The Lady-Slipper

Kentucky Native Plant Society Number 21:3 Fall 2006

New Officers and Executive Board Members Selected in Fall 2006 Meeting, with a Tribute to Out-going KNPS Officers

by Ron Jones

A new set of officers and KNPS board members were selected in the Fall, 2006 meeting. New officers included Tom Barnes as President (see his President's message), Pat Haragan as Vice-President, and Amanda McKinney as Secretary. The only continuing officer is Kathleen Jones as Treasurer. New Executive Board members are Tara Littlefield, and Alan Nations, with Dave Luzader and Zeb Weese continuing as board members. All the new officers and board members are greatly welcomed, and it is hoped that this new influx of people and ideas will be of great value in moving KNPS forward in the coming years.

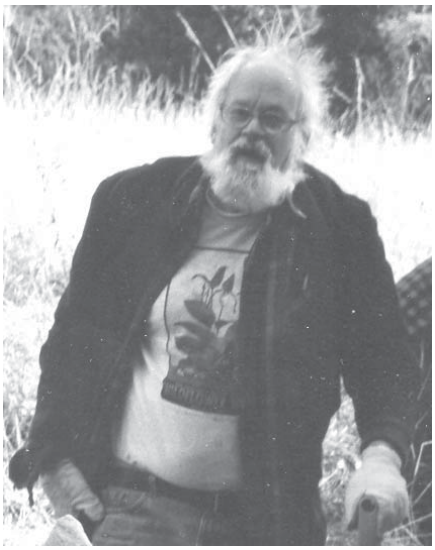
Landon and Lela McKinney
Photo by Ron Jones

At the same time, we have several long-time KNPS officers and Executive Board members who are retiring from their positions. These include Landon McKinney, Lela McKinney, Steve Sensenig, Mary Carol Cooper, and Charlie Lapham. All of these people have a lengthy history with the KNPS, and have contributed to the KNPS in numerous ways. They are the ones that are willing to give up their

Mary Carol Cooper and Steve Sensenig
Photo by Ron Jones

Saturdays and drive long distances for sometime very long board meetings. They are the ones that, when their terms run out in one office, are willing to switch to another position in order to continue to serve. They are the ones that always attend Spring and Fall meetings. They are the ones that year after year can be counted on to do their part. They have all given greatly of their time and effort, and even now, several will continue to serve KNPS as committee members. Many thanks to all for your years of service to KNPS!

continued on page 11



Charlie Lapham
Photo by Ron Jones

In this issue--

The Lady-Slipper

is intended to be published by the Kentucky Native Plant Society [IRC 501(c)(3)] in March, June, Sept., and Dec. Deadlines are the 15th of the prior months, but Editorial Committee members welcome article submissions at any time.

Send dues and inquiries about membership status to: KNPS Membership, P.O. Box 1152, Berea, KY 40403. **FOR ALL OTHER BUSINESS** contact an appropriate Officer / Board Member below:

KNPS Officers—
President: Thomas G. Barnes - Department of Forestry, University of Kentucky, Lexington, KY 40546-0073, 859-257-8633, tbarnes@uky.edu

Vice-president: Patricia D. Haragan - 713 Greenridge Lane, Louisville, KY 40207, 502-894-0674, patricia.haragan@olmstedparks.org or caribpat@aol.com

Secretary: Amanda McKinney - 3964 Woodchase Drive, Erlanger, KY 41018, (859) 283-5377, LMCKinney@ascgroup.com

Treasurer: Kathleen Jones - P.O. Box 1152, Berea, KY 40403

KNPS Executive Board Members—
Dave Luzader - 5646 Taylor Mill Rd., Taylor Mill, KY 41015, 859-356-8581, dluzader@insightbb.com

Jason (Zeb) Weese - Kentucky State Nature Preserves Commission, 801 Schenkel Lane Frankfort, KY 40601, (502) 573-2886, zeb.weese@ky.gov

Tara Littlefield - 353A Woodland Ave Lexington Kentucky 40508, 859-333-9887, tara.littlefield@ky.gov

Alan Nations - 13020 Mitchell Hill Rd, Fairdale, KY 40118, alan.nations@ olmstedparks.org , 502-235-8068

Native Plant Studies Certification Program Director - Landon McKinney - ASC Group, Inc., 1624 Burlington Pike, Suite D, Florence, KY 41042; 859-283-5377; LMCKinney@ascgroup.com
Co-Directors: Ron Jones and Margaret Shea

The Lady-Slipper Editorial Committee - Landon McKinney (see contact info below) and Ron Jones - Biological Sciences, Eastern Kentucky University, Richmond, KY 40475, 859-622-6257, ron.jones@eku.edu

The Lady-Slipper design and production - Amy McIntosh, 255 Sunset Ave., Richmond, KY 40475, 859-626-5207, amy_mcintosh6@eku.edu

Webmaster - Dave Luzader (see contact info above)

A Message from the President, Tom Barnes

This summer I had the fortunate opportunity to see and photograph some really cool plants at May Prairie in southern Tennessee. Two species, which we do not have here in Kentucky, were the white snow orchid (*Platanthera nivea*) and coastal false asphodel (*Tofieldia racemosa*). The really neat thing about the trip, other than seeing those plants, was that a volunteer from the Tennessee Native Plant Society was my host and guide. As we wandered around this unique habitat and looked at some other interesting species like L*espedeza angustifolia*, S*ilphium mohrii*, *Eupatorium leucolepis*, and *Euthamia leptocephala,* and we discussed our respective Native Plant Societies. I was quickly amazed at how active the TNPS was in terms of leading field trips, (they offer at least one every single month from May through October), producing a book (Wildflowers of Tennessee, The Ohio Valley, and the Southern Appalachians), and helping with various and sundry projects that include monitoring rare plant populations to removing exotic plants from nature preserves.

Why do I mention this little tidbit of information? I think the reason is that as an organization we need to become a little more active, regaining some vitality from our youth, so to speak. As organisms or organizations age there is always this tendency towards keeping the status quo, not rocking the boat, and kind of coasting through time. This of course is why organisms and organizations ultimately die. I feel very privileged to be able to provide some direction for the next two years as president of the KNPS and I hope to build upon some momentum that has been generated in moving KNPS forward into the future. I have some big goals, but I can not achieve those big goals without the help of a good board of directors, or more importantly, without the assistance of the membership in general. We, as an organization, need you. We need you to help with projects, we need you to help in leading or just attending field trips, we need you to write something for the newsletter, we need you to attend meetings and provide the board with input on the good, the bad, and the ugly (I pretty much have that one covered there folks as when I grow my beard to some length I look like Osama Bin Laden). Seriously, an organization is only as good as its membership.

So what are the big goals I would like to achieve during my two year tenure as president? First and foremost, we have to be on financially sound footing and our printed newsletter is literally eating our lunch. We have to move to more modern methods of communication and this means moving from a printed newsletter to an electronic newsletter. This will save the society not only money, but it will help the environment with less paper to recycle and it will provide for a more direct method of communicating to the membership. There is not a professional organization to which I now belong that still uses only a printed newsletter. The great thing about the electronic newsletter is that we will be able to publish in full **COLOR!!!** Concomitant with this change is an update in the webpage. Thanks to Dave Luzader for updating the page to make it current. We must look carefully at our webpage, with respect to making sure it is timely, relevant, and visually appealing. One thing I would like to see on a new website is a native plant of the month. I envision a simple photo with a few lines of text introducing this plant to the membership. In some cases this could be a plant that will be a featured species on one of the field trips.

Since I mentioned field trips, another goal is to expand the opportunities for the membership to see unique plants in the field. I know we have not been very good in the past about offering field trips, but I hope to work with a variety of board members and volunteers to greatly expand the field trip menu and then to

publish the entire year of field trips on the web. We would hopefully finalize the list at the spring wildflower weekend annual meeting and post it on the webpage so that we are all aware of when those opportunities exist. At this point in time I would like to see if there is interesting in seeing some endemic cedar glade flowers in late spring in the Nashville Basin area? I know I was fascinated by seeing Nashville breadroot, Price's oxalis, Tennessee milkvetch, Gattinger's dalea, and a couple of other interesting species, and these were at the Cedars of Lebanon State Park. If you are interested in this type of trip, please let me or another board member know. Furthermore, we need your input as to which types of plants you would like to see on field trips and perhaps we can accommodate those requests.

Nashville breadroot--*Photo by Tom Barnes*

Another goal is to have more participation with activities that help with plant conservation around the state. For example, last year purple loosestrife reared its ugly head in the wetlands of far western KY and this could be an opportunity for membership in this part of the state to help with a project. Or it could be as simple as monitoring a rare plant population. I hope to meet with the botanists at the Kentucky State Nature Preserves Commission to get some input on potential opportunities where we can assist them. We have initiated some of these types of activities and Zeb Weese will be working on a project at the Henry Clay estate in Lexington and we need you, our membership, to help with this vital effort.

I also hope to interact more with the other natural history organizations around the state to see where we have common interests and where we can potentially have joint meetings, programs, and/or other opportunities all across the state. For example, say the KY Lepidopterists are meeting in Paducah to see the great purple hairstreak, we might also meet and look at butterflies and plants and have a joint program on pollination. The opportunities may be unlimited here.

These are some pretty big goals and I can not achieve them without your help. I have met some wonderful people across the state that care deeply about our natural resources and love native plants. We need to reach out to new audiences like garden clubs (perhaps you can volunteer to give a program to one, they are always in need of programs at the local garden club) to show what a great organization the KNPS is and to showcase what wonderful people belong to this group.

Finally, I want to say that you can feel free to contact me at anytime regarding issues related to the KNPS. My office phone number is 859-257-8633, my home phone is 859-276-1832, and my email address is tbarnes@uky.edu. I look forward to working with everyone for the next two years and wish everyone health and happiness in the coming year.

Tennessee milkvetch--*Photo by Tom Barnes*

Taxonomical and Ecological Patterns of Non-native Vascular Plants of Kentucky

by Shane Newborn, Zachary Brian, and Kate He
Department of Biological Sciences, Murray State University

INTRODUCTION

Non-native plant species, sometimes called alien or exotic plants, are plants that come by chance or are introduced with purpose to a particular area in which there were not formerly found. Non-native species have been variously defined in the literature, these terms relating to their ability to survive in their new environment (Pyœek et al. 2004). For example, some non-native species can survive for only one season (many crops), others can continue to grow only at the sites where they are planted (many ornamental woody plants), and others have the ability to reproduce abundantly and spread throughout the area (many "weeds").

Jones (2005), in his treatment of Kentucky plant life, using the following terms to designate the various kinds of non-native species treated in his flora: **waifs**—normally found in cultivation, and occasionally sprouting in waste places; **persistent**—planted and persistent for years, but not escaping; **adventive**—accidental introductions that occur sporadically, but not firmly established; and **naturalized**—firmly established and spreading. It is the naturalized plants that are of most concern.

Naturalized plants are those non-native species that are capable of functioning as independent self-perpetuating populations (able to produce flower, fruit, and viable seeds that can spread from the parent plants) for years without direct human intervention. Naturalized plants usually occupy disturbed sites such as roadsides, yards, fields, etc., but some possess the ability to encroach on natural plant communities, and these are called "invasive." Williamson (1996) estimates that among the naturalized plant species not more than 10% become invasive in their new habitats. Invasive species are sometimes very successful, spreading into natural communities, and crowding out, or otherwise out-competing, the native species.

The impact of invasive plants has been studied in major natural ecosystems (Baskin 2003). Current research indicates that plant invasion can cause losses of biodiversity, change niches of native species, alter structure and function of ecosystems, and consequently result in substantial economic losses (Williamson 1996; Perrings et al. 2005). Not surprisingly, the identification of invasive and potentially invasive species has emerged as a crucial area of ecological research.

In the state of Kentucky, combating plant invasion has become a critical task for conservation management. After 200 years of plant introductions and invasions, twenty-two percent (570 taxa) of all the vascular plants (flowering plants, conifers, and ferns) in Kentucky are non-native (Jones 2005), and over 90 of these species, in three categories, have been declared invasive by the Kentucky-EPPC (2000). Jones (2005) provides examples of species in the three categories (severe, significant, and lesser threats), and details the various problems caused by these non-native plants, including those that invade pastures, croplands, wetlands, and forested communities, but provides no summary of their occurrence by family, their origins, or their biological traits (growth forms, life forms, and life spans). It is the goal of this paper to summarize these features of non-native plants in the state, and to answer the following questions: (1) How many non-native species are there per family in the Kentucky flora? (2) Where do non-native species originate? (3) How many non-native species have been naturalized? (4) What are the biological traits associated with non-native species? This information will be obtained by conducting a systematic survey of the non-native plants listed in Jones (2005).

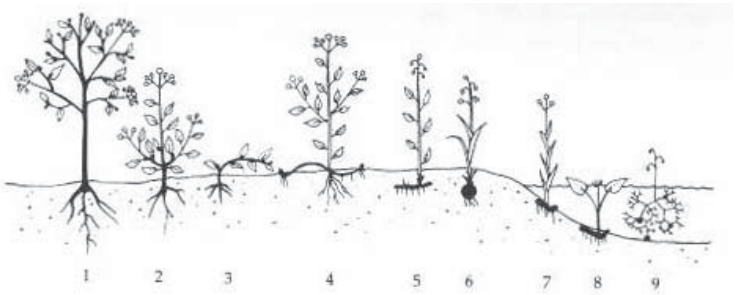
RESULTS

Among the total 570 non-native species, 81% came from either Europe or Asia. The remaining 19% came from South America, Africa, and other parts of the U.S. Of the 90 species listed as invasive threats by KY-EPPC (2000), nearly all originated in Europe or Asia. Non-native species were recorded in 85 families, and the top ten families for the 570 non-native taxa are listed in Table 1. As suspected, the top families were the grasses, asters, mustards, and legumes.

Of the 570 taxa, 249 are listed as naturalized. Table 2 provides a listing of the top ten families of the naturalized species, and the grasses and asters are again foremost. Table 3 provides a listing of the top ten genera among the naturalized species, showing that 7 genera have 5 or more naturalized species, including the speedwells (*Veronica*), the bromes (*Bromus*) and the honeysuckles (*Lonicera*).

Of the 249 naturalized species, 18 were trees or shrubs, 12 were vines, 167 were forbs, and 52 were graminoids. From a life span perspective, 114 were annuals, 15 were biennials, and 120 were perennials (woody or herbaceous). Another way to compare life forms is shown in Figure 1. This system of

Raunkiaer (1934) classifies plants based on the position of their overwintering parts (buds or seeds):



Raunkiaer's life form classification from *Terrestrial Plant Ecology*, Michael F. Barbour, et. al.

Phanerophytes (image 1): bud-bearing shoots in the air, predominantly woody trees and shrubs;
Chamaephytes (images 2 & 3): bud within 10 in (25 cm) of the surface, mostly prostrate or creeping shrubs
Hemicryptophytes (image 4): buds at the soil surface, protected by scales, snow, and litter, as in most perennial herbs.
Cryptophytes (or geophytes) (images 5-9): buds underneath the soil surface or under water
Therophytes: annuals, the seed representing the only perennating tissue.

Based on this classification of Kentucky's naturalized plants, 25 of the species are phanerophytes, 4 are chamaephytes, 95 are hemicryptophytes, 13 are geophytes, and 112 are therophytes.

The survey also revealed that 209 of the naturalized species occurred most frequently in disturbed habitats of various sorts, including abandoned old fields, edges of cultivated sites, and roadsides. Of the remainder, 25 occurred in open woods, and 15 in wetlands.

DISCUSSION

It is not surprising that most non-native species originate from Europe and Asia. Primarily, this is due to the history of human colonization and global trade and travel. Many non-native species are brought intentionally by humans for the soil erosion control, wildlife coverage and forage, and nursery stocks. For example, 85% of all naturalized woody plants in North America were introduced for horticultural reasons (Reichard and Hamilton 1997). Botanical gardens and nurseries have been excellent sources of introduced species that have escaped to the wild. Furthermore, similar biomes are found throughout eastern North America, Europe, and eastern Asia largely due to the parallel climatic conditions and geographic history.

Some families contain large numbers of non-native species, such as the Asteraceae and Poaceae. Both families have been recognized as the main sources of invasive plants in many parts of the world (Holm et al. 1997). Many species in these families possess morphological, physiological, and ecological traits that allow them to be successful invaders. For example, species of Asteraceae and Poaceae possess traits such as advanced flower structures, high reproductive rates, specialized dispersal means, and in some cases, high levels of vegetative reproduction, etc. (Pyœk 1998). Therefore, it is logical to say that taxonomic affinities can be used as an effective tool in evaluating the invasiveness of future invaders.

Results in habitat types indicate that most non-native species are found in disturbed habitats. This suggests that disturbance may facilitate the naturalization/invasion of non-native species. Current studies have shown that non-native species are concentrated mostly in the vegetation of deforested mesic habitats with frequent disturbances (Pyœk et al. 2002). In some cases, the range expansion of exotic plants requires disturbance (Myers and Bazely 2003). Disturbances, especially human-induced disturbances promote the establishment of non-native species. This could be due to the increased resource supply, such as more nutrients in the soil and more sunlight in the forest floor. In addition, removal of species as a result of disturbances can also reduce resource uptake by the local co-occurring species, thus increasing community susceptibility to invasions.

ACKNOWLEDGEMENTS

We would like to express our gratitude to the Undergraduate Research and Scholarship Activities (URSA) Program of Murray State University for funding support. We also thank Dr. Ronald Jones for helpful suggestions and comments.

LITERATURE CITED

Barbour, et. al. 1987. Terrestrial Plant Ecology, 2nd edition. The Benjamin / Cummings Publishing Company, Inc. Reading, Massachsetts.

Baskin, Y. 2003. A plague of rate and rubbervines: the growing threat of species invasion. Island Press. Washington, DC.

Holm, L., J. Doll, E. Holm, J. Pamcho, and J. Herberger. 1997. World weeds: natural history and distribution. Wiley, New York.

Jones, R. L. 2005. Plant life of Kentucky: an illustrated guide to the vascular flora. The University Press of Kentucky. Lexington, KY.

KY – EPPC, 2000. Invasive exotic plant list. Southeast Exotic Pest Plant Council. http://www.se-eppc.org/ky/list.htm. Date accessed (04/16/2006).

Myers, J. H., and D. R. Bazely. 2003. Ecology and Control of Introduced Plants. Cambridge University Press, Cambridge.

Perrings, C., S. Dalmazzone, and M. Willamsons. 2005. The economics of biological invasions. In Invasive

Table 1. Top ten families with the most non-native species (as listed in Jones 2005), with the top genera in each family.

Family Name/*Genus Name*	**Common Name**	**Number of Non-native Species**
Poaceae	**Grass Family**	**82**
Bromus	Brome	9
Setaria	Foxtail	6
Poa	Blue Grass	5
Asteraceae	**Aster Family**	**66**
Centaurea	Star-Thistle	8
Coreopsis	Tickweed	4
Helianthus, Tragopogon	Sunflower, Goat's Beard	3 each
Brassicaceae	**Mustard Family**	**41**
Brassica	Mustard	4
Erysimum, Cardamine, Sisymbrium, Thlaspi	Erysimum, Bitter-Cress, Hedge-Mustard, Penny-Cress	3 each
Fabaceae	**Legume Family**	**30**
Trifolium	Clover	9
Vicia	Vetch	5
Lathyrus, Lespedeza	Wild Pea, Lespedeza	4 each
Caryophyllaceae	**Pink Family**	**25**
Cerastium	Mouse-Ear Chickweed	6
Silene	Catchfly	4
Stellaria	Chickweed	3
Rosaceae	**Rose Family**	**22**
Prunus	Cherry	4
Rosa	Rose	3
Potentilla, Pyrus, Rubus, Spiraea	Cinquefoil, Pear, Blackberry, Spiraea	2 each
Lamiaceae	**Mint Family**	**19**
Mentha	Mint	4
Leonurus	Motherwort	3
Lamium	Dead-Nettle	2
Scrophulariaceae	**Figwort Family**	18
Veronica	Speedwell	9
Verbascum	Mullein	3
Polygonaceae	**Smartweed Family**	**13**
Polygonum	Smartweed	6
Rumex	Dock	6
Fagopyrum	Buckwheat	1
Solanaceae	**Nightshade Family**	**13**
Solanum	Nightshade	6
Physalis	Ground-Cherry	2
Datura, Lycium, Nicandra, Petunia, Nicotiana	Jimsonweed, Matrimony-vine, Apple-of-Peru, Petunia, Tobacco	1 each

Alien Species: A New Synthesis, edited by Mooney, H. A., R. N. Mack, J. A. McNeely, L. E., Neville, P. J. Schei, and J. K. Waage. Island Press, Washington, DC.

Pyœek, P. 1998. Is there a taxonomic pattern to plant invasions? OIKOS 82:282-294.

Pyœek, P., V. Jarosik, and T. Kucera. 2002. Patterns of invasion in temperate nature reserves. Biological Conservations 104:13-24.

Pyœek, P., D. M. Richardson, M. Rejmanek, L. Grady, L. Webster, and M. Williamson. 2004. Alien plants in checklists and floras: toward better communication between taxonomists and ecologists. Taxon 53(1):131-143.

Raunkiaer, C. 1934. The life forms of plants and statistical plant geography. Oxford: Clarendon Press.

Reichard, S., and C. Hamilton. 1997. Predicting invasions of woody plants introduced into North America. Conservation Biology 11: 1993-1203.

Williamson, M. H.1996. Biological Invasions. Chapman and Hall, London.

Table 2. Top ten families with the most species listed as "naturalized" in Jones (2005).

Family Name	**Common Name**	**Number of Naturalized Species**
Poaceae	Grass Family	50
Asteraceae	Aster Family	30
Scrophulariaceae	Figwort Family	15
Fabaceae	Legume Family	15
Brassicaceae	Mustard Family	15
Caryophyllaceae	Pink Family	11
Polygonaceae	Smartweed Family	10
Lamiaceae	Mint Family	10
Rosaceae	Rose Family	8
Apiaceae	Carrot Family	8

Table 3. Top twelve genera with the most species listed as "naturalized" in Jones (2005).

Genus Name	**Common Name**	**Family Name**	**Number of Naturalized Species**
Veronica	Speedwell	Scrophulariaceae	8
Bromus	Brome	Poaceae	7
Lonicera	Honeysuckle	Caprifoliaceae	6
Polygonum	Smartweed	Polygonaceae	5
Cirsium	Thistle	Asteraceae	5
Rumex	Dock	Polygonaceae	5
Poa	Blue Grass	Poaceae	5
Setaria	Foxtail	Poaceae	5
Lespedeza	Lespedeza	Fabaceae	4
Potentilla	Cinquefoil	Rosaceae	4
Geranium	Crane's-Bill	Geraniaceae	4
Ranunculus	Buttercup	Ranunculaceae	4

The KNPS's goals:

To serve as the Kentucky native plant education resource;

To support native plant research;

To support efforts to identify and protect endangered, threatened, and rare native plant species;

To promote appreciation of the biodiversity of native plant ecosystems;

To encourage the appropriate use of native plants.

The Endangered Species Act: Friend or Foe (Part 1)

by Landon McKinney

The Endangered Species Act (ESA) was passed in 1973. Its primary responsibility was to allow the federal government to create a list of plants and animals considered to be endangered or threatened and then to protect those listed species. Has it worked and if so, at what price? First let's toss out a couple of definitions:

Endangered – Any plant or animal in danger of extinction throughout all or a significant portion of its range/

Threatened – Any plant or animal likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

So, in other words, an endangered species is likely to become extinct and a threatened species is likely to become endangered. The ESA prohibits anyone from killing, harming, or harassing a listed species. It also allows the federal government to develop plans that show how a listed species might recover from the brink of extinction.

Maintaining the list and enforcement of the act is the primary responsibility of the U. S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA).

Species can be added or removed as scientific evidence dictates. Kentucky currently has 43 listed plants and animals 35 of which, are animals and eight are plants. Our federally-listed plants include:

- Running buffalo clover (*Trifolium stoloniferum*)
- Short's goldenrod (*Solidago shortii*)
- White-haired goldenrod (*Solidago albopilosa*)
- Price's potato-bean (*Apios priceana*)
- Braun's rock-cress (*Arabis perstellata*)
- Cumberland rosemary (*Conradina verticillata*)
- Cumberland sandwort (*Arenaria cumberlandensis*)
- Virginia spiraea (*Spiraea virginiana*)

For those of you who have been members for a long time, you can look back through your old issues of the newsletter and find articles on most of these species. As to the total number of federally-listed species, how does Kentucky compare to its surrounding states? Only Virginia with 66 and Tennessee with 91 have more.

Ultimately, the purpose of listing a species is to set the wheels in motion for a sound recovery and eventually being removed from the list. Listing a species essentially sets a fire under scientists to develop recovery plans, find new populations, and generally just increase our knowledge of that species and its needs for survival. Nationwide, the obvious success story would have to be the American bald eagle that will potentially be de-listed in the very near future. In Kentucky, one of our previously listed plants, Eggert's sunflower (*Helianthus eggertii*) was first listed on 22 May 1997 and came off the list in August of last year. In previous newsletters (V5N3, V16N4), you will find articles on this sunflower.

The USFWS concluded that recovery plans were working and additional populations had been identified. Additionally, the USFWS said that there were now protected populations on federal, state, and county lands and that the species was more resilient and less vulnerable to certain activities than previously thought. When originally listed, there were 34 known sites occurring in 5 counties in Kentucky, 8 counties in Tennessee, and 1 county in Alabama.

Currently, there are 287 known sites occurring in 3 counties of Alabama, 9 counties in Kentucky, and 15 counties in Tennessee. In Kentucky, protected populations are managed by Mammoth Cave National Park, The Nature Conservancy, and the Kentucky State Nature Preserves Commission.

A number of species have been de-listed because of recovery while others have been de-listed due to errors in the original data (a reason of to much depth to discuss here). Sadly, some have been de-listed after being deemed extinct such as the dusky seaside sparrow and Sampson's pearlymussel.

The ESA has certainly been a friend to species on the brink of extinction but has it also been a foe to landowners, industry, and developers? Stay tuned and in our next newsletter, I'll answer this burning question and shed some light on pending legislation that could dramatically affect the ESA. The third installment of this series will explore what the ESA has meant to individual states.

KNPS Committees

Membership: Chair - Steve Sensenig (see p. 2)

Special Projects: Chair - Zeb Weese (see p. 2)
Members - Tara Littlefield (see p. 2), Mary Carol Cooper - #1 Game Farm Rd., Frankfort, KY, 40601; 502-564-5280; marycarolcooper@insightbb.com

Fieldtrips: Chair - Patricia Haragan (see p. 2)
Member - Steve Hess

Communications: Chair - Amy McIntosh (see p. 2)

Grants: Chair - David Taylor - USDA-Forest Service, 1700 Bypass Rd., Winchester, KY, 40391; 859-745-3167; dtaylor@fs.fed.us

Hydroleas (the genus False Fiddleleaf) in Kentucky – Lost and Found

by Deb White

The two species of *Hydroleas* in the state have both been lost and found within the last few years! Both the ovate false fiddleleaf (*Hydrolea ovata*) and the one-flower false fiddleleaf (*H. uniflora*) were reported in the 1960's to 80's from several western counties. We had checked all the sites where these wetland plants were reported, and the sites appeared to be extirpated – for instance one had turned into a church. As soon as their ranks[1] were changed to "Historic", meaning they had not been reported for 20 years, they were both found in new places in western Kentucky. Robert Dunlap, a budding botanist and all-around naturalist, found a nice population of *H. uniflora* in Winford Wildlife Management Area. Julian Campbell reported that *H. ovata* is found at a wetland site within the Paducah city limits.

Hydrolea uniflora
photo from www.biosurvey.ou.edu

These are both wetland herbs with blue flowers. *H. uniflora* forms a rooted mat of creeping decumbent (laying close to the ground rather than erect) stems in shallow open pools in wetlands. The plants are usually less than a foot tall if that and generally bloom in the late summer. *H. ovata* is much taller, up to 3-4 feet, when it blooms and hard to miss if in flower. It has little spines at the leaf axils and is much-branched.

Hydrolea ovata
photo from www.biosurvey.ou.edu

Both of these species occur along the edges of bottomland hardwood swamps and marshy openings in western Kentucky. They are distributed in the southeast United States and into Texas and Missiouri. Kentucky is at the northern limit of their ranges, not surprising since this is generally a genus of warm climates.

The number of species that become historic and ultimately extinct in the state give us some insight into the rate of loss of our native flora. To date, Kentucky State Nature Preserves Commission lists 61 historic plants for the state. It is thrilling to find a plant that has not been seen for 20 years and re-assuring to know that the species continues to find its way in our changing world. In fact I am sure there is more *Hydrolea* out there to be found. If you are interested in knowing what rare plants, including those that are historic, occur in your area please visit our web site www.naturepreserves.ky.gov and navigate to Data Resources for the listing for your county or to our rare plant website.

[1] Each plant in the Kentucky flora receives a rank expressing its status in the state, from rare to common, historic or even extinct.

It's Membership Renewal Time!

Kentucky Native Plant Society
Membership Form

Name(s) _____

Address _____

City, State, Zip _____

KY County _____

Tel.: (home) _____

(work) _____

E-mail _____

o Add me to the e-mail list for time-critical native plant news
o Include my contact info in any future KNPS Member Directory

Membership Categories:

o Annual $15 o Lifetime - $200
o This is a renewal o This is a new membership

Membership $_____
Gift (optional) $_____
Gifts are tax deductible [IRC 501 (c)(3)]
Total $_____
(Payable to Kentucky Native Plant Society)

Return form & dues in enclosed envelope to:
KNPS Membership, P.O. Box 1152, Berea, KY 40403

Note: *You membership is paid through the year that is noted on your newsletter address label. Annual memberships are for the January-December calendar year.*

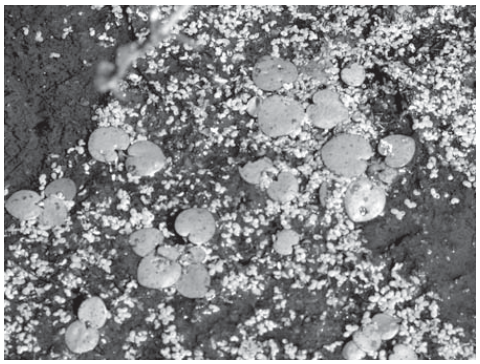
NOMINATIONS FOR THE 2007 KENTUCKY WILDFLOWER OF THE YEAR

Join fellow wildflower enthusiasts in selecting the 2007 Kentucky Wildflower of the Year. The Salato Native Plant Program and The Kentucky Native Plant Society use the Wildflower of the Year Program to help promote the use of native plants in the home landscape and to encourage availability of native plants in local nurseries. Native plants are hardy, low-maintenance and attract wildlife including butterflies, hummingbirds, and songbirds. Every year the Kentucky Dept. of Fish and Wildlife Resources' Native Plant Program distributes 10,000 packets of seeds to schools, garden clubs and conservation groups across Kentucky.

Please select your favorite wildflower from the list below and help Salato Native Plant Program and Kentucky Native Plant Society promote native plants in the landscape and encourage conservation of native plants in the wild.

Smooth Beardtongue (*Penstemon digitalis)*
Culver's Root *(Veronicastrum virginicum)*
Rose Mallow (*Hibiscus moscheutos)*
Wild Petunia (*Ruellia humilis*)
Ox-eye Sunflower (*Heliopsis helianthoides*)
Aromatic Aster (*Symphyotrichum oblongifolium*)
Rattlesnake Master (*Eryngium yuccifolium*)
Autumn Sneezeweed (*Helenium autumnale*)
Brown-eyed Susan (*Rudbeckia triloba*)
Black-eyed Susan (*Rudbeckia hirta)*
Boltonia (*Boltonia asteroides*)
Pale Purple Coneflower (*Echinacea pallida*)
Yellow coneflower (*Ratibida pinnata*)
Cup Plant (*Silphium perfoliatum*)
Slender Mountain Mint (*Pycnantemum tenuifolium*)
Narrow-leaved Sunflower (*Helianthus angustifolius*)

Who am I?



I am a rare plant of western KY (on the official state list!), and usually live in ponds and lakes. Sometimes I am rooted in mud, but more frequently I am free-floating, often in dense mats, on the water surface. I am bigger than the duckweeds (also in my photo) but smaller than the water lilies. My leaves are rounded, with special, air-filled cells below. Who Am I?

Summer 2006 *Who Am I?* answer:
Euonymous atropurpureus (Wahoo)

The following KNPS member correctly identified the last species:
Mary Dresser

Send your answer including *family name, genus and species name, the correct author citation, and the geographic range of the species to* ***ron.jones@eku.edu****!*

Back Issues of
The Lady-Slipper
and **KNPS Grant Application**
details are posted on the
KNPS WEBSITE --
http://www.knps.org

Ky. Dept. of Fish and Wildlife and KNPS
2007 WILDFLOWER OF THE YEAR NOMINATION FORM

Wildflower's Common name:
_____

Reasons for Nominating:
_____

_____

Your name_____

Address_____

City, State, Zip_____

Tel: (Day)_____

E-mail_____

Date Received (for office use only)_____

See the accompanying article for nomination details. Please send nominations as soon as possible to:

Salato Native Plant Program,
Salato Wildlife Education Center,
#1 Game Farm Road,
Frankfort, KY 40601

Additional Botanical Drawings of P.A. Davies

(see previous newsletter for introduction to these drawings, prepared prior to 1926 in Davies' student days in Colorado and at Harvard University). Non-native species are indicated by an asterisk (*).

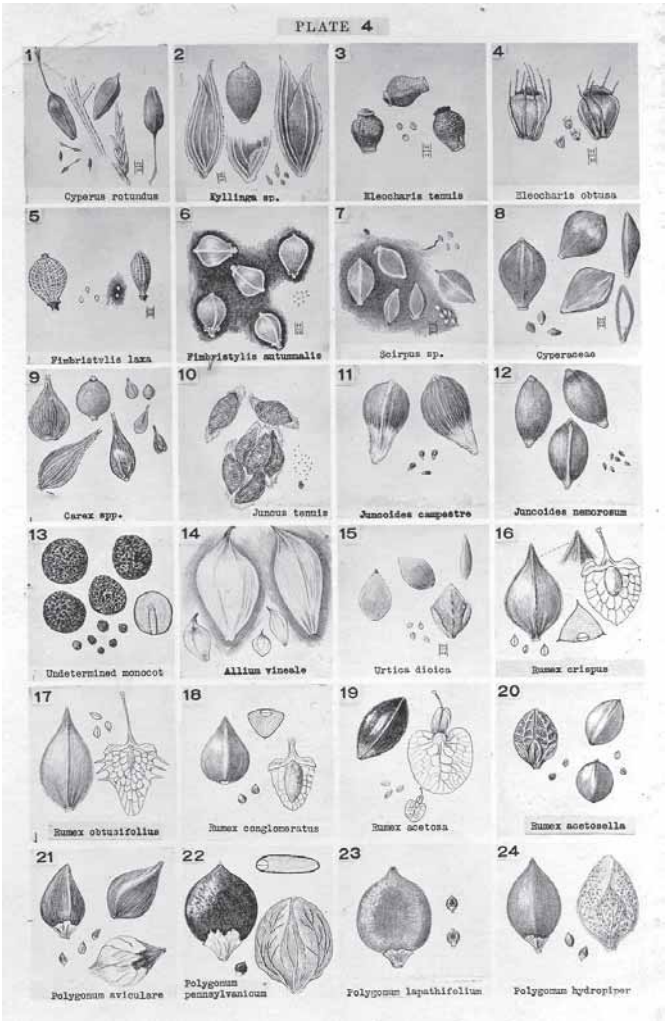


Plate 4 of P. A. Davies' early drawings

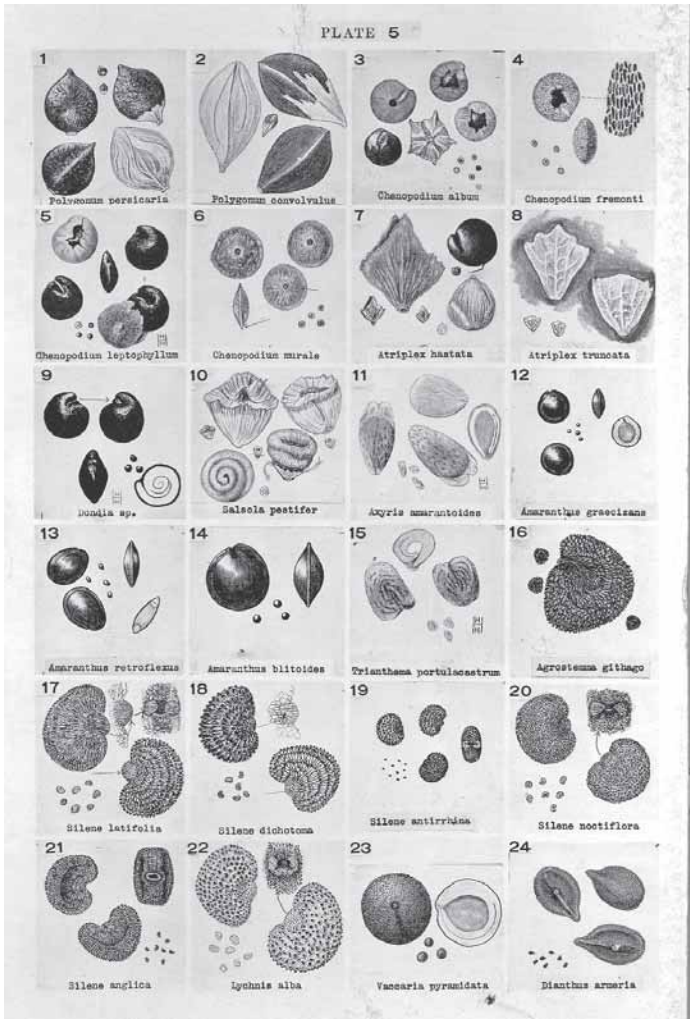


Plate 5 of P. A. Davies' early drawings

Plate 4

1. *Nut grass.
2. Spikesedge.
3. Slender spikerush.
4. Blunt spikerush.
5. *Fimbristylis annua*. Annual fimbry.
6. Slender fimbry.
7. Bulrush.
8. Sedge family.
9. Caric sedge.
10. Path rush.
11. *Luzula campestris*. Field woodrush.
12. *Luzula luzuloides*. Oakforest woodrush.
13. Undetermined monocot.
14. *Field garlic.
15. Stinging nettle.
16. *Curly dock.
17. *Bitter dock.
18. *Clustered green dock.
19. *Garden sorrel.
20. *Sheep sorrel.
21. Knotweed.
22. *Polygonum pensylvanicum*. Pennsylvania smartweed.
23. Dock-leaved smartweed.
24. Water-pepper.

Plate 5

1. *Spotted lady's thumb.
2. *Black bindweed.
3. *Lamb's-quarters.
4. Fremont's goosefoot.
5. Narrowleaf goosefoot.
6. *Nettleleaf goosefoot.
7. *Atriplex prostrata*. Triangle orache.
8. Wedgescale saltbush.
9. *Suaeda*. Seepweed.
10. **Salsola tragus*. Prickly Russian-thistle.
11. **Axyris amaranthoides*. Russian pigweed.
12. Mediterranean amaranth.
13. *Rough pigweed.
14. *Mat amaranth.
15. Desert horsepurslane.
16. *Corn-cockle.
17. *White campion.
18. **Dichotoma silene*.
19. Sleeping silene.
20. *Sticky catchfly.
21. **Silene gallica*. Common catchfly.
22. **Silene latifolia*. White campion.
23. **Vaccaria hispanica*. Cowherb.
24. *Deptford pink.

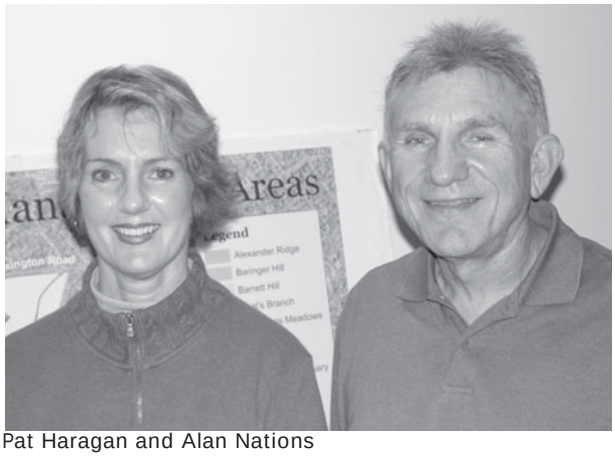
KENTUCKY NATIVE PLANT SOCIETY ANNUAL MEETING, 2006

by Mary Carol Cooper

The Kentucky Native Plant Society Annual Fall Meeting was again held at Shakertown at Pleasant Hill on Saturday, November 11, 2006. It was a gloomy, cool day, but the meeting was well attended. We had about 25 warm bodies.

Landon McKinney, outgoing chair, held a short business meeting where we voted on the new slate of officers and board members. They are as follows: Tom Barnes, Chair, Pat Haragan, Vice-chair, Tara Littlefield and Alan Nations, new board members. After the meeting Pat Haragan, the botanist and Alan Nations, the naturalist for the Olmsted Conservancy, presented a nice program. Pat had some trouble with advanced technology and will present her program in the spring. Alan gave a wonderful overview of the Olmsted Parks in Louisville, explaining the history and use of the parks over the years. He also talked about some of the restoration projects that they are implementing now.

After the program we tried a new approach for the lunch. The KNPS provided sandwich fixings and drinks and everyone brought potluck goodies to share. This seemed to work better than the box lunch and no one went away hungry. After lunch most everyone had renewed energy to go for a hike with Don Pelly, the naturalist for Shakertown. He led a great and informative hike through the savannah and up the Prickly Pear Cactus Trail. It is always great fun to hike with a group of like minded botanists and naturalists as there is always a lot to be learned on those occasions.



Pat Haragan and Alan Nations
Photo by Ron Jones

The Olmsted folks seemed interested in having the next meeting in Louisville in conjunction with an outing to one of the Olmsted Parks.

New Officers . . . *continued from page 1*

I would like to make special note of the service of Landon McKinney, who has served as KNPS President for the last 4 years. Landon also served a term as KNPS President in the mid-1990s. I have known Landon for over 30 years, and nowhere can one find an individual more dedicated to the understanding and protection of our botanical resources. Landon has worked variously as a state employee (at the Kentucky State Nature Preserves Commission) and in private consulting. He also has found time throughout his career to write articles for professional journals, especially regarding his two favorite groups, the genus *Viola* and the genus *Carex*. Some of you may not know, but Landon is one of the world's foremost experts on the stemless blue violets, and he produced a landmark work in 1992, "A Taxonomic Revision of the Acaulescent Blue Violets (Viola) of North America," published by the Botanical Research Institute of Texas. In addition, he wrote the treatments of *Viola* and *Carex* for my recent book. Landon is a true field botanist, and he has always found time to lead field trips, write articles, and help others to increase their knowledge of our native plants, and to understand the need to preserve them. He is the only person in the last few years that has provided steady offerings of courses for the KNPS Native Plant Certification Program. As KNPS President, he has carried out his duties in a professional and collegial manner, and helped to maintain the KNPS on an even keel during this period. As ex-President, Landon continues to have a seat on the KNPS Executive Board, and he has also volunteered to oversee the KNPS Certification Program and to assist with the newsletter. Landon deserves much praise for his work as President over the last 4 years, and for his willingness to continue to serve the KNPS.

Native Plant Certification Courses

Two courses will be offered
Spring Semester 2007 at NKU:

Basic Plant Ecology
Feb. 17, 24, Mar. 3, 10
Basic Botany
Mar. 24, 31, April 7, 14

9-12:00 each Saturday

For more info contact:
Community Connections, Northern KY University
Founders Hall 306, Highland Heights, KY 41099

(859)572-5600, nkuconnections.nku.edu

Calendar of KNPS and Other Native Plant-related Events

Natural Bridge Events:

Winter Bird Weekend: December 15, 2007
Join naturalists and experienced birders on hikes throughout the Park and the Red River Gorge Geologic Area, or watch the bird feeders from the park's dining room, and help us get an idea of the numbers and species of birds that call our area home in the winter. Bird identification programs will be given throughout the day to help you figure out who you're seeing! On site registration fee is $5 per adult.

Exploring Arch Country Guided Hikes: January 27; June 2; July 7; Aug 4; Dec 1, 2007
For the adventurous only! Join a naturalist for these guided hikes throughout Kentucky's land of the arches. You'll get a good look at the area's rugged cliff lines, rockhouses, rhododendrons, and natural arches. Destinations include White's Branch Arch, Whittleton Arch, Kentucky's Natural Bridge, and many other lesser known destinations! Each trip is different, distances vary from 6 to 12 miles, with a 6-9 hour duration. Preregistration is required, contact Noelle Theres at noelle.theres@ky.gov. Fee is $15 (Limit 12 people), includes guide, snacks and Natural Bridge bandana.

Invasive Species Volunteer Workshops: Feb 3, March 3, June 2, July 7, Aug 4, Nov 3, 2007
Help stop this invasion of exotic plants by volunteering to assist the naturalist staff in pulling and cutting some of the worst invaders. This is great opportunity for individuals and groups to improve the environmental health of our public lands! Each volunteer day begins at 9:00 am at Natural Bridge's Hemlock Lodge, and ends whenever you get tired! Preregistration is encouraged, contact Noelle Theres at noelle.theres@ky.gov.

Wildflower Weekend: April 20-23, 2007
The Natural Bridge area is home to hundreds to species of native plants; enjoy them this weekend with other botanists, gardeners, and nature lovers. Our field trips are for all levels of participation, from beginner to advanced wildflower enthusiast and from short easy walks in Natural Bridge to longer hikes in Red River Gorge. Our evening speakers will focus on the native plants of the region. On site registration fee is $5 per adult and $2 per child.

SEE PAGE 2 FOR CONTACT INFORMATION.
(Return address below is for POST OFFICE USE ONLY.)

Kentucky Native Plant Society
c/o Department of Biological Sciences
Moore 235
Eastern Kentucky University
521 Lancaster Ave.
Richmond, KY 40475-3102

NON-PROFIT ORG.
U.S. POSTAGE
PAID
RICHMOND KY 40475
PERMIT NO. 116