with. Hopefully, even if they do not have a long life span, they will produce seeds, be disbursed and the seeds will find what niches are available for survival. If these species do survive, the area's flora is richer, and on that basis I would call the old display garden a success. Maybe it no longer serves its planned function but it has contributed much more to the area.

The question in my mind is should not this measure of success be applied to wildflower plots along highways? To establish a wildflower plot and keep it from being invaded by weeds and exotics is a mammoth undertaking, especially over a long period of time. If that is the goal I am afraid most of the plots are doomed to failure.

Perhaps a better approach would be to establish the native species, maintain them only long enough to establish them and then let nature take its course. The results will not be perpetual sites of wildflower splendor, but rather a sprinkling, a scattering of the chosen species in the area of the original planting. If that can be accomplished, something of value can be achieved.

There is one important factor to keep in mind. The goal should be to establish truly native species. Careful research and judgement must be employed in the selection of species. The use of stock (seeds and plants) from the same geographical area should be used. Introducing species from distant areas will not help maintain our genetic diversity.

Dennis Feedback is a KNPS member who lives in Franklin County, Kentucky.

Events and Announcements:

Daniel Boone National Forest Newsletter Available

The 1997 issue of "The Boone Planner" is available to all those interested in keeping up with developments in the revision of the forest plan for Kentucky's Boone Forest.

Highlighted in Volume 2, number 1 are discussions about "Multiple Use Areas," "Scenery Management," and "Managing off-highway Vehicles." This newsletter provides a time-line for the current revision of the Boone Forest Plan and provides instructions on how concerned citizens may provide input into the planning process.

To add your name to the mailing list and receive this free newsletter, call or write: Daniel Boone National Forest, Supervisor's Office, 1700 Bypass Road, Winchester, KY 40391; phone: (606) 745-3100.

Bryology Newsletter Initiated

Dr. Willem Meijer, retired faculty member of the Biological Sciences Department and former curator of the Herbarium at the University of Kentucky has begun a new newsletter devoted to the history and study of bryophytes. Issue 1a of "Nova Buxbaumia," covers cryptogamic botany in Southeast Asia, Malaysia, Borneo and Java, as well as additional topics in the history of Bryology worldwide.

To receive a copy of the newsletter contact Dr. Meijer at: Biological Sciences, 101 Hunt Morgan Building, University of Kentucky, Lexington, KY 40506; or by phone (606) 257-9229.

Kentucky Heartwood Schedules "Logging Free Summer" Celebration

To celebrate a recent judicial ruling which halts logging in the Daniel Boone National Forest, Kentucky Heartwood is holding a "First Summer Without Logging Celebration." The event will be held August 24, at the Hancock Pavilion in Lakeview Park, Frankfort, KY. To receive further information or a copy of their newsletter write: Kentucky Heartwood, 660 Mt. Vernon Ridge Road, Frankfort, KY 40601.

Mid-South Native Plant Conference

October 24-25, 1997

Memphis, Tennessee

This year's Mid-South Native Plant Conference will be held in Memphis, Tennessee on October 24 and 25. This conference began as an off-shoot of the Cullowhee Conference held annually in Cullowhee, North Carolina. Sites for the Mid-South conference rotate through the south with alternate venues in Louisiana and Alabama.

The Memphis conference will feature a keynote address by Judy Glattstein on "Why Use Native Plants in Your Landscape." Concurrent sessions will be held on topics such as gardening with native mosses, propagation techniques, and gardening with children.

Complete conference brochures will be sent to all KNPS members in August, or contact Rebecca Mercer, Mid-South Native Plant Conference, Lichterman Nature Center, 5992 Quince Road, Memphis, TN 38119; phone (901) 725-3710.



ORCHIDS IN A NUTSHELL

Part II

Mark A. Evans

**...AND YOU THOUGHT ORCHIDS
WERE JUST PRETTY FLOWERS**

Let's assume that an orchid seed makes it through the hazards of landing in a spot suitable for germination, manages to be properly infected by a suitable species of fungus, receives enough light to germinate, and doesn't get eaten by the first slug that crawls by. It continues to grow for a few years and finally builds up enough energy to reproduce. Flowering occurs and here we find another characteristic that makes the orchid family unique. Orchid flowers are bilaterally symmetrical. This means that orchids can be divided into left and right sides that are mirror images. Orchids have three sepals and three petals with one of the petals being modified into a labellum, or lip. The labellum wraps around another structure unique to the orchid family, the column.

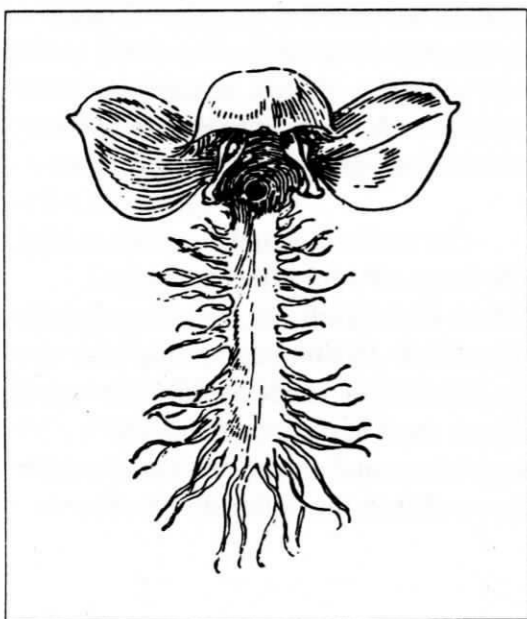
The column is a feature found only in the orchid family and is formed as the male and female flower components fuse into a single structure. At the tip, pollen is condensed into a structure known as a pollinium, with the stigmatic surface occurring further down the column. Orchid pollen packages are usually attached to a sticky disc called a viscidium. Successful pollination depends on the pollen package being attached to specific parts of the visiting insect's body (e.g. thorax, abdomen or even the eye) in such a way as to ensure contact with the stigma of the next flower visited.

Our native Kentucky orchids exhibit a wide range of pollination strategies. Members of the Lady Slipper group (genus *Cypripedium*) exhibit perhaps the least subtle mechanism. They literally trap insects and force them into contact with the appropriate sexual organ, first the stigmatic surface and then the pollinium (in order to

reduce chances of self pollination). At least four species of *Cypripedium* are known to be endemic to Kentucky: *C. acaule*, *C. parviflorum* with two varieties var. *pubescens*, and var. *parviflorum*, *C. kentuckiense*, and *C. reginae*. Our pink lady slipper, *Cypripedium acaule*, entices insects, (usually bees), into entering an opening on the front of the flower. The only exits are small slits in the sides of the pouch. Our other commonly encountered member of this genus, *Cypripedium parviflorum* var. *pubescens*, utilizes an entrance at the top of the pouch, drawing insects with a colorful shield-like rostellum. (Incidentally, *C. parviflorum* var. *pubescens* was formerly known as *C. calceolus* var. *parviflorum*, but the *calceolus* epithet has been reserved for plants of European origin.)

Many species in the genus *Platanthera* (formerly *Habeneria*) depend on butterflies for pollination, the pollinia being deposited most often on the proboscis but also on the compound eyes. Since butterflies are active only in daylight, some

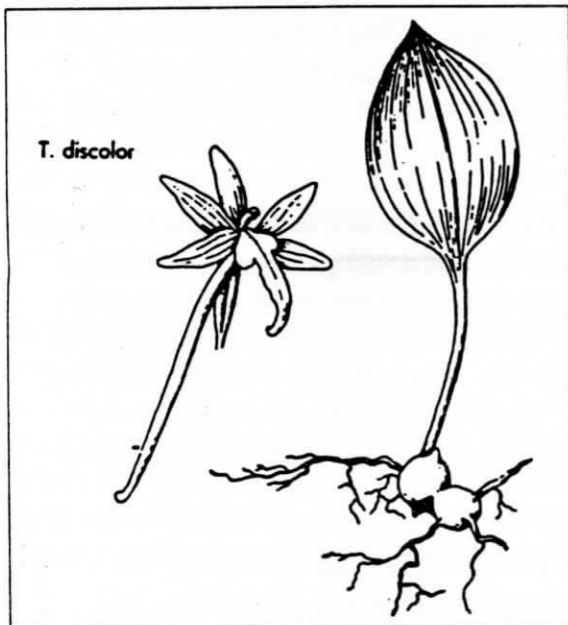
species of *Platanthera* have developed brighter colors to aid in attracting a potential pollinator and even provide a big fringed labellum to ensure a good foothold. Others exude specific odors to attract crepuscular (love that word, it means active at twilight/dawn) Noctuid moths



My vote for most bizarre flower structure/insect relationship would have to be for the Crane-fly orchid (*Tipularia discolor*) and its Noctuid moth pollinator. The Crane-fly orchid has flowers with modified bilateral symmetry. The lip and column of the flowers of each plant are all skewed to the left or right, depending on the individual plant. This may not sound that impressive, but plants exhibiting flowers with modified bilateral symmetry are extremely few. The reason for this departure from the orchid norm remains a mystery until pollination is observed. *Tipularia discolor* is pollinated by moths that are extremely fuzzy. The only smooth surface to be found on these moths is the large compound eye, and

there lies the reason for the modification in symmetry. As the moth inserts its proboscis into the flower, the sticky part of the rostellum (the viscidium) attaches itself to the eye (left or right, depending on the plant) and must be carried to a flower skewed in the same direction for pollination to occur.

Development of seed capsules in our Kentucky native terrestrials is much more rapid than their tropical cousins. Most of our species shed their seeds in late summer



or autumn. Since orchid seeds are literally the size of dust and have no internal supply of nutrients, orchid plants can afford to produce them by the millions. With the conditions described above, it's easy to see why such numbers are necessary.

Every orchid plant is somewhat of a minor miracle; its precarious development leaving no room for error. Conditions

required for success in each species are so narrow and exact that orchids as a family are particularly susceptible to environmental pressures. Deforestation, draining of wetlands, agricultural practices and just about anything else associated with human beings can have a detrimental effect.

As if the cards weren't stacked against them in the first place, orchids are being dug and sold for use in herbal medicine. *Cypripedium* roots are a hot commodity for wildcrafters in eastern Kentucky, bringing over \$19 a pound last year. How many *Cypripedium* roots would it take to make a pound?

(This is the second in a series of articles on Kentucky's native orchids. The first article KNPS newsletter 12:1, covered the precarious life of an orchid seed. Editor)

Mark Evans is a member of the Central Kentucky Orchid Society. He may be reached at (606) 622-1793.



KNPS Field Trips & Regional Events of Interest for 1997

Clara Wieland -- KNPS Field Trip Coordinator

Spring came early and then April, cool and dry. There are some wonderful events and walks for the remainder of the year. There are still openings for field trips and a stand-by list is also maintained to accommodate last minute changes.

This calendar is complete, with the exception of the KNPS Fall General Meeting and the November program with the Sensenig's, so watch the newsletter for updates. ***Please remember to register for the trips by calling Clara Wieland at (606) 266-5548 and /or the other numbers as indicated.***

Come prepared, dressed appropriately for the weather and the walk, bring water and snacks if you like. Die-hards like me also come with pencil, paper; trying to learn! Please try to be on time; leaders can't hold up a trip for just one person. Times are identified by time zone. Come join us in the fellowship of enjoying and learning about the natural world that sustains us. See you!

July 19, 1997. Saturday, 7:00 a.m. Central Time. Explore May Prairie in Glorious Summer Bloom. Jack Carman, Tennessean and lifelong wildflower enthusiast will guide us to this lovely prairie remnant. It is quite accessible, practically off of what used to be the major highway now replaced by interstate. KNPS members may want to plan this as an overnight trip. Plan to stay in Manchester, TN, along I-24, about 60 miles south of Nashville. We will meet Saturday morning, 7:00 a.m., at McDonalds restaurant Exit 114 off of I-24. Some Tennessee native plant Society members may join us. Please register with Clara Wieland (606) 266-5548, to coordinate possible car pooling, motel information, etc. Limit 15.

July 24-26, 1997. Thursday-Saturday. The 14th Annual Cullowhee Conference on Landscaping with Native Plants. Hosted by Western Carolina University, Cullowhee, NC. Now in its 14th year this event brings together top-notch speakers and practitioners who share an interest in landscaping with native plants. Everyone interested in native plants should experience a Cullowhee Conference! For additional information and registration call (704) 227-7397, or (800)WCU-4YOU.

August 9, 1997. Saturday. Western Kentucky Wetlands Adventure.

Hal Bryan, Biologist, Eco-Tech, Frankfort, Ky, will lead this trip to several wetlands in western Kentucky. We will visit the wetland wildlife management areas near Henderson, Kentucky. Meet at the Henderson Community College administration parking lot on U.S. 670. Call Hal Bryan (502) 223-8136 to register and for more information on directions. Limit 18.

September 19-21, 1997. Friday-Sunday. Annual Mushroom Foray at Natural Bridge State Park. For information call the Park at (800) 325-1710.

September 27, 1997. Saturday. Explorations in Lincoln & Pulaski Counties, Kentucky.

Julian Campbell, Nature Conservancy botanist and enthusiastic leader will take us to visit Hazel Dell, soon to be owned by TNC, as well as the Gooch's farm, and perhaps the area that will be flooded for the new Cedar Lake. We may see Gentian species fall composites and sundews.

There are always surprises when you follow Julian. Meet at McDonalds on Hwy 461 Mt.

Vernon. From Lexington take I-75 south to the Mt. Vernon-Renfro Valley exit. Go right at the end of the ramp onto 461 toward Somerset. The McDonalds is about 2 miles southwest of the exit on the left side of the road. Register with Julian at (606) 259-9655 days or (606) 271-4392 evenings. Limit 15.

October 4, 1997. Saturday. Mushroom Hunt in Jefferson County

Judith McCandless, Kentucky State Nature Preserves Commission chairperson, and Trustee of the North American Mycological Association is a knowledgeable mushroom identifier. This walk is weather dependant as mushrooms need a wet season. The 'Audubon Field Guide to Mushrooms' or 'Mushrooms Demystified' are recommended books. Meet at the Iroquois Park Amphitheater parking lot in south Louisville. Drive West on the Watterson Expressway (I-264) past the airport; take South Taylor Blvd exit; drive south, Taylor Blvd becomes Newcutt Rd. The park is on your right. Please phone Judith McCandless at (502)895-5775 to register. Limited to 12.

October 25, 1997. Saturday 10:00 a.m. to 12:30 p.m. What the Heck is This One? - Trees and Shrubs without Leaves

Woody plants in winter condition offer us almost as many clues for identification as they do during the growing season. Join Dr. Ross Clark, ECU Biology Department Chair, to learn structures, textures, forms, colors and other features that will allow you to nail down your woody plant identifications (to the species level) any time of the year. Meet at Berea Woods/Indian Fort Theater parking area, Hwy 21 southeast of Berea, Ky. No limit.

Late Fall 1997. Wildflowers, Wildlife and Landscapes of the Prairie and Rocky Mountains
Slide presentation by Becky and Steve Sensenig. These wildflower enthusiasts and photography buffs recorded their trip of last summer and will share the event. Details forthcoming.



Kentucky Native Plant Society 1997 Membership Form

Memberships are for calendar year (Jan-Dec). Dues are modest, please keep your membership current. Membership expiration is listed at the top of your mailing label.

Name _____ Address _____

City _____ State _____ Zip _____ KY County _____

Please mark membership category, enclose **check** (please do not send cash) payable to "KNPS", and remit to: KNPS Membership, c/o Biology Department, Eastern Kentucky University, Richmond, KY 40475

Membership Renewal _____ New Membership _____

Annual Individual Membership (\$7.00) _____ Annual Family Membership (\$10.00) _____

_____ Lifetime Individual (\$100.00) _____ Lifetime Family (\$140.00)

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

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