# The Lady-Slipper

Kentucky Native Plant Society

Number 20:3

Fall 2005

# A Message from the President:

Hope everyone had a great summer. I spent several weeks roaming the wilds of Michigan and Minnesota (work projects). Experienced some great plants and natural communities but it's always great to come back to Kentucky.

Our native plant certification program at Northern Kentucky University is still going great. This semester, John Thieret is teaching a course on grasses and the students are apparently loving it. For those of you that do not know John, he is one of the country's leading botanists. He is Professor Emeritus at NKU but still does some teaching from time to time. He is also one of the country's leading botanical editors.

Later this semester, Deborah White will be teaching an elective course on rare plant conservation. From what I understand the class is filling up quickly.

Our Fall meeting was a great success with about 45 in attendence. All enjoyed the presentation by Tom Barnes. The Fall colors have given way to winter buds and piles of leaves. Earlier this fall, Lela and I traveled through Asheville NC on our way to Columbia SC and enjoyed a nice slash of Fall color along the way.

As we move into winter, I hope everyone has a warm and pleasant holiday season.

Landon McKinney

# eason.

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# NOMINATIONS SOUGHT FOR 2006 KENTUCKY WILDFLOWER OF THE YEAR

# Past recipients:

1997 Butterfly Milkweed (Asclepias tuberosa)
1998 Cardinal Flower (Lobelia cardinalis)
1999 Purple Coneflower (Echinacea purpurea)
2000 Wild Columbine (Aquilegia canadensis)
2001 Wild Bergamot (Monarda fistulosa)
2002 Great Blue Lobelia (Lobelia siphilitica)
2003 Spiked Blazing Star (Liatris spicata)
2004 Joe-Pye Weed (Eupatorium maculatum)
2005 Showy Goldenrod (Solidago speciosa)

### 2006 choices:

Smooth Aster (Symphyotrichum laeve) Aromatic Aster (Symphyotrichum oblongifolium) Foxglove Beardstongue (Penstemon digitalis) Eastern coneflower (Rudbeckia fulgida) Sweet Coneflower (Rudbeckia subtomentosa) Bluestar (Amsonia tabernaemontana) Culver's Root (Veronicastrum virginicum) Blue Wild Indigo (Baptisia australis) Mist-flower (Conoclinium coelestinum) Sharpwing Monkey-flower (Mimulus alatus) False Dragonhead (Physostegia virginiana) Eastern parthenium (Parthenium integrifolium) Rattlesnake-master (Eryngium yuccifolium) Rose-mallow (Hibiscus moscheutos) Royal Catchfly (Silene regia) Fringeleaf Wild Petunia (Ruellia humilis) Common Sneezeweed (Helenium autumnale) Sunflower-everlasting (Heliopsis helianthoides) Tall Anemone (Anemone virginiana)

See page 9 for more information and your nomination form!



# Kentucky's 'Tropical' Fruit, the Papaw

by John Thieret, NKU

A visit to a fruit/ vegetable market in the tropics is a great experience. All sorts of plant products that we in the temperate zones do not recognize are there. Among these are fruits of the Annonaceae, the custard-apple family, including the bullock's-heart,



cherimoya, guanabana, sweetsop, and soursop. These are unknown to most people in our part of the world, but we do have a member of the Annonaceae that does NOT grow in the tropics, our papaw, *Asimina triloba*. This is a shrub or small tree, which, as I have seen it, never exceeds perhaps 20 feet in height and 6 inches in trunk diameter, although there are reports of individuals 50 feet tall and with a trunk 2 feet in diameter, truly a mega-papaw.

A common enough plant, the papaw thrives in rich woods over much of eastern U.S. from northern Florida to far eastern Texas, then north to New York, far southern Ontario, Michigan, Iowa, and southeastern Nebraska. It grows throughout Kentucky, almost certainly in every county.

Although some papaw enthusiasts wax ecstatic over the fruits, papaws are not everyone's favorite. This divergence in appreciation stems from, first, natural differences in fruits from different trees and, second, differences in people's taste buds. I have found fruits from some trees not worth the effort of trying to get them down from the branches. But other trees can produce fruits that I'd describe as almost excellent. The best papaws I ever tasted were in southern Illinois on a rather cool, almost frosty fall morning. Yes, quite worthwhile. The Indiana poet James Whitcomb Riley described, in hoosier dialect, the gustatory experience:

And sich pop-paws! Lumps a' raw Gold and green,—jes' oozy th'ough With ripe yaller—like you've saw Custard-pie with no crust to.

Another assessment of the taste, by an Indiana lad, is included in Euell Gibbons' book *Stalking the Wild Asparagus:* "They taste like mixed bananers and pears, and feel like sweet pertaters in your mouth." I'll second that, at least for a *good* papaw.

Long before Europeans began their assault on the North American continent, the indigenous peoples, along with various animals—possums, raccoons, squirrels, and skunks—sought the fruit. The first Europeans to see it—some 450 years ago—were De Soto and his entourage. They wrote of it, mentioning its "very good smell and excellent taste." About 200 years later the plant was

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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.

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Webmaster - Michael Thompson, 2212 Reidhurst Dr., Murfreesboro, TN 37127-6109; 615-867-3007; Michaelwthompson@comcast.net introduced into cultivation by Europeans who brought seeds to England. Then in 1754 the first illustration of the papaw appeared in Catesby's *Natural History of Carolinas (see right)*. Lewis and Clark, in the early 19th century, found the fruits to be welcome additions to a meagre diet. To this day, the fruits are collected and used by country people and by city



dwellers who like to eat their way through the landscape.

As for ways to use the fruits, first and foremost they can be eaten out of hand. As they ripen, they change from green to brown or nearly black, then looking not especially appetizing (recalling ripe plantains). The fruit pulp, creamy and sweet, contains several large, flattened, brown seeds. One of my friends made a necklace for his wife from the seeds. Better, I guess, than one made from finger bones.

Enthusiasts use the fruit for pies, puddings, marmalade, bread, beer, and brandy. I've tasted papaw bread and found it OK. Barely. I once tried to *make* papaw bread—I'll say no more about that dismal experience. (The persimmon bread I attempted was no better.)

On a few occasions I have seen the plant grown as an ornamental. With its large, somewhat drooping leaves, it is rather attractive. The maroon flowers, which bloom in spring when the leaves are still young and covered with rusty down, are not all that conspicuous, and the fruits—well, my experience has been that papaw plants in cultivation as lawn specimens just do not make many fruits. As a matter of a fact, I have always noted that, even in the wild, the fruits are not abundantly produced. Maybe I just was not at the right place at the right time. The plants seem to require cross pollination, which is a disadvantage to those who would use them as ornamentals and, at the same time, would like some fruits.

If you have never tried one of the fruits, head for the woods in the autumn and attempt to find one. Maybe someone you know can help you. Even if you do not find the fruit much to your liking—maybe you will, maybe you won't—you will have had a new gustatory experience.

For many years attempts have been made by horticulturists to 'improve' the papaw and make it

into a commercially viable fruit. Their efforts notwithstanding, the fruit remains a Cinderella. On only one occasion have I seen papaws for sale: at a roadside farmer's stand in southwestern Ohio among a fine display of squashes of a dozen kinds. Breeding and selection work has been carried out in several places, notably at Kentucky State University where about 1700 papaw trees grow in KSU's 8-acre experimental farm and where the PawPaw Foundation is headquartered. Once, in Pennsylvania, I saw a papaw orchard of maybe 50 trees. I wish now that I had stopped and spoken with the orchard's owner. Perhaps, with continued efforts at breeding and selection, papaws might some day be common items in our temperate fruit and vegetable markets, as common even as are the annonaceous cousins of Asimina triloba in markets of the tropics. This is the goal toward mhich papaw enthusiasts and breeders



I am a rare wetland herb, growing chiefly in western KY. My upper leaves are alternate, usually once-pinnately compound, the leaflets toothed. My lower leaves, especially if they are submersed, are highly dissected. My flowers are in umbels, the petals 5 and white and ovary inferior; my fruits are rounded and with strong ribs. I can grow to 2 meters tall!\*

> Summer 2005 <u>Who Am I?</u> answer: Armoracia lacustris

The following KNPS members correctly identified the last species: Chris Bidwell Dennis Horn Susan Sweetser Katrina Hayes

\*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!

# **Bay Starvine**

By David Taylor

Kentucky's flora includes some little known odd plants. Many of these are known only from a few sites. Some may be endemic to the state or be outliers of populations centered elsewhere. One of the plants in the latter category, bay starvine, is of particular interest to me. It is a high climbing vine (actually a liana, a woody vine) which throughout its range is associated with rich, sheltered sites. I was introduced to this species in Louisiana where it is known only from a few parishes (the Louisiana equivalent of county) in the southeastern part of the state. I saw it later in Mississippi and Kentucky.

Bay starvine, sometimes called magnolia vine or scarlet woodbine, is known to the botanical world as Schisandra glabra. An older name, Schisandra coccinea, is sometimes encountered. A variant of the generic name, Schizandra, is sometimes found in 19th and early 20<sup>th</sup> century literature. This species was long considered part of the Magnolia family, the Magnoliaceae or the Magnoliales (Small 1933; Correll and Johnston 1970). It, like magnolias, has simple flowers with multiple stamens and pistils, and appears to be beetle or fly pollinated. It has simple, alternate leaves, usually with scattered teeth along the margins. In general, it was considered a primitive species, closely related to magnolias. In recent years (see Vincent 1997), all species in the genus and another closely related genus of lianas were elevated to their own family, the Schisandraceae or Schisandra family. The family, while distantly related to the Magnoliaceae, is most closely related to another, the Illiciaceae, (Star Anise family) which also has a strong Old World distribution and an scattered southeastern United States distribution. The two genera, Schisandra and Kadsura, are Old World with the exception of bay starvine. The Old World species are Asian, found largely in China, Japan, Korea, Indonesia, Sumatra, Borneo, India, Myanmar, Philippines, and Thailand. There are 23 Asian species (plus several subspecies) of Schisandra, and 15 species of Kadsura. Two recent monographs (Saunders 1998, 2000) provide keys, descriptions and drawings for all species.

In 1991, I found a population of an odd vine in McCreary County, Kentucky. I nearly passed it by as it superficially resembled Virginia creeper, and indeed was growing mixed with it. Because the leaf did not quite fit the expected image, a couple of specimens were collected. It was then I realized it was not Virginia creeper. The simple leaves were pale green, somewhat fleshy, and were tightly and spirally packed around the stem giving the first appearance of a



Schisandra glabra Drawing by Joe MacGown (2004)

palmate leaf. At the time, the only plants found were creeping on the ground, although it is typically a high climber. It took a few days to remember the plant from the Gulf Coast. Checking several sources, I learned that it had not been reported previously from the state (see Taylor 1994). The McCreary County flora by Rogers (1941), representing a reasonably thorough look at the county did not report the species. It was not reported by Braun (1943) in her Kentucky species list, nor was it reported in Johnston and Nicely (1990) in their study of Kentucky's Magnoliaceae. Browne and Athey (1992) did not include it in their Kentucky species list. Max Medley (1993) did report this find in his dissertation. Jones (2005) includes it in his guide to Kentucky's flora. I have since learned that an additional location occurs in Kentucky in Pike County. The specimen was collected in the mid-1980s but was buried in a herbarium in North Carolina. This was brought to my attention by Deborah White (KSNPC) and Alan Weakley (UNC, Chapel Hill).

Bay starvine is considered rare throughout its range. It has a global status of G3 meaning that it is in some danger of becoming rarer. NatureServe (2005) reports approximately 30 sites, but records for many are old. Populations are apparently most secure in Louisiana and Mississippi, but even these have a vulnerable rank. Arkansas, Alabama, Florida, Georgia and Tennessee rank the species as imperiled in their states. Kentucky and North Carolina considered the populations within their borders as critically imperiled. It is extirpated from South Carolina. The biggest threats to the species are encroachment and closing of the forest, especially from non-native invasive species such as Japanese honeysuckle, and the conversion of occupied habitat to industrial pine plantations.

The plant grows in open hardwood forest throughout its range. It seems to thrive on filtered sunlight, neither full shade nor full sun. Sites are in protected, rich, mesic valleys or hollows. Ettman (1980) provides more quantitative information about the species' habitat. The plant does not seem to tolerate much heavy disturbance, but in at least one case in Arkansas, bay starvine benefited from the removal of some shading trees (Tucker, pers. com.). Patrick et al. (1995) state that hand removal of some vegetation may be beneficial. It can be propagated from cuttings and during the 1980s was sufficiently in demand for horticulture. As a result, the U.S. Fish and Wildlife Service was prompted to consider it as a Candidate 3 species. This means that while it warranted study for listing, it was not of the same priority as other more imperiled species. It no longer has U.S. Fish and Wildlife Service status, but the U.S. Forest Service considers it a sensitive species on National Forest lands.

Bay starvine wraps loosely around tree trunks to reach light higher in the canopy. It also occurs with some frequency as a sprawling ground cover. It roots at internodes and periodically sends up aerial shoots,



Pistillate Flower, top; Staminate Flower, bottom Photos by D.D.Taylor

which reach for support and become climbing vines. Leaves, as mentioned earlier, are simple and spirally arranged on the stem. Leaves are usually crowed together on creeping stems and spread apart on climbing stems. Leaves are pale to dark green, somewhat fleshy and typical leaf blades are 3-4.5 inches long and 1.5 to 2.5 inches wide with petioles 1-2

inches long. First year stems are soft, supple and green. They begin to harden in the second year and form a thin reddish-brown bark. Climbing stems can reach one half inch diameter or more.

Flowers are unisexual and produced on the same plant. They are solitary at the base of young shoots or in the axils of leaves. The flowers are about 3/8 inch in diameter and are borne on pedicels 0.75-1.25 inches long. Outer tepals (sepals and petals not

clearly distinct from one another) are greenish white in color. Inner tepals are are rose to red. Stamens are imbedded in a disk, but pistils are somewhat free. Fruits are composed of red berries about 3/8 inch long and around one quarter inch long arranged along a peduncle.

In my experience in Kentucky, staminate flowers tend to be produced lower on



Bay starvine fruits photo by James Henderson (2004)

the vine than pistillate flowers, but I do not know if this holds across the range of the plant. I have observed that only staminate flowers are produced on young (small diameter) vines. Vines at a minimum of 5/16 inch diameter were needed to produce pistillate flowers, and then few were produced. Larger vines produce more pistillate flowers. Warren Stoutamire (2000) has observed similar flowering controls with *S. chinensis*, the schisandra of the herbal medicine trade.

A continued interest in the species has uncovered additional information about the plant and much of its biogeography is summarized here. Bay starvine was long considered a southeastern U.S. endemic, a status held until recently. In Louisiana and Mississippi, the plant occurs in dissected loess hills on the outer coastal plain (the Tunica Hills), and a few places on the Mississippian Embayment. The Tennessee populations are found on dissected loess hills along the Mississippi River. Delcourt and Delcourt (1975) refer to the region as the 'blufflands.' Arkansas's population is associated with recent alluvial soils along the Mississippi River. The populations in Alabama and Florida are located in rich and protected eroded hills (bluffs in Florida-see Clewell 1985) on the outer coastal plain. North Carolina populations are on Continued, next page

#### continued from page 5

the outer coastal plain and in the piedmont in ravines with bluff-like hills. South Carolina's populations are extirpated from outer coastal plain locales. Georgia's populations centered on Atlanta, with coastal plain outliers, form the distribution center of the species. It has been reported from Texas (Correll and Johnston, 1970), but no specimens back the reports. Diggs et al. (1999), a more recent treatment of northcentral Texas does not list it, but is centered to the west and north of any likely range within Texas. It was recently discovered in the mountains of Hildago state in eastern Mexico (Panero and Aranda 1998); an east Texas (pinewoods region) distribution is possible.

Fossil records of Tertiary age (5-15 million years ago) for species of *Schisandra* are known from the Pacific Northwest in much the same area as dawn redwood fossils have been found. Additional fossil records are known from Europe where the family is no longer represented (Saunders 2000). *Kadsura* also shows this pattern in the fossil record (Saunders 1998). The current distribution of the family suggests a remnant of a more widespread tropical flora distributed in the northern latitudes which contracted with changing climate. This pattern is found in other groups such as magnolias, tulip poplar, buttercups, anemones, and pachysandra.

The current distribution of bay starvine suggests an origin in the distributional contraction of a tropical Tertiary flora as well as a contraction resulting from the last ice age. The Mexican disjunct is undoubtedly a remnant of the Tertiary flora which has remained in place in refuge habitat of higher elevations (5200 ft in this case- see Panero and Aranda 1998). Miranda and Sharp (1950) suggest that several of these refugia are present in some regions of eastern Mexico, and idea further developed by Panero and Aranda (1998). Familiar genera such as Carpinus (bluebeech), Ostrya (hop hornbeam), Alnus (alder), Mitchella (partridgeberry), Quercus (oak), Prunus (cherry and plum), and Pinus (pine) are found in these areas as well as less familiar genera such as Monotropa (pinesap), Pinguicula (bladderwort), Zanthoxylum (toothace-tree) and Symplocos (horse-sugar).

The loess hills along the Mississippi River and elsewhere in the outer coastal plain are considered an area of major refuge during the last glacial age. Hazel Delcourt (2002, p. 65-74) describes the distribution of a group of plants, many of them rare, including bay starvine, along the Mississippi River bluffs, across the bluffs/hills of the north Gulf coastal plain and the association of these species in general with the southern Appalachian mountains. Delcourt and Delcourt (1975) provide additional details. Later, using additional information sources, she develops the argument in favor of these regions serving as refugia for numerous species. What is interesting in this idea is the bluffs and coastal plain connection to the Appalachian Mountains. Numerous other coastal plain species are present in southern Kentucky, McCreary County in particular. The Kentucky locations suggest a remnant of a larger Appalachian distribution and the possibility of other sites in eastern Kentucky and Tennessee, and western North Carolina and Virginia. It works the other way too. There is a disjunct population of mountain laurel in Louisiana in the general area of the loess hills and there is a disjunct population of bloodroot in the panhandle of Florida.

Keep an eye out for this plant. It is possible that other sites occur in eastern Kentucky. It is also possible that it occurs in south central Kentucky and within the Jackson Purchase region of the state. I would be interested in knowing of additional locations as would the Kentucky State Nature Preserves Commission. It is a gem in Kentucky's flora and an attractive plant.

References follow on page 8



Bay Starvine Foliage Photo uncredited; found at USACE (2004)

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# Index to KNPS Newsletter Articles by Subject Matter (1986 – 2004)

Compiled by Landon McKinney

The following index categorizes, by subject, all educational articles to date in the KNPS newsletters. The index will be updated and maintained on an every other year basis. The main objective is to provide a clear overview of subject matter (plants, plant families, etc.) so that those submitting or interested in submitting articles will not duplicate previous efforts. If any given title is not self-explanatory, some indication as to actual subject matter will be given. Authors, volume and number will be provided.

The additions for volumes 18 (2003) and 19 (2004) are in bold.

#### **Botanical History**

- 1. Botanical History in Kentucky: Andre Michaux, J. Campbell (V1N1).
- 2. Botanical History in Kentucky: Francois Andre Michaux, J. Campbell (V1N2).
- Botanical History in Kentucky: Constantin Samuel Rafinesque, J. Campbell (V1N3).

#### **Endangered Species**

- Endangered Plants in Kentucky (1986), H. Bryan provides discussion of federally-listed plants or those under review at the time (V1N1).
- 2. Proposed Federal Endangered Species: Braun's Rock Cress, H. Bryan, (1986) (V1N2).
- 3. Proposed Federal Endangered Species: Running Buffalo Clover, H. Bryan, (1986) (V1N3).
- 4. Short's Bladderpod, *Lesquerella globosa*; A Candidate for Federal Listing, H. Bryan, (1986) (V1N4).
- White-Haired Goldenrod (Solidago albopilosa), Kentucky's next Endangered Plant, H. Bryan, (1987) (V2N2).
- 6. White Fringeless Orchid, H. Bryan, (1987) (V2N3).
- 7. On the Decline of *Trifolium stoloniferum*, Wayne Davis, 1987) (V2N3).
- 8. Cumberland Sandwort: Kentucky's Next federally Endangered Plant, H. Bryan, (V3N1).
- 9. Water Stitchwort (*Arenaria fontinalis*): A Rare Plant in Kentucky, H. Bryan, (V3N2).
- Rare Plants of Kentucky: The Kentucky Lady's Slipper, H. Bryan, (V3N4).
- Price's Groundnut, A Rare Kentucky Legume, H. Bryan, (V4N1).
- 12. Royal Catchfly, H. Bryan, (V5N1).
- An Update on Price's Potato Bean, Edward W. Chester & Susan E. Holt, (V5N1).
- 14. The Search for Eggert's Sunflower, R. Jones, (V5N3).
- 15. An Uncomfortable Discovery in Northeastern

- Kentucky, (Poison Sumac) H. Bryan, (V6N1).
- 16. An Inventory for Running Buffalo Clover (*Trifolium stoloniferum*), Tom Bloom, (V6N1).
- 17. Virginia Spirea, A Federally Endangered Shrub in Kentucky, Margaret Shea, (V7N3).
- Re-tracing Botanical History, Deborah White, (rediscovering rare plants known from historical records), (V9N1).
- 19. Reporting a Rare Plant, Charlie Lapham, (methodology for documenting rare plant occurrence), (V9N4).
- Wanted: Butternut Trees (*Juglans cinera* L.), a.k.a. White Walnut, Tom Gilmore, (V13N3).
- 21. The Search for the Lost Veratrum woodii, Charlie Lapham, (V13N4/V14N1).
- And There's Another Discovery in Lewis County, Joyce Bender (discovery of ear-leaf foxglove Agalinis auriculata), (V13N4/V14N1).
- 23. A Short Take on Short's Goldenrod, James Beck, (V14N2/V14N3).
- 24. Eggert's Sunflower rescue at Mammoth Cave National Park, Charlie Lapham, (V16N4).
- 25. Rare Goldenrods of Kentucky, Jeffery Walck, (V19N1).
- 26. Rare Species Spotlight: French's Shooting Star, Michael Thompson, (V19N2).
- Management Efforts for Short's Goldenrod are Showing Promise, David Skinner/Joyce Bender, (V19N3).

#### Gardening/Landscaping with Native Species

- 1. Gardening and landscaping with Wildflowers and other native Plants, M. Evans (V2N1).
- Wildflowers in Landscape Architecture, Chris Manning, (V2N1).
- Native Plants –The Conservation Alternative, S. and M. Evans, (V5N1).
- Using Topsoils as Sources of Native Plants, Gary L. Wade, (V5N4).
- 5. Natives for Naturalizing, Sherri Evans, (V8N1).
- A Wildflower Bed in the Woods, Delmar Robinson, (preparation of a wildflower bed in a wooded area), (V9N3).
- 7. Purple Coneflower 1999 KY Wildflower of the Year, Sherri Evans and Mary Carol Cooper, (V13N4/V14N1).
- 8. Wild Bergamot 2001 Wildflower of the Year, Mary Carol Cooper, (V16N2).
- 9. Great Blue Lobelia 2002 Wildflower of the Year, Mary Carol Cooper, (V17N1).
- 10. Think Spring! 3 Natives for Naturalizing, Connie May, (V12N1).
- 11. Wild Columbine, Wildflower of the Year, Mary Carol Cooper, (V14N4/V15N1).
- 12. Spiked Blazing Star, Wildflower of the Year 2003, Mary Carol Cooper, (V18N1).

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# Upcoming Summer Classes

#### **Ecuador Study Abroad Program**

May 29—June 26, 2006

3 courses being offered—Fundamentals of Spanish; Intro to Hispanic Culture; Tropical Biodiversity and Conservation (taught by Ron Jones); participants may take 2 courses for up to 7 hrs credit. On this trip we will traveling extensively thru the Andes (paramo, cloud forests, calderas, valleys), to the Rio Napo region of upper Amazonia, and to the Esmeraldas Province on the northwest coast. Unlike previous trips, we will not be visiting the Galapagos Islands. Cost should be about \$2900, which includes air fare, most of the meals, and lodging. Many visits will be arranged to natural areas, cultural exhibits, local villages, historical sites, etc. For more info contact Ron Jones at email and phone numbers given below, or go to web site at www.kiis.org.

#### Aquatic and Wetland Plants June 26—July 28

Bio 525/725. Instructor: Ron Jones; (first 3 weeks web assignments only, last 2 weeks at a field camp at Reelfoot Biological Station in Samburg, TN); EKU tuition—\$582 for undergrad and \$837 for grad students; other costs—ca. \$150 for lodging and food, \$75 for text; \$30 for enrollment at EKU if not a regular student. Call 859-622-6257 or email <u>ron.jones@eku.edu</u> for more information.

continued from page 6 (Bay Starvine)

#### **References:**

Braun, E.L. 1943. An annotated catalog of spermatophytes of Kentucky. Privately published by the author. Cincinnati, OH.

Browne, E.T. and R. Athey. 1992. Vascular plants of Kentucky: an annotated checklist. The University Press of Kentucky. Lexington, KY.

Clewell, A.F. 1985. Guide to the Vascular Plants of the Florida Panhandle. University Presses of Florida. Tallahassee, FL. 605  $\ensuremath{p}.$ 

Correll, D.S. and M.C. Johnston. 1970. Manual of the Vascular Plants of Texas. Texas Research Foundation. Renner, TX. 1881  $\ensuremath{p}.$ 

Delcourt, H.A. 2002. Forests in peril: tracking deciduous trees from Ice-age refuges into the greenhouse world. The MacDonald and Woodward Publishing Company. Blacksburg, VA. 234 p.

Delcourt and Delcourt. 1975. The blufflands: Pleistocene pathway into the Tunica Hills. Am. Mid. Nat. 94:385-400.

Diggs, Jr., G.M., B.L. Lipscomb, R.J.O'Kennon. 1999. Shinners and Mahler's Flora of North Central Texas. Sida, Botanical

Miscellany No. 16. Botanical Research Institute of Texas, Inc. Fort Worth, TX. 1626 p.

Ettman, D. 1980. A study of *Schisandra glabra* (Brickell) Rehder, a rare species endemic to the southeastern United States. Unpublished master's thesis. Emory University. Atlanta, GA.

Henderson J. (2004). Gulf South Research Corporation. Photo # 1241323. Image available at <u>www.forestryimages.org</u> and reproduced under terms of usage. Accessed 21 September 2005.

Johnston, G.P. and K.A.Nicely. 1990. The Magnoliales of Kentucky. Trans. Kentucky Acad. Sci. 51:14-17.

Jones, R.L. 2005. Plant life of Kentucky: an illustrated guide to the vascular flora. The University Press of Kentucky. Lexington, KY. 834 p.

MacGown, J. 2004. *Schisandra glabra*. Drawing from Vines of Mississippi. Available at <u>http://www.msstate.edu/org/</u> mississippientmuseum/museumpersonnel./MS.vines.htm.

Medley, M.E. 1993. An annotated catalog of known or reported vascular flora of Kentucky. Unpublished dissertation, University of Louisville. Louisville, KY.

Miranda, F. and A.J. Sharp. 1950. Characteristics of the vegetation in certain temperate regions of eastern Mexico. Ecology 31:313-333.

NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.5. NatureServe, Arlington, Virginia. Available http:// www.natureserve.org/explorer. (Accessed: September 21, 2005).

Panero, J.L. and P. Dávila Aranda. 1998. The family Schisandraceae: a new record for the flora of Mexico. Brittonia 50:87-90.

Patrick, T.S, J.R. Allison and G.A. Krakow. 1995. Protected Plants of Georgia. Georgia Department of Natural Resources, Georgia Natural Heritage Program. Social Circle, GA. pp. 248. p.167-168.

Rogers, J.H. 1941. The flora of McCreary County, Kentucky. Unpublished masters thesis, University of Kentucky. Lexington, KY.

Saunders, R.M.K. 1998. Monograph of *Kadsura* (Schisandraceae). Sys. Bot. Mono. Vol. 54. 106 p.

Saunders, R.M.K. 2000. Monograph of *Schisandra* (Schisandraceae). Sys. Bot. Mono. Vol. 58. 146 p.

Small. J.K. 1933. Manual of the Southeastern Flora. The University of North Carolina Press. Chapel Hill, NC. 1554 p.

Stoutamire, Warren. 2000. Professor, University of Akron. Personal communication to D. Taylor.

Taylor, D.D. 1994. *Schisandra glabra* (Schisandraceae) new to Kentucky. Sida 16:213-214.

Tucker, G. 1992. Botanist, USDA Forest Service, Ozark-St. Francis National Forest, Arkansas. Personal communication to D. Taylor.

USACE. (2004). Savannah District of Army Corp of Engineers website. <u>http://www.sas.usace.army.mil/</u> Accessed December 2004. Photo no longer on site.

Vincent, M.A. 1997. Schisandraceae Blume. pp. 62-63. IN: Flora of North American Editorial Committee. 1997. Flora of North America, Vol. 3. Magnoliophyta: Magnoliidae and Hamamelidae. Oxford University Press. New York, NY; Oxford, England. 590 p.

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# 2006 KENTUCKY WILDFLOWER OF THE YEAR NOMINATIONS

Each year the Salato Native Plant Program (Kentucky Department of Fish and Wildlife Resources) joins with the Kentucky Native Plant Society in selecting a native wildflower as Kentucky's official "Wildflower of the Year". The program is designed to increase appreciation for the beauty, horticulture, wildlife, and other values of our native plants; to promote conservation of native species in the wild; and to encourage local nurseries to make these species available to Kentucky gardeners.

As part of this year's effort to promote the program, the Department of Fish and Wildlife Resources distributed 10,000 packets of Showy Goldenrod seeds (the 2005 Wildflower of the Year) to schools, garden clubs, and conservation groups across Kentucky.

Special attributes of a Wildflower of the Year should include its native origin and common distribution in Kentucky, its easy cultivability in appropriate habitats, a known value to wildlife, and ready availability of plants or seed (at least through mail order sources) for gardeners and landscapers.

# Please choose one of the wildflowers listed on page

*one*, fill out the Nomination Form and return it to the Salato Native Plant Program, Salato Wildlife Education Center, #1 Game Farm Road, Frankfort, KY 40601. Nominations must be received no later than January 13, 2006.

Ky. Dept. of Fish and Wildlife and KNPS 2006 WILDFLOWER OF THE YEAR NOMINATION FORM
Wildflower's
Common name
(If Known)
Reasons for
Nominating
Your name       Address       City. State. Zin.
City, Suite, 215
Tel: (Day)E-mail
Date Received (for office use only)
See the accompanying article for nomination details. Nominations must be received by January 13, 2006
Return form to: Salato Native Plant Program, Salato Wildlife Education Center, #1 Game Farm Road, Frankfort, KY 40601

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- 13. Native Plants from your Local Garden Center?, Charles Chandler, (V18N2).
- 14. Wildflower of the Year 2004, the Joe-Pye Weeds, Mary Carol Cooper, (V19N1).

#### **Highlighted Nature Preserves**

- 1. Bad Branch Nature Preserve, M. Evans, (V1N2).
- 2. Mantle Rock Nature Preserves, Michael Thompson, (V14N2/V14N3).
- Blanton Forest Opens to the Public!, Ron Scott, (V16N4).
- Brigadoon State Nature Preserve Now Open to the Public, Lane Linnenkohl/Joyce Bender, (V19N1).

#### Medicinal/Toxic/Food Plants of Kentucky

- 1. Wild Ginger, R. Jones, (V1N2).
- 2. Podophyllum peltatum, R. Jones, (Mayapple)
- Adventures in Eating the Kentucky Flora, Jim Conrad, (V3N1).
- 4. Edible and Medicinal Plants from Your Backyard, R. Jones, (V3N2).
- 5. Edible Plants, Tom Bloom, (V8N3).
- 6. The Medicinal History of Black Cohosh, *Cimicifuga racemosa*, Robert Paratley, (V14N2/V14N3).
- Toxic Native Dicotyledonae of Kentucky, Roy Smith, (V16N1).
- 8. The Medicinal History of Prickly Ash (Toothache Tree), Zanthoxylum americanum, Robert Paratley, (V16N2).
- Toxic Native Non-Flowering Vascular Plants of Kentucky, Roy Smith, (V16N3).
- 10. Sassafras (*Sassafras albidum*): An Early Colonial Commodity Plant, Rob Paratley, (V16N4).
- 11. The History of Human Use of Bloodroot Sanguinaria canadensis, Rob Paratley, (V17N2).
- 12. The Medicinal History of Seneca Snakeroot or Polygala senega, Robert Paratley, (V14N4/V15N1).
- 13. Ginseng, The Legendary Herb, Ron Jones, (V15N2/ V15N3).
- 14. Raiding Mother Earth's Medicine Chest, Deb White, (V15N2/V15N3).
- 15. Medicinal History of Indian Tobacco- *Lobelia inflata*, Rob Paratley, (V18N3).

#### Miscellaneous Plants/Families

- 1. Synandra, H. Bryan, (V2N1).
- 2. Drainage Ditches and Sedges The Genus *Carex*, Jim Conrad, (V2N1).
- 3. A Mermaid by Mistake: *Floerkea proserpinacoides,* John Thieret, (V2N1).
- 4. Ginseng The legendary Herb, R. Jones, (V2N3).
- 5. Looking at Grasses, Jim Conrad, (V2N3).
- 6. Caring About Composites, Jim Conrad, (V2N4).
- 7. Jewelweeds, M. Anthony Powell, (V3N2).
- 8. The Lily Family, For Instance, Jim Conrad, (V3N3).
- 9. A Look at Lopseed, John Theiret, (V4N4).
- 10. Squawroot: It Toils Not, Geo. F. Buddell & John Thieret, (V5N2).
- 11. The Mustard Family, Jim Conrad, (V7N2).
- 12. The Milkweed Family, Jim Conrad, (V7N3).
- 13. The Witch-Hazel Family, Jim Conrad, (V7N4).

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- 14. The genus *Viola* (*Violaceae*), The Violets, L. McKinney, (V7N4).
- 15. The Spurge Family, Jeffrey Walck, (V8N1).
- 16. The Iris Family, Jim Conrad, (V8N1).
- 17. The Mint Family, Jim Conrad, (V8N2).
- Mulberry, a Tree for all ages of man and history, Elmer Gray, (V8N2).
- 19. The Beech Family, Jim Conrad, (V8N3).
- 20. The Fern Family, Jim Conrad, (V8N4).
- Noteworthy Grasses of Estill County, Kentucky, Richard G. Guetig, (V9N1).
- 22. The Brambles (*Rubus* spp.) of Kentucky, Gary Libby, (V9N2).
- Notes on Kentucky Viburnums, Tim Weckman, (V10N2).
- Cardinal Flower/ A Very Lobelia-r Question: Float Like a Hummingbird, Bumble Like a Bee? Charles Chandler and Sarah Kennedy, (V14N2/V14N3).
- 25. The grape Family (Vitaceae), David Taylor, (V16N1).
- 26. Orchids in a Nutshell, Part I, Marc Evans, (V12N1).
- 27. Orchids in a Nutshell, PartII, Marc Evans, (V12N2).
- 28. Cypripedium in Kentucky, Marc Evans, (V12N4).
- 29. The Native Trees of Kentucky (KSNPC), (V18N1).
- 30. Orchids in Your Lawn?, Charlie Lapham, (V18N2).
- 31. Kentucky Plants with Unusual Lifestyles, Part I Parasites, Ron Jones, (V18N4).
- 32. The Mistletoes, David Taylor, (V18N4).
- Kentucky's Plants with Unusual Lifestyles Part II, Carnivorous Plants, Ron Jones, (V19N1).
- 34. Polygonaceae: the Smartweed family, L. McKinney, (V19N2).
- Kentucky's Plants with Unusual Lifestyles Part III Hydrophytes, Epiphytes, & Saprophytes, Ron Jones, (V19N2).
- 36. The Curious Case of the Disappearing Asters, Alan Weakley, (V19N3).
- 37. A New treatment for the Genera of Traditional Liliaceae in Kentucky, Ron Jones, (V19N4).

#### Miscellaneous

- 1. The College of Agriculture Herbarium, P. Dalton Haragan, (V1N1).
- 2. To Collect or not to Collect, M. Evans, (V1N2).
- 3. the Problem of Extinction, R. Jones, (V2N1).
- 4. The Use and Abuse of Native Woody Plants in Bluegrass Landscapes, J. Campbell, (V2N2).
- A Roadside Wildflower Program for Kentucky, R. Jones, (1987) (V2N4).
- 6. Winter Botany, R. Jones, (V3N1).
- 7. Blackberries and the Decline of Taxonomy: Collect *Rubus*? Why Not? Wayne Davis, (V3N1).
- Start of the KNPS Wildflower Seed Bank, P. D. Haragan, (V2N2).
- 9. KNPS Seed Bank Project, R. Jones, (V3N2).
- 10. The Fungus Among Us, or, A Hobby to Compete with Birdwatching, Branley Allen Branson, (V3N2).
- The Aims, History and Propects of Botanical Collecting in Kentucky, Willem Meijer, (V3N2).
- 12. Kentucky herbaria, R. Jones, (V3N3).
- 13. University of Kentucky Herbarium History, Part II, Willem Meijer, (V3N3).
- 14. Finding Native Plants for your Yard and Garden: A

Neophyte's How to, Where to, and Whether to, C. Chandler, (V3N4).

- Wildflowers on Kentucky's Roadsides, H. Bryan, (V4N2).
- 16. Index of Current Plant Systematic and Ecological Research in Kentucky, R. Jones, (V4N2).
- 17. Corals, Balls, Stars, and Bird's Nests, Branley Allen Branson, (V4N3).
- 18. A Field Guide to the Spring Grove Cemetery, Cincinnati, Carol D. Hanley, (V4N4).
- 19. Noteworthy Records of Boletaceae, Branley A.. Branson, (V5N2).
- 20. Photographing Kentucky's Flora, Marty Bray, (V5N3).
- 21. A Stinging Rain Could be Affecting our Forests!, Richard G. Guetig, (V5N3).
- 22. Launching the KNPS Roadside Wildflower Survey, J. Campbell, (V5N4).
- The Principles of Seed Collecting, Dennis Feeback, (V5N4).
- 24. Woodford County's Sinking Creeks Unveiled, Van Shipp, (V5N4).
- 25. Determining Seed Ripeness, Dennis Feeback, (V6N1).
- 26. Restore the Natural Bluegrass Landscape (With Native Plants)!, J. Campbell, (V6N2).
- 27. Restore the Natural Bluegrass Landscape (With Native Plants)! (Part II), J. Campbell, (V6N3).
- 28. Using Fruit Color and the Cut Test to Determine Seed Ripeness, Dennis Feeback, (V6N3).
- 29. Restore the Natural Bluegrass Landscape (With Native Plants)! (Part III), (V6N4).
- How Diverse are Kentucky's Forests? Sigrid Liede, (V6N4).
- 31. Higher Plant Chemical Defense, Gerald Rosenthal, (V7N1).
- 32. Plant Families and the "Standard Blossom", Jim Conrad, (V7N1).
- The Harvest (a piece on seed collecting), Dennis Feeback, (V7N1).
- 34. Observations on and Record for *Agaricus* and *Amanita*, Branley A. Branson, (V7N2).
- 35. What's Coming Up in Kentucky, L. McKinney, [informing members on what plants can be seen during what time of the year (late summer/fall)], (V7N3).
- Wildflower Program becoming very Popular, Carl Wells, (reprinted from KDOT newsletter on roadside wildflower plantings), (V7N3).
- 37. Winter Botany, David Taylor, (V7N4).
- What's coming up in Kentucky (spring), David Taylor, (V8N1).
- 39. Land Between the Lakes An Overview, Edward W. Chester, (V8N2).
- The Weed Patch, Dennis Feeback, (countering the misunderstanding by the general public on wildflowers and why they are just not weeds), (V8N2).
- Kentucky's Chinese Kith and Kin, Ross Clark, (a discussion on similarities between our flora and that of East Asias), (V8N3).
- 42. Plant Life-Histories, Doug Reynolds, (discussion of growth, reproduction, phenology, etc.), (V8N4).
- 43. Inviolate Nature Sanctuaries and Landscape Restoration, Willem Meijer, (discussion of landscaping

by restoring native flora), (V9N2).

- What's in a Name? L. McKinney, (reasons for common names), (V9N4).
- 45. Kentucky's Natural heritage Program, Tom Bloom, (describes methodology and need for Kentucky State Nature Preserves Commission), (V9N4).
- 46. A Flower-Power Manifesto, Jim Conrad, (becoming one with wildflowers), (V9N4).
- 47. The Green in Winter—Mosses, Judith Rozeman, (V10N1).
- 48. What's in a Name?, L. McKinney, (V10N1).
- 49. The Habitats and Major Ecosystems of Mosses, Judith Rozeman, (V10N2).
- 50. What's in a Name?, L. McKinney, (V10N2).
- 51. Kentucky Herbaria: An Overview, R. Jones, (V10N3).
- 52. Plant Places, Charlie Lapham (websites for wildflowers), (V11N2).
- 53. The Davies Herbarium at the University of Louisville, P.D. Haragan, (V11N2).
- 54. Topping Trees: Preventing or Promoting Tree Trouble? Ross Clark, (V13N2).
- Bluff Mountain: A Natural Wonder, Clara Wieland, (describes botanically interesting Bluff Mountain, North Carolina), (V13N3).
- 56. Rockclimbing is Damaging Cliff-dwelling Plants in the Red River Gorge, Wilson Francis, (V16N2).
- Learning About Lichens, The Most Overlooked Cryptogamic Plants in Kentucky, Willem Meijer, (V16N2).
- Tropical Dendrology in Costa Rica with some notes on the Woody Floras of Kentucky and Costa Rica, R. Jones, (V16N3).
- 59. The Kentucky Native Plant Encyclopedia: A Plant Database for Use in Kentucky Classrooms, Charlie Lapham, (V17N1).
- 60. Walking in a Winter Garden, Gene Bush, (V12N4).
- 61. Biodiversity, David Eakin, (V11N1).
- 62. Native Plants In their Place, Deb White, (V13N1).
- 63. Clean Air Lawn Care: Different Tools, Different Plan, Native Plants, Phyllis Fitzgerald, (V18N2).
- 64. A Kentucky Student's Perspective of Ecuador/ KIIS/2002, Joyce Porter, (V18N2).
- 65. Extinction: The Loss of Our Inheritance, Gregory Myers, (V18N2).
- 66. The Power of Plants (excerpts from Dr. Willem Meijer's lecture notes), (V18N4).
- 67. Whart's New? Recent Additions to Kentucky's list of Botanical Rarities, Deb White, KSNPC, (V19N1).
- 68. The History of Use of Eastern Red Cedar, Rob Paratley, (V19N2).
- 69. Losing the Unseeable Animal, Jessica Blank, (V19N3).

#### Native Plants and Wildlife

- 1. Native Plants of Value to Wildlife in Winter Charles Elliott, (V2N1).
- Native Plants Value to Wildlife in Spring Charles Elliott, (V2N2).
- Native Plants and the White-Tailed Deer, Charles Elliott, (V2N4).
- Kentucky's Squirrels and Native Plants, Charles Elliott, (V3N1).

- 5. Oaks, Acorns and Wildlife, Charles Elliott, (V3N4).
- 6. Wetlands and Wildlife, Charles Elliott, (V4N1).
- 7. Woodpeckers and Native Plants, Charles Elliott, (V4N4).
- 8. Native Plants and Foxes, Charles Elliott, (V5N1).

#### **Natural Communities**

- 1. Natural Communities of Kentucky: Glades, M. Evans, (V2N3).
- Natural Communities of Kentucky: Prairies, M. Evans, (V2N4).
- 3. Kentucky's Wetlands Part I, L. McKinney, (V16N1).
- 4. Kentucky's Wetlands Part II, L. McKinney, (V16N3).
- Remnant Prairies at WKY WMA, Charlie Logsdon, (V10N4).
- Plant Places, Mammoth Cave NP, Randy Seymour, (V12N1).
- Plant Places, Bernheim Forest, Varley Weideman, (V11N3).
- 8. Plant Places, Daniel Boone NF, David Taylor, (V11N1).
- 9. The Cedar Glades of Middle Tennessee and Elsewhere, L. McKinney, (V18N1).
- 10. Kentucky's Wetlands Part III, L. McKinney, (V18N2).
- 11. Kentucky's Wetlands, Part IV, L. McKinney, (V18N3).

#### Weeds/Invasive Plants

- 1. Pat's Weed Patch: Carduus nutans, P.D. Haragan, (V1N3).
- 2. Pat's Weed Patch: Anoda cristata, P.D. Haragan, (V1N4).
- 3. Pat's Weed patch: Draba verna, P.D. Haragan, (V2N1).
- 4. Pat's Weed Patch: *Cardamine hirsuta*, P.D. Haragan, (V2N2).
- 5. Pat's Weed Patch: Lamium amplexicaule & L. purpureum, P.D. Haragan, (V2N4).
- 6. Pat's Weed Patch: *Sibara virginica*, P.D. Haragan, (V3N1).
- Mulberry Weed, A New Weedy Pest in Kentucky? David Taylor, (V9N3).
- Pat's Weed Patch: Tropical Soda Apple, P. D. Haragan, (V10N2).
- 9. Pat's Weed Patch, P.D. Haragan, (V10N3).
- 10. Pat's Weed Patch: Purple Loosestrife, (V11N2).
- 11. The Ecology of Invasive Plants and Their Impacts on Native Ecosystems, Robert Paratley, (V15N4).
- 12. False Skullcap: A New Weed Threat in Kentucky? David Taylor, (V15N4).
- Pat's Weed Patch Tree of heaven, P. Haragan, (V11N4).
- Pat's Weed Patch Itch grass alert, P. Haragan, (V10N4).
- 15. Pat's Weed Patch (Guest Columnist James Luken) The Invasion of Amur Honeysuckle, (V11N1).
- Weeding Out Exotics (The History & Future of Exotic Plants at Raven Run Nature Center, Julie Byron, (V12N1, V12N3).
- 17. After the Weed Patch, Dennis Feeback, (V12N2).
- 18. We need a Purple Dead Nettle Festival?, Charlie Lapham, (V18N2).
- Poison Hemlock Threatening Kentucky, Michael Thompson, (V18N3).
- 20. Invasive Plant Statewide Database, Third Rock Consultants, (V19N4).



# Calendar of KNPS and Other Native Plant-related Events

#### Natural Bridge Events:

For more information: contact the Park Naturalist, Zeb Weese, at 1-606-663-2214 or jason.weese@ky.gov

# 3RD ANNUAL CHRISTMAS BIRD COUNT December 17, 2005

The National Audubon Society has been keeping track of wintering bird populations for over 100 years, and this data helps identify population trends. Bird identification programs will be given in the park's lodge throughout the day to help you



figure out who you're seeing! The bird survey begins at 9 am Saturday and participants are free to help out

as long as they would like.

#### INVASIVE SPECIES VOLUNTEER DAYS

9:00 a.m. January 7 and the first Saturday of each month in 2006! Natural Bridge's Hemlock Lodge What to bring: Work gloves

#### "EXPLORING THE ARCHES" GUIDED HIKES! January 14th; March 18th; June 17th; July 15th; Aug 19th, 2006

Location: Each trip is different, distances vary from 6 to 12 miles.

Fee: \$15 for the first trip \$7 for each additional trip (Limit 12), includes guide, sack lunch and Natural Bridge Trail Guide bandana.

Duration: 6-9 hours.

#### 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-PROFITORG. U.S. POSTAGE PAID RICHMOND KY 40475 PERMIT NO. 116