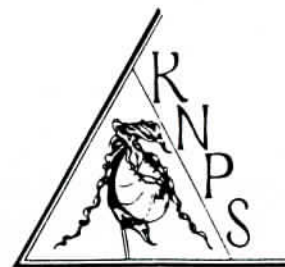


Kentucky Native Plant Society *NEWSLETTER*



Vol. 7, No. 4.

November, 1992

Message From The President

Those who were unable to attend our fall meeting missed an enjoyable gathering. We were treated to an informative slide presentation on roadside wildflowers of Kentucky by Ken Nicely from Western Kentucky University. Julian Campbell led us on a very informative field trip through the Raymond Athey Barrens State Nature Preserve with assistance from Tom Bloom.

Our general business meeting was productive and we received several useful comments and suggestions from some of the members present. I would like to thank Ken Nicely and others at WKU for allowing us to take advantage of their facilities as well as for the coffee and donuts that made the morning so much more tolerable for those of us who rely on caffeine and sugar to get us going.

As we continue to produce one of the best native plant society newsletters in the country, you will notice that this issue contains the second installment of "What's Coming Up In Kentucky" titled "Winter Botany" by David Taylor (USDA Forest Service, Daniel Boone National Forest). I hope that David's article will encourage each of you to spend some time observing the many features of plants in a dormant or skeletal stage. While all of us get caught up in the beauty of plants during the growing season, let's not forget the treasures waiting to arouse our curiosity during a cold winter's day.

Jim Conrad continues to provide us with excellent portrayals of various plant families. His informative articles are part of what I think makes our newsletter such a tremendous success. While others may from time to time provide family treatments, his will continue to be one of our most interesting series.

As our newsletter continues to be one of the major highlights of our society, I would ask each of you to think about ways to contribute to its success. Think about your favorite plant or perhaps your favorite place (a place for hiking, observing nature, etc.) and share with us why these things are important by writing a brief article for our newsletter. These may be sent to our editor at any time. You need not feel a need to disclose exact locations of favorite places but merely discuss why they are so special to you. We all have similar interests and sharing them could be quite stimulating.

Winter Events and Field Trips

**Sunday, January 10, 1993 -
Explore Vernon Douglass Woods -
Hardin County - 1:00 P. M. (EST)**

Leader - Tom Bloom, Kentucky State Nature
Preserves Commission
(502) 564-2886

Winter is one of the best times to see a forest. Tom will show us one of the most mature forests remaining in the Bluegrass. We will learn some winter botany, forest

ecology, geology, and the effects of human disturbance. For the hardy souls who attend, a hot refreshment will be provided.

Meet in Elizabethtown, Ky. at 1:00 P.M. (EST) at Frisch's Big Boy on US 62. From the East, take Bluegrass Parkway to Elizabethtown, go on I-65 North to the first exit (US 62), take a left at the light, and Frisch's will be on the left. From Louisville, take I-65 South, exit at Elizabethtown at the US 62 exit, take a right at the bottom of the ramp, and Frisch's will be on your left.

Please call Tom to register for this trip at (502) 564-2886 during the day. In case of questionable road or weather conditions, you may call Tom at home on the day of the trip only; (606) 734-5509. Please do not call his home except on the day of the trip to avoid waking a sleeping child.

KNPS Certification Program

The KNPS Certification Program has begun. Seven hardy members completed "Plant Ecology for the Amateur Naturalist" earlier this fall with Doug Reynolds and fifteen people currently are enrolled in "Basic Botany for the Amateur Naturalist" at ECU with Ron Jones. Two more courses are planned for this spring (see descriptions below), again at ECU, and we are trying to get future courses offered at other locations around the state. Tuition for each course will again be \$76. Look for ECU's Special Interest Course Brochure which will be sent out in early January for registration information.

KNPS Certification Course - Plant Taxonomy for the Amateur Naturalist
Instructor: Ron Jones, Professor, Biological Sciences, ECU

Meeting Times: Feb. 20, 27, March 6, 13, 1:00 to 4:00 P.M. (EST)
Rm. 202 Moore Building, ECU

The flowering plants are the most important group of plants from both an ecological and an economic standpoint. This class will address the subject of how flowering plants are related to each other. Topics include the history of the science of taxonomy, the terminology associated with flowering plant variation, and past and current classification systems with emphasis on subclasses, families, and genera. This class will require the active participation of students because a great deal of information will be presented. Dried specimens, fresh plant materials, and microscopes will be used to aid in learning terminology. A textbook costing approximately \$35 will be required for the course. This text will also be used in other courses. A follow-up course stressing the use of keys for identification and the learning of more families, genera, and species will be scheduled for either the summer or fall.

KNPS Certification Course - Plant Communities of Kentucky
Instructor: Landon McKinney, Kentucky State Nature Preserves Commission Botanist
Meeting Times: March 27, April 3, 10, 17, 1:00 to 4:00 P.M. (EST)
Rm. 202 Moore Building, ECU

This course will deal with the identification and distribution of plant communities in Kentucky. The communities covered will include several forest types, native grasslands, glades, savannahs, and wetlands. Emphasis will be placed on community structure by identifying both dominant and indicator species. Important factors such as

soil type, moisture, topography, and geology will be discussed. Further emphasis will be placed on rare or unusually sensitive communities. This course will be taught by means of lecture, slide presentation, and field trips within a 50 mile radius.

Winter Botany

by David Taylor, USDA Forest Service

With fall well under way and winter fast approaching, people who work with plants or just enjoy viewing them often give up botany for the season and wait for the flush of spring wildflowers to resume. This is a rather unfortunate practice among lay botanists and professionals alike. Although the color of the growing season may be gone, winter still affords the botanist great opportunity to enjoy plants and learn more about them in the process.

Winter botany generally requires that one use characteristics other than flowers and leaves to identify plants. The most useful winter characteristics are bark, buds, twigs, and fruit in woody plants and fruits or fruit clusters, stems, and basal leaf rosettes (short clusters of tightly bunched leaves at ground level) in herbaceous plants. Some plants actually flower between November and February during the warm spells often experienced in Kentucky winters.

Woody plants, that is, trees, shrubs, and some vines, are the plants that usually come to mind when winter botany is mentioned. During winter, we see the framework of the plant that will later support the leaves during the growing season. Trees growing in open habitats such as in parks, yards, or along highways, often take on a silhouette characteristic to the particular species. The outlines are generally distinct

enough to allow identification of trees to genus (e.g. *Acer*-maple, lollipop shaped; *Ulmus*-elm, vase shaped) even when driving by at highway speeds. Trees of one species growing in the forest often have silhouettes similar to those of other adjacent species as a result of reduced branching and growing space; identification is more reliable by using bark and twig characteristics.

Most woody plants in Kentucky have bark characteristics sufficiently distinct from one another to allow for positive identification of the species. For example, the dark "potato chip" bark of black cherry is consistently distinct from the light, smooth bark of American beech. The light gray, flaky bark of white oak is distinct from the dark, splotched and furrowed bark of red oak. To distinguish red oak from scarlet oak or black oak, however, is likely to take some practice; the bark of these species is quite similar on many forest sites. With some practice on known trees, one can learn to identify 20 to 30 trees species by bark characteristics in one afternoon in a park or forest. Good sourcebooks for bark identification are *The Shrub Identification Book* and *The Tree Identification Book*, both by George W.D. Symonds, Wm. Morrow and Company, NY.

Twigs, buds, and branching patterns are important tools for winter identification of woody plants. Many trees, such as tree-of-heaven or Kentucky coffeetree, have large, stout twigs that can soon be recognized from a distance. Many woody plants, such as honeylocust, black locust, roses, and blackberries, have spines or thorns on the twigs, branches, or trunks which allow for quick identification. Twigs of most woody plants require close examination. The shape, size, and color of the buds are generally easy-to-use characteristics. Other features of the twig

are important, but are often more difficult to use (see figure 1). The arrangement of buds on the twig (e.g. alternate--one bud at node; opposite--two buds at a node on opposite sides of the stem; whorled-- three or more buds at a node around the stem) is also important. Maples, buckeyes, ashes, viburnums, and a few other groups have opposite buds and twigs; most other species have alternate buds and branching. Persistent fruits can also be used to identify woody plants, e.g., the white berries of poison ivy. In addition to the books listed above, *Fruit Key and Twig Key to Trees and Shrubs* by William M. Harlow (Dover reprint of author-published editions) is a good, moderately easy-to-use key for fruits, cones, and twigs.

Herbaceous plants do not have woody skeletons to stand through winter; many winter completely below ground with no evidence of their presence while others may leave dead stems and fruit clusters (infructescences) or rosettes behind. Plants such as the goldenrods or Queen Anne's Lace can be identified in winter by the stems and fruit clusters left behind. Winter goldenrod stems look much like live stems, but leaves are curled and brown or entirely gone and the flower clusters are now brown. Goldenrod stems may also have large ball-shaped galls on the stems. The fruit clusters of Queen Anne's Lace resemble lacy brown bowls on a stem. Plants in the Mint family can often be identified by noting the old square stems and by smelling the crushed stems; many, such as peppermint and pennyroyal, often retain some identifying oils in the dead stems. Mullein, evening primrose, mountain mint, ironweed, joe-pye weed, scullcap, and yarrow, among many, can be identified by fruits or fruit clusters. Note live plants in the fall and check them during winter for any remains

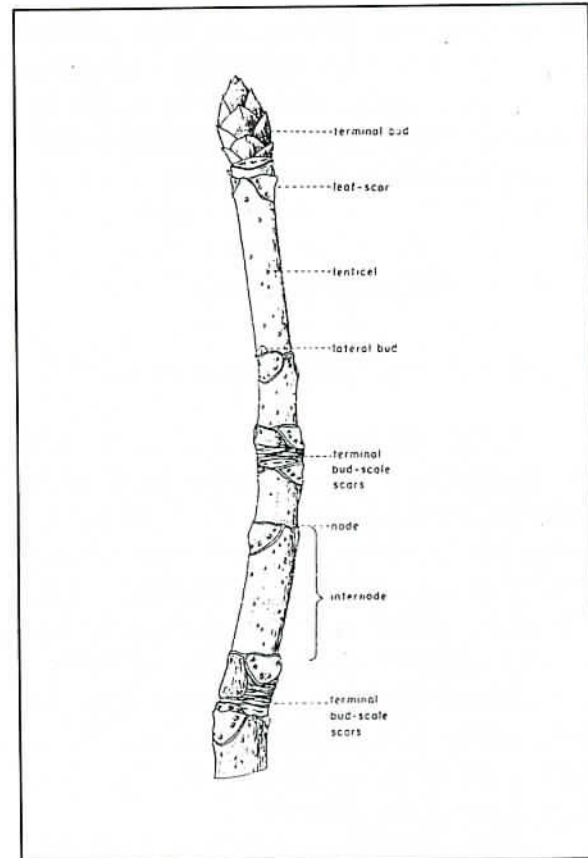


Figure 1. Twig anatomy. From Braun, *The Woody Plants of Ohio*.

which may serve as identifying characteristics. Some 30 species are easily recognized in winter condition and another 40 or so can be learned with practice.

Because snow seldom covers the ground during Kentucky's winters, plants can also be identified by learning to recognize winter rosettes. Winter rosettes are tight clusters of leaves near ground level which serve as over-wintering structures for many plants, and are capable of photosynthesis during warm spells. The composite family (sunflowers and their kin) probably leads the list of species with winter rosettes in Kentucky. Plants such as yarrow, ox-eye daisy, daisy fleabane, most

goldenrods and asters, wild lettuce, and thistles produce rosettes. Usually the leaves are small versions of the mature summer leaves and allow identification to genus. Identification to species often requires the presence of old stems and fruit clusters. Many grasses, especially panic grass (*Panicum* subgenus *Dicanthelium*), pinweed, teasel, evening primrose, and many mustards, among numerous species, produce winter rosettes.

Another group of plants is easily identifiable in winter because their leaves are evergreen. Pines, hemlock, spruce, and American holly come to mind. In the case of mistletoe, winter actually allows for easier recognition of the plant; its dark, evergreen branches and leaves stand out strikingly against tree silhouettes.

Winters in Kentucky are generally mild enough that some plants can be found in flower between November and February. Dandelion is a good example; in fact, if the summer and winter are mild, dandelions will bloom every month from January to December! Most of our winter flowering plants are of European origin and are known as winter annuals. A winter annual is a plant which germinates, flowers, and sets seed between late August and early May. The plants avoid the heat and drought of summer by existing as protected seeds during these months. Common chickweed, henbit, and dead nettle are examples. Some other winter flowering species are perennials which begin blooming during winter warm spells (see list below).

Among the best places to look for winter annuals and other winter flowering plants are fallow gardens and fields, roadsides, and the banks of creeks. Most of the European species are favored by the disturbances associated with such locations.

Carry your enthusiasm for botany

throughout the winter and enjoy the pleasure of plants year around. While it can be frustrating at first, persistence at winter identification will reward you with a more complete understanding of Kentucky's flora.

Common winter-flowering (November-March) plants in Kentucky

CARYOPHYLLACEAE

Common Chickweed: *Stellaria media*

Mouse-eared Chickweed: *Cerastium*
spp.

Jagged Chickweed: *Holosteum*
umbellatum

BRASSICACEAE

Whitlowgrass: *Draba verna*

Winter Cress: *Barbarea vulgaris*

Douglas' Bittercress: *Cardamine*
douglasii

Hairy Bittercress: *Cardamine hirsuta*

Smooth Bittercress: *Cardamine*
pennsylvanica

Virginia Cress: *Sibara virginica*

Peppercress: *Lepidium virginicum*

Field Cress: *Lepidium campestre*

LAMIACEAE

Henbit: *Lamium amplexicaule*

Dead Nettle: *Lamium purpureum*

Gill-over-the-ground: *Glechoma*
hederacea

ASTERACEAE

Daisy Fleabane: *Erigeron philadelphicus*

Dandelion: *Taraxacum officinale*

Ragwort: *Senecio* spp.

POACEAE

Annual Bluegrass: *Poa annua*

RANUNCULACEAE

Crow's-foot: *Ranunculus abortivus*

The Witch-Hazel Family

by Jim Conrad

Blossom formula: 0/4/5-4/5-4/∞

Fruit: a 2-celled, 2-beaked woody capsule opening at summit

of species in world: about 100

of species in Kentucky: 2

Native mostly of subtropics and warm regions of Asia, S. Africa, and North America

Trees and shrubs

The two Kentucky species are the sweetgum tree and witch-hazel

In late fall, the witch-hazel family, or Hamamelidaceae, is a good family to look at because Kentucky's yellow-flowered witch-hazel, *Hamamelis virginiana*, tends to blossom in October and November. Those of us needing one last tryst with a native flowering plant before buckling up for winter can find a witch-hazelled woodland border, ravine slope, or stream bank and picnic inside a thicket of this species's slender, leafless stems all decked out with strange, late season flowers.

"Strange" not only because proper trees and bushes aren't supposed to flower so late in the year, but also because the blossom's petals are twisted rather kinkily. Maybe as strange, the witch hazel's fruits don't mature until a year after the flowers fade.

If you time your witch-hazel picnic for the first warm, sunny afternoon after the year's initial heavy frost as the sun warms things up, the bush's woody fruits will snap open, discharging seeds as far away as 15 to 20 feet! That's why, sometimes, witch-hazel is referred to as snapping hazelnut--even though "hazelnut" is generally the name we reserve for fruits in the genus *Corylus* of the

birch family.

In *Trees & Shrubs of Kentucky*, Wharton and Barbour suggest that the witch hazel's name probably derives from the fact that those people who dowse for water, or "water witches," sometimes use this species's forked branches as divining rods. Apparently, the "hazel" part is just shortened "hazelnut." Our ancestors seem to have called all much-branched, slender bushes bearing hard fruits "hazelnut."

Admittedly, this family's 0/4/5-4/5-4/∞ flower-formula (meaning 4, 5, or no sepals, 4 or 5 petals and 4 to many stamens) isn't very enlightening. Some families have nice, neat formulas like the mustard family's 4-4-6 blossoms, but others are messy, and this one is messy.

Anyway, isn't it something that witch hazels and sweetgum trees belong to the same family? Not only do the flowers of both species superficially look very different (only anatomists with dissecting needles see adequate similarities), but also, witch hazel blossoms are hermaphroditic (male and female parts in one flower), while sweetgum blossoms are either male or female, the male flowers being in one place and the females in another! (See fig. 2.)

Our anatomist would sniff at such minor differences and point out that, among many other similarities, both witch-hazel flowers and sweetgum flowers develop into fruits that are 2-beaked, 2-chambered woody capsules opening at the summit, with a single, bony seed in each chamber, or locule. Don't break your head trying to conceive of a sweetgum's spiny ball looking like a witch-hazel fruit; the witch-hazel fruit is a single fruit while the sweetgum's ball is a cluster of many fruits--each a 2-beaked, 2-chambered woody capsule.

To be honest, all this anatomy business is not what pleases me most about

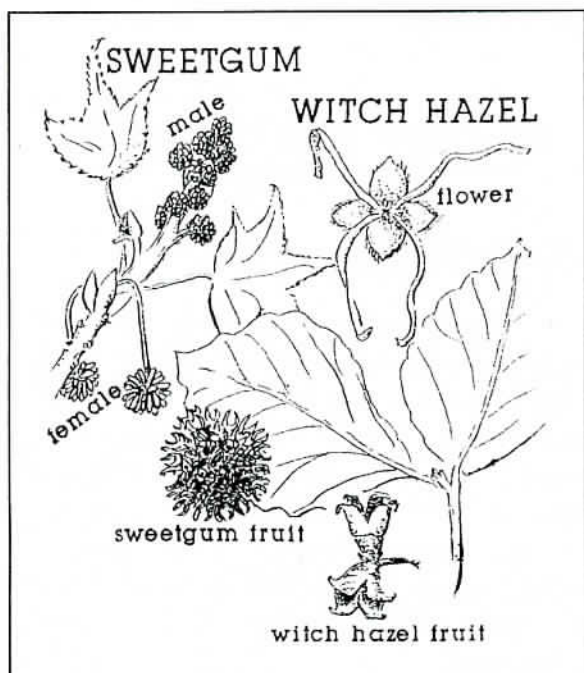


Figure 2. Kentucky's Hamamelidaceae.

this family. Nor is witch hazel even my favorite family member. I've always been partial to sweetgum trees.

Because of their conspicuous star-shaped leaves that turn wine-red, purple, and yellow in the fall, when I was a kid, sweetgums were among the first trees I learned to identify. Even before I knew the sweetgum name I'd figured out for myself that you could chew the gum that exudes from wounds on their trunks.

Really, it's a wretched gum that doesn't taste good and sticks to your teeth, blackening them, but if you're a kid on an isolated farm, it's big stuff. Maybe my best early memory of sweetgum is that of the odor of the gum on sunny afternoons in the fall. Sitting next to a sweetgum stump or wounded tree exuding sun-warmed gum, the air becomes suffused with a lazy, balmy, yellowish, sticky smell that, in my mind, is

perfectly complementary to sun-graced air on late, fall afternoons.

Many years ago my appreciation for sweetgums increased quantum-leapishly during my first visit to Mexico. I'd climbed into the transition zone between cloudforest and regular oak/pine forest high on the Gulf-facing rim of the Mexican Plateau, in the Eastern Sierra Madre Mountains, not far from the town of Tamazunchale. Around me rose giant treeferns and trees with branches festooned with gardens of bromeliads and mosses. Chilly clouds billowed through the surrounding forest creating a spooky theater of mists and silhouettes. I was hardly prepared when suddenly I realized that the silhouettes rising before me belonged to somebody I knew back on the farm in Kentucky; it was nothing less than my old friend the sweetgum tree.

In the U.S., the most southwestern part of the sweetgum's distribution is eastern Texas. Moreover, between eastern Texas and where I was in central Mexico there was only low, hot desert; lots of mesquite, but no sweetgums, or any other plant typical of the Eastern Deciduous Forest.

Well, the story is that at the beginning of the last ice age, about 30,000 years ago, a huge sheet of ice moved south from Canada into the northern U.S. The glacier invaded Kentucky only along our northernmost fringe to the Ohio River, between Louisville and Cincinnati. Vegetation on the land just south of the glacier drastically changed. In those days, most of Kentucky must have been occupied by tundra--bare soil or short grasses and sedges, and maybe a willow or two.

The interesting thing is that the plants and animals that earlier had occupied this land hadn't just sat there and gone extinct; they'd migrated south. Kentucky's

oak/hickory forest (with its sweetgums) had shifted into Texas and Mexico; Canada's pine forests then found themselves in the U.S.'s Deep South.

When the big ice sheet withdrew about 10,000 years ago, two main events important to our sweetgum story happened; 1) The plants and animals that the ice had pushed south earlier now followed the melting ice back north, and 2) Some plants in the Mexican forest community of which the sweetgum was part, instead of migrating northward, migrated upward; they just moved up mountain slopes. This second survival strategy worked because, not only does the weather get cooler as you go north in the northern hemisphere, but also as you rise in elevation.

Of course, other botanists already knew about this before I discovered it. And sweetgum is by no means the only member of our Eastern forest that took up residence in Mexico and even farther south in Central America. Alan Graham's paper at a 1970 symposium in Bloomington (published in *Vegetation and Vegetational History of Northern Latin America*, Elsevier Scientific Publishing Co., New York, 1970) lists 61 species that, today, either grow both in Eastern North America and Mexico, have varieties in both places, or appear to have once been the same species but now have evolved into completely different taxa. Some of the best-known species occurring in both places are white pine, boxelder, ironwood, pecan, redbud, dogwood, beech, witch-hazel, blackgum, and black cherry.

Therefore... the strange witch-hazel family cues us to attach an extra dimension to our thinking about the forest. And that dimension is time. A forest is not only what it's made of today, but also an expression of all the magical influences that have graced its future. Providing we humans allow it to

have a future...

The Genus *Viola* (Violaceae) The Violets

by Landon McKinney, KSNPC

There are approximately 40 to 50 species of wild violets occurring throughout North America. Of these, twenty-two species and several varieties occur in Kentucky. Virtually every wildflower enthusiast knows a violet when he or she sees one. Beyond that, distinctions between the various species become quite confusing on occasion, even for the seasoned professional.

Amateur botanists and wildflower enthusiasts alike may assume that the classification of these pretty, little herbs is complete and that there is no question as to what constitutes a species and what does not. However, this belief could not be further from the truth. The violets are considered by many professional botanists to be one of the most difficult groups of plants to work with when producing a floristic treatment.

This problem is certainly not unique to the violets, as many other groups of plants are known to be problematic. We all have had difficulties in identifying a particular plant at one time or another. The wild fact is that the science of taxonomy (the classification of organisms into like groups) is not an absolute science.

Why are the violets so problematic? Well, there are several reasons. One reason is that many species exhibit a wide range of variability in their supposedly definitive characteristics. For example, you find a particular violet and proceed to identify it based on the manual or wildflower guide that you are using. After making a tentative

identification, you notice that the description says that the leaves are pubescent (hairy) but as you look at your violet, you see no hairs. Could this be another species, maybe one that is not included in the manual that you are using? Possibly, but a likelier explanation is that you just happened upon a particular plant that is exhibiting an extreme end to a natural range of variation, and that sometimes, this particular individual has few or even no hairs on its leaves. Another reason is that most species, when in close proximity to each other, hybridize freely, and the hybrids produced may be quite fertile.

Now that I have muddied up the water so to speak, let me attempt to make the identification of violets as simple as humanly possible. First, the violets may be divided based on whether they are stemless or stemmed (see figures 3 and 4). The stemless violets have all petioled leaf blades appearing from the base of the plant. The stemmed violets have aerial stems from which petioled leaf blades appear (several species will also produce leaf blades rising from the plant's base). Second, they may be further divided as to flower color and this gives us the following broad categories:

- wild pansies
- stemmed blue violets
- stemless blue violets
- stemmed yellow violets
- stemless yellow violets
- stemmed white violets
- stemless white violets

The wild pansies consist of two species (*Viola rafinesquii* and *Viola arvensis*). They normally occur in yards or in cultivated fields. Their flowers are quite pansy-like except that they are much smaller.



Figure 3. Stemless violet, *V. primulifolia*. From Britton and Brown, Ill. Flora North. U.S. and Canada.

They are quite similar to the garden variety called Johnny-jump-up (*Viola tricolor*).

The stemmed blue violets consist of three species including the long-spurred violet (*Viola rostrata*), the american dog violet (*Viola conspersa*), and Walter's violet (*Viola walteri*). While infrequent, the first two may be found in rich, mesic, wooded situations throughout the eastern portion of the state while Walter's violet is considered rare and only known from Jessamine, Fayette, and Carter counties. This violet prefers a limestone substrate and, due to its low-growing or decumbent habit, it is easily overlooked.

The stemless blue violets are probably the best known while also being the most problematic of the violets. The common blue violet (*Viola sororia*) is highly adaptable to a variety of habitats and we have seen several forms that adapt very well to our lawns and gardens. One of the most striking of these is the confederate violet



Figure 4. Stemmed violet, *V. rostrata*. From SIDA, March, 1965, pg.15.

with its grayish-blue flowers. Other stemless blue violets include the tri-lobed blue violet (*Viola palmata*), the arrow-leaved violet (*Viola sagittata* var. *sagittata*), the ovate-leaved violet (*Viola sagittata* var. *ovata*), the marsh blue violet (*Viola cucullata*), the southern wood violet (*Viola hirsutula*), Eggleston's violet (*Viola septemloba* var. *egglestonii*), the Missouri blue violet (*Viola sororia* var. *missouriensis*), and the ever popular birdsfoot violet (*Viola pedata*). There are numerous other names of species that may be found in various manuals; however, these are either not found in the state or are now considered as minor variations of one of the above species.

The stemmed yellow violets include one of our most common woodland species, the smooth yellow violet (*Viola pubescens* var. *eriocarpa*). One unique characteristic of the smooth yellow violet is the fact that, after flowering, the seed capsules are either

woolly or glabrous (hairless). I have never seen this character mixed in any one population as each population appears to have plants of one kind or the other. Nor have I ever been able to figure out, based on other characteristics such as habitat, which capsule type any given population will have. Another stemmed yellow violet considered rare in Kentucky is *Viola tripartita*, a woodland species known only from several counties in the eastern portion of the state. One of our prettiest violets is the halberd-leaved yellow violet (*Viola hastata*). While not always the case, the often mottled appearance of the leaf blades adds to the striking appearance of this species. It, too, is confined to rich, wooded situations in the eastern portion of the state.

We have only one stemless yellow violet. The round-leaved yellow violet (*Viola rotundifolia*) is confined to the eastern portion of the state and is our earliest blooming species. Its thick, leathery, rotund leaves lay prostrate on the ground and may be found in rich, wooded situations.

The stemmed white violets consist of two species, the Canada violet (*Viola canadensis*) confined to rich, wooded situations in the eastern half of the state, and the white violet (*Viola striata*), one of our more common species which seems to prefer alluvial or floodplain forests throughout the state. Although white flowered, *Viola striata* is more closely related to the stemmed blue violets than it is to the Canada violet.

The stemless white violets consist of three easily distinguished species such as the lance-leaved violet (*Viola lanceolata*) and the primrose-leaved violet (*Viola primulifolia*), both of which love bogs, marshes, and wet meadow situations. The sweet white violet (*Viola blanda*), loves cool, moist, wooded situations and is mainly

confined to the eastern portion of the state.

While being somewhat brief, I hope I have provided a greater understanding and a deeper appreciation for these lovely little herbs. The violets have a long history of use by man, especially in Europe. They are widely grown as ornamentals and our wild violets are used in a variety of ways as food. The leaves may be eaten raw and make an excellent nutritional addition to any fresh garden salad. The flowers may be candied for another delightful treat. Overall, the violets are quite an interesting group of plants and well deserve our attention and appreciation. Come next spring, take a closer look at these little herbs, appreciate their color, intrigue yourself with their subtle differences, and just enjoy. By the way, if you would like to see more than half of the above species in one day, plan a trip to Natural Bridge State Park next spring and walk the Rock Garden and Hood's Branch trails. While these trails provide one of the best overall spring floral displays in the state, they also provide the only place that I know to see this many species of violets in such a short period of time.

News and Announcements

KNPS Native Plant Seed Exchange

Many thanks to Terri Koontz for collecting and sending seeds to share with other KNPS members. Members may request seeds of three species and three substitute species from the following list. If supplies hold out, we'll send seeds of substitutes, too.

Allium cernuum (Nodding Onion)
Asclepias tuberosa (Butterfly Milkweed)
Aster novae-angliae (New England Aster)
Blephilia ciliata (Downy Wood-Mint)

Cassia marilandica (Wild Senna)
Cimicifuga racemosa (Black Snakeroot)
Diospyros virginiana (Persimmon)
Eupatorium coelestinum (Mistflower)
Hedeoma pulegioides (American Pennyroyal)
Impatiens capensis (Spotted Jewelweed)
Lobelia siphilitica (Great Blue Lobelia)
Lobelia spicata (Spiked Lobelia)
Opuntia humifusa (Prickly Pear)
Pycnanthemum pycnanthemoides (Hoary Mountain-Mint)
Ranunculus hispidus (Hairy Buttercup)
Rudbeckia hirta (Black-eyed Susan)
Sisyrinchium angustifolium (Blue-eyed Grass)

If you'd like seeds from this list, send your wishes along with a 29-cent stamp and your address to: KNPS Native Plant Seed Swap
 c/o Charles Chandler
 924 Maywick Drive
 Lexington, KY 40504.

KNPS member Greta Fields also has seeds of white, lilac, scarlet, and magenta *Monarda*, white Moth Mullein, *Hibiscus*, and Cardinal Flower. If you'd like any of these seeds, send your request, address, and stamp directly to her: Greta Fields
 Box 217
 Jenkins, KY 41537.

If you have other native plant seeds that you'd like to share with fellow members, send a list and your address, or send the seeds to the Lexington address above for us to distribute.

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

The Kentucky
Native Plant Society
Department of Natural Science
Eastern Kentucky University
Richmond, KY 40475

Contents
(Volume 7, Number 4)

Message from the President (Landon McKinney) 1
 Winter Fieldtrips and Activities 1
 KNPS Certification Program 2
 Winter Botany (David Taylor) 3
 The Witch-Hazel Family (Jim Conrad) 6
 The Genus Viola (Landon McKinney) 8
 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:
 Editor, KNPS NEWSLETTER, Doug Reynolds, Department of Natural Science, Eastern Kentucky University, Richmond, KY 40475, (606) 622-1507.
 KNPS Officers:
 President - Landon McKinney, 1031 Tamworth Lane, Frankfort, KY 40601, (502) 564-2886.
 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, 3468 Greentree Rd., Lexington, KY 40502, (606) 271-4392.