



NYFA Newsletter

New York Flora Association - New York State Museum Institute

Steve Young, Editor

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BIOLOGICAL DIVERSITY OF THE SOUTHERN HONEOYE VALLEY

Dr. Bruce Gilman, Finger Lakes Community College

Finger Lakes Community College's "first look" at the biological diversity of the southern Honeoye Valley represents contributions from several individuals and organizations as well as new research conducted by college professors and students. The inventory of natural communities and their organisms has only begun, so this important work should be considered a starting point for understanding and conserving the region's biodiversity.



What is biological diversity? Simply put, it is the variety of life on our planet. And why should it be conserved? Biological diversity underpins the functional integrity of all natural ecosystems. Every species plays a role. When species are lost, the ecosystem is simplified and becomes more susceptible to collapse from natural disasters and human disturbances. Biological diversity also represents one of our greatest untapped resources. Great human benefits have been obtained from a single species. Twenty plant species provide 90% of the world's food supply! Other species may be a potential source of human medicines. It is clear that humans benefit from healthy ecosystems that provide our

air, our water, our food and support our economic activities. It is just as important to conserve what remains of our natural world for the other species. We have an ethical responsibility to recognize that all species possess intrinsic value simply because they exist. We should strive to be good stewards of all planetary resources.

To date, 32 natural communities have been identified in the southern Honeoye Valley. These include linear assemblages like rocky, headwater streams, expansive cover types like Appalachian oak-hickory forest, and small imbedded communities like vernal pools. Two communities are ranked as significant occurrences by the NYS

Natural Heritage Program: the large silver maple-ash swamp along the Honeoye Inlet stream and the shale talus slope woodland along the steep banks of Briggs Gully.

These natural communities form a mosaic of habitats. Over 1200 species have been described so far living in these habitats. Many more will be dis-



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covered as the educational programs at the College's Field Station intensify. What is included in this initial biodiversity inventory? Seventy five non-flowering plants, including lichens, mosses and ferns, have been cataloged. The region is home to eleven conifers. By far the largest group of organisms identified has been the flowering plants with a total of 555 different species. With time, the number of insects will surpass the flowering plant total but for now our insect biodiversity is about 200 species. There have been 20 species of amphibians noted in the southern Honeoye Valley and 15 species of reptiles including three Heritage ranked species, the spiny soft-shell turtle, the timber rattlesnake and the coal skink. Twenty seven different types of fish are known from Honeoye Lake and its tributary streams. Most of the larger mammals have been inventoried, but smaller species are still being assessed. So far, 32 species of mammals inhabit the region. Birds that migrate through or nest within the southern Honeoye Valley total 159 species!

Future activities will focus on the biodiversity of particular organismal groups like insects, lichens and bryophytes. The report is available by contacting Dr. Bruce Gilman at Finger Lakes Community College, 4355 Lakeshore Drive, Canandaigua, New York 14424-8395 (gilmanba@flcc.edu).

New York People New York Plants

**An update of who is doing what
across the state**

Dr. Elizabeth Newell, Professor of Biology, Hobart College, Geneva, NY

Dr. Newell joined the faculty in 1988 after receiving a B.S. at Bates and a Ph.D. at Stanford

My research interests are in the areas of plant ecology, physiological ecology, community ecology, and tropical ecology. For example, my students and I have been comparing the physiology of related evergreen and deciduous plant species in a sphagnum bog north of Geneva, a fascinating community type that is now rare in western New York. The majority of my research publications focus on research I've done on the physiology of trees and shrubs in the rainforests of Central America.

A new focus for my scholarship is international agricultural development and conservation. Because agriculture is the largest single land use in many developing

countries, ensuring that agricultural activities are environmentally sustainable is key to protecting biodiversity and natural resources as well as improving the food security of human communities.

I've just returned from working as a Diplomacy Fellow of the American Association for the Advancement of Science at the U.S. Agency for International Development (USAID) in Washington, DC. This fellowship program is designed to encourage scientists to become involved in policy-making, especially at the national and international level. While working in the Office of Agriculture and in the Office of Foreign Disaster Assistance I've come to understand the complexities of foreign assistance and have had the opportunity to work on a diverse range of projects. Most of these projects have focused on agricultural development and recovery following disaster in Africa.

When I'm not working on international development and conservation issues, I am very interested in how plants acquire and allocate resources, both from a mechanistic and an evolutionary perspective. For example, when a plant acquires energy through photosynthesis, what does it do with that energy? From a mechanistic perspective the question is addressed by following the biochemical pathways of synthesis and respiration within the plant, and determining if leaves, roots, stems, or reproductive structures are produced. From an evolutionary perspective, the question is one of trade-offs and fitness: which leads to greater fitness, allocation of that energy to reproduction, to defense against herbivores, or to the production of more leaves? These are the kinds of questions I address in my research.

One of the links between my expertise in ecology and my interest in international development is the off-campus program I helped design in southern Mexico. One of my main reasons for getting involved in this program was to share with students the opportunity of seeing what it means to conserve biodiversity in a country like Mexico. Conservation in poor rural areas like Chiapas and Oaxaca cannot be achieved without consideration of the economic and social development of the local people. Lands rich in biodiversity cannot be protected by simply declaring them "off-limits"; people must have a way to make a living, and in rural areas like these, most livelihoods are based on the use of natural resources. It is this tension between conservation and development that led me to seek a fellowship at USAID and it also informs my participation in the environmental studies program. I will continue to explore interactions between conservation and development by co-directing with Prof. Scott McKinney (economics) the Colleges' off-campus program in Ecuador and Peru .

A Study of Goldenseal (*Hydrastis canadensis*)

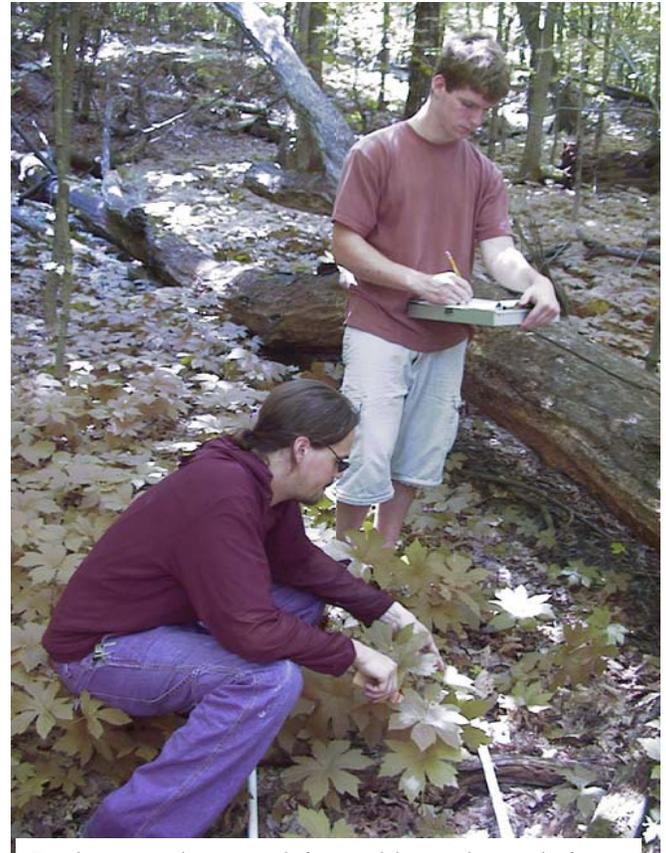
Supported by NYFA Small Grants Program

Considered a threatened species in New York, goldenseal (*Hydrastis canadensis*) occurs in less than twenty known sites, mostly in the Onondaga Escarpment and Hudson Valley regions. Wild populations of this forest herb are threatened by habitat destruction and over-harvest; the plant's roots and rhizomes have long been used for their aseptic properties and have become increasingly exploited due to the growth of medicinal herb industry. Like ginseng (*Panax quinquefolius*), goldenseal is now listed in Appendix II of the Convention on International Trade of Endangered Species (CITES), which calls for the regulation of harvest and trade of listed species.

In summer 2004, with partial funding from the NYFA small grants program, SUNY Environmental Science and Forestry (SUNY ESF) graduate student, Robin Tait, studied the spatial distribution and habitat characteristics of goldenseal across the state. The study's primary objectives were to initiate standardized methods for monitoring population size and age structure, and to evaluate relationships between these parameters and selected habitat characteristics, including land use history. The results of this field study will be used to augment the predictive power of a GIS model that is being developed at SUNY ESF to identify potentially suitable habitat for goldenseal and other rare plants in New York State. Goldenseal populations, and clonal "patches" therein, were sampled for overall size and age/stage structure, the latter of which was based on leaf diameter/flowering stage size classes. Among the habitat characteristics measured were forest canopy light gaps (using a hemispherical-lens camera and gap analysis software), distances to various signs of localized disturbance, such as wind throws, deer paths, and recreational trails, distances to stream banks or other water bodies, composition of forest canopy and herb layer, and soil pH.

While results of the study will be formally analyzed this fall, the condition of one population, in particular, warrants mention. Notes from previous Natural Heritage Program fieldworkers indicated that this population, located on a privately-owned, lower Hudson Valley site, was potentially threatened by plans for a housing development. As it happened, the development project was well underway when Ms. Tait and her field assistant, Jonathan Fuller, visited the site in July. Where trees had been removed, the leaves of goldenseal and

other understory herbs were bleached yellow, if not crispy brown. Fuller noted the irony of finding flagging tape marked "wetlands boundary" on a branch above a patch of goldenseal; the developers held to the letter of the law, but the law had overlooked protection of an internationally listed, terrestrial species.



Graduate students studying goldenseal populations.

HYDRASTIS POPULATIONS IN NEW YORK

Goldenseal was first documented in New York in John Torrey's 1843 flora from Parma, Monroe County and Clinton, Oneida County.

It has been recorded from 24 counties. Thirteen counties have extant records, eight have historical specimens and three have unconfirmed reports. There have been a total of 35 occurrences documented for the plant and fifteen are still historical. Populations range from a few plants to over 1000. Its range in New York follows the limestone rich areas from the Hudson River valley west to Erie and Ontario counties. It is absent from Long Island, most of the Catskills, the Adirondacks and the southern tier.

NYFA Board Meets

The NYFA Board met on August 27, 2004 to discuss how the organization has been doing and should proceed. In attendance were Joe McMullen, Bruce Gilman, Andy Nelson, Bob Ingalls, Steve Young, Troy Weldy, and David Werier.

The meeting began with a discussion of our financial situation. As of August 18 the organization had a balance of \$20,176.99. Our average annual income is \$2500 but we felt an increase in dues would help us finance exciting new botanical projects and programs for the state. A motion was made by Bob Ingles to increase dues to \$20 a year with students free for the first-year. The motion was seconded by Troy Weldy and the new dues will begin in 2005. A renewal sheet will be included with the newsletter to remind people when they need to renew their subscription. We will also institute a procedure to pay dues online. There will be separate monetary appeals for projects and workshops.

This year marked the beginning of the small grants program and the experience of handing out grants helped us clarify procedures we need to follow for future grants. We look forward to the continuation of the program to help students and other researchers study our native flora.

There was a discussion about our bylaws and the need to update them.

After lunch there was a presentation by Troy Weldy on the progress of the new plant atlas. This was followed by discussion on the importance of getting the atlas on line as soon as possible since it will be a tremendous improvement over the old atlas.

The meeting ended with a discussion of how our organization can interact and work with the Invasive Plant Council and organizations dealing with native plants in New York. It was suggested that we become the umbrella organization for invasive plants, native plants, and our traditional botanical science activities. Any decisions about these issues were deferred until we gather more information about how this could change our organization.

It was agreed that board meetings will take place more often than in the past and strategic planning for the organization will continue.

The Capital District Friday Botany Group

Another in the series on plant groups in New York State

A more informal botanical group began more than 10 years ago in the Capital District and continues its observation of the local flora today.

It all began in the spring of 1993 when Laura Lehtonen, then the educator at the Landis Arboretum, offered a course on identifying the local flora. Two of the students enrolled, Beth Meers and Lynette Stark, enjoyed the course so much they encouraged Laura to find a way to continue their studies and involve more people. They especially wanted to obtain more experience using Newcomb's wildflower guide. That winter Laura and her husband Steve Young, botanist for the New York Natural Heritage Program, decided to bring together people from around the Capital District that they knew were interested in learning more about the local flora. In early 1994 a dozen or so people met at Steve and Laura's apartment in Guilderland over turkey chili and the first schedule was hammered out for a season of field trips during the spring and summer.

Every year for the last 10 years the group has met and organized a series of local trips that always begin at 5:30 on Friday evening. There is no formal organization to the group other than the person designated as the trip contact. The trips are open to beginners and professionals alike and over the years people have come and gone but there remains a core group that has stayed with the organization from the beginning. The group helps local land managers increase the knowledge of the plants on their land and help each other key out and learn the identification of local flora. It's a great way to unwind after a busy week and enjoy each other's company in some of the most beautiful areas of the Capital District. Their schedule is posted on the NYFA web site each spring. The group welcomes anyone interested in the local flora, especially those from out-of-town who might be in the area on a Friday evening.



Searching for interesting plants at Jorelamon Park, Coeymans.

Publication News

This new section will keep readers up-to-date on some of the recent publications that are pertinent to NYS botany including journal articles and newsletter articles. Sometimes abstracts or summaries will be included.

1. Source: *Systematic Botany*, 1 January 2004, vol. 29, no. 1, pp.15-28(14)

The Decline of Plant Collecting in the United States: A Threat to the Infrastructure of Biodiversity Studies.

Authors: Prather L.A.; Alvarez-Fuentes O.; Mayfield M.H.; Ferguson C.J.

Collections of plant specimens are the basic infrastructure for all studies of plant diversity, but there is concern that plant collecting is in decline. We acquired collection data from a diverse sample of 71 herbaria to test whether there is a decrease in rates of local collecting in the United States. The recorded data were the decade of collection for all specimens of nine exemplar genera from the local region of the herbarium. All analyses showed evidence of a decline in local collecting. We found that the temporal pattern of collecting varied considerably from herbarium to herbarium, but that more herbaria showed a decreasing trend than an increasing trend. The total accumulation of specimens is in decline and only 21% of the sampled herbaria reached their peaks in local collecting activity in the last 20 years. Furthermore, two thirds of the herbaria acquired fewer locally-collected specimens in the last two decades than in the prior two. These trends were consistent over all size classes of herbaria and over herbaria from all regions, though they were less severe in the Mountain region herbaria. Tests for bias indicated that our sample of herbaria was more active than typical, thus our conclusions should be considered a conservative estimate of decline.

2. Source: *Journal of the Torrey Botanical Society* 131(3), 2004, pp. 243-251

A first approximation of the historical and extant vascular flora of New York City: Implications for native plant species conservation.

Authors: Robert DeCandido, Adrianna A. Muir, Margaret B. Gargiullo

New Jersey Pinweeds (*Lechea*, Cistaceae).

Author: Kerry Barringer

There is a key to the New Jersey species of pinweeds which is just as useful in New York, especially Long Island.

3. Source: *SIDA* 21 (2). December 2004.

Recognition of *Phragmites australis* subsp. *americanus* (Poaceae: Arundinoideae) in North America: Evidence from morphological and genetic analysis.

Authors: Kristin Saltonstall, Paul M. Peterson and Robert J. Soreng

A new native subspecies of *Phragmites australis* subsp. *americanus* Saltonstall, P.M. Peterson & Soreng is described. A key is provided to separate it from the introduced subspecies.

New combinations in *Eutrochium* (Asteraceae: Eupatorieae), an earlier name than *Eupatoriadelphus*.

Author: Eric E. Lamont

The Joe-Pye weeds have new name combinations and are changed from *Eupatorium* to *Eutrochium dubium*, *E. fistulosum*, *E. maculatum*, and *E. purpureum*.

4: Source: *Solidago*, The Newsletter of the Finger Lakes Native Plant Society of Ithaca 5(3). October 2004.

Wild live-forever (*Sedum telephioides*)

Author: Connie Krochmal

Fall Backyard Notes

Author: Barbara Barol

FLNPS Aster and Goldenrod Walk Report

Author: Susanne Lorbeer

***Carex backii* (Back's sedge) a new native species for the southern Finger Lakes Region of New York.**

Author: David Werier

4: Source: *Solidago*, The Newsletter of the Finger Lakes Native Plant Society of Ithaca 5(4). December 2004.

Responsible seed collecting vs. gentian seed raider

Author: Rosemarie Parker, Krissy Faust with thanks to Nancy Ostman

5. Source: Long Island Botanical Society Newsletter 15 (1): Winter 2005.

Orchids of Long Island

Author: Mike J. Parsons

Mile-a-minute continues to spread throughout Long Island

Author: Eric Lamont

Grace Forest. A letter to Governor George Pataki

Author: Andrew Greller

***Evodia daniellii* (Rutaceae)**

Author: Ray Welch

6. Swamp News. Bergen Swamp Preservation Society 48(1). January 2005.

Zurich Bog Report

Author: Mona Rynearson

Skunk Cabbage (*Symplocarpus foetidus*) Trivia

Author: Patti Coan

Swamp nominated as important bird area

Author: Unknown

Trespasser gets lost in swamp

Author: Unknown

Looking back

Author: Patti Coan

Germination and cultivation of Bergen Swamp's pitcher plant (*Sarracenia purpurea* ssp. *purpurea*)

Author: Doug Burdie

Intern's report

Author: Marie Turlizzi

A plant inventory of the 4th room, a poorly know area of the swamp, and surveys of other areas of the swamp.

Go to www.nyflora.com to access the websites of New York's plant societies.

Pest Alert: Sudden Oak Death Update (December 6, 2004)

This pest alert is from the Massachusetts Introduced Pests Outreach Project.

On November 19, USDA, APHIS, PPQ confirmed *Phytophthora ramorum*, the pathogen causing sudden oak death, at two Connecticut nurseries. The Connecticut detections were made during trace forward investigations as a result of the Hines Nursery finds in Forest Grove, OR. The total number of confirmed positive sites from the trace forward, national, and other surveys is now 172 in 22 States. The breakdown per state is: AL (3), AR (1), AZ (1), CA (53), CO (1), CT (2), FL (6), GA (16), LA (5), MD (2), NC (9), NJ (1), NM (1), NY (1), OK (1), OR (24), PA (1), SC (4), TN (2), TX (11), VA (2) and WA (25). Of 170 positive detections, at least 127 are associated with a large retailer that shipped infected plants nationwide in March 2004.

For the Massachusetts survey the UMass Plant Disease Diagnostic Lab in conjunction with MA Department of Agricultural Resources tested more than 300 samples by ELISA and culturing, and none were positive for *P. ramorum*.

The United States Forest Service (USFS) has conducted surveys near nurseries and within the forest environment. The Massachusetts Department of Conservation and Recreation worked with USFS to survey Massachusetts. As of November 22, 2004, the USFS has surveyed 681 nursery perimeters, collecting 3207 samples. To date none have tested positive for *P. ramorum*. The SFS has also surveyed 266 general forest locations, collecting 1310 samples. Two of those samples, from Golden Gate Park in San Francisco have previously been reported as positive.

Nearly all detections of *P. ramorum* have been in nurseries except in California and Oregon where *P. ramorum* is established in natural areas. A positive detection for *P. ramorum* in a mature Northern red oak tree (*Quercus rubra*) in a forested park in Nassau County, New York has recently come into question. USDA/APHIS, USFS, and New York State officials have extensively surveyed and tested the forested park and the suspect red oak. A positive detection was made using nested PCR. Nested PCR is the most sensitive method known for detection of *P. ramorum*, and is currently the only APHIS-PPQ vali-

dated method for PCR detection of this organism. No other detections were made and no *P. ramorum* was cultured. In California and Oregon the organism has always been cultured. The USFS determined the Nassau County find was a false positive. Because the pathogen was detected via nested PCR, USDA/APHIS quarantined the entire county. The preserve remains under an Emergency Action Notification and USDA/APHIS expects to continue monitoring the preserve for two years. After two years, if no further detections are made, USDA/APHIS will likely declare that *P. ramorum* is known not to occur in Nassau County, New York.

Visit the project website (<http://www.massnrc.org/pests>) for more information on Sudden Oak Death and other emerging pests or to subscribe and unsubscribe for pest alerts.

YOU KNOW YOU'RE A BOTANIST IF:

The dashboard of your car is filled with dried plants waiting for an ID.

Mothball odor brings back fond memories.

Your refrigerator has plastic bags of plants jammed in it waiting to be pressed.

Your family has shoulder belt burn from frequent emergency plant stops along the highway.

People always ask you about their houseplant problems.

You like discussing the minute details of how a plant name has changed over time.

You have way more plants collected than you have labeled.

You only subscribe to Antique Times because it comes in a newspaper format just the right size for pressing plants.

[send more to syoung@nynhp.org]

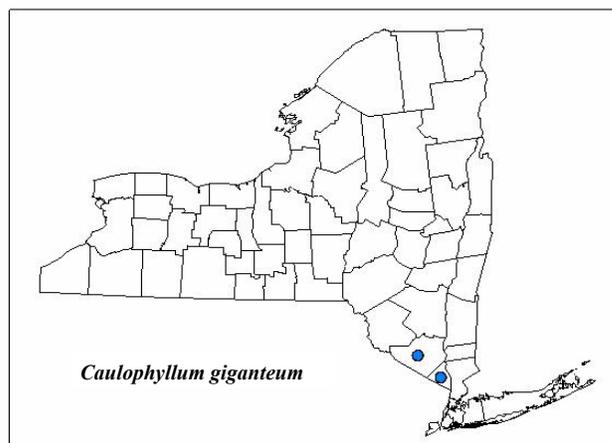
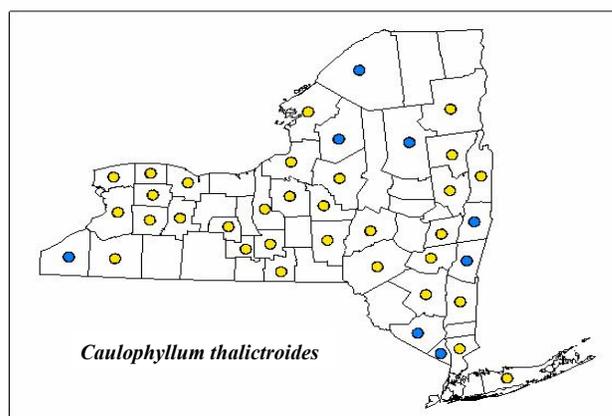
There's More Than One Blue Cohosh?

By Steve Young

Blue cohosh is a very common and beautiful spring wildflower but many people are not aware that there are two species in New York, *Caulophyllum thalictroides* and *Caulophyllum giganteum* (sometimes described as a variety of *C. thalictroides*). The latter species has a limited range in the state (see bottom map) but it is not considered rare at this time. If you have any more information on its distribution that is not shown on the map let us know. For more information and photographs on how to distinguish these two species see the following web site by Arthur Haines.

http://www.arthurhaines.com/botanical_notes/BotNotes_N9.pdf

If you have time check out the rest of Arthur's site. It contains a lot of good information about plants that occur in New York.



New York Flora Association Membership Form

Your membership expires at the end of year listed on your address. Please keep your dues up to date.

Annual Membership dues: _____ Renewal \$10 _____ New Member \$15

Additional donation to support NYFA's efforts \$ _____ **Total** \$ _____

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