W I L D F L O W E R S

The Bulletin of the Botanical Society of Western Pennsylvania • October & November 2005

Next Meeting is October 10

The next meeting will be Monday, October 10, **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.

Paulette and John Zabkar will present **Newfoundland: The Rock Garden of North America.** We will explore the plants of the easternmost part of North America with its spectacular rock formations and beautiful scenery. Newfoundland has a surprising assemblage of plants. The eastern portion is composed of acid bedrock and glacial till, while the western portion has calcareous soils, limestone cliffs and serpentine areas.

Our November Meeting Takes Place on November 14

The November meeting will be Monday, November 14, **7:15 p.m.**, at **Kresge Theater.**

Dr. Sue Thompson will present **Biodiversity in Pennsylvania.** Dr. Thompson is the president of the Pennsylvania Biodiversity Partnership, a public-private partnership dedicated to increasing awareness of the importance of biodiversity conservation in Pennsylvania.

A botanist by training, Dr. Thompson counts among her research interests plant systematics, ethnobotany, and pollination biology as well as biodiversity. She has a master's in botany from the University of California and a Ph.D. in plant biology from the University of Illinois. Recent projects include sustainable development of post-industrial landscapes, woody plant inventories on several national forests, a biotic assessment of Pittsburgh's Three Rivers, and coordinating the Pennsylvania Biodiversity Conservation Plan.

Officer Positions To Be Open

President Mary Joy Haywood will be stepping down as President of the Botanical Society after 20 years of service. Mary Joy will continue to be involved with the Society. Please take time to consider nominations for presidency, or to consider service in this position. Elections will take place at the December 2005 meeting.

We are also looking for an individual to serve as a program chair for the upcoming 2006 season. If you should decide to volunteer for this position, you will be furnished with a number of ideas and contact information, but given freedom to create another exciting year of presentations.

Our 2004-2005 Presenters

We are grateful to our speakers for the 2004-2005 season:

Walt Shaffer	Butterflies
Dr. Mary Joy Haywood	The Flora of Puerto Rico
Michele Guckert	Allegheny Land Trust
Dr. John E. Rawlins	Caterpillars as Systemic Botanists & Plant Ecologists
Esther Allen	Trees of Pennsylvania
Tim Manka	Mother Nature's Believe It or Not: Plants, Part II

Dr. John Kartesz	A Demonstration of a County-Level Synthesis
Phyllis Monk	Botanical Lab
Christopher Tracey	The Oak Openings of Northwest Ohio

We thank Carlow University for the use of laboratory equipment and facilities for our Botanical Lab, as well as the use of meeting facilities throughout the year. We appreciate the work of outgoing program chair Robert Coxe.

Kind appreciation is due to all members who shared wild and fancy foods at our December meeting. And many thanks to those who shared photographs to create a fun evening.

It is not too late to begin planning for the December 2005 Wild Foods party (December 12, 2005). Pull out the recipe books! Pick out your 12 best photographs!

The Esther G. Allen Trail at Raccoon Creek's Wildflower Reserve

The Wissahickon Nature Club outing of September 27 to Raccoon Creek State Park concluded with a deserving celebration. At least 60 nature enthusiasts met at the Park Office on Route 18 to hike the Valley Picnic Trail. The sky, in its finest cerulean blue, embraced the hikers as we delighted in the glories of nature. Esther Allen and Chuck Tague identified the wonders of autumn on the trail. Afterwards, they convoyed to the Wildflower Reserve on the opposite side of the Park to honor one of its most beloved members, Esther G. Allen.

Several months ago, the Wissahickon Nature Club requested that the Park re-name a trail in her honor. Park authorities quickly complied. The Deer Trail is now known as the Esther G. Allen Trail. Well known botanist, naturalist, and excellent photographer, Esther G. Allen has won numerous awards for her work. She was the 2000 recipient of Audubon's W. E. Clyde Todd Award. She took many of the photos in The Wildflowers of Pennsylvania. The Esther G. Allen Trail in the Wildflower Reserve is certainly a fitting memorial to the life of someone who has done so much and inspired so many.

The dedication was kept secret from Esther until she reached the Esther G. Allen Trail, escorted by Park Ranger Patrick Adams. Dave Allen, her husband and loyal chauffeur, greeted her at the trailhead.

Susanne Varley

The Diversity of the Plant Kingdom

People are often astonished at how many plants there are in the world. Estimates of course vary, but here are the best facts and figures Plant Talk (www.plant-talk.org) can find.

1. Flowering plants (*Angiospermae*) dominate the contemporary flora of the Earth and constitute virtually all terrestrial vegetation. There are an estimated 250,000 species, with the greatest diversity in the moist tropics.

2. The orchids (*Orchidaceae*) have more species than any other family of flowering plants with 25,000-35,000 species recognized, mostly in the tropics. Although some species do remain to be discovered, the difference between these estimates is mostly one of different taxonomic concepts.

3. It is likely that 10 to 15% of the Earth's flowering plants have not yet been described. Most will be in the moist tropics, especially remote parts of Latin America.

4. The Gymnosperms consist of the conifers (500 species), the cycads (100 species) and a few other small families. A conifer, California Redwood (*Sequoia sempervirens*), is the tallest tree on earth (110 meters high). Another, the Bristlecone Pine (*Pinus aristata*) was thought to be the oldest, at about 4900 years, but a huge Huon Pine (*Dacrydium franklinii*) recently found in Tasmania may be thousands of years older still.

5. The ferns and their allies (the latter mostly horsetails, club mosses and quillworts) account for about 12,000 species, mostly in the moist tropics. They vary from moss-like delicate filmy ferns to tree ferns up to 15 meters or more tall.

6. The bryophytes comprise about 8000 mosses and 6000 liverworts. Although distributed throughout the world, most species occur in cool or temperate, consistently moist climates, such as temperate South America.

7. Lichens consist of a fungus and a photosynthetic partner, either a green alga or a cyanobacterium (blue-green alga). Estimates of known species vary from 13,500 to 17,000, but since only an estimated 50-70% of them are known, there may be as many as 20,000 species in all. Temperate rainforests have the greatest diversity of lichens, but in arctic and alpine habitats lichens comprise most of the vegetation. Tropical lichens are much less well known, especially as they tend to grow in forest canopies.

8. There are 4 main types of macro-algae:

- Green Algae (*Chlorophyta*) live in fresh- or sea-water. There are some 1040 species. Their highest recorded diversity is in the N. and W. Atlantic Ocean, followed by the seas around Japan.
- Brown Algae (*Phaeophyta*) are mostly marine and comprise over 1500 species, with the greatest diversity in the N. Atlantic and the N. Pacific. They include the kelps, with fronds up to a hundred meters long, and the wracks or "seaweeds" of the rocky shore.
- Red Algae (*Rhodophyta*) comprise over 2500 species and are mostly marine. As with other algal groups, the richest floras are those of the seas around Japan, the tropical and subtropical W. Atlantic, and the N. Atlantic.
- Stoneworts (*Charophyta*) are green algae mostly found in clean freshwater such as ponds and lakes. A recent revision recognizes 440 taxa, the highest numbers from India and Asia. They are particularly susceptible to pollution.

9. Microorganisms for the most part are best seen as a third Kingdom separate from both plants and animals (although fungi are traditionally the domain of botanists). A recent conference of experts concluded that less than 5% of the world's microorganisms have been described.

- Microscopic algae are very poorly known. The estimated figure of 350,000 species has a large margin of error!
- Bacteria. About 4000 species have been described, but there are vast numbers of bacteria in soils, deep-sea sediments and in the digestive tracts of animals. One estimate is of 3 million species in all.
- Fungi. About 70,000 species are described, mostly tiny or microscopic plants rather than large mushrooms and toadstools, but there may be over 1.5 million species in total.
- Protozoa. Scientists know about 40,000 species of these unicellular organisms but estimate there are 100,000 species or more.
- Viruses. About 5,000 species are known, and 500,000 are estimated.

Field Trip Schedule

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

Saturday, October 15, 2005
Wyggeston Trail, Moraine State Park, Butler County
Time: 1:00 pm
Leader: Esther Allen (412) 366-0786

Directions: From Pittsburgh, take I-79 North to Exit 99/Butler. Drive east on Route 422 roughly 5.8 miles to the Prospect Exit, and turn left (north) onto Rte. 528. Shortly after crossing over Route 422, turn left onto "Old Rte 422." Continue about 1/2 mile to the parking area/trailhead for Wyggeston Trail on the right.

Botanical Society of Western Pennsylvania – October & November 2005
279 Orr Road
West Newton, PA 15089

Check out our new website: **www.botanicalsocietyofwesternpa.org**

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WILDFLOWERS - Bulletin of the Botanical Society of Western Pennsylvania

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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 23th 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 University, 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; haywoodmj@carlow.edu