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# WILDFLOWERS

The Bulletin of the Botanical Society of Western Pennsylvania • July and August 1999

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## Next Meeting is September 13

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There will be no monthly meetings in July and August; the next meeting will be Monday, September 13, at 8:00 p.m. Look for details in the September newsletter.

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## Sedges and Rushes

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The Cyperaceae (sedges) and Juncaceae (rushes) are both 'grass-like' monocot families, bringing anxiety to many people keying these overlooked flowering plants. Most people are happy just recognizing what family a 'grassy' plant belongs to, yet once you learn a few technical characters and some stress management techniques, different species will soon be easy to recognize.

The rushes may be the most primitive of the three grass-like families, mainly because the flower still contains a typical perianth (collectively, the sepals and petals). The rush flower is usually perfect and composed of 6 distinct chaffy or membranous tepals, 3 or 6 distinct stamens, a single pistil, and superior ovary with 3, usually feathery, stigmas. Some describe a rush flower as "inconspicuous and star-like", and, observing the 'Wood Rush' (*Luzula sp.*), one can see why this description is so accurate. The fruit is termed a 'loculicidal capsule', which is technically a dry fruit splitting along the septa into chambers, or locules, releasing seeds.

Vegetative characteristics of rushes are what most people use to distinguish this family from sedges and grasses quickly in the field. The most obvious characteristic is their circular stem, non-jointed nodes, and usually open leaf

sheaths. Grasses also have open sheaths but swollen nodes. The *Luzula* genus of the rush family is an exception possessing closed leaf sheaths. The leaves of rushes are highly variable in cross section. Some leaves are circular (terete) and appear as a continuation of the stem above the inflorescence, as in *Juncus effusus*, while others are simply grass-like as in *Luzula*. The rushes with grass-like leaves are usually 3-ranked, meaning if one would look down directly over top the plant, the leaves would appear to radiate from the stem in 3 distinct directions.

The sedges may be more advanced than the rushes because of their reduced and modified flowers. Sedges are usually monoecious (having separate staminate and pistillate flowers on one individual) or less often dioecious. The inflorescence of sedges is called a 'spike', usually made up of smaller spikes (spikelets). Spikes can be completely pistillate, staminate, or bisexual.

The inconspicuous sedge flower typically lacks sepals and petals. Subtending each individual pistillate and staminate flower is a single scale-like bract. It is usually uniquely shaped in some *Carex* species. The staminate flowers usually contain 3 distinct stamens and are typically positioned as the terminal spike. The pistillate flower spikes usually develop on the lower part of the inflorescence. Each female flower contains a single superior ovary that is completely enclosed in a sac-like structure called a 'perigynium'. The perigynium persists as the fruit matures. It has an opening at its apex called the 'beak' that allows the stigma to protrude.

The appearance and color of the mature perigynium (pubescent, glabrous, ridged,

winged, or 'beaked') and the number of styles (usually two or three) are used to separate *Carex* species. Perigynia shape (rounded, trigonous, flattened) is also used for proper identification, but most sedge fruits don't show these characters until mature, so sedge identification is usually done in 'infructescence', meaning 'when fruits are mature'.

The most obvious vegetative features used to identify sedges in the field are their triangular stems, lack of swollen nodes, and closed leaf sheaths. One should also notice that sedges also have 3-ranked leaves like rushes. Grass leaves are 2-ranked. Recognizing features of a sedge ligule and the color of leaf bases may also prove beneficial when learning new sedge species in the field.

Now that summer is here there are multitudes of obvious colorful flowers to study, but let's not forget about the unique diminutive flowers of sedges and rushes. Trying to key or just attempting to learn these grass-like families is the first step to mastering them. The question I leave you with is "What advantage can the positions of pistillate to staminate spikes on a *Carex* species inflorescence serve?"

*Jeff Polonoli*

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## A Topographical Description of Western Pennsylvania

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*In Trillia No. 5 1915-1919, Frank R. Alker compiled "Botanical Gleanings From Early Travelers. The following is from "Sketches of a Tour to the Western Country" by F. Cuming. Published in Pittsburgh, 1810.*

"...Hills running in ridges from north to south, heavily wooded with white oak, walnut, sugar tree and other timber natural to the climate;...

There is, perhaps, no country more abundantly furnished with medicinal plants, by nature, than this. The great variety of soil seems wonderfully calculated for this purpose. Among

our medicinal plants are the seneka, serpentaria virginiana, tormentilla, stellack, valeriana, may-apple, puccoon, sarsaparilla, yellowroot... hoarhound, calamint, spear-mint, penny-royal, toothache-weed, sumack, and beach drop... You see we can supply ourselves with the vegetable astringents, stimulants, tonicks, aromatics, sialagogues, and alternative medicines, without being indebted to the shops of Europe.

I get my radix senekae for 50 cents a pound; my Virginia snakeroot for 25 cents; wild cucumber root for 50 cents a bushel...

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## Field Trip Schedule

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Registration is not required. Everyone is welcome, including non-members. Trips are not canceled due to rain. Sun protection and water are recommended. For questions, call the trip leader or Loree at (412) 521-9425. **Take note of meeting times and dates!**

**Saturday, July 10, 1999**

**Pleasant Hills Arboretum, Allegheny County**  
**Time: 1:00 p.m.**

Leader: Jeff Polonoli

Everyone is invited to participate in our second group field assessment.

**Directions:** From Pittsburgh, take Route 51 south. In Pleasant Hills Boro, you will reach a cloverleaf. At the first traffic light after the cloverleaf (Crown Buick will be on your left), turn right onto Old Clairton Road. At the second stop sign, make a right onto West Bruceton. The well-marked arboretum is at the bottom of the hill on the left.

**Saturday, July 19, 1999**

**Ernst Bike Trail, Meadville, PA**

**Time: 1:00 p.m., Optional bike ride: 11 a.m.**

Leader: Lee Ann Reiners

(814) 398-8571 , reiners@edinboro.edu

Directions: Meet at the Giant Eagle parking lot, Route 322/19/6 about one mile east of the

Meadville exit of I-79. This is about 1 hour, 45 minutes north of Pittsburgh.

The Crawford County Chapter of the Penn State Master Gardeners has adopted this trail, donated by Ernst Conservation Seeds, for a wildflower garden and identification/ labeling project.

**Saturday, July 24, 1999**

**Markle's Farm, Westmoreland County**

**Time: 1:00 p.m.**

Leader: Mark Bowers - (724) 872-5232

Directions: Meet at the West Newton trailhead of the Youghiogheny River Trail. From Pittsburgh, take Route 51 south to Route 136, which is about 6 miles from the bridge over the Monongahela River in Elizabeth. Turn east (left) on PA136 and continue about 5 miles into the outskirts of West Newton. Just before crossing the Youghiogheny River, turn right into the well-marked parking area of the bike trail.

Expectations: Passionflower

**Saturday, August 14, 1999**

**Tomlinson Run State Park, West Virginia**

**Time: 1:00 p.m.**

Leader: Carl Patsche

Directions: From Pittsburgh, take I-279 south/US 22-30 ( Parkway West). After about 7.5 miles, exit this highway to continue west on U.S. 22-30. After 3.9 miles, exit this highway to continue on U.S. 30 (Imperial exit). Continue west on Route 30 to the West Virginia state line. Continue about one mile to the Route 8 exit off of Route 30. Proceed south on Route 8 about 5 miles to the entrance to Tomlinson Run State Park. We will meet at the parking lot near the swimming pool at the entrance.

Expectations: Early mushrooms and water plants around the four ponds along Poe Trail.

**Saturday, August 21, 1999**

**Heart's Content, Warren County**

**Time: 1:00 p.m.**

Leader: Chuck Tague

Directions: From Pittsburgh, take I-79 north to the Mercer -- PA Route 62 exit (the first exit north of I-80). Turn right off exit ramp (east on Route 62) through Jackson Center. A mile or two past Jackson Center, Route 62 turns to the left; go straight on PA 965. Follow Rte. 965 until it ends (about 10 miles). Turn right, rejoining Route 62. Take Route 62 through Franklin, Oil City, Tionesta and East Hickory.

Just north of East Hickory, past the intersection of Routes 62 and 666, turn right onto Kelly Hill Road. At the end of Kelly Hill Road, turn right. At the top of the hill, several miles up the road, it comes to a "T". Heart's Content Road is to the right. Follow it to the Heart's Content Recreation Area, with picnic tables and restrooms, where we will meet.

Expectations: Chuck will show us the history and uncertain future of this white pine-hemlock-northern hardwood forest.

Camping is available at Hearts Content Campground, which is just down the road from the picnic area.

**Sunday, August 28, 1999**

**Raccoon Creek Wildflower Reserve, Beaver**

**Time: 1:00 p.m.**

Leader: Joan Gottlieb - (412) 242-6738

Directions: From Pittsburgh, take I-279 south/US 22-30 ( Parkway West). After about 7.5 miles, exit this highway to continue west on U.S. 22-30. After 3.9 miles, exit this highway to continue on U.S. 30 (Imperial exit). 9.5 miles from this exit, watch for the entrance for the Wildflower Reserve, on the right, just over the hill. Meet at the parking lot.

Fern expert Joan Gottlieb will show us why the Reserve is a gem of a place for ferns.

**Botanical Society of Western Pennsylvania – Jul / Aug 1999**

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E-mail: <yoree@sgi.net>.

WILDFLOWERS is published monthly by the Botanical Society of Western Pennsylvania. We welcome short articles of botanical interest, drawings, letters to the editor, and notices of botanical events and group activities. Articles, notices, drawings, etc. should be sent to the editor at the above address. Deadline for submissions is the 17th of the previous month.

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**The Botanical Society of Western Pennsylvania - Membership Information**

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The object of the Society shall be to bring together those who are interested in Botany and to encourage the study of this science and a knowledge of plants. Our members include both amateurs and professionals. Annual dues are \$10.00 for individual and \$15.00 for family. Students can join at half-rate. To join, mail your name, your address, and check payable to "Botanical Soc. of W PA" to Loree Speedy, 5837 Nicholson Street, Pittsburgh, PA 15217. Your membership includes a subscription to the monthly bulletin WILDFLOWERS.

The Society meets the second Monday of each month, September through June, at 8 PM sharp, at Trinity Hall or Kresge Theater, Carlow College, 3333 Fifth Avenue, Oakland. All are welcome. An informative program follows the business meeting. Visit the Botanical Society Homepage at <http://home.kiski.net/~speedy/b1.html>.