The Kentucky Native Plant Society

NEWSLETTER: Vol. 1, No. 4, November 1986. Editor: Julian Campbell.

THE FIRST YEAR OF THE KNPS by Ron Jones

It is hard to believe that it was only one year ago--on November 9, 1985, that the first meeting was held to discuss the formation of a Kentucky Native Plant Society. So much has happened in this one year. The KNPS has grown to nearly 350 members. We have approved Bylaws, elected officers, and formed committees. The newsletter has been published quarterly, on schedule, and has received many compliments. We were even written up in the Lexington Herald (on Sept. 18, page C4). The eight field trips have gone off without a hitch, and have averaged about 25 participants a trip. There is a lot to be excited about, and it's only the first year of our existence.

Our first annual fall meeting will be held on November 6, as detailed in this newsletter, and I strongly encourage everyone to attend, if at all possible. We will have a business meeting followed by a talk/slide show by Vic Soukup on Trilliums of China and Kentucky. We hope to have good attendance, and a good discussion on KNPS plans for 1987. The planning for the 1987 schedule will begin this winter. Now is the time to let us know if you have specific suggestions on field trip sites, educational activities, etc. Please use the enclosed membership renewal form to submit your ideas.

In our first newsletter we included a questionnaire to survey membership opinion on goals and activities. The results of the survey are given below. The general message is that members are most interested in increasing their knowledge of our native plants through field trips and educational meetings. Also of major importance is the protection of our native plants through legislation, research, and conservation activities--working with the Kentucky Nature Preserves Commission, and the establishment of rare plant gardens and seed banks. In the second year of our existence we plan to initiate some of these activities, to begin specific projects and activities that will help preserve our rare native plants.

We also plan to maintain a diversity of field trips and educational meetings. The KNPS is a state-wide society, not a regional one. Our first field trips were all across the state--3 in the central region, 3 in the eastern, and 2 in eastern Kentucky. We will continue to make activities available so that members in all parts of the state can participate.

It is now time to send in your membership renewals. The Executive Board has decided to keep our annual dues at $2.00 for 1987. We are trusting that all of our members will renew their memberships promptly, and that the membership will continue to grow. Please send in your dues by January 1, 1987. This will help us to meet our expenses. Our major expense is the newsletter, and we want to maintain the high quality that has been established. The newsletter alone is a real bargain for $2.00.

We are looking forward with high hopes for KNPS in 1987. There is much work to be done, and many opportunities for participation. With your continued support, the KNPS will have a second year of much success.

RESULTS OF KNPS SURVEY

The average (mean) ranks of major society goals and specific activities favored so far, with about 70 responses, are as follows. Low rank numbers indicate high preference.

Major goal	Rank (± s.d.)	Personal Interest
Increase our knowledge of native plants	2.5 (± 1.4)	75%
Increase public knowledge of native plants	2.9 (± 1.3)	52%
Lobby for protective legislation	3.3 (± 1.6)	24%
Engage in research to help protection	3.6 (± 1.7)	45%
Promote pure enjoyment of native plants	4.0 (± 2.1)	45%
Raise independent support for protection	4.5 (± 1.3)	9%
Specific activities		
Field trips to collect scientific data	5.0 (± 3.3)	50%
Work with KY Nature Preserves Commission	5.3 (± 3.4)	45%
Field trips to see rare plants	5.4 (± 4.0)	50%
Physical conservation work in the wild	5.6 (± 2.7)	48%
Meetings with educational slide shows	6.1 (± 3.2)	35%
Establish rare plant gardens, seed banks	6.2 (± 3.7)	48%
Interact with other conservation groups	6.6 (± 3.1)	18%
Persuade devlopers to preserve sites	6.6 (± 3.3)	18%
Field trips to see beautiful flowers	6.7 (± 4.5)	41%
Interact with colleges and schools, etc.	6.9 (± 3.1)	35%
Work with existing gardens, arboretums	8.3 (± 3.6)	26%
Expanding the newsletter	8.6 (± 2.5)	18%

KNPS OFFICERS AND REGIONAL COORDINATORS

President--Ron Jones, Dept. of Biology, Eastern KY Univ., Richmond, KY 40475.
Vice-President--Marc Evans, Nature Preserves, 407 Broadway, Frankfort KY 40601.
Secretary--Pat Haragan, 154 Woodland Park, Lexington KY 40502.
Treasurer--Kathleen Jones, 308-C Hounchell Drive, Richmond KY 40475.

Western KY Coordinator--Harold Eversmeyer, 820 N 19th St., Murray KY 42071.
Louisville Coord.--Richard Cassell, 4003 Poplar Level Rd., Louisville KY 40213.
Northern KY Coord.--Ann Rechtin, 718 Oakland Drive, Taylor Mill, KY 41015.

REMINDER: NOVEMBER 6th, GENERAL MEETING IN LEXINGTON. Room 107 of the Biological Sciences Building, University of Kentucky. At 7.30 p.m. there will be a business meeting. At 8.00 p.m., Vic Soukup from University of Cincinnati will give slide shows and talks on BOTANIZING IN YUNNAN, CHINA and TRILLIUMS OF KENTUCKY.

ANNOUNCEMENT-KENTUCKY ACADEMY OF SCIENCE MEETING, NOVEMBER 21 and 22.

On these dates, the Botany and Microbiology Section of the KAS will hold paper sessions in Heritage Hall, Ballroom 1, in the Lexington Convention Center across from the Radisson Hotel. The papers will involve various topics on November 21, and will run from 8.00-11.00 am and 3.00-4.30 pm. On Saturday, November 22, a special symposium on the Vegetation and Flora of Kentucky will be held from 8.00-9.00 am and 1.30-5.00 pm. These talks should be of interest to KNPS members, dealing with various aspects of the Kentucky flora, its history, geography and ecology. As well as talks on different regions, from the Jackson Purchase and Shawnee Hills to Mixed Mesophytic Forest and stripmines in the East, overviews on the whole flora will be presented, including even weeds and bryophytes (mosses and liverworts). The registration fee for the meeting is $15.00.

WE WILL HAVE NO FIELD TRIPS OVER THE WINTER, BUT WILL RESUME AS EARLY AS POSSIBLE IN THE SPRING.

FIELD TRIP REPORTS

NATURAL BRIDGE STATE PARK and TIGHT HOLLER (August 23rd). About 20 people attended the hike and picnic, and the weather was excellent. Hal Bryan led an enjoyable hike to see mature mixed mesophytic hemlock forest, with its major associated species. This is one of the few site with Braun's snake-root (Eupatorium luciae-brauniae), though to minimize damage, the party did not seek that particular species. This year may be our last chance to get into Tight Holler easily, since the Forest Service propose to remove the steps as part of the area's protection. Also, the motel owners have begun to charge a dollar per head for crossing their property to the gorge.

BLUE LICKS STATE PARK (September 27th). About 25 people attended. The Baskins gave an informative introductory talk about the endemic Short's goldenrod (Solidago shortii), which was just past full flower. David Buchele, who is doing an M.Sc. with the Baskins on the ecology of this species, demonstrated his sampling methods. Allison Cusick, from the Ohio. Dept. Natural Resources, explained the differences between the sweet-smelling Great Plains ladies' tresses (Spiranthes magnicamporum) and its relatives. After a lunch break some of us went down to the Licking River, through fairly good forest with sugar maple, etc., but no particularly rare species. Rain then brought the trip to a drenched, though satisfied, conclusion.

Solidago Shortii

BERNHEIM FOREST (October 18th). An unfortunate coincidence of personal committments prevented four planned leaders from attending, but Willem Meijer took over, with a group of only seven. He reports that they had a good time anyway, taking a general look at vascular plants, bryophytes and fungi. The flora of the forest has been updated by Max Medley, but still no really unusual plants are known here. It is just a good sized chunk of Knobby forest.

HERBARIUM NEWS: LINDSEY WILSON COLLEGE ESTABLISHES A HERBARIUM

As part of the growth of Lindsey Wilson College (Columbia, KY 42728), the Biology Department is expanding its facilities and establishing a herbarium. The collection will emphasize the native vascular flora of south-central Kentucky and will also include plants of agricultural and horticultural value in the region. In addition to the research and teaching collections, the Edith Spickard Library has been established for botanical publications. They would like to begin an exchange program and look forward to developing cooperative relationships with other herbaria. They would also appreciate copies of publications pertaining to the flora and vegetation of Kentucky. The curator is George P. Johnson (graduate of Western KY Univ., Ph.D. from NC State Univ., Bot. Dept.). Tel:502-384-2126 ext 231.

DEVELOPMENT AND CONSERVATION NEWS AND VIEWS by Julian Campbell

Kentucky River Palisades Dam Proposal. As the population and industrial base of the central Bluegrass continue to grow rapidly, it is inevitable that demands for a greatly expanded water supply come about. This last week (Lexington Herald Leader Oct 15), we heard of a renewed proposal by local county governments to build a dam in the Kentucky River Palisades Section. Through further conversation with Jim Rebbmann of Lexington's Planning Office, I learnt that the site currently being suggested is in pool number 7, just above the mouth of the Dix River. The height of the water level here would be 30-50 feet above normal pool level, making a lake 45-50 miles long, into pools 8 and 9 (towards Boonesborough). In addition to supplying more than enough water for the Lexington area currently, this project would ensure that more and more people and industries could come to settle in this region, like Toyota at Georgetown. In addition to the water supply itself, the project would result in flood control (applauded by the city of Frankfort), recreation and, potentially, hydroelectricity. Alternative proposals to increase Lexington's water supply, through a new pipeline to pool number 7, or to a more distant dam on Station Camp Creek (42 miles away in Jackson Co.), would probably be less satisfactory, Rebbmann said.

The environmental opposition to this project should be as great as that to the Red River Dam proposal of the 1970's, and it may take all our efforts to win. The main point is that, although the existing small dams have taken away the wild river quality, the new dam would reduce the natural quality of this valley much further. We should even hope that in a more enlightened future age one or two of the smaller dams can be removed to let at least a short section of the river run wild again. This is the wildest area left in the whole Bluegrass region, with a lot of natural vegetation, rare and endangered species, and great beauty. Raising the water level 30-50 feet permanently would have much more drastic effects on the vegetation that the rare natural floods that reach up about 30 feet. In particular, those sections of the Palisades that have cliffs coming directly down into the water would have their special vegetation destroyed. This vegetation has only begun to be explored thoroughly in the past 1-2 years. On these open sites within 10 feet of the water level, big bluestem (*Andropogon gerardii*) is the typical dominant, with switchgrass (*Panicum virgatum*), tufted hairgrass (*Deschampsia caespitosa*), *Hypericum prolificum* and river goldenrod (*Solidago rupestris*) associated. This is the only area in Kentucky with the *Deschampsia*. Further up, some spectacular displays of spring forest flowers in the remnants of "beechy bottoms" will be destroyed; notable here are some rare members of the mint familiy (some large populations of *Synandra hispidula*, *Monarda cf. clinopodia*, a few patches of the Appalachian disjunct *Meehania cordata*), and occasional ginseng (*Panax*

quinquefolia). Hidden away in secluded ravines, especially along tributaries like Jessamine Creek and White Oak Creek, these patches of spring flowers are small and rarely visited, but as beautiful as those in the Great Smokies Mountains, or elsewhere in Appalachia. Further up the slopes, especially near the exposed cliffs, there are some unique plant communities, with several disjunct northern species and apparant relics from previous geological ages, some being rare or endangered in Kentucky: e.g., snow trillium (T. nivale), rock elm (Ulmus thomasii), a mouse-eared chickweed (Cerastium arvense), more grasses (Schizachne purpurascens, Oryzopsis racemosa); yellowwood (Cladrastis kentukea), mountain-lover! (Pachystima canbyi*), Viola walteri*, Phlox bifida* and water stitchwort (Stellaria fontinalis*). (*Proposed for Federal Endangered Status.) Some of these species would survive flooding of 30-50 feet, but their long-term survival, at least in unspoilt communities, would come into question with the demand for access to the water, housing, road building, boat-ramps, trampling, rock-climbing, etc. Would the microclimate also be affected? The most notable animals in these Palisades are some Federally Endagered bats, which live in caves not far above the water level. It is especially alarming that the dam site itself, with deepest flooding, would be just below the best vegetation of the Palisades, in and nearby Jessamine Gorge. By locating the dam here, relatively little farmland would be flooded. Economic losses would be relatively small, and our defense must instead be based on the destruction that would occur to this enchanted natural world. Those concerned also with waste of revenue will want to look into the limations on the effective life of such a dam. With continuing erosion from farming and mining, how soon will the impoundment become a silt-basin like Herrington Lake (former Dix River) and others around the state?

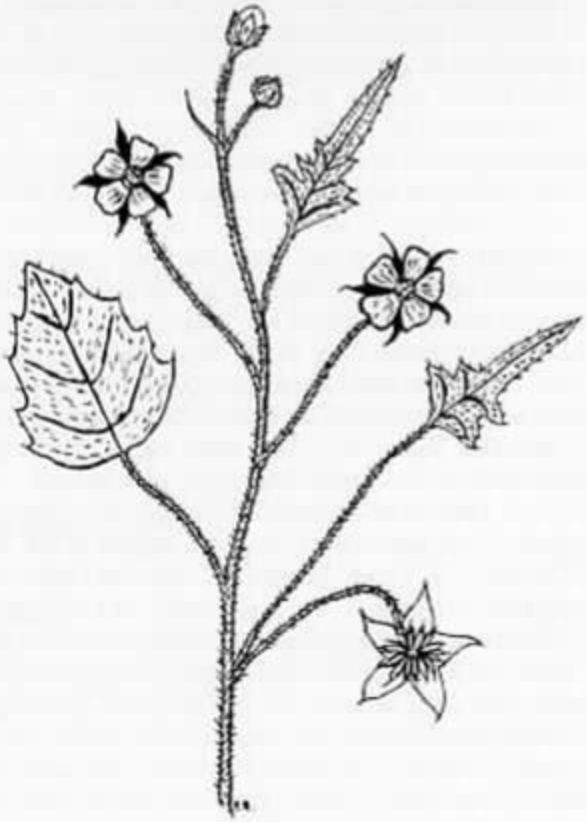
There must eventually be a limit to the growth of human activity in the Lexington area. It will be far preferable for the quality of life here, if that limit comes about from regard for our environment, conserving natural resources and interest in natural history, rather than from the gross forces of overcrowding, pollution and economic stagnation. Do the people here really want a larger metropolis like Louisville, Detroit or Chicago? Does popular taste really put satisfaction from unlimited flushing toilets, car washes, manicured lawns and motor boats above that from the serenity of a quiet secluded ravine with soaring hawks and deep woods? Or are we being exploited, with propaganda of "more jobs" (for immigrants!), by investment from Japan, Dallas, the Webbs and a few indigenous entrepeneurs and politicians.

A woodland remnant on the Hartland Development. This fall may present the last window of opportunity for preservation of a special little woodland remnant in Lexington, within the "Hartland" residential development. This area is located between Armstrong Mill Road and Tates Creek Road at the south end of town, in the transition from Lexington Limestone (Inner Bluegrass) to the Clays Ferry Formation (Eden Shale). Much of this old farm is dotted with huge 3-6 foot diameter (perhaps 200-400 year old) trees of burr oak, chinquapin oak, shumard oak and a few red oak and white oak. Also, the two shagbark hickories (with large and small nuts - Carya laciniosa and C. ovata) and bitternut hickory (C. cordiformis), are common, mostly in smaller size classes. These trees comprise one of the best areas of so-called "savannah-woodland" in the central Bluegrass region, perhaps having been first opened up out of the primaeval forest by Indians and buffalo, then by the traditional woodland-pasture management of the 19th century. The area is distinct from all others in the absence of blue ash and the abundance of hickories and burr oak here instead. Only two or three areas elsewhere in the Urban Service Area have as much species diversity and general biological interest. Of most interest is an area of no more than 5-10 acres on the slope just north of the old house. This patch has been fenced from cattle in the past and there are many seedlings and young trees of the oaks and

hickories. Generally such fenced areas become dominated by commoner invasive trees like locust, cherry, walnut, hackberry and white ash. More study is needed to understand what ecological conditions the oaks and hickories need for regeneration from seed. Wild flowers that occur here and elsewhere on the old farm include wild hyacinth (Camassia scilloides), Penstemon calycosus and Houstonia purpurea var calycosa. The Nature Conservancy and the Land and Nature Trust of the Bluegrass approached the developers some years ago about preserving 30 acres or so, but no arrangement was worked out. Although a landscape architect was employed for the whole development, and individual large trees are mostly being preserved, no attempt was made to set aside the more intact woodland areas for communal parks or reserves. Much of the farm now has houses. However, some of the new residents would like to see the central woodland preserved, which would involve removing about six planned house lots or exchanging them for some non-wooded areas that have been set aside for little parks. Is it too late to persuade the developers to preserve these 5-10 acres - for 1986 tax breaks, to increase the attractiveness and value of adjacent lots, as a generous donation to the community, for its biological interest, or even to ease their own consciences?

PAT'S WEED PATCH by Patricia Dalton Haragan

Spurred Anoda (A. cristata) is a member of the mallow family (Malvceae). This summer annual is a tropical weed native to South and Central America and the southwestern United States. Growing to 1 meter tall, the hairy, freely branched stems produce alternate leaves that are ovate to triangular, 3-lobed, coarsely toothed and long stalked. The solitary, blue-violet flowers, produced in July to October, are 1-2 cm wide and are produced on long slender stalks in the axils of the leaves. There is a saucer-shaped calyx that has 5 narrow, long-pointed lobes, 5 petals, and numerous stamens that surround the pistil. The fruit is a disk made up of 10 to 20 beaked segments that each contain one kidney-shaped seed. In cultivated fields, the species was first reported from New Mexico and Arizona in the 1950's, and in the 1960's it had spread to Texas, Arkansas and Mississippi. By the early 1970's it was considered to be one of the 10 most troublesome weeds in soybeans and cotton fields of the Mid-South. Since then it has spread northward along the Mississippi Valley and has been reported from 6 Kentucky counties, growing in soybeans and small vegetable fields. In the last two years, it has spread from western Kentucky, where it was first found in Todd County, to the northeast, being found in Garrard County this summer. If it continues to spread, it could become a troublesome weed here.



SHORT'S BLADDERPOD, Lesquerella globosa; A CANDIDATE FOR FEDERAL LISTING

by Hal Bryan

Clinging to the cliffs on limestone ledges in a few scattered localities in central Kentucky is a small flowered member of the mustard family (Cruciferae) that is under consideration for federal protection. Short's bladderpod (Lesquerella globosa) is one of 34 Kentucky plants under status review by the US Fish and Wildlife Service. Only one plant in Kentucky, Short's goldenrod, is federally endangered and one other, running buffalo clover, has been officially proposed.

The bright, yellow-orange, cross-shaped flowers of Short's bladderpod appear in late April to early June and its distinctive, round, pod-like fruits form shortly after. Its gray-green color results from minute, stellate (star-shaped) hairs on the foliage. In Kentucky it is known from a circular, seven-county range from Powell to Franklin County in the middle of our Commonwealth. The plant is also known from Tennessee and a single site in Indiana in an atypical, dry woodland habitat.

Its strategy for existing on these dry, sun-scorched ledges is unusual. Most plants that exist in such stable but inhospitable habitats are perennials. They have complex root systems that expand each year and reach into rock crevices to anchor the plants and provide moisture during the searing summer heat. Short's bladderpod, however, does not appear to be perennial . Observations on the species indicate that it is probably a biennial. Seedlings overwinter as rosettes and flower in the second year of growth. The plant then dies after dispersing its seeds. Such a life strategy is more typically that of plants in periodically disturbed areas. Many garden and roadside weeds are biennials or annuals that persist by producing quantities of seedlings.

Short's bladderpod's survival in its arid habitat depends upon fortuitous germination and seedling survival. As a result the species often exhibits wide population changes from year to year. Two of our largest concentrations of Short's bladderpod in Franklin County produced almost no flowering plants in the dry spring of 1986. Its continued existence at these locations will depend on next year's seed crop or perhaps the presence of a natural seed bank. The failure of populations to regenerate could force the species to extinction.

The Division of Environmental Analysis had hoped to collect seeds of Short's bladderpod in the spring of 1986, and redistribute them upon a newly-established road cut to partially compensate for losses from a highway widening. In mid-June, however, the site harbored only one fruiting plant where a year before there had been hundreds. Hopefully, next spring will produce sufficient seeds to permit the mitigation experiment to proceed.

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MEDICINAL AND FOOD PLANTS OF KENTUCKY

Podophyllum peltatum (Mayapple)

The Mayapple, also known as the American Mandrake, is a member of the Barberry Family (Berberidaceae). It is a very common perennial herb of Kentucky woodlands. The flowering stem arises from a branched rhizome, and produces 2 umbrella-like leaves with a single white flower in the axis. The flower has 6 sepals, 6-9 petals, 12-18 stamens, and a 1-celled superior ovary. The fruit is a fleshy, yellowish berry. The dried rhizome was used by the American Indians as a laxative and as a treatment for intestinal worms. It was also known to be a potent poison in overdose. European settlers associated the mayapple with the European mandrake, an unrelated plant supposed to possess many medicinal and magical properties. The active principle of the American mayapple is podophyllin. Recent studies suggest that this chemical inhibits cell division, and may be useful in the treatment of some cancers. The resins from the rhizomes, leaves, and green fruits, however, can be very poisonous, with symptoms ranging from skin irritation to death. The ripe fruit, however, is very edible (according to Euell Gibbons), and may be eaten raw, as a juice, or as marmalade.

R.J.