
WILDFLOWERS

The Bulletin of the Botanical Society of Western Pennsylvania • October 2006

Next Meeting is October 9

The next meeting will be Monday, October 9, 7:15 p.m., at Kresge Theater, Carlow College, 3333 Fifth Avenue, Pittsburgh, PA (Oakland). Kresge Theater is on the top floor of the Grace Library and is accessed from the upper campus. Place a note on your dashboard saying "Botanical Society Meeting," or use your parking permit.

Bonnie Isaac, president of the Botanical Society, will present "What's In a Name?" Bonnie will discuss problems with common names of plants, as well as problems with scientific names. This discussion will be fun and involve audience interaction. Come prepared—Bonnie plans to place several common names for a single species on the screen, and we will be required to figure out what it is!

Bonnie is the Collection Manager at the Carnegie Museum of Natural History Section of Botany. She received her M. S. in Biological Sciences from Youngstown State University. Her research interests include herbarium techniques and the ecology and phytogeography of rare plants.

Enjoy Your Wildflowers: Common Dodder

Dodder is a cosmopolitan, leafless, annual plant. Botanists consider it semi-parasitic because it still has a bit of chlorophyll. However the amount of food made is insignificant. There are over one hundred species usually in warmer climates. Of the twenty-seven in the United States, eight are in Pennsylvania and seven of them are rare. The remaining one, found

throughout the state, is Common Dodder and it is typical.

Dodder's seed has a coiled embryo without cotyledons. The embryo sends a rootlet into the ground. Then the stem with its tiny scales emerges, elongates, and reaches for a host-plant. Dodder twines around it and attaches haustoria to it. (Haustoria are thread-like projections with suckers that withdraw nutrients from the host.) Dodder's root dies, Dodder is now a parasite. Some species of Dodder are plant specific and can cause a lot of damage to crops. Common Dodder usually will attach to available plants.

Dodders' stems are frequently bright orange but sometimes yellow or pink. The tiny, bell-shaped, flowers are in tight clusters and have parts in fours or fives. The petals are pink, white, or yellowish.

Dodder is listed as the genus *Cuscuta* in two families depending upon the botanical system used. One is the Morning-glory family, *Convolvulaceae*, Latin convolvulus, twined together. The other is the Dodder family, *Cuscutaceae*, where it is the only genus. *Cuscuta* is from the Arabic name for the plant, Kashutha. Common Dodder is *C. gronovii*, honoring Jan Fredrik Gronovius, 1690-1762, the Dutch botanist whose *Flora Virginica* was a list of American plants collected by botanist, John Clayton.

The common name, Dodder, may be from the German, dotter, yolk of an egg. Dodder sometimes resembles a thin stream of egg yolk poured over plants. It may be from the Frisian word, dodd, a bunch, for the tight flower clusters. (Friesland is a chain of islands in the North Sea some of which belong to Germany.)

The medical profession in Europe and in the United States has had little interest in Dodder. In folk medicine Dodder continues to have some use as a laxative and for kidney and liver complaints.

Anne S. Bahl



Common Dodder, *Cuscuta gronovii*, on Hedge Bindweed

Devious Dodder Vine Sniffs Out Its Victims

Some flowers release a pleasing fragrance. Other plants smell. And then there's the parasitic dodder vine, which has the remarkable ability to sniff out its victims.

Farmers have placed the dodder — aka "Strangleweed," "Devil Guts," and "Witches

Shoelaces" — on a ten most-wanted list of weeds.

Swarthmore College biology professor Colin Purrington says the vine starts out as just a tiny tendril with no roots or leaves. It then has about a week to find a host plant it can wrap itself around. The vampire-like dodder then sinks its fangs into its victim and starts drinking. "It's probably one of the creepiest plants I know," says Purrington. "It's a horrible existence for the host plant. If plants could scream, they'd have the loudest screams when they had dodder attached."

Researchers didn't know how the dodder attached to its host victims. They speculated that the vine might be attracted to water vapor or the refractive light off a potential host.

But three researchers at Pennsylvania State University discovered that the dodder follows the scent of its victims. Plant biologist Consuelo M. De Moraes says when they wafted odors in the direction of a dodder seedling, the tendril almost always began to creep toward the smell. "It's really amazing to watch this plant having this almost animal-like behavior," she says. "It's really very sophisticated and surprising."

The study showed dodder also prefers certain odors. Given a choice of tomato or wheat, the dodder picks the tomato. Wheat may give off a chemical that repels the vines, which could mean good news for farmers. "The fact that there are these repellent compounds suggest that you might be able to create a repellent or deterrent effect that would allow you to protect a crop against infestation," says Mark Mesker, a researcher at Penn State.

Details of the dodder's olfactory talents appear in the current issue of the journal *Science*. [*Science* 29 September 2006: 1867].

David Malakoff, reprinted with permission from www.npr.org.

Wafting Down the Belle Riviere

In Trillia No. 8 1923-1925, Proceedings of the Botanical Society of Western Pennsylvania, Frank R. Alker compiled "Botanical Gleanings From Early Travelers." The following is from "Recollections of the Last Ten Years" by Timothy Flint, published in 1826.

"About one o'clock in the afternoon we began to float down the Alleghany, and in a few moments we were moving on the broad bosom of the Ohio, at the point of junction nearly a mile in width. The autumns of every part of our country are beautiful, but those of the western country are pre-eminently so. Nothing resulting from beauty of sky, temperature of air, and charm of scenery, can surpass what was now above us and around us. The bright sun, the mild blue sky, a bland feeling of the atmosphere, the variegated foliage of the huge sycamores which line the banks of the Ohio, their leaves turning red and yellow, and finely contrasting with the brilliant white of their branches, the unruffled stream, which reflected in its bosom the beautiful surrounding nature, —all things conspired to give us very high anticipations from being wafted down "la belle riviere.""

Field Trip Schedule

Registration is not required. Everyone is welcome, including non-members. Wear shoes that can get wet. For questions, call the trip leader or Loree at (724) 872-5232.

Saturday, October 7, 2006
Fern Walk at Powdermill Nature Reserve,
Westmoreland County
Time: 1:30 p.m.
Leader: Tom Pearson (724) 864-1902

Need practice identifying those infernal ferns? Join Tom on the new Armstrong and the Black Birch Trails at the Nimick Nature Center.

Directions: From Pittsburgh, take the PA Turnpike east to Exit 91/Donegal. At the end of the tollbooth ramp, turn left (east) onto PA 31. Follow Route 31 east for 2.7 miles. Turn left onto PA 381 North. Follow PA 381 North for 6.4 miles to the Nimick Nature Center on your left.

Saturday, October 14, 2006
Markleysburg Bog, Fayette County
Time: 1:00 pm
Leader: Loree Speedy (724) 872-5232

Directions: From Uniontown, take Rt. 40 east. At the Summit Hotel, measure your mileage. At 12.2 miles, look for log buildings on the left and an oversized sign on the right reading "Truck Warning." Turn right at the foot of this sign onto a blacktop driveway into the Mountain Fellowship Center and head to the picnic shelter, where we will meet.

This trip can be cancelled if it is extremely cold and rainy. Call for a "trip on" or "trip cancelled" message the day or morning before at 724-872-5232. Prepare for wet feet with waterproof shoes. Protection at least 4 inches over the ankle is recommended as the bog is not deep.

Sunday, October 22, 2006
Hampton Community Park & Rachel Carson Trail, Allegheny County
Time: 10:30 a.m.
Leader: Luc Berger (412) 362-5792

Directions: From Pittsburgh, take PA 28 North or South to PA 8 in Etna. Travel 6 miles on PA 8 until you see Harts Run Road on your right. Continue straight another 0.5 mile on PA 8, and turn right onto McCully Road and travel 0.75 mile. Turn left into the park entrance marked "Hampton High School". We will meet in the parking lot of the high school.

We will join members of the Sierra Club, so you have a choice of hiking swiftly or botanizing at a slower pace. If the weather appears inclement (extreme cold, rain or snow), please call Luc at (412) 362-5792 to ensure that the trip is occurring.

Botanical Society of Western Pennsylvania – October 2006

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WILDFLOWERS is published monthly by the Botanical Society of Western Pennsylvania. We welcome short articles of botanical interest, drawings, and notices of botanical events and group activities. Send to the editor at the above address. Deadline for submissions is the 23rd of the previous month. WILDFLOWERS is printed on recycled paper.

The Botanical Society of Western Pennsylvania - Membership Information

The Botanical Society was founded in 1886. 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. 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, 279 Orr Road, West Newton, PA 15089. Your membership includes a subscription to the monthly bulletin WILDFLOWERS.

The Society meets the second Monday of each month, September through June, at 7:15 p.m. sharp, at Kresge Theater, Carlow College, 3333 Fifth Avenue, Oakland. All are welcome to the informative program and business meeting.

Wildflowers of Pennsylvania – Ordering Information – 400 pages of text and 612 color photographs

Wildflowers of Pennsylvania can be purchased for \$20.00 (plus \$1.40 sales tax for PA residents). Forward your check, made payable to Botanical Society of Western PA, to Dr. Haywood at the address below. If you order by mail, add \$2 postage and handling for one book, \$3.00 for two, \$4.00 for three, \$4.50 for four. Send your request to Dr. Mary Joy Haywood, RSM, Ph.D., 3333 Fifth Ave., Pittsburgh, PA 15213-3165 (412) 578-6175; mjhaywood@carlow.edu