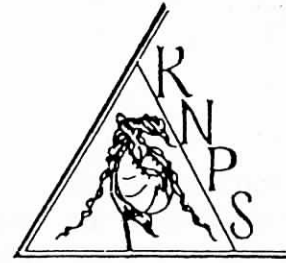


Kentucky Native Plant Society *NEWSLETTER*



Volume 6. Number 2. May 1991.

1991 Summer-Fall Field Trips and Other Activities

15 June (Saturday), 9 AM EDT to 7 PM EDT. Meeting of the SE Highlands Chapter of the American Bamboo Society., UK Ag Science Bldg, Room N12, Lexington. (call Julian Campbell, 606-271-4392.)

9 am--Registration
9:30 am--Welcome and Intro
10 am--J. Campbell--The Mystery and Diversity of Hardy Bamboos
10-30 am--J. Luken--From Antiquity to Obscurity--The demise of Kentucky's native bamboo (cane)
11 am--D. Wohlgemuch--Propagation techniques
11:30 am--D. Ehrlinger--Bamboos of the Cincinnati Zoo.
12 noon--Lunch
1 pm--Business meeting.
1:30--Auction of rare and unusual bamboo plants
3 pm--Tour of J. and S. Woods work in tissue culture at UK
4 pm--Tea break
5-6 pm--Optional tour of local canebrake
7 pm--Dinner, slides, and discussion (bring slides, questions, etc)

22 June (Saturday), 10 AM EDT. Breaks Interstate Park (KY-VA border). Leader: Allen Risk (Ph-606-783-2322, or 784-8896). In this region the Russell Fork River has carved the largest canyon east of the Mississippi River. The canyon reaches more than 5 miles long and 1600 feet deep, displaying sheer vertical walls most of the way. This trip will involve a bushwhacking, strenuous hike to investigate the

plant life and geology of the area. The park is located 7 miles east of Elkhorn City, KY, and 8 miles north of Haysi, VA, on KY-VA 80. Meet at the Breaks Motor Lodge parking lot (there is a fee of \$.50 per car for entrance to the park). You may want to stay overnight and do some general sight-seeing. If so call 703-865-4414 for lodge reservations. Accomodations call also be obtained in nearby Pikeville.

27 July (Saturday), 10 AM EDT. Beginners Fern Workshop, Natural Bridge State Resort Park, Powell County. Leader: Wilson Francis (606-663-2214). Learn how to identify ferns and the special terminology associated with these seedless plants. Meet in Activity Center, and bring a 10X handlens and a field guide to ferns if possible. Workshop will last about 4 hours.

10 August (Saturday), 10 AM EDT. Pine Creek Barrens, Bullitt County. Leader: Marc Evans (502-223-1679). This site is owned by the Nature Conservancy, and contains a number of unusual prairie species. Take I-65 south of Louisville, past Shepherdsville, exiting at KY 480, meet at Shell Station on east side of interstate. Hike will be generally easy over mostly flat ground.

13-15 September, Hugo L. Blomquist Bryological Foray, Pine Mountain Settlement School, Harlan County. This is a regional event that this year is being held in Kentucky. Field trips to Line Fork Cavern and Bad

Branch will be taken to observe mosses and liverworts. For details of the schedule call Allen Risk at 606-784-8896, after 6 pm.

4-6 October. Annual Fall Meeting of KNPS--Symposium on Disturbance and Restoration of the Kentucky Landscape. Kentucky Leadership Center, Wayne County.

This meeting will be held at multi-purpose conference center that include meeting rooms, dining facilities, and overnight accommodations. It is located on Lake Cumberland, 16 miles south of the Cumberland Parkway. Exit on Hw 80 to Nancy, take HW 196 out of Nancy, go through Faubush, then 5 miles south of Jabez to Center. Hiking and boating are available in the area. Reservation for the symposium must be made through KNPS (a form is enclosed). Do not call the center and make independent arrangements.

Tentative Schedule of Events:

Friday:

4 pm--General tour of the facilities and grounds.

6 pm. Dinner

7 pm. KNPS Executive Board Meeting, open to all members

8:30 pm. Evening speaker

Saturday

7 am--Breakfast

8 am--Morning hike

9 am--12 pm. Paper presentations, slide shows, workshops, and hikes on various topics dealing with the disturbance and restoration of the Kentucky landscape. A complete listing of talks will be published in the August KNPS Newsletter. Some of the planned papers include talks on the effects of natural disturbance (fires, treefalls, etc), how to recognize a disturbed landscape, effects of invasive species, effects of mining and timbering, how to restore wetlands, prairies, forests of the eastern, central and western parts of the state. These restoration talks will be aimed at both large and small

scale operations--for example how can some of the extensive wetlands in western Kentucky that have been lost be restored to their pre-disturbance form; or how can a homeowner recreate in their backyard an original bluegrass landscape, or a Kentucky prairie. We would also like to provide educational talks on how to recognize exotic species, and their effects on the original vegetation. When we look around us at the current landscape, do we realize how much of the observed vegetation is not natural, was not there 300 years ago! This symposium will help us to see what is and is not original in Kentucky, and what species we need to use in our restoration landscaping to help the return of our native plants and our natural plant communities.

12 noon--Lunch

1 pm to 5 pm. More paper presentations and workshops, as described above.

6 pm. Dinner.

7 pm. Annual Business Meeting of KNPS.

8:30 pm. Evening Speaker.

Sunday. Breakfast.

8 am. Field trip to sites in surrounding region.

Back to the Botanical Basics in Kentucky

Julian Campbell, President, KNPS

As the spring of 1991 (and my presidency of KNPS) wears off, it is important to keep in mind what we want to accomplish during the summer, and where we want to be at the end of the year. First, I want to remind members to keep sending me information about interesting roadsides, as explained in preceding issues of the newsletter. At the end of the year, I will begin organizing, summarizing and applying these data. Any help would be much appreciated.

Ultimately, we will try to establish a network of contacts in each county who could monitor sites and, hopefully, develop local community interest from the narrow roadside interest to broader conservation concerns at the county level.

Secondly, I urge members to think further about our long-term educational goals and how we can begin working towards them. Two relevant activities have recently been proposed in the society. Wilson Francis (address on back) has begun to organize a large collection of photographic slides. With the collaboration of several enthusiasts around the state, I believe we can put together an outstanding selection of botanical photographs just from existing collections. Large, eye-catching posters and succinct slide-shows are an important first step to getting students and the general public more interested in the Kentucky flora. I hope those of you with good photos will contact Wilson about developing this collection. At some point, major contributors will have to get together and work out details of selection, duplication, storage and further needs.

Also in the educational direction is Ron Jones' proposal to organize short botanical courses for beginners, perhaps offering a certificate of some kind, with cooperation from university extension programs (see following article) Those interested, contact him about this!

In the rest of this note, I'd like to outline some broader aspects of botanical basics that could be introduced to education in Kentucky. I will be presenting these ideas as part of a meeting on June 16-21 organized by the Kentucky Historical Society to develop better resources for teaching Kentucky History in schools. I will be exploring some general issues that, until the past decade, have rarely been dealt with in school systems anywhere in the

modern world. In their Kentucky context, such issues are as follows.

A. Understanding of the original biological diversity and the huge environmental changes that have occurred during settlement of the state. Most people know that the land was generally forested, but the geographic variety of forest types, other vegetation types and ecological factors is often not appreciated. We need to detail the great contrasts between highly agricultural limestone plains and forested hills with more infertile soil. Also, we need to highlight the overwhelming importance of exotic species, introduced from the Old World. This leads to the need for conservation of natural areas, as places where we can try to understand how the native flora survived and evolved before settlement. Without the natural environment considered, biology too easily becomes a dry, mechanistic, regurgitation of text-book or information that the student rarely has a chance to test out with direct experience in the lab or, better still, the fields and woods.

B. Questioning the common belief that native Indian use of Kentucky had been limited to seasonal hunting with minimal effects on the environment. Emphasis on the low population density during the pioneer years of 1750-1800 may have been a convenient exaggeration of limited facts into a myth that encouraged settlement and allayed consciences. There is a reasonable alternative view, that the Indian population had been more permanent, at least before 1700, and that they raised crops and burnt extensive areas for game. It is likely that diseases, guns, horses and general social disturbances precipitated by European colonization of North America had far reaching consequences in the Indian population that spread in advance of complete settlement. This supposed

decline of the Indian population can help explain the unusual, successional vegetation of the Bluegrass Region at the time of settlement.

C. Appreciation of the potential economic and ornamental uses of Kentucky plants. Documented uses of native plants by Indians and pioneers are of great historical interest. Also, a rich folklore about native plant uses has developed in the 200 years of Kentucky history, but, sadly, this knowledge has declined in recent decades. Moreover, how many potential economic uses have never even been explored? The case history of Kentucky's economic plants is part of the global task of collecting information about the huge diversity of plant uses, and linking this interest with conservation.

D. Kindling an interest in conservation through history. One of the easiest ways to get Kentuckians thinking about conservation is to instill wonder about what the land looked like before settlement. Much Kentucky history is preoccupied by social or political events. The original environmental setting for settlement and subsequent environmental relationships with human history are often glossed over. The human and natural history of Kentucky deserve to be taught in a more interactive fashion.

E. Kindling an interest in plants for their own sake. It is not easy to get the average school child excited about plants. Often parents instill fear and even hatred of plants as "weeds" and places where poison ivy, snakes, ticks, spiders, chiggers and other bad things live. Much of the landscape history of Kentucky, and the modern obsession with mowing, is bound up with this "phytophobia". Yet, I believe there are ways to

break through the barriers and teach Kentucky botany in ways that would be much more effective than the typically minor and sporadic previous efforts. Such methods would emphasize relationships between botany and other disciplines, including history, other biological and environmental studies, chemistry and pharmacy. This would be a new frontier in education!

F. Botany in the fields and woods is good for you! The relationship to physical education should not be overlooked. Just being out and walking, and working up to bush-walking through rough country, is one of the best all-round exercises of body and mind. I have this on authority of Joe Conley, a physician in Louisville and chairman of The Kentucky Nature Conservancy. You can go slow or fast, yet the twists and turns required on various muscles and bones build a special kind of toughness. Moreover, one can gradually build up physiological or mental resistance to hay-fevers, poison-ivy, flies-in-the-eyes and other character-building nuisances. And how much more interesting is this than the mindless routines of aerobics, weight-lifting and other boring pursuits of the city-dweller. Above all, through being exposed to an overwhelming diversity of species and natural phenomena, one is continually testing the outer limits of sensory input and the inner limits of cortical evaluation.

A Certification Program in Native Plants for Kentucky?

by Ron Jones, Richmond.

A program on Certification in Native Plant Studies has been carried out very successfully by the New England Wildflower Society. The

KNPS Board of Directors recently voted to investigate the possibility of a similar program in our region. This program is designed to offer earnest members a series of programs in identification, ecology, cultivation, and conservation of native flora and vegetation. The New England program works as follows: students complete 9 core course (Wildflower ID, Basic Botany, Plant Communities, Native Shrubs, etc), select a focus of study (ie. floristic, wetlands, education, horticulture, etc), and take 6 special topics courses in their focus area. They must also visit at least 12 habitats, conduct a special project, and keep a notebook of their progress, which is then approved by the Director of the program, before the certificate is awarded. It is hoped that the certified students will provide important participation in the effort to preserve and restore the native flora. The courses offered are not for college credit, but are designed just for the certification program, usually offered at night or on weekends.

The New England Wildflower Society carries out much of their program through their extensive network of nature centers. I don't know if this would be possible in Kentucky, we do have several facilities scattered about, but it may be too much of an organizational problem to get them scheduled. What we in Kentucky could do is carry out such a program through our Universities and Colleges, via the Special Programs or Continuing Education Departments. A course involving 8 hours of instruction, with at least 10 students, would cost each student \$30; likewise a course of 16 hours would cost \$60 per student. I would suggest that the Core Courses not be given in one or two days, but be scattered out over a 2 to 4 week period in order to give maximum benefit for the student. I might be possible to schedule some of the

Special Topics type courses over a one or two-day period.

Would you be interested in participating in this program? If so, please fill out the form on the renewal notice, and send it back to me as soon as possible. After my previous announcement of this program in February I received only about a dozen responses. I must see much more interest than this before initiating this Certification Program.

Restore the Natural Bluegrass Landscape (with Native Plants)

By Julian Campbell, Lexington

INTRODUCTION

People are becoming more interested in replanting native species of the Bluegrass Region on sites where they were formerly more abundant in the presettlement landscape. The following guidelines can be suggested.

*** Be careful to use only species native to the particular habitat and region where you are working--not just vaguely "native to Kentucky". Try to get seeds and plants from local sources. Do not use generic North American "wild-flower" mixes and commonly propagated woody species (usually with out-of-state origins).

*** Consult experts in this field for practical advice and sources, especially Sherri and Marc Evans, Shooting Star Nursery, Frankfort, Kentucky (Tel: 502/223-1679). 311 Bates Rd, Frankfort, KY 40601

*** Educate yourself botanically with standard manuals and help from your local college or university. Try to understand the distribution of your local native plants and think (or dream) about the natural condition of the presettlement vegetation, together with the forces that guided

the native American Indians' use of their landscape.

The species listed below are those that I think deserve special consideration for replanting efforts. In each case, the native habitat is noted, in order to suggest the most suitable sites for replanting. Some species are easy to obtain and propagate; others are rare and difficult to grow, and may only be appropriate in a botanical garden at present. More research and experimentation will be needed to generate reliable advice on the best seed mixes and other propagation methods.

BOTANICAL AND ECOLOGICAL BACKGROUND

Within the past decade, there has been increasing interest in natural history and conservation of the Bluegrass Region. (By the "Bluegrass Region", I mean the area with Ordovician limestones in north-central Kentucky, centered on the Lexington Plain, but extending through the hills south to Danville, east to Mount Sterling, north to Covington, and west to Louisville.) Within this region, the two centuries of settlement, forest clearance and agricultural development have removed almost all natural vegetation. Those few sites that have exceptional importance as remnants of this vegetation, or as refuges for rare species, are currently being identified by the Kentucky Nature Preserves Commission and The Nature Conservancy in order to focus their protection efforts.

There is also a great potential for landowners to manage the many other remnants of native vegetation for restoration of natural qualities, and to replant selected native species in completely artificial landscapes. Although this process will take decades or centuries, even within the most carefully managed sites, and we may never be able to recreate the

same conditions as existed before settlement--with buffalo, elk, mountain lions and Indians--we can at least strive to maintain the native flora, and to promote those neglected native species that can find a useful role. This is a worthy goal.

Essential to this effort is a basic knowledge of the natural vegetation patterns that existed before settlement, and of the native, as opposed to exotic, flora. I will not delve into technical details of the vegetation in this introductory paper, but the following broad divisions are useful for reference. These rather arbitrary divisions are not always clearcut in nature, where there is often much intermixing of different vegetation types.

(1) Forest on richer soils. This used to occur on the typical Inner Bluegrass soils and on more fertile parts of the Outer Bluegrass. Abundant species on moister sites included sugar (and black) maple, bitternut hickory, Ohio buckeye, black walnut, white ash, blue ash, bur oak, chinquapin oak and shumard oak. The oaks and ashes were probably concentrated on sites with more frequent drought or fires. Much of the forest appears to have been in a successional state at the time of settlement, presumably due to a reduction in the Indian population and associated fires about 100 years before. Some of these forest types were relatively unusual or unique, within eastern North America, so that protection and restoration efforts assume global importance.

TREES AND SHRUBS FOR RICHER SOILS

Acer saccharum (sugar maple), A. nigrum (black maple). These species used to be abundant in Bluegrass forests on moist undisturbed sites, but they have been much reduced by cutting and grazing--they are

favorites of buffalo and cattle alike. They make excellent trees for creating and tolerating dense shade on good sites, but may be relatively sensitive to droughts and other stresses. Black maple--often considered a subspecies of sugar maple--appears to do best on deeper, moister soils.

Aesculus glabra ("Ohio"/stinking buckeye), A. flava (=octandra) (yellow/sweet buckeye). Ohio buckeye used to be frequent, and is still often met with, even in disturbed woods. Yellow buckeye is largely restricted to steeper slopes near larger streams and rivers. They are good trees for partial shade, with gracefully bowing lower branches. Yellow buckeye is particularly vigorous and upright for a shade species. They have foliage produced exceptionally early, with showy flowers, but they also have early leaf-fall, together with loads of large seeds. These species may be somewhat grazing-tolerant, due to bad taste and poisons.

Asimina triloba (pawpaw). Formerly frequent, especially in thickets (and probably with grazing tolerance), this small tree species has been much neglected in horticulture. The fruits can be produced abundantly in some years, and are delicious--even when picked green before animals can get them, then ripening like bananas. Propagation is difficult except from seed.

Carpinus caroliniana (hornbeam, blue beech). This small tree species was formerly widespread on moister sites, but is now largely restricted to slopes along larger streams and rivers. Its curious muscle-like bark and neat little tree form would make it quite attractive in ornamental settings.

Carya cordiformis (bitternut hickory). This was the most

abundant hickory species on richer soils, often in moderately mature forest, growing up with a sugar maple understory. It is a vigorous stately tree, with moderate drought-tolerance. The nuts are small and bitter, however.

Carya laciniosa (shellbark hickory, kingnut hickory). This hickory was also frequent, especially on bottomland. It has the largest nuts of all hickory species, at least in North America. It appears to one of the most grazing-tolerant tree species in this region.

Cladrastis kentukea (=lutea) (yellow-wood). In the wild, this species is restricted to the vicinity of cliffs (mostly north- or east-facing) in the Palisades Section of the Kentucky River valley. It has been widely used in horticulture, with its attractive smooth bark, delicate foliage, and clusters of showy white flowers. However, the origin of most cultivated stock may not be Kentucky. It would be interesting to look for differences between plants from the Palisades and the other parts of this species' fragmented range.

Cornus alternifolia (alternate-leaved dogwood), C. drummondii (rough-leaved dogwood). These shrubs have attractive clusters of small white flowers (unlike the common "flowering dogwood"), and fruit (blue and white, respectively). The alternate-leaved is relatively tolerant of shade, but not dry conditions. The rough-leaved is less tolerant of shade, but more of moisture extremes.

Dirca palustris (leather-wood). This curious miniature tree is restricted to steeper slopes and ravine bottoms along larger streams. It has tough, rubbery, jointed branches and small yellowish flower clusters in early spring. It deserves attention for

ornamental use (especially in small, neat gardens with a dwarf or bonsai look).

Euonymus atropurpurea (wahoo, spindle), E. obovatus (running strawberry-bush). The former is a spreading shrub typical of sunny thickets on deep upland soils; the latter is a ground-covering vine of more shady forests on steeper slopes, respectively. They both have showy reddish fruits ("heart's a' bursting").

Fraxinus quadrangulata (blue ash). This is one of the most frequent tree species in the region, both on dry rocky ground and, as large relict trees with no regeneration, in the classic "woodland-pastures" (or "savanna-woodlands") of the Inner Bluegrass. Although rather scraggly (without natural pruning of old lower branches) on drier sites, large trees on deeper soils can be very stately, and apparently quite drought-resistant. Given the historical importance of this species in the typical "horsefarm" landscape, and its lack of replacement even when pastures are abandoned, there should be much more effort to establish saplings in nurseries and to replant trees. Viable seed is difficult to come by in most years, but seedlings are frequent in the wild on steeper slopes.

Gymnocladus dioica (Kentucky coffee-tree). This is an extraordinary tree species, which is perhaps more frequent in the Bluegrass Region than anywhere else in its range. It is typical of moderately disturbed woods, especially in the transition to grazed areas where clonal patches establish from running root suckers. Its satiny wood, like tropical mahogany, is a wood-carver's dream. It has curly blue-grey bark, huge gracefully divided leaves, unmolested by herbivores, and greenish flower-

clusters, with male and female on different trees. Its large purplish-black fruits like pea-pods (legumes) are a bizarre curiosity, with big black seeds set in a sticky green gum, first sweet to taste then poisonously bitter. I believe this species was intimately connected with buffalo and other ungulates in the presettlement world of the Bluegrass. It certainly deserves to be the Kentucky state tree for this historical interest, and also for use as an ornamental shade-tree with considerable tolerance of droughts and herbivores.

Hydrangea arborescens (hydrangea, seven-bark). This small shrub, with large flower clusters (cymes with showy marginal flowers), generally grows on steep seeping slopes in partial shade. It was probably widespread along streams before deforestation, and deserves much replanting on moist, shady banks.

Hypericum prolificum (shrubby St. John's wort). A much neglected miniature tree with much ornamental potential, this species has profusely showy bright yellow flowers produced in mid-summer when few other woody plants are in bloom. It occurs naturally along rocky river banks and other thickets on or near steeper slopes. It may not have been typical of flatter uplands, but it deserves a special ornamental place in gardens.

Lindera benzoin (spicebush). This is an abundant shrub in moist forest, especially on bottomland. It was formerly widespread, but has been virtually eliminated from agricultural regions. It would make an excellent item to replant in quantity on floodplains in suburban settings (where the Manchurian bush-honeysuckle all too often gains dominance instead). The aromatic leaves and bright red fruit are special features.

Lonicera dioica, L. prolifera (wild honeysuckles). These native honeysuckles, with yellowish flowers, are infrequent on rocky slope forests. They may not be as floriferous as some other cultivated species, but they deserve more trials. L. prolifera has a more spreading, bushy habit and handsome bluish foliage.

Morus rubra (red mulberry). This species is still scattered throughout the region on moist, forested sites, but there are historical indications that it is has declined considerably. Van Shipp (of Versailles) says that trees in this region used to grow much larger than they do today. Indeed, the traditional botanical manuals state that its maximum height is about 60 ft, but I have never seen one exceed 30 ft in the Bluegrass Region. Its fruits have a richer flavor than the commonly cultivated Asian "white mulberry", but are not so abundantly produced. It would be interesting to search for a variety with resistance to its mysterious decline and with good fruit production.

Ostrya virginiana (hophornbeam). This small tree species is kin to the hornbeam (Carpinus) but generally occurs in drier forest on steeper slopes. It also used to be abundant throughout the region but appears to have declined greatly with deforestation and understory removal in woodland pastures. Its neat, finely patterned bark and drought tolerance make it an excellent candidate for ornamental use in town, as well as in forest restoration projects.

Prunus munsoniana (goose plum). This native plum is not common, but does form large thickets at some sites, usually on deeper soils at forest edges or in old-fields. It often has trouble with fungi and insects on the foliage, and good fruit production

may occur at intervals of 2-3 years. However, its glossy foliage, vigorous suckering and fairly good fruit (when completely ripe) may justify some special planting efforts. The common American plum (P. americana) is less interesting.

Rhamnus caroliniana, R. lanceolata ("buckthorns"). Not really thorny (but lacking good common names), these small shrubby species mostly occur on drier rocky slopes. They are easy to propagate, and produce attractive small, white or yellowish-green flowers and blue-black fruit. They are entirely suitable for ornamental use.

Ribes cynosbati, R. missouriense (wild gooseberries). These curious, prickly (and inedible) relatives of the cultivated currants and gooseberries are infrequent in rocky woods. They are very easy to propagate and may be useful in certain ornamental situations.

Rosa setigera (prairie rose). The native roses deserve much more ornamental use. Their pink flowers are simple and straightforward, in contrast to the rather overwhelming exuberance of the common cultivars.

Quercus macrocarpa (bur oak). The 400-500+ year old "grandfather" bur oaks on deep soils in the classic horsefarm landscape are among the oldest trees in the Bluegrass Region. The series of ring-widths in their trunks hold clues to our recent environmental history, but, sadly, no effort has been made to collect sections when trees die or are cut down. The spreading massive shape of trees over 500 years old makes them magnificent monuments to our natural heritage. The extraordinarily large, "mossy" acorns (with edible pulp, after washing out tannins, that is good for muffins) are often spread around by squirrels, and young trees are

scattered around in fencerows and thickets. Transplanting seedlings must be done within a year or two, since the tap root is particularly well developed at an early stage.

Quercus muhlenbergii (chinquapin oak, yellow oak). This oak is abundant on drier rocky sites and, as a relict without regeneration, on deeper soils in agricultural landscapes. It is generally associated with blue ash. Good seed can be obtained in most years, and a nursery stock would be easy to build up in the region. However, the species is virtually absent from commercial forestry or horticulture sources. The trees would be entirely satisfactory for shade or ornament, in addition to reforestation projects.

Quercus rubra (northern red oak). This species is typical of fairly moist slopes, especially in the transition from sugar maple and beech to oak-ash or oak-hickory forest. It may deserve special replanting efforts on steeper slopes near larger streams and in the Eden Shale Hills. However, on richer soils in more agricultural areas, the shumard oak is a more appropriate species for restoration.

Quercus shumardii (shumard's oak). This is a vigorous, stately, relatively drought- (and flood-) tolerant oak that has been sadly neglected in the nursery business. It would probably be superior to the excessively planted pin oak in most situations (without the drooping unpruned lower branches and undecomposing leaves of pin oak). It is frequent on a wide range of base-rich soils, whereas the pin oak is natural most typical of heavy clays or other poorly drained sites with lower fertility. Benjamin Franklin Shumard's (1820-69, State Geologist of Texas) tree deserves more respect.

Staphylea trifolia (bladdernut). This

root-spreading shrub with bizarre, bladder-like fruits is abundant in moist-to-dry rocky slope forests. It should be planted on steep slopes along streams; perhaps it would help keep the Manchurian bush-honeysuckle (L. maaackii) at bay.

Tilia americana, T. heterophylla (linden, basswood; the latter species with whitish hairy lower surfaces of sun leaves). These trees are common on moist, rocky slopes, and were formerly scattered on uplands with deeper soil. Their potential for use as rapidly growing, shade-casting trees has been unfortunately neglected, in contrast to the European linden (T. cordata).

Ulmus rubra (slippery/red elm). Formerly widespread on moist to dry soils, this species appears to have declined greatly in agricultural areas, perhaps due to grazing. Large trees have a stately upturned arch form, like the more common (but disease-ridden) American/white elm (U. americana).

U. thomasi (rock elm). This species just occurs on dry rocky slopes, especially near the Kentucky River, and was probably no more widespread before settlement. However, it deserves experimentation as a drought-tolerant shade tree.

Viburnum molle, V. rafinesquianum (arrow-woods). These shrubs of rocky slopes have considerable ornamental potential. V. molle, a rare species of moister sites, has unusual reddish flaky bark and large cordate leaves. V. rafinesquianum is a smaller, thicket-forming shrub that is locally abundant on drier sites.

Viburnum prunifolium, V. rufidulum (blackhaws, smooth and rusty). These small trees are already frequent in moist and dry woods, respectively, often in successional situations. However, they also have much ornamental potential, with

showy cluster of white flowers and blue-black fruit.

(Article will be continued in next newsletter)

News and Announcements

KNPS T-Shirts and Caps for Sale

There are still some Wildflower Weekend T-shirts and quite a number of KNPS caps still available for our members. Both T-shirts and caps are \$8, including postage. The T-shirts are a light blue, all cotton, Haynes Beefy-T's type, with a dark-blue spiderwort on the front. The caps are green with the KNPS logo (a ladies-slipper) embroidered on the front. Only large and X-large T-shirts remain; the caps are the adjustable type--one size fits all. Please indicate on the membership renewal/order form what would you like to purchase. We really encourage you to help out the society by buying these items. It is our only way to recover our recent expenses (about \$800 for sponsoring the Wildflower Weekend at Natural Bridge).

Seed Exchange Summer Update

Now's the time (...and through the rest of the summer...and on into the fall...) to be on the lookout for seeds for the KNPS Native Plant Seed Swap. It would be nice to have a longer list than the dozen or so species we've been able to offer members in the past. Collecting large quantities, however, is not required. Members' requests for seeds are generally limited to three or four choices, and not everyone wants the same species, so a teaspoonful of seeds is often enough to spread far and wide.

Members are interested in seeds from any of the native wildflowers, vines, shrubs, and trees, and maybe even in spores from the ferns, that you might like to have growing in your own yard or garden.

In fact, if you already have some native plants in your garden, that's the first place to look for seeds. After that, look around at the rest of your property, check at your friend's place, and don't forget to knock on the door of the developer who's getting ready to grade for the new parking lot. Native plants are where you find them. Uncommon species are okay, but since we don't have sophisticated storage facilities, the rare ones are probably best left to their own devices.

If you do collect seeds from a species or two, let them dry well, and bring them along to the fall meeting or send them or a list of species to:

KNPS Native Plant Seed Swap
c/o Charles Chandler
924 Maywick Drive
Lexington, KY 40504.

Whether you happen upon a plant just at the time when its seeds are ready, or keep an eye out so you're ready when it is, collecting seeds is a great way to become more familiar with a favorite plant and the way it works. The basic botany is: seeds are designed to be dispersed. They may have evolved wings of their own, but apparently they went and got amazing too, just in case they needed to make use of the humans. Don't fight it. Go with the flow. Collect those seeds.

Volunteers Wanted

As the KY State Nature Preserves System continues to grow, so does the urgency for volunteer support to implement management projects on these preserves. The Stewardship program has various projects planned for several preserves this year and there are numerous opportunities for volunteers to lend their time and talents both on weekdays and weekends. Times and places where volunteers are needed can be obtained by calling Cindy Campbell at 502-564-2886.

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 Editor, KNPS NEWSLETTER, Department of Biological Sciences, Eastern Kentucky University, Richmond, KY 40475.

President - Julian Campbell, 3525 Willowood Rd., Lexington, KY 40517, 606-271-4392.
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Editor, KNPS Newsletter - Ron Jones, Department of Biological Sciences, EKU, Richmond, KY 40475, 606-622-6257.

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, and 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.

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