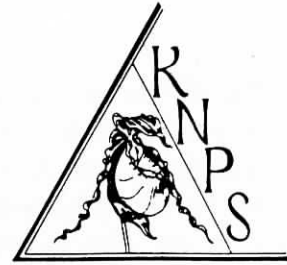


# Kentucky Native Plant Society *NEWSLETTER*



Vol. 7. No. 2. May 1992.

## Message from New KNPS President

by Landon McKinney, Kentucky State  
Nature Preserves Commission, Frankfort

Thanks to each and every one of you who attended this spring's annual meeting and Wildflower Weekend at Natural Bridge State Park. Wilson Francis continues to orchestrate a splendid program and it appears that this year's attendance broke all previous records. John MacGregor's Friday night presentation on the "Orchids of Kentucky" and Edward Wayne Chester's presentation on the "Land Between The Lakes" were exceptional programs.

For those of you who were unable to attend the Wildflower Weekend, please mark your calendars and make plans to attend next year. The "Wildflower Weekend At Natural Bridge" provides a great opportunity to view our native flora at its best.

On behalf of the entire membership, I would like to extend our sincere appreciation to all outgoing officers and board members: Julian Campbell, Danny Barrett, Clara Wieland, and Wilson Francis. As well, I would like to welcome our incoming officers: Clara Wieland (Vice-President), Joyce Porter (Secretary), Julian Campbell and David Taylor (Board Members). Many thanks to those who will continue official duties including Tom Bloom (Treasurer), Ed Hartowicz and

Willem Meijer (Board Members). I would especially like to thank Ron Jones for his persistence and dedication as editor of our newsletter and welcome Doug Reynolds as our new editor. Designated as associate editors, Julian Campbell and I will make every attempt to assist Doug in producing the quality newsletter that we all have come to expect.

It is quite an honor to have been nominated, elected, and to begin serving as president of the Kentucky Native Plant Society and I stand fully committed to fulfill my duties as president to the best of my ability. As a member since its inception, I have seen KNPS grow and develop into an excellent organization dedicated to the appreciation and protection of our native flora. I have seen a wide variety of interesting and informative articles written by a host of knowledgeable and concerned members. I have seen an exceptional array of field trips dotted across the state which have shown our members some of the best examples of our natural communities and native flora. I have seen the creation of informative workshops, an excellent symposium on the vegetation and flora of Kentucky followed soon after by the publication of its proceedings, and the beginnings of a certification program in native plants of Kentucky. I have seen intense efforts in developing a native seed bank, an exchange program for native plant seed, and an overwhelming interest in native plants for home landscaping and roadsides.

As we set our sights on the future, let's continue to work together to not only maintain this organization, its newsletter, and its special interest programs but to continue to build on our past efforts. At the same time, let's think about new and innovative ways to maximize our efforts in further promoting interest in our native flora. As with any incoming president, I will provide some suggestions on changes in direction or intensity in our many activities. I anticipate polling our membership sometime in the near future so that everyone will have a chance to have input on the direction and destiny of this organization. In the meantime, my office number is (502) 564-2886 and at any time a member has a pressing comment or concern, please do not hesitate to call me.

Once again, let me extend my sincere thanks to all involved with my nomination and election as President of the Kentucky Native Plant Society. I will do my very best to work with fellow officers, board members, and the entire membership to make our native plant society one of the best in the nation.

### **KNPS Field Trips**

#### **Saturday, June 27 - Sandstone Glades on Stearns Ranger District**

David Taylor, Botanist for the Daniel Boone National Forest, will lead a trip to a unique sandstone glade community. Meet David at the Stearns Ranger Station on US 27 just north of Whitley City at 10:00 AM.

#### **Saturday, July 18 - Field trip to Hardin and Grayson Counties**

Meet Joyce Porter at 9:00 AM Eastern Time

at the McDonalds restaurant at Elizabethtown, on US 62 about 1/2 mile west of Interstate 65. We will see Silene regia, the Royal Catchfly, in Hardin County, then go to the Big Clifty Prairie in Grayson County. Lunch will be at Joyce Porter's place on Short Creek. Food will be furnished, but please bring your own beverage. In the afternoon we will look at an area that is a possibility for the roadside wildflower project. Please call Joyce at (502) 879-9765 if you plan to attend.

#### **Saturday, August 8 - Fern Workshop at Natural Bridge State Park**

Wilson Francis will coordinate a field workshop on fern identification. Meet at 10:00 AM at Hemlock Lodge, and please bring along a sack lunch. We suggest you wear sturdy shoes and long pants, since part of the trip will be off-trail hiking.

### **KNPS Certification Courses in Native Plant Studies**

**Sept. 19, Sept. 26, Oct. 3, and Oct. 10 - Basic Plant Ecology, at ECU, in Memorial Science 71.**

Dr. Doug Reynolds of ECU's Natural Science Dept. will offer Basic Plant Ecology, Saturday mornings from 9:00 AM to 12:00 PM. The course will be limited to 24 people, and will address the following topics: environmental factors and plant distributions, life-history patterns, species interactions, communities and succession. Some field trips will be included. This course is aimed at the amateur naturalist, and no previous background in ecology or science is expected.

**Oct. 24, Nov. 7, Nov. 21, Dec. 5 - Basic Botany, at ECU, in Moore 202.**

Dr. Ron Jones of ECU's Biology Dept. will offer Basic Botany on Saturdays from 1:00 PM to 4:00 PM. This course will be limited to 24 people, and will address the following topics: internal and external structure of plants; growth ( effects of light, gravity, and hormones); function (how plants move water and food, and how they carry on photosynthesis); and reproduction (what are the sexual and asexual process that occur in plants?). This will be primarily a laboratory, hands-on type course, with participants learning how to use both standard and dissecting microscopes, and how to conduct experiments in plant functions. This course is aimed at the amateur naturalist, and no previous background in botany or science is expected.

These courses are being offered as Special Interest Courses through ECU's Division of Special Program. Tuition is expected to be about \$75. KNPS members will receive a Special Interest Course brochure in mid-August, 1992, and registration procedures will be in the brochure. Participation in the class cannot be limited to KNPS members, so the enrollment in the class will be based on priority of registration.

For more information about these courses, see the following article, or contact Dr. Jones c/o Dept. of Biological Sciences, ECU, Richmond, KY 40475 (606-622-6257) or Dr. Reynolds c/o Dept. of Natural Science, ECU (606-622-1507) or the Division of Special Programs, ECU (606-622-1228).

## **The Certification Program--How It Will Work**

by Doug Reynolds and Ron Jones, ECU

As mentioned in past articles (KNPS Newsletter 6(2):4), KNPS is planning to offer a series of courses leading to the certification in native plant studies for members who successfully complete a defined program. As currently envisioned, the program will consist of a series of core courses that all participants will take, including Basic Botany, Basic Ecology, Plant Systematics, Plant Communities, Kentucky Wildflowers, and Kentucky Trees and Shrubs. Students will pick one program of study for specialization: Field Botany, Horticultural, Wetlands, Conservation, and take several courses within that area. Students that choose to complete the certification program will also participate in a variety of field trips, complete a project, and compile a notebook on their experiences in the certification program. Further details of the program will appear in later newsletters.

To initiate the program, 2 core courses will be offered at Eastern Kentucky University during the Fall Semester, 1992. These course are described above. Two other core courses: Plant Systematics and Plant Communities of Kentucky, also taught by Ron Jones and Doug Reynolds, will be offered in the Spring Semester, 1993 at ECU. Summer, 1993 courses have not yet been set, but will possibly include Kentucky Wildflowers, Aquatic Plants, Field Ecology, and Kentucky Trees. If possible, these summer courses will be offered at a variety of sites in Kentucky. It should be emphasized that the core course do not have to be taken in sequence, and we will try to repeat them every 1 or 2 years. These

courses do not carry college credit but are designed for laypeople interested in native plants. No background in botany or science is expected. We have had about 70 people express interest in taking these courses, so we are offering them in hopes that there will be enough enrollment in the beginning stages to continue to offer the program. There must be at least 10 students enrolled to offer a class through ECU. If there is enough interest, courses will continue to be offered at ECU and at other locations around the state.

### Observations on and Records for Agaricus and Amanita Mushrooms in Kentucky

by Branley Allan Branson, ECU

The Agaricaceae (edible agarics and allies) and the Amanitaceae (death caps, fly agarics, and others) are conspicuous members of the Kentucky flora. Members of the two families share a variety of characteristics, especially the genera Agaricus and Amanita. Both produce an universal veil that surrounds the developmental stages which, when the mushroom expands, ruptures, leaving a membranous sac at the base of the stem in Amanita (lacking in Agaricus) or breaks up into scales, warts, and other remnants on the cap or a ring on the stem below the cap. In Amanita, regardless of cap color, the gills are mainly white (cream colored or yellowish white in a few species) and the spore deposit is white. The spores are oval to round, smooth, thin-walled and lack apical pores. In Agaricus, regardless of cap color, the gills are white at first but quickly change to brown, chocolate-brown or purplish-brown, and the spore print is purplish-brown.

to dark brown. The spores are elliptical and smooth with apical pores.

### AMANITACEAE

Because of their beauty and the notoriety of poisonous species (Lincoff and Mitchel, 1977), the members of this family have attracted considerable attention around the world, and the flora of most states is well known (Jenkins, 1986). In Kentucky, however, mushrooms in general, and the Amanitaceae specifically, are poorly known. Up to this time, 14 species are known from the state, nine of which are discussed here.

Amanita caesarea (Scop.) Grev. Three specimens, one immature, were collected from heavily leaf-and-needle-mulched soil near the lodge at Natural Bridge State Park, Powell County, Kentucky, 13 September 1980. The two mature specimens had a bright reddish-orange pileus with the margins distinctly striated and pale yellow gills and stipes. The spore print was white. The relationship between the American form of A. caesarea and the European counterpart has not been fully worked out (Jenkins, 1986; Pomerleau, 1980, 1984).

Amanita cinereopannosa Bas. Two large (118.6-123.2 mm) specimens with plano-convex, very warty caps were found in oak-hickory woods at Indian Fort Theatre, Berea, Madison County on 9 December 1987. The basic color was dull white. The solid stipe was lacerated-fibrillose, and the large basal bulb was clavate.

Amanita flavoconia Atk. Abundant specimens were found in oak-hickory woods and near tulip poplars and beeches on 15 July 1987 at the Indian Fort Theatre site.



All specimens had bright yellow caps with scattered volval remains. This species, implied to occur in Kentucky by range (Jenkins, 1986), is often confused with the next species below, which has a different pileus color.

*Amanita flavorubescens* Atk. Many specimens of this pretty mushroom were present at the Indian Fort Theatre location. The pileus, although also golden-yellow, has yellow volval patches and a yellowish annulus. The species appears to favor habitats near beeches and tulip poplars with openings in the canopy.

*Amanita fulva* (Schaeff.) Pers. Three specimens were found in the oak-hickory woods at the Indian Fort Theatre site, 15 July 1987, and two were found near much-decayed wood on the banks of Silver Creek, 6.7 km west of Richmond, Madison County on 3 July 1987. This is the famous tawny grisette. My specimens had brownish-orange caps with white gills, slender white stems, and they all lacked annuli and basal bulbs. This is one of the most common species of *Amanita* in the eastern United States.

*Amanita muscaria* (L.) Hooker. Numerous specimens of the fly agaric (Fig. 1) were found on 9 June 1987, 3.2 km east of Nada Tunnel, Red River Gorge, Powell County, and at the Indian Fort Theatre site, 15 July 1987. Widespread and abundant throughout eastern North America. All my specimens were the form with a pale yellowish pileus with tan warts and patches (Figure 1).

*Amanita porphyria* (Alb. and Schw.) Secr. Many specimens were found growing under white pines at Lake Wilgreen, Richmond, Madison County, 6 July 1987.

The form was slender and the cap was grayish with darker gray patches; the annulus was ashy gray.

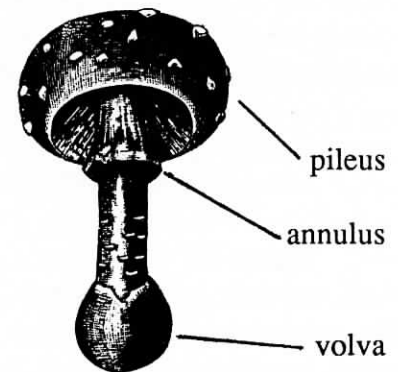


Fig. 1. *Amanita muscaria* - "Fly Agaric"

*Amanita rubescens* (Pers.) S. F. Gray. Numerous specimens were found in mixed woods at the Indian Fort Theatre site, 15 July 1987, and two individuals were found near the Rock Bridge Trail, Natural Bridge State Park, Powell County, 9 June 1987. The caps were reddish-brown with light-brown volval patches. The occurrence in Kentucky was implied by range (Jenkins, 1986) and Sunberg and Richardson (1980) reported the species from western Kentucky. This is a widely distributed mushroom (Arora, 1986).

*Amanita virosa* (Fr.) Bert. in dech. A single specimen was found at the Indian Fort Theatre site, 15 July 1987, and numerous ones were found growing beneath ashes, maples, and white pines on a large estate near Eastern Kentucky University, Madison County, 18 October 1987. The pileus was off-white, as was the annulus, and the basal bulb was globose. Each basidia had four spores. In the absence of microscopic

observations, this species is easily confused with A. bisporigera Atk., which has been reported from western Kentucky (Sunberg and Richardson, 1980). The latter species has two spores (usually) per basidium. Both species are poisonous and are often referred to collectively as "destroying angels."

### AGARICACEAE

Many of the agarics are easily confused with Amanita species. Because of this, novice mushroom hunters should avoid eating any white agaric that has white gills, and in particular if the spore print is white. Although many agarics are edible, several of them are known to cause gastric discomfort in susceptible individuals. Five species are discussed here.

Agaricus campestris (L.). Abundant specimens of this white agaric (Figure 2) with bright pinkish gills were found on the lignin-rich lawns of an estate near Eastern Kentucky University during June and July 1987, and on the lawns in Deacon Hills Estates, Richmond Madison County, 9 August 1987. Three specimens were collected from a ravine on the campus of EKU on 8 December 1987 following a long warm, moist period. This species is common in the southeastern United States (Weber and Smith, 1985).

Agaricus arvensis Schaeef. Three specimens with dark, chocolate-brown gills were found at the edge of a pasture near Lake Wilgreen, 19 July 1987. Smith and Weber (1980) consider this to be a "collective" species that is easily confused with A. sylvaticus (see below). However, A. arvensis bruises (slowly) yellowish, whereas A. sylvaticus bruises dull red or brown.

Agaricus hemmoroidarius Schulz. in Kalchb. A single, well developed specimen was found at the margin of some hardwood trees on a hillside overlooking the Interstate 75 bridge north of Richmond, Madison County, 2 July 1987. The brownish cap was fibrous, the gills white. The white flesh quickly turned red upon being scratched. There was a small ring on the upper stalk

Agaricus subrufescens Pk. This mushroom was very abundant on 18 June 1987 beneath ashes and maples on the lawn of the estate near Eastern Kentucky University. The cap was very tawny and fibrillose. The whitish stalk was also fibrillose, and the gills were rich brown in color.



Fig. 2. Agaricus campestris - "Pink Bottom"

Agaricus silvaticus Schff. Two specimens of this attractive white mushroom were found on a grassy hillside near Nada tunnel, Red River Gorge, Powell County, 9 June 1987. The cap had an abundance of small brownish-pink scales and the gills were dark chocolate brown. This species is of questionable edibility.

#### Literature Cited

Arora, D. 1986. *Mushrooms Demystified*. Ten Speed Press, Berkeley, California.

Jenkins, D. T. 1986. *Amanita of North America*. Mad River Press, Eureka, California.

Lincoff, G. and D. H. Mitchel. 1977. *Toxic and hallucinogenic mushroom poisoning*. Van Nostrand Reinhold, New York.

Pomerleau, R. 1984. A propos du Nom Scientifique de l'orange Americanine. *Nat. Can.* 3: 329-330.

Pomerleau, R. 1980. *Flore des Champignons au Quebec et region limitrophes*. Les. Editions la Presse, Ltd., Montreal.

Smith, A. H. and N. S. Weber. 1980. *The mushroom hunter's field guide*. University of Michigan Press, Ann Arbor.

Sundberg, W. J. and J. A. Richardson. 1980. *Mushrooms and other fungi of Land Between the Lakes*. Tennessee Valley Authority handbook, Golden Pond, Kentucky.

Weber, N. S. and A. H. Smith. 1985. *A field guide to southern mushrooms*. University of Michigan Press, Ann Arbor.

## The Arundinaria Project

By: Dennis Feedback, Frankfort

With the current interest in the use of wildflowers and native plants for roadside plantings, the Kentucky Transportation Cabinet has begun to utilize these plant materials in its roadside management programs. As part of that program, cane, Arundinaria gigantea, has been selected.

Because of the historical and botanical significance of cane, it was felt that efforts should be made to preserve and expand the acreages of modern canebrakes. In the case of the Transportation Cabinet, that increased acreage could be along right of ways and at rest areas. By increasing the acreage of modern canebrakes, tourist and native Kentuckians alike could be afforded an opportunity to see the canebrakes described and referred to in early writings on the state's history.

To start the program and gain experience in planting techniques, a planting at an existing rest area was proposed. Cane is not readily available commercially; however, Kentucky's right of ways do have some small canebrake and one was sought as a source of transplant stock that was close to an existing rest area. A canebrake on the Mountain Parkway in Powell County, near the Slade Rest Area, met that criteria and a project was initiated.

The Powell County canebrake consisted of 1/2 to 3/4 inch in diameter, 5 to 6 foot tall canes of apparently healthy stock. Soil tests of the site revealed a somewhat alkaline soil with a pH reading of 7.2. The site was sloping and was bounded by fescue on the north and a wooded area to the south.

The site selected at the rest area resembled the collection site in slope and

was on the banks of the Middle Fork of the Red River. The site was chosen to afford visibility to visitors yet not create a maintenance problem for the grounds crew. Soil at the planting site had a very high pH of 7.8 and was quite sandy.

Having selected the collecting and planting sites, plans and specifications were prepared and a contract was obtained for the project. Green Gardens, Owenton, Kentucky, was the successful bidder and undertook the work on March 5, 1991. That day dawned clear and frosty with a low temperature of 30 degrees F., warming to the mid-sixties. With a crew of three, transplanting stock was dug from the chosen site, 4.4 miles west of the rest area on the south side of the eastbound lane of the Mountain Parkway. Clumps of three to four canes with as large a root ball as possible were dug to produce a total of approximately 100 canes. The clumps were loaded onto a flatbed truck, covered with plastic and transported to the rest area.

At the planting site, sod was removed from a 10 foot by 10 foot area and tilled to a depth of 6 to 8 inches. A liberal application of compost was applied and worked in. Approximately three fourths of the dug clumps were set in at the same depth as they had been growing with care taken not to disturb the root ball more than necessary. After firming in and watering, the soil surface was covered with clean straw. The remaining one fourth of the dug clumps had the soil washed from their root balls, and cut and damaged ends of roots and rhizomes trimmed and dusted with rooting hormone before being planted. This treatment was tried to determine whether root development could be increased and result in more vigorous growth. This group of clumps were segregated for future reference.

Since the transplanting a year ago, the canebrake has developed surprisingly well considering the hot, dry summer. Numerous canes of the same size as were present at the collection site were produced in early summer. The new canebrake now has the appearance of a natural stand. The only problem encountered was the clumps treated with rooting hormone. In this quadrant, 100 percent of the plants were lost.

For the future, the Transportation Cabinet plans to incorporate cane into the landscaping of new rest areas and renovation of existing rest areas as part of its wildflower/native species program. The Bullitt County I-65 and Christian County I-24 rest areas, now under construction, and the soon to start Scott County I-75 renovation, will include canebrakes.

It is hoped that when a majority of the rest areas have canebrakes in place, literature will be developed and made available at the rest areas that will provide ethnobotanical, horticultural, and historical information to the public.

At this point in time, the biggest obstacle to large scale planting of cane is the lack of plant materials in the nursery trade. Cane is not readily available in the trade and existing canebrakes are not distributed in all areas where breaks could be established. It is hoped that as projects are let that include cane, nurseries will respond and undertake propagation and thus reduce the need for collected stock.



## **Kentucky Department of Fish and Wildlife Resources Habitat Improvement Program**

By: Richard Hines, South Central District Wildlife Biologist

Just as any disturbance to a plant community can affect the variety of plant species present, changes in the plant community may also affect wildlife species. Kentucky has experienced great alterations in its plant communities. Most of these changes in plant species composition and distribution were caused by man. Around the turn of the century, large sections of Kentucky woodlands were removed by loggers and the land was cleared for agricultural purposes. The removal of woodlands created a fragmented landscape that had a negative impact on forest wildlife species such as pileated woodpeckers, barred owls, bobcats, black bears and wild turkey. Conversely, these major conversions to early successional stage communities caused other species such as eastern meadowlarks, eastern bluebirds and bobwhite quail to flourish.

During the early part of the 1900's, agriculture in Kentucky was practiced on small family farms. Annual disturbance to the land was in the form of burning, plowing and disking. All wildlife species typical of early successional stages particularly benefitted from this disturbance in conjunction with the fallowing of fields as was commonly practiced.

These types of farm management practices continued on a wide scale until World War II when the cycle of annual disturbance was greatly curtailed. During this time farms were abandoned and woodlands began to replace open fields. As woodlands reclaimed old farms throughout the state, wildlife populations began to decline.

In 1947, the Kentucky Department of Fish and Wildlife (KDFWR) responded to public demands for huntable farm wildlife by initiating an extensive quail stocking program. Many other states attempted to boost quail numbers by utilizing supplemental stocking programs. By the early 1960's, some state agencies began phasing out quail stocking programs as releasing pen reared quail was not found to significantly improve numbers of huntable bobwhite quail.

The KDFWR completed the phasing out of its quail program in 1988. In doing so, the department began emphasizing loss of habitat as the major reason for farm wildlife population declines. Funds once used for quail stocking were dedicated to the development of wildlife habitat on private lands. The result was the development of the Habitat Improvement Program (HIP) which offered cost-sharing for projects to develop a variety of wildlife habitats. During the first year of the program, department biologists entered into contracts with 64 landowners affecting 29,620 acres. By 1989, 173 contracts affecting 64,358 acres had been completed. As the program continued to grow, the number of contracts in 1990 increased to 339, covering 103,267 acres.

Of particular interest to members of the Kentucky Native Plant Society is HIP's involvement in the planting and maintenance of native grasses and forbs. A great deal of emphasis within HIP has been on reestablishing native warm season grasses because of their value as wildlife cover. KDFWR district wildlife biologists have found many farmers are interested in converting non-native cool season grasses to native warm season grasses for livestock grazing.

Other management practices which are eligible for cost-sharing under HIP are as follows:

Fescue conversion (no till): 75/25 cost share (seed, chemical and equipment rental)

Fescue conversion (conventional till): 75/25 for seed and chemicals

Annual small grain food plots: \$40.00/acre in 1/4 to 1/2 linear plots

Strip Disking to create annual disturbance: \$25.00 per acre

Creation of shrub rows: 100% reimbursement of plant materials, such as seedlings or seed

Natural shrub row creation: \$30.00/acre/year with a three year minimum and a 5 year maximum

Fencing woodlands or valuable wildlife habitat to protect from grazing: 50/50 cost share for materials only

Leaving outer rows of crops remaining in fields: \$25.00/4 rows x 300 feet for wildlife (no pesticide or herbicides)

Construction and erection of artificial nest boxes: 100% reimbursement for materials

Creation of small forest openings: 75/25 for disturbance (mechanical or chemical)

From this list of approved management practices, many variations may be prescribed by the wildlife biologist to fit the particular situation or habitat type desired.

Landowners interested in having a wildlife biologist visit their property are encouraged to write the Kentucky Department of Fish and Wildlife Resources in Frankfort, Kentucky or call 502-564-4406.

Due to the enormous demand for this service a waiting period of 6-8 months can be anticipated.

## The Mustard Family (Cruciferae or Brassicaceae)

by Jim Conrad, Calhoun, KY

Blossom formula: 4-4-6 (Figure 1)

Fruit: a pod; when the pod is longer than broad it's called a silique; when broader than long, it's a silicle

# of species in world: 3,000

# of species in Kentucky: 32

Native mostly to Temperate and Sub-Arctic zones, and high elevations in the tropics

Most Mustard-Family members are herbs with alternate leaves

Best-known members of family: cabbage, broccoli, spinach, radishes, turnips, canola, rutabaga, kale, brussels sprouts

Several of Kentucky's earliest wildflowers are members of the Mustard Family. In fact, some years even in January and February you can find at least one, Vernal Whitlow Grass (Draba verna) blossoming in crabgrass at the base of walls of south-facing buildings. In Kentucky forests, in late March and April, the Cut-Leaf Toothwort (Dentaria laciniata) is one of the earliest, most common and conspicuous wildflowers. Later in spring, Winter Cress, also called Yellow Rocket (Barbarea vulgaris) imbues certain fields and roadsides with broad splashes of bright yellow.

Other important Kentucky wildflowers in the Mustard Family include Garlic-Mustard (Alliaria officinalis), Smooth rock-Cress (Arabis laevigata), Spring cress (Cardamine bulbosa), Crinkleroot (Dentaria diphylla), Purple rocket (Iodanthus pinnatifidus) and Watercress (Nasturtium officinale).

The Mustard Family is one of the easiest families to identify. In fact, there's something so special about Mustard-Family blossoms that, if you know it, you'll always

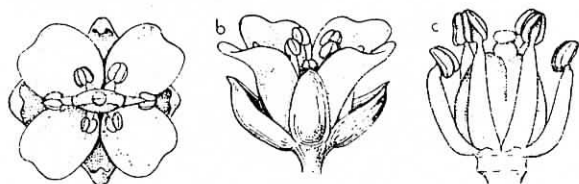
be able to identify mustard flowers. Here's that piece of information:

Mustard-Family flowers usually have 4 petals, 4 sepals and 6 stamens, and 2 of those stamens are shorter than the other 4.

Savor the simplicity in this concise, potent little piece of knowledge, and let it sink in; it's very seldom that a plant family can be so easily described and remembered.

Mustard-Family fruit pods also are distinctive; sometimes when we "key out" look-alike mustard species, having fruits to look at is more helpful than having flowers. Usually mustard pods are long and slender, and dehiscent (opening) on two sides, exposing a papery partition between the two halves when the seeds fall out.

#### Mustard flowers



#### Silicle

#### Silique

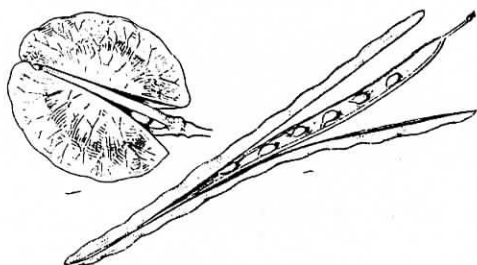


Figure 1. Mustard family flowers, top and side views; and fruits. From G. Lawrence, 1955. *Intro. to Plant Taxonomy*.

## News and Announcements

### New Editor of the Newsletter

After several years of faithful service, Ron Jones has turned over the editorship of the KNPS Newsletter to Doug Reynolds. Please send all manuscripts and any comments and suggestions for the Newsletter to Dr.

Douglas N. Reynolds, Dept. of Natural Science, EKV, Richmond, KY 40475. The phone number is (606) 622-1507. If you have the capability to send manuscripts on computer disks in either WordPerfect or ASCII format, it would be appreciated.

### Plans for the Fall Meeting with Roadside Theme

If other members agree, I will go ahead with plans to organize a September or October meeting in the Bowling Green or Elizabethtown area. The theme would be roadsides--their wildflower displays, rare species and native grassland remnants. Ideally, this meeting would include talks and slide shows about significant roadsides, field trips to selected sites, and discussion of management issues--politics and all. In addition to studying the most significant sites, the meeting should advance the cause of cooperative planning for conservation and restoration of special botanical roadsides. However, I cannot do this all by myself. Please contact me as soon as possible if you would like to help, especially with conservation and restoration aspects. Julian Campbell (3525 Greentree Road, Lexington KY 40517; tel. 606/271-4392).



The Kentucky  
 Native Plant Society  
 Department of Biological Sciences  
 Eastern Kentucky University  
 Richmond, KY 40475

BULK RATE  
 U.S. POSTAGE  
 PAID  
 RICHMOND, KY 40475  
 PERMIT NO. 116

Contents

(Volume 7, Number 2)

Message from the New President (Landon McKinney) . . . . . 1  
 KNPS Summer Fieldtrips . . . . . 2  
 KNPS Certification Courses in Native Plant Studies . . . . . 2  
 The Certification Program -- How It Will Work  
     (Doug Reynolds and Ron Jones) . . . . . 3  
 Observations on and Records for Agaricus and Amanita Mushrooms  
     in Kentucky (Branley Branson) . . . . . 4  
 The Arundinaria Project (Dennis Feebeck) . . . . . 7  
 Kentucky Department of Fish and Wildlife Resources Habitat Improvement  
 Program (Richard Hines) . . . . . 9  
 The Mustard Family (Jim Conrad) . . . . . 10  
 News and Announcements . . . . . 11

The Kentucky Native Plant Society, Inc. was founded in 1986 as a botanical organization for all persons interested in the native flora and vegetation of Kentucky. The goals of KNPS are to serve as a medium of information exchange, to promote native plant conservation, public education in botany, and botanical research in Kentucky. Annual dues of \$5.00 (Family \$7.00) may be sent to KNPS, c/o Tom Bloom, 900 Keenon Rd., Harrodsburg, KY 40330.

The KNPS NEWSLETTER is published quarterly (Feb., May, Aug., Nov.). Please notify us four weeks in advance of any changes of address. Back issues of the NEWSLETTER are available for \$1.00 each. Send articles and correspondence to the KNPS Newsletter Editor.  
 KNPS Officers:  
 President - Landon McKinney, 1031 Tamworth Lane, Frankfort, KY 40601.  
 Vice-President - Clara Wieland, 2043 Manor Dr., Lexington, KY 40502, 606-266-5548.  
 Secretary - Joyce Porter, P.O. Box 55, Falls of Rough, KY 40119.  
 Treasurer - Tom Bloom, 900 Keenon Rd., Harrodsburg, KY 40330, 606-734-5509.  
 Directors - Ed Hartowicz, 4635 Flat Creek Rd., Frankfort, KY 40601, 502-223-7882; David Taylor, U.S.D.A. Forest Service, 1835 Bighill Rd., Berea, KY 40403; Willem Meijer, School of Biological Sciences, UK, Lexington, KY 40506, 606-257-3240; Julian Campbell, 3525 Willowood Rd., Lexington, KY 40517, 606-271-4392.  
 Editor, KNPS Newsletter - Doug Reynolds, Department of Natural Science, EKV, Richmond, KY 40475