
WILDFLOWERS

The Bulletin of the Botanical Society of Western Pennsylvania • September 1999

Next Meeting is September 13

The next meeting will be Monday, September 13, at 8:00 p.m., at the Kresge Theater at Carlow College, 3333 Fifth Avenue, Pittsburgh, PA (Oakland). Kresge Theater is on the top floor of Grace Library.

New member **Larry Pachtel** will talk about the Chestnut Blight and efforts to introduce a blight-resistant "super tree" in its former range of the American Chestnut. Mr. Pachtel, a former science teacher, is a member of the American Chestnut Society.

The Bellflower Family

The Campanulaceae or Bellflower family is a unique dicot family with of two advanced and very strange characteristics. One is a 'pollen presentation mechanism' similar to that of the Asteraceae, and the other is 'resupination of flowers'. These two features along with an inferior ovary classifies the Campanulaceae as advanced.

The Bellflower family contains some 85 genera and 2000 plus species found worldwide in various habitats. The Campanulaceae found in our area are all perennial or annual herbs yet some genera in the tropics are large palm-like trees. To find Bellflower members in Pennsylvania try exploring creek and riverbanks, especially along the Yough River near the Ohiopyle bike trail. These areas will surely reward you with frequent sightings of Cardinal Flower (*Lobelia cardinalis*) and Great Lobelia (*L. siphilitica*).

Campanula, *Lobelia*, and *Triodanis* (*Specularia*) are three common Bellflower genera found in our area. Leaves are usually alternate and simple with some species, like Great Lobelia, forming an evergreen rosette, making this plant easy to identify in winter. Leaf margins are usually crenate to minutely dentate, but still others may be entire. Some *Campanula* and *Lobelia* species have tiny white 'dots' located on top of each leaf serration, providing a family identification clue. Some Campanulaceae members also have milky latex sap in their leaves and stems.

Flowers of the Campanulaceae are mostly single, regular (irregular in *Lobelia spp.*), 5-merous, and complete, having a racemose (sometime cymose) inflorescence.

The corolla colors found among the Campanulaceae are beautiful. The first color that comes to mind is the deep scarlet-red of the cardinal flower (*Lobelia cardinalis*), then the deep azure blue of Great Lobelia (*Lobelia siphilitica*), then the blue-violet of the non-native Harebell (*Campanula rapunculoides*).



Campanulate corolla of Harebell (*Campanula rapunculoides*)

The corolla shapes are also an interesting sight. The most common is one that imparts the family

name, campanulate, simply meaning 'shaped like a bell'. All Campanula species have a campanulate-shaped corolla except for the Tall Bellflower (*Campanula americana*), which has a flattened wheel-shape corolla technically termed 'rotate'.

Campanulaceae genera always have five stamens, yet in Campanula species the filaments are distinct and anthers connivent. In Lobelia species the anthers and filaments are fused, forming a tube above the style where pollen is shed, similar to the "pollen presentation mechanism" found in the Asteraceae. A single style with pollen-collecting hair is usually present in Campanulaceae flowers and the stigma is usually 2 to 5 lobed.



Flower of Cardinal Flower (*Lobelia cardinalis*) showing the filament fused to the anther

The Campanulaceae family is sometimes separated into two subfamilies, the Campanuloideae and Lobelioideae. Campanuloideae have regular corollas and connivent (converging) anthers, never connate anthers. Lobelioideae flowers are strongly irregular (zygomorphic) with a two-lobed lower lip and three-lobed upper lip which go through a reversal of position called "resupination".

Resupination is a complete 180-degree turn of the pedicle during floral development as to make the 'morphologically true' upper lobes appear as the lower lobes during anthesis (the flowering period). Resupination also occurs in the Orchidaceae.

This is a good month for identifying Bellflowers, with their deep rich colors and very

interesting floral structures. Take a mental note of where you find Campanulaceae, so next summer you can come back and study what the young vegetative plant parts look like well before flowering time. Taking this approach instead of recognizing just flowers one can further extend their plant identification season and enjoy these beautiful plants at all stages of development.

The question I leave you with is "Why do the *Triodanis* species have the common name Venus' Looking-glass"?

Jeff Polonoli

Notes

- The **Pittsburgh Civic Garden Center** is holding training programs for school docents who will conduct **Green and Growing** educational outreach programs to elementary schools. All that is required is an interest in gardening and nature and a willingness to work with children. For more information on the docent program or other volunteer opportunities, please call the Center at (412) 441-4442.
- It's not too late to register for **Esther Allen's Wildflowers of Fall: Identification and Photo Opportunities**. This Community College of Allegheny County class will be held four Saturdays, 9 a.m. to 12 p.m., starting September 25th. Call (412) 369-3736.
- Our sympathies to **Sister Mary Joy Haywood** and her family on the loss of her dear father this summer. He was able to be at home with his family for his final days.
- Congratulations to program chairman **Lou Ammon and his wife Kathy** on the birth of a baby boy, Nicholas, at 6 pounds and 12 ounces. We look forward to seeing Nicholas cradled in his Dad's camera bag.

White-tailed Deer Conference will address destruction of native plant habitat

The Pennsylvania Audubon Society is sponsoring a major conference on the impact of white-tailed deer on Pennsylvania's biodiversity. The hunting community and organizations responsible for wildlife, forestry and environmental issues will come together to discuss problems of deer overabundance: destruction of wildflower and migratory song bird habitat, failure of trees to regenerate, and damage to farm crops.

The conference will propose that hunters can play a major role in restoring ecological balance by controlling the numbers and the distribution of the deer herd.

William MacLeish, author of "The Day Before America", will speak about what this area looked like before European settlement. A great Iroquois story teller, Steve Fadden, will speak for the deer (a point of view usually forgotten at such gatherings). Acclaimed photographer Gary Alt of the Pennsylvania Game Commission will present a slide show on white-tailed deer.

Knowledgeable guides will lead field trips to view the damage first-hand and discuss practices used to control the damage.

The conference is September 24-26, in Harrisburg. Call the Pennsylvania Audubon Society at (717) 763-4985.

What is a Solidaster?

Solidaster is a hybrid genus resulting from the crossing of Upland White Aster (*Aster ptarmicoides*) and some unknown species of goldenrod. The hybrid originated in Lyon, France, about 1910.

The only species of this genus is *Solidaster luteus*, often offered in the United States as *Aster hybridus luteus*, or *Asterago*. It is a

perennial herb, 18 to 26 inches high. It has narrow, remotely toothed leaves about 3 to 4 inches long. The flowers are small and in a many branched cluster. The ray flowers are light yellow, and the disk flowers are a darker yellow.

The words *Solidaster* and *Asterago* are combinations of *Aster* and *Solidago*.

Anne Bahl

Editor's note: Gleason & Cronquist 2nd ed. refers to the Upland White Aster as Solidago ptarmicoides. The Botanical Society found this lovely white-rayed flower at the Bruce Peninsula in 1998 and could not understand why such an aster-like flower would be lumped in with the Goldenrods. Apparently it hybridizes with several species of Solidago, but not with Aster.

Field Trip Schedule

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.

Saturday, September 18, 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.

Coming **Saturday, October 16th** – Beaver Creek State Park, East Liverpool, Ohio.

Botanical Society of Western Pennsylvania – September 1999
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Editor: Loree Speedy, 5837 Nicholson Street, Pittsburgh, PA 15217 Telephone: (412) 521-9425;
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.

The Botanical Society of Western Pennsylvania - Membership Information

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>.