



# The Lady-Slipper

Winter 2014

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[www.knps.org](http://www.knps.org)

[info@knps.org](mailto:info@knps.org)

## Help Protect Kentucky's Native Plants!

If you are a member of KNPS, then you care about the health of our native plant communities. There is an important bill now being considered by the Kentucky General Assembly that will directly impact our native plants. We urge you to contact both your state representative and state senator before the end of February and tell them what you think about **House Bill 93, the Rare Plant Protection Act**. If KNPS members don't speak out on this no one else will! You can call the legislative hotline at **1-800-372-7181** to leave a message for your local legislator; if you aren't sure of your district, just go to (<http://www.lrc.ky.gov/Legislators.htm>).

This bill would provide some legal protection to rare plants in Kentucky and make "poaching" them illegal. It would also create an oversight process on selling rare plants to ensure that they are properly propagated and not dug from the wild. Specifically, the bill would prohibit the taking or possession of an endangered or threatened plant species without written permission of the landowner, regulate the sale of rare plant species, require persons that sell endangered or threatened plant species to be registered with the state; require certification of propagators; require inspection of nurseries and propagators if the facility sells or propagates endangered or threatened species; and require state agencies to avoid activities that will jeopardize the existence of an endangered or threatened species. (<http://www.lrc.ky.gov/record/15RS/HB93.htm>)



For more information on bills that may impact Kentucky's natural environment, check out the Kentucky Conservation Committee

[http://kyconservation.org/!](http://kyconservation.org/)

President's Message

We are happy to report that our inaugural Kentucky Botanical Symposium at Bernheim Forest in October was a tremendous success! Over 70 people attended a day of presentations by some of the region's most prominent botanists and natural areas managers. We plan to make this an annual event each fall and the 2015 symposium will be somewhere in the Lexington area. Stay tuned to [www.knps.org](http://www.knps.org) for info!

Of course, before we get to the symposium we'll see you at the 2015 Wildflower Weekend at Natural Bridge State Park. This year we'll meet from Friday, April 10 to Sunday, April 12. As usual, botanists will lead hikes all over the Red River Gorge and Natural Bridge State Park throughout the weekend. We're still working on evening presentations, but can confirm that we'll have a program featuring of some of the late Dr. Thomas G. Barnes' wildflower photography.

In other news, the KNPS Certification Committee has just wrapped up organizing the courses for our 2015 Native Plant Stewardship Certification Program, which will be held in the Louisville area. As a KNPS member you are getting the first opportunity to sign up, detail are on page 4! If you are interested in participating please send an e-mail to [certification@knps.org](mailto:certification@knps.org).

See you all at Natural Bridge!

***RENEW YOUR KNPS MEMBERSHIP FOR 2015! SEE BACK PAGE FOR DETAILS!***

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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 10th of the prior months, but Editorial Committee members welcome article submissions at any time. Send dues and membership status inquiries to:

Kentucky Native Plant Society Membership, 801 Schenkel Lane, Frankfort, KY 40601

[www.knps.org](http://www.knps.org)

[info@knps.org](mailto:info@knps.org)

**KNPS Wildflower Weekend 2015:  
April 10-12 at Natural Bridge State Park**

April 10 through April 12, 2014, will find us once again enjoying the native plants and trails at Natural Bridge area! We are still working on scheduling the weekend festivities and more details will be posted on our website ([WWW.KNPS.ORG](http://WWW.KNPS.ORG)) as they are confirmed, but so far we can confirm the following:

Friday, April 10th

Field Trips—8:30 am, 1:30 pm, 4:00 pm

7:00 pm—The Photography of Dr. Thomas G. Barnes, and more!

Saturday, April 11th

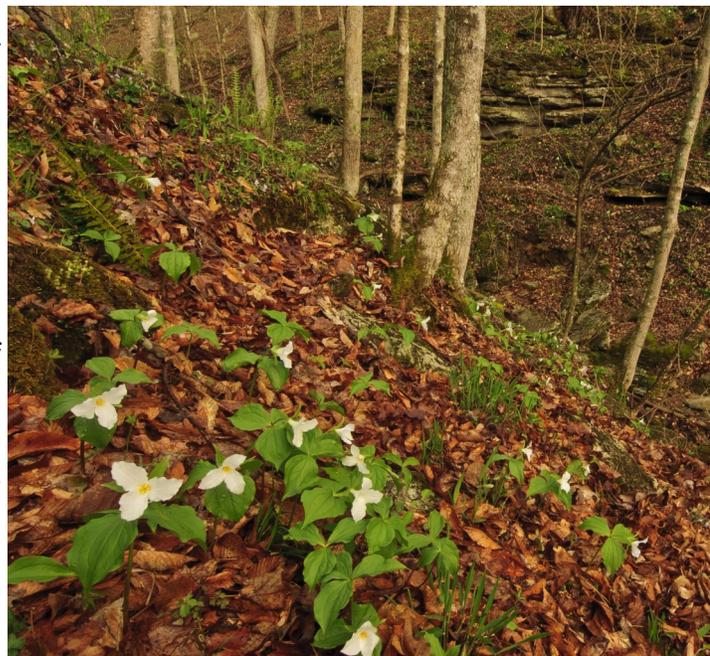
Field Trips—8:30 am, 9:00 am, 1:30 pm, 2:00 pm

Cost will be \$10/adult, \$3/ages 13-17, free for ages 12 & under. The registration table will open 1/2 hour before all presentations and field trips. All field trips will leave from the Hemlock Lodge lobby and evening programs will be in the Woodland Center.

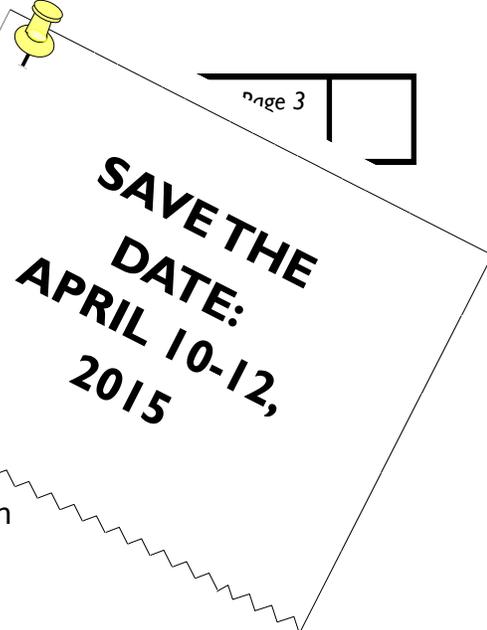
Longtime KNPS members are familiar with the spectacular nature photography of the late Tom Barnes which has appeared regularly in the Lady-slipper over the years - including on this issue's—and many of Tom's images can be found by browsing our online archives at <http://www.knps.org/archives.html>. KNPS President Zeb Weese will present a slideshow of some of Tom's photographs from his most recent book, [\*Kentucky, Naturally: the Kentucky Heritage Land Conservation Fund at Work\*](#), along with information on some of the plants and natural areas Tom photographed over the years.

As usual our field trips will travel all over the Natural Bridge area, including hikes along the Rock Garden Trail, Whittleton Arch Trail, Sheltoewe Trace, and many others locations. Our trips are led by some of Kentucky's most prominent biologists, both professional and amateur, and range from general wildflower hikes to specialized hikes focusing on woody plants, geology, ecology, and invasive plants.

To reserve a lodge room or cabin at Natural Bridge State Park call (606) 663-2214 or go to <http://parks.ky.gov/parks/resortparks/natural-bridge/reservations.aspx>



Tygart's State Forest, photo by Thomas G. Barnes from *Kentucky, Naturally: the Kentucky Heritage Land Conservation Fund at Work*.



## **2015 KNPS Native Plant Stewardship Certification Class Schedule**

We are happy to announce the class schedule for the 2015 course, which will be in the Louisville area. The KNPS Native Plant Stewardship Program was established to provide participants with background knowledge about Kentucky's native plant resources, knowledge about threats to native plant resources, and experience managing for and restoring native plant resources.

The full certification program consists of six one-day sessions, and is designed to be completed by one set of participants from start to finish. Three of these sessions are classroom-type courses, and three are field courses. Each session is limited to 15 participants, with on-line registration being open until it is filled (first come first served, on-line payment by credit card required). For this reason, we ask that you check your calendar before registering, and if you know you will be unable to attend more than one course please do not register and wait until another session is offered. Certification is issued when all six classes have been attended. Make-ups can be completed in future sessions.

Cost: \$110 (\$55 for students with proper identification). This cost includes registration to all six courses, class materials, and a one-year membership or renewal to the Kentucky Native Plant Society.

Ready to sign up or have questions? Just contact: [certification@knps.org](mailto:certification@knps.org)

### **Kentucky's Native Plant Communities Saturday March 14 / 9am-4pm**

Instructors: Tara Littlefield and Brian Yahn ([Kentucky State Nature Preserves](#))

Location: [Bernheim Forest](#), Clermont, KY

### **Native Plant Identification 101 Saturday April 18 / 9am-4pm**

Instructors: Pat Haragan and

Julian Campbell (Bluegrass Woodland Restoration Center)

Location: [Creasey Mahan Nature Preserve](#), Goshen, KY





### **Threats to Ecological Communities and the Biodiversity of Kentucky**

**Saturday May 30 / 9am-4pm**

Instructors: Zeb Weese ([Kentucky Heritage Land Conservation Fund](#)) and Jody Thompson ([Kentucky Division of Forestry](#))

Location: [Louisville Nature Center](#), Louisville, KY

### **Enhancing Biodiversity in Your Own Backyard – Growing Native Plants**

**Saturday June 17 / 9am-4pm**

Instructors: Margaret Shea (Dropseed Nursery)

Location: [Creasey Mahan Nature Preserve](#)  
and [Dropseed Nursery](#), Goshen, KY

### **Invasive Species – Field Identification and Management Techniques**

**Saturday July 25 / 9am-4pm**

Instructors: Chris Chandler (The Nature Conservancy)

Location: [Bernheim Forest](#), Clermont, KY

### **Habitat Management/Graduation Event**

**Saturday August 8 / 9am-2pm**

Instructors: Andrew Berry ([Bernheim Forest Manager](#))

Location: [Bernheim Forest](#), Clermont, KY

Remember, to sign up please contact: [certification@knps.org](mailto:certification@knps.org)



## **KNPS STUDENT RESEARCH GRANTS**

KNPS is pleased to announce the student research grant program, a funding source to support botanical knowledge and understanding in Kentucky. We are pleased to offer awards of \$500 for graduate student projects, and \$250 for undergraduate projects. Awards will be given for field-based botanical project(s) which contribute to the knowledge of Kentucky's flora or natural communities (with students preferably attending a Kentucky college or university). The grant may be used to purchase consumable supplies and materials such as rebar, herbarium paper, label stock, and topographic maps. The grant may also be used to cover travel expenses. It may not be used to pay time (e.g., labor) for any party. Applications are due by **March 23rd, 2015**. Applicants will be notified by **May 8th, 2015**. Funding amount may vary depending on the applicant pool (and may include no grants given). Proposals will be reviewed by the KNPS Grant Committee.

Proposals must include:

1. A current resume/curriculum vitae;
2. A proposal (not to exceed two single-spaced typed pages) identifying the research as either graduate or under-graduate, and describing the proposed research and the role the grant would play in the research;
3. An itemized budget;
4. One letter of recommendation from a faculty member.

Applicants are encouraged to become members of the KNPS, but membership is not required to be awarded a grant. Grant recipients are required to provide KNPS with a short summary of the funded research suitable for publishing in KNPS's newsletter, *The Lady-Slipper*, within one year of receiving the grant. Grant recipients are also expected to present their work at the KNPS Fall or Spring meeting, and we encourage presenting their work at the annual Kentucky Academy of Sciences meeting within one year of completion of their research.

### 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.

Submit electronic copies (as Word or PDF attachments) of all items listed above including letter of recommendation (sent separately by faculty member) to: [dtaylor02@fs.fed.us](mailto:dtaylor02@fs.fed.us)

From the KNPS Archives: Originally published in the Winter 2004 issue of the *Lady-slipper*. This treatment is not new anymore; it is a part of Dr. Jones' *Plant Life of Kentucky*, which just celebrated its 10th Anniversary!

## A New Treatment for the Genera of Traditional "Liliaceae" in Kentucky

By Dr. Ron Jones

The monocot family Liliaceae has long been recognized to be composed of unrelated groups of taxa, but until recently, no consensus had been reached on how to separate these groups into segregate families. The treatment of the renowned North American botanist Arthur Cronquist, who kept nearly all the genera in one family, has been followed for decades, but in an article published after his death in volume 1 of *Flora North America*, in 1993, he commented that "he would be happy enough to divide this group into several families, if I could find a reasonable way to do it, but I have not found the way" In an update on monocot classification published in volume 26 of *Flora North America*, in 2002, the authors (J. Reveal & J. Pires) noted that "there is no question that the evidence available today strongly supports the wholesale dismemberment of the family as he (Cronquist) circumscribed it". In recent years whole teams of experts have tackled this question, subjecting the various species to detailed genetic, morphological, and cladistic analyses, and numerous articles and books have resulted from these studies. The conclusion has been that the genera of the traditional family "Liliaceae" have been separated into three orders (Asparagales, Dioscoreales, and Liliales) and about two dozen families worldwide. There is now strong consensus among workers for most of these new families, and only a few remain debatable. For my statewide treatment of the "liliaceous" monocots of Kentucky, to be published in *Plant Life of Kentucky*, in February 2005, the following families were accepted, with the Kentucky genera indicated and illustrated (drawings from Britton & Brown, 1913, as modified in *Index Kentuckiensis*).

*Note: The Agavaceae and Smilacaceae have long been considered to be separate families, and are not included in the key and list below.*

### Key to Families of Traditional Liliaceae

- 1 Ovary inferior. 2.
- 1 Ovary superior. 3.
- 2 Plants glabrous. **Amaryllidaceae**
- 2 Plants pubescent. **Hypoxidaceae**.
- 3 Perianth in 2 whorls, with green sepals and colored petals; leaves in one whorl of 3. **Trilliaceae**
- 3 Perianth in 1 whorl, of similar tepals; leaves various. 4.
- 4 Stems almost naked, with scale-like, spiny leaves; flowers about 5 mm long; fruit a red berry. **Asparagaceae**.
- 4 Stems with leaves along stem or at base of stem, not spiny; flowers and fruits various. 5.
- 5 Flowers both very large (5—10 cm long) and orange/orange spotted. 6.
- 5 Flowers otherwise. 7.
- 6 Leaves all basal. **Hemerocallidaceae**.
- 6 Leaves cauline, usually whorled (*Lilium*) **Liliaceae**.
- 7 Flowers in stalked umbels. 8.
- 7 Flowers otherwise. 9.

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<https://www.facebook.com/groups/69397006016/>

- 8 Leaves linear or with odor of onions, or both. **Alliaceae**.  
 8 Leaves broader, lacking onion odor (*Clintonia*) **Liliaceae**.  
 9 Leaves 1 to 3. 10.  
 9 Leaves 4 or more. 11.  
 10 Flower solitary (*Erythronium*) **Liliaceae**.  
 10 Flowers several, in a raceme. **Convallariaceae**.  
 11 Leaves in 2 whorls (*Medeola*) **Liliaceae**.  
 11 Leaves alternate or basal. 12.  
 12 Leaves scattered along the stem, the leaves not linear and grasslike. 13.  
 12 Leaves mostly at base of stem, sometimes with reduced stem leaves, the leaves in some genera grasslike. 14.



Amy McIntosh

*Allium cernuum*

- 13 Stems branched above the middle. **Uvulariaceae**.  
 13 Stems unbranched above the middle. **Convallariaceae**.  
 14 Leaves all basal and linear; perianth blue, pale blue, or white with a green stripe. **Hyacinthaceae**.  
 14 Leaves mostly basal, but with some reduced or scale leaves on stem; perianth white, greenish, or maroon. 15.  
 15 Perianths segments fused nearly to tip, the outer surface roughened; style 1; stems from short rhizomes. **Nartheciaceae**.  
 15 Perianth segments separate, smooth on outer surface; styles 3; stems mostly arising from bulbs. **Melanthiaceae**.

Note in the family descriptions below that K=calyx or sepals; C=corolla or petals; A=stamens (androecium); and G=pistils (gynoecium). In addition parentheses around the numbers indicate fusion, and that slashes indicate ovary position, as in  $\sqrt{(3)}$  is a 3 chambered, superior ovary, but  $\sqrt{(3)}$  is a 3 chambered inferior ovary.

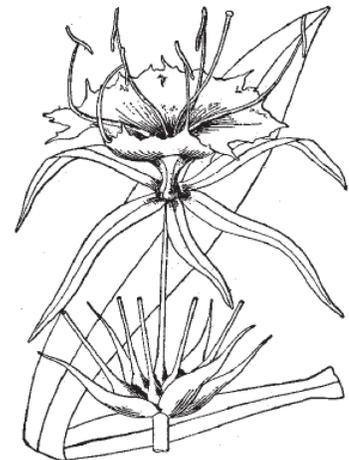
### ALLIACEAE. The Onion Family.

Perennial herbs from bulbs, onion-scented in most; leaves alternate (basal or cauline), flat or terete, linear to elliptic, parallel-veined; flowers bisexual (or absent and replaced by sessile bulblets), regular, in umbels, these subtended by 1 to several bracts;  $K+C=6$ ,  $A=6$ ,  $G\sqrt{(3)}$ ; fruit a capsule. Genera—*Allium*, *Northoscordum*.

*Northoscordum bivalve*

### AMARYLLIDACEAE. The Amaryllis Family.

Perennial herbs from bulbs; leaves basal, flat and parallel veined; flowers bisexual, regular, solitary or in umbel-like clusters on scapes;  $K+C=6$ ,  $A=6$ ,  $G\sqrt{(3)}$ ; fruit a capsule. Genera—*Hymenocallis*, *Leucojum*, *Lycoris*, *Narcissus*.

*Hymenocallis occidentalis*

*Narcissus pseudonarcissus*

**ASPARAGACEAE.**  
The Asparagus Family.

Perennial herb to 2 m, with almost naked stems; leaves alternate, scalelike, subtending narrow, leaf-like branches (cladophylls); flowers bisexual or unisexual, regular, solitary in axils;  $K+C=(6)$ ,  $A_6$ ,  $G \ (3)$ ; fruit a red berry. Genus—Asparagus.

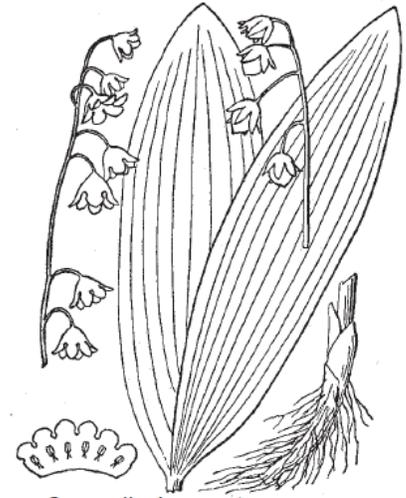
*Asparagus officinalis*

**CONVALLARIACEAE.**  
Lily-of-the-valley Family

Perennial herbs from rhizomes, the stems unbranched or absent; leaves basal or cauline and alternate, parallel-veined; flowers bisexual, regular, axillary or in terminal panicles or racemes;  $K+C=6$  or  $4$ ,  $A_6$  or  $4$ ,  $G \ (2-3)$ ; fruit a berry. Genera—*Convallaria*, *Maianthemum* (*Smilacina*), *Polygonatum*.

**HEMEROCALLIDACEAE. The Day-lily Family.**

Perennial herbs, with stolons spreading and forming colonies; leaves all basal, linear to 1 m, parallel-veined; flowers bisexual, slightly irregular, in terminal cymes on a scape to 1.5 m;  $K+C=(6)$ —orangish and showy,  $A_6$ ,  $G \ (3)$ ; fruit an abortive capsule. Genus—*Hemerocallis*.

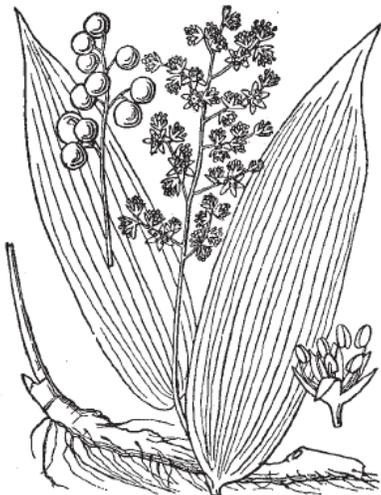
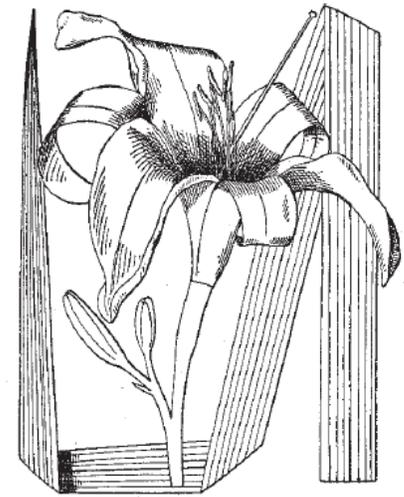
*Convallaria montana*

**HYACINTHACEAE. The Grape-hyacinth Family.**

Perennial herbs from bulbous bases; leaves all basal and linear, parallel-veined; flowers bisexual, regular, in scapose racemes;  $K+C=6$ ,  $A_6$ ,  $G \ (3)$ —the style 1; fruit a capsule. Genera—*Muscari*, *Ornithogalum*, *Camassia*.

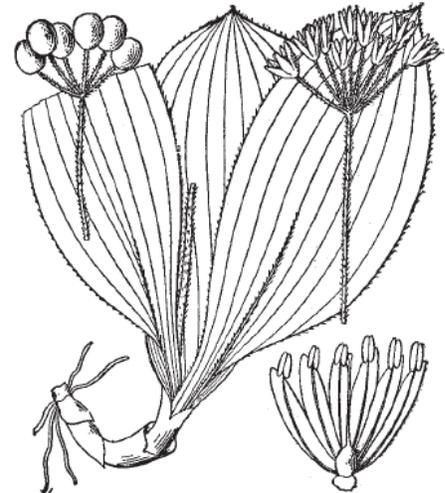
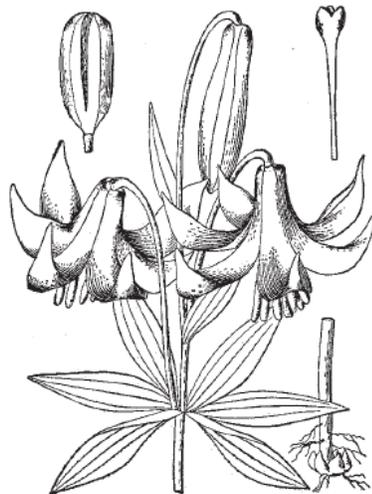
**HYPOXIDACEAE. The Star-grass Family.**

Perennial herbs with pubescent foliage; leaves basal, linear and parallel-veined; flowers bisexual, regular, in umbellate clusters;  $K+C=6$ —yellow,  $A_6$ ,  $G \ (3)$ ; fruit a capsule. Genus—*Hypoxis*.

*Maianthemum racemosum**Polygonatum biflorum**Hemerocallis fulva*

*Hypoxis hirsuta***LILIACEAE. The Lily Family.**

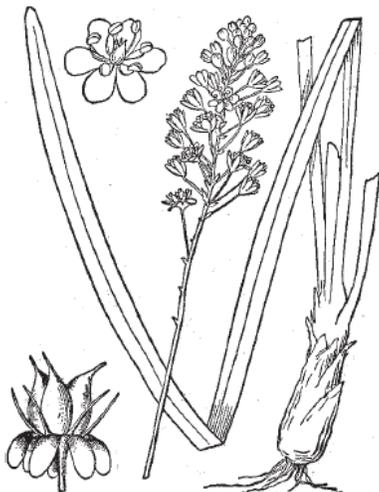
Perennial herbs from bulbs; leaves various, simple and parallel-veined, with sheathing bases; flowers bisexual, regular, solitary or in various terminal clusters;  $K+C=6$ ,  $A_6$ ,  $G_{(3)}$ —stigmas or style branches 3; fruit a berry or capsule. Genera—*Clintonia*, *Erythronium*, *Lilium*.

*Clintonia umbellulata**Erythronium americanum**Lilium canadense***MELANTHIACEAE.  
The Bunch-flower Family.**

Perennial herbs from bulb-like rhizomes; leaves basal or alternate, usually mostly on lower half of stem, simple and parallel-veined; flowers bisexual or unisexual, regular;  $K+C=6$ ,  $A_6$ ,  $G_{(3)}$ —styles and stigmas 3; fruit a capsule. Genera—*Amianthium*, *Chamaelirium*, *Melanthium*, *Stenanthium*, *Veratrum*, *Xerophyllum*.

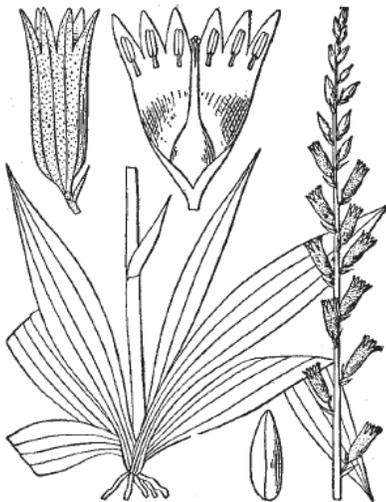
**NARTHECIACEAE.  
The Bog-Asphodel Family.**

Perennial herbs from short rhizomes; leaves mostly basal, lanceolate and parallel-veined, to 20 cm; flowers bisexual, regular, in terminal racemes;  $K+C=(6)$ —with outer surfaces rough and mealy,  $A_6$ —on the tube,  $G_{(3)}$ —style 1; fruit a capsule enclosed in withered perianth. Genus—*Aletris*.

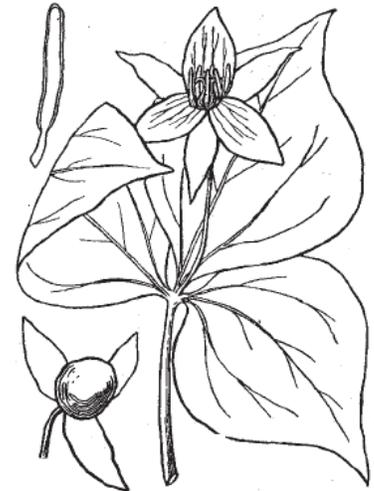
*Amianthium muscitoxicum**Chamaelirium luteum**Melanthium virginicum*

*Stenanthium gramineum**Melantherium parviflorum**Xerophyllum asphodeloides***TRILLIACEAE. The Trillium Family.***(lumped with Melanthiaceae in some recent treatments)*

Perennial herbs from a usually short and stout rhizome; leaves (actually bracts) three in one whorl, simple and entire, with net-palmate veins converging toward apex; flower bisexual, regular, solitary; K3, C3, A6, G  $\frac{1}{3}$ —stigmas 3; fruit berry-like. Genus—*Trillium*.

*Aletris farinosa***UVULARIACEAE. The Bellwort Family.***(more recently referred to as the Colchicaceae)*

Perennial herbs from creeping rhizomes, stems usually branched above the middle; leaves alternate, simple and parallel-veined; flowers bisexual, regular, axillary or terminal; K+C=6, A6, G  $\frac{1}{3}$ /Bstigmas 3; ; fruit a berry or capsule. Genera—*Prosartes* (*Disporum*), *Streptopus*, *Uvularia*

*Trillium erectum**Proserpinaca lanuginosa**Streptopus lanceolatus**Uvularia pefoliata*



Kentucky Native Plant Society  
801 Teton Trail  
Frankfort, KY 40601

## 2015 KNPS Membership Application or Renewal

Detach and Send to: Kentucky Native Plant Society / 801 Teton Trail / Frankfort, KY 40601

**Note: To pay by credit card or PayPal account, please visit the website [www.knps.org](http://www.knps.org).**

Name(s)\* \_\_\_\_\_

**Membership Type: (memberships are for calendar year)**

E-mail(s)\* \_\_\_\_\_

Address\* \_\_\_\_\_

City, State, Zip\* \_\_\_\_\_

Telephone \_\_\_\_\_

\_\_\_\_ Individual \$15 (includes e-newsletter)  
\_\_\_\_ Family \$25 (includes e-newsletter to 1-4 e-mails)  
\_\_\_\_ Lifetime \$200 (includes electronic newsletter indefinitely)  
\_\_\_\_ Additional gift (optional, tax-deductible)

**Total** \_\_\_\_\_ **Check No.** \_\_\_\_\_

\* denotes required fields, we MUST have your e-mail address in order to distribute the newsletter!

*The Kentucky Native Plant Society was founded in 1986 for everyone interested in the native plants, trees, and wildflowers of Kentucky. Plants are essential to both the well-being of our Commonwealth's natural ecosystems and our enjoyment of its unique environment. With members in Kentucky and neighboring states, the Kentucky Native Plant Society is a leader in promoting education about, appreciation for, and conservation of the native flora of our Commonwealth.*