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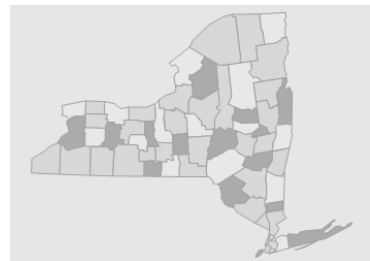


ABOUT THE NEW YORK FLORA ATLAS

by David Werier and Troy Weldy

The New York Flora Atlas (Atlas) is an online resource (<http://newyork.plantatlas.usf.edu/>) for information including distribution of all the vascular plants that occur in New York state. Information is also available for taxa which have been erroneously reported from New York (excluded taxa). Accepted taxa and their distributions are based on vouchered specimens housed at public herbaria.

The Atlas has seen a huge amount of improvement over the years and is currently an extremely dynamic tool used to explore the plant diversity in New York. The data can be queried in many different ways allowing the user to extract exactly the information they desire. Lists of species as well as details about particular species are available and all of the information can be downloaded and/or printed. To round out the Atlas website, direct links to other sites and news and announcements are available. A versatile and flexible tool, the Atlas has become a go-to place for details about the flora of New York.



The current Atlas is in draft form for the distribution of plant taxa, the taxa that are considered accepted and excluded for New York, and other information that is provided for each taxa. We are working toward an up-to-date version but much work is still needed. Comments related to the data are always welcomed. We also welcome feedback as to the design and features of the web site.

This article provides some basic information on how to use the atlas, information available on the atlas, history of the atlas, and details pertaining to the current atlas.

How To Use the Atlas

The Atlas can be used to find out information about a particular vascular plant that occurs in New York or to create a list of species. Detailed and basic search capabilities are provided. A quick summary of how to use the atlas is provided here:

To begin, a user searches or browses the atlas. Some search and browse categories available include scientific name, common name, and county. After searching or browsing, the user is provided with a results grid or list. If the search or browse was very narrow the list may only include one taxon. Some examples of possible lists include: the vascular plants that occur in a county; the vascular plants known from New York; the native vascular plants known from New York; and the species in the genus *Bromus* that are known from New York. The list may be the end point for some users. Lists can be exported to a spreadsheet and/or printed.

If the user wants more information on a particular taxon they can click on a particular taxon's name in the results grid and the user will be taken to that taxon's web page. The taxon's web page has all the information that is available for the taxon including a distribution map. Since this is a lot of information the user may need to scroll down the page to see some of the details.

Information Available

Listed below is the information that is currently available for each accepted taxon known from New York as well as taxa that have been erroneously reported for the state (i.e. the excluded taxa). In addition, the Atlas provides links to other resources and information.

Accepted taxa: Information about each taxon is separated into different sections including: a basic information section, classification section, citation section, source section, synonym section, and map/photo section. All of these sections are available for each taxon and are displayed on that taxon's web page.

Map/photo section: In the upper right hand section of a taxon's web page is a map of New York. The counties where the Atlas has voucher specimen data for a particular taxon are shaded. The sources for the voucher specimens can be found lower down on the taxon's web page in the source section. If the Atlas has a photo of the taxon it can be displayed where the map is located by clicking on the appropriate button.

Basic information section: Information provided in this section includes scientific name, family, common name(s), habitat, associated ecological communities, growth habit, duration (i.e. annual, biennial, or perennial), category (i.e. vascular plant, bryophyte, lichen), plant notes, taxonomic notes, and status (includes nativity status, persisting status, state rank, global rank, state rarity status, US rarity status, and NWI wetland status).

Classification section: For each taxon a brief summary of its classification is displayed including the taxon's division, class, subclass, order, family, genus, and full scientific name. The classification information has been extracted from the USDA Plants Database. We will be revising this classification to more accurately reflect phylogeny based on current taxonomic research.

Citation section: The citation section consists of three main elements: the full citation, the full citation of the basionym, and details about the type.

Source section: For each taxon in the atlas a map is displayed showing its distribution based on vouchered specimens housed at herbaria for which data has been provided. Details about each vouchered specimen are visible in the "Source" section of each taxon's web page.

Various data are included for each specimen record in the "Source" section including county where collected, year when collected, herbarium where deposited (including where available the herbarium code, unique specimen id or barcode, a link to the specimen record at the herbarium's web site, and the name used by the herbarium), notes, submission information (including name of the person or herbarium that provided the data and when the data was provided).

Synonym section: The synonym section provides information on the “synonyms” of a particular taxon. The synonyms listed include true synonyms (i.e. nomenclatural and taxonomic synonyms) as well as misapplied or misinterpreted names.

The synonyms currently in the Atlas were originally imported from USDA plants. As the Atlas is systematically reviewed all the synonyms that do not apply to New York will be deleted and other that are missing will be included. We intend to account for all names (as synonyms, misapplied names, accepted names, or excluded names) that have been used by major publications covering New York. This includes: House (1924), Fernald (1970), Mitchell (1986), Gleason and Cronquist (1991), Mitchell and Tucker (1997), Flora of North America volumes, and the Contributions to a Flora of New York State series. Names from additional literature that cover taxa from New York will be included on a more casual basis.

Excluded taxa: Similar to information about each accepted taxon, each excluded taxon has information separated into different sections including: a basic information section, classification section, citation section, and synonym section. All of these sections are available for each excluded taxon and are displayed on that taxon’s web page.

Basic information section: This section includes family, scientific name, a brief exclusion explanation, accepted name, and a full exclusion explanation.

Classification section: For each excluded taxon an abbreviated summary of its classification is displayed including the taxon’s family, genus, and full scientific name.

Citation section: For each excluded taxon the full citation is listed with naming authorities and place of publication.

Synonyms section: The synonyms listed here are synonyms of the excluded names. As opposed to the synonyms listed for the accepted taxa the synonyms listed for the excluded taxa are all true synonyms and do not include misapplied names.

History of the Atlas

The origins of the atlas date back to 1915 when Homer D. House became the second State Botanist of New York after the first State Botanist of New York, Charles H. Peck, retired (House 1915). At the New York State Museum (NYSM) in Albany, House started a “card index system” for all the vascular plants of New York (House 1939). This card index system consists of a set of large manila sheets and will be referred to as the NY State Museum master plant distribution files or NYSM card files for short. The first card for each taxon has a spreadsheet on one side and a map of New York State on the reverse. The spreadsheet contains records which note locality, county, collector, date, where the collection is housed, and “remarks and references”. Many of these records document specimens. In addition, some of the records are literature reports and unvouchered field observations. The map on the card shows the distribution of the taxon in New York based on all of these records. For taxa with numerous records, there are additional cards consisting solely of spreadsheets. House (1939) described the NYSM card files as a “card index system showing the distribution in the State of every known species of fern and flowering plant. Notation of specimens ... [housed at the NYSM] and other institutions is entered on the card, while on the reverse side occurs an outline map of the State, dotted to show the locality from which each specimen comes, and thus shows at a glance the known distribution in this State of the particular plant of which this card is a record”.

While House started the NYSM card files the data was continually updated until sometime in the 1980’s when these efforts petered out (Mitchell 1986; Charles Sheviak, NYSM curator, personal communication) although it appears that at least some data continued to be added until at least the early 1990’s. The majority of entries on the NYSM card files are from House and Stanly J. Smith (a past curator of botany at the NYSM) with “over two-thirds of the entries” attributed to Smith (Mitchell 1986) and for this reason the NYSM card files are sometimes referred to as the House or Smith cards or maps.

The first New York Flora Atlas (New York Flora Association 1990, then called the Preliminary Vouchered Atlas of New York State Flora) was created in 1990 based primarily on the vouchered specimen records noted on the NYSM card files. The field observations and literature citation records from the NYSM card files, for which specimen data was not available, were not included in the preliminary atlas. Additional specimen data from the Flora of the Vascular Plants of Cattaraugus County, New York (Eaton and Schrot 1987) were included in the preliminary atlas (New York Flora Association 1990). The NYSM card files and therefore the preliminary atlas does not include data from tens and perhaps hundreds of thousands of additional New York State specimens currently housed at numerous herbaria. Therefore, the preliminary atlas was considered a “bare-bones beginning” (New York Flora Association 1990).

The preliminary atlas of 1990 is a hard copy unpublished document that was initially circulated to members of the New York Flora Association. It consists of a list of all the vascular plant taxa known from New York. Each taxon is listed adjacent to a map showing the counties of New York with a single dot placed in counties where records of vouchered specimens (as described above) were known.

The preliminary atlas was digitized and the county distribution data was converted into a spreadsheet format by John Kartesz. Some additional specimen data was gathered from herbaria and in 2002 a static online atlas was created which included the data from the preliminary atlas as well as these new records (Weldy et. al 2002).

In 2004, funding for the current dynamic atlas (i.e. when new records are added they are reflected in the distribution maps) was obtained from the New York State Biodiversity Research Institute with matching funds contributed by the New York Flora Association. Additional funding from the New York State Biodiversity Research Institute has been used to update the database, website, and data. The current atlas has been enhanced by adding additional information on each taxon in addition to the distribution records.

The Current Atlas

The taxa that were listed in the preliminary 1990 atlas (New York Flora Association 1990) form the basis for the list of taxa in the current Atlas. The nomenclature from the preliminary atlas was originally updated based on the USDA Plants Database. Since then, the nomenclature and taxonomy of the list has been revised to reflect the outcome of research available in the literature as well as independent field and herbarium investigations. This information has also led to the inclusion of additional taxa to the list and the exclusion of others. We have yet to critically examine most of the relevant taxa for New York and therefore the current list is considered preliminary and in a draft stage.

Accepted taxa: We have taken a broad approach as to what plants should be included in the atlas. The reason for this approach is to allow users to have a full understanding of the flora of New York. It is our goal to include all taxa that may be encountered in the field or the herbarium that have not been directly cultivated. Taxa are considered as accepted if they fall under any of the following categories:

1. Taxa that are believed to be native to New York as of the European colonization of the Americas (approximately within the past 500 years). This includes taxa which have become extirpated from New York since this time. It is not always clear what taxa were native as of this time, and species for which this is unsure, notes are included discussing the situation. Almost all taxa in this category are documented by voucher specimens. On very rare cases taxa are included as accepted native taxa without the presence of voucher specimens (e.g. *Phoradendron leucarpum*).

A few additional taxa are currently listed as accepted even though they lack voucher specimens. Ongoing research will help to determine if there are vouchers for these taxa and if they lack vouchers they will be moved to the excluded list.

2. Taxa that are known to be naturalized in New York. This includes non-native taxa which occur outside of cultivation. Sometimes a taxon is cultivated and then simply persists over time.

These taxa are generally not included in the atlas unless they are able to spread, even slightly, from where they were originally cultivated. Sometimes this becomes a fine line. In general we try to err on the side of inclusion in the atlas with explanations as to the current situation of the taxon. Taxa in this category are vouchered by specimens.

3. Taxa that are known to have become introduced in New York for only a short period of time. These taxa are not truly naturalized and can be considered waifs. Examples include taxa that appeared on ballast or newly seeded areas for only one or two seasons. These taxa must also be vouchered by specimens.

4. Taxa that were clearly naturalized in New York at one point in time but currently are not considered to be present in the State. This category merges, at times imperceptibly with category 3. These taxa must also be vouchered by specimens.

Excluded taxa: Taxa that have been reported from New York erroneously are considered excluded from the flora. This includes taxa that have been reported based on misidentifications. Also, taxa are considered excluded if they had been reported to occur outside of cultivation but later were determined to occur only in cultivation. In almost all cases, taxa are considered excluded if they were reported but no vouchers are known documenting their presence in New York. Some names that have been used extensively on herbarium sheets erroneously but have never been published are also listed as excluded.

Currently many names that should be on the excluded taxa list are missing from the Atlas. Ongoing research into the flora of New York will add additional names of excluded taxa to the Atlas.

Distribution records: The current atlas still relies heavily on the county distribution data from the Preliminary New York Flora Atlas (New York Flora Association 1990) with approximately 51,360 records from this source. The rest of the distribution records come directly from herbaria, from individuals who report data of specimens housed at herbaria, in a few cases on reports of specimens in the literature, and from the New York Natural Heritage Program's records of specimens

housed at herbaria. While the current distribution records should all be based on vouchered specimens housed at herbaria some of the data is second hand. Eventually, we hope to eliminate all distribution records that are not directly provided by herbaria. Since, most herbaria have yet or only begun to database their collections it is currently (2009) premature to remove all the second hand record data.

All distribution records that are entered into the database as of 2009 will indicate who or what institution submitted the record and when the data was submitted. In addition, all new records will indicate what names were given to the specimens by the herbarium. At times this "herbarium name" may differ from our accepted name.

Currently (2009) there are perhaps hundreds of thousands of voucher specimens housed at herbaria which we do not have data for. We currently have no or only minimal data from some of the major herbaria which house New York specimens. For this reason, the current distributions shown for taxa should be considered preliminary. In other words, just because a taxon is not listed for a particular county does not mean that there is not a voucher specimen of this taxon from that county housed at a herbarium. In addition, a taxon may occur in a county but no voucher has been collected from this county. As data from herbaria become databased and incorporated into the atlas it should allow for a clearer picture of the distribution of taxa in New York.

We have not verified most herbarium records, so to be certain of the identification of a particular specimen, users are encouraged to seek out the actual specimen and verify its identification. For records based on the preliminary atlas (i.e. noted as from NYFA_1990) users need to consult the NYSM card files at the New York State Museum to determine what voucher specimen the record is based on and at what herbarium it is located.

Since a lot of the distribution data is currently second hand we might not have captured information on annotations of specimens that were annotated after the data was originally collected. Herbaria that database their specimens keep track of these annotations so information that is provided

directly from herbaria is more reliable than second hand reports. This is part of the reason why we eventually hope to eliminate all second hand distributional data including information from the preliminary 1990 atlas.

We hope that you find the Atlas a useful and informative resource. Remember that the Atlas is in draft form and, therefore, the information available should be verified. The many plans for the Atlas include immediate goals of critically reviewing, changing, and adding to the data currently available. Plans for the future also include photo additions and more information about the plants that make up the flora of New York.

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New York Flora Atlas Search Tip

Instead of typing the entire scientific name of a species, simply type the first 3 letters of the genus followed by a space and the first 3 letters of the species. This will generate a list of one or a few species you can investigate.



New on the New York Flora Atlas Website

We now have posted a "user's guide" to the Atlas. You can access it by clicking on "user's guide" in the drop down list under the "About the Atlas" tab on the Atlas home page:

<http://newyork.plantatlas.usf.edu/>

This guide is quite extensive and should help users to understand all the details about the atlas including a detailed history, how to use the atlas, what is in the atlas, and where the data comes from.

The Auburn Trail at Railroad Mills: Not an Ordinary Rail Bed

by Steven Daniel (natdisc@gmail.com)

Abandoned railroad beds are not usually thought of as areas of rich botanical diversity – so the NYFA Field Trip last August that included a visit to the Auburn Trail was a little unusual. But the Auburn Trail at Railroad Mills isn't ordinary.

The heyday of railroads in this country ended in the mid-20th century, when many local and regional lines were abandoned. These abandoned rail beds remain networked around much of New York State, and the rest of the country. Many of these corridors are used for other activities. Some are utility rights-of-way, and de facto hiking, biking, and snowmobile trails. Some have been formalized as greenways and bike paths, as part of the 'rails to trails' movement. Since the early 1990's, federal funding through the Transportation Enhancement Program has facilitated the paving (frequently with crushed stone) and widening of many of these corridors to construct bike paths, often termed multi-use trails.

In the Midwest abandoned rail corridors have been recognized as significant repositories of prairie species (Borowske and Heitlinger, 1983, Braband, 1986). The State of Minnesota even requires the survey of railroad beds for prairie remnants (see http://deli.dnr.state.mn.us/metadata/mcbs_rrpln3.html). Yet little attention has been given to the biodiversity of these rail corridors in the eastern US, where they are often considered to be disturbed habitats harboring mostly exotic and not biologically significant species.

The Auburn Trail at Railroad Mills in the Town of Victor, NY, seems to be an exception. This area was first noted as significant in a botanical survey done for the Town of Victor over thirty years ago (Rugenstein, 1975). The trail is adjacent to the sanctuary of the Burroughs Audubon Nature Club, whose members have long utilized the narrow footpath on the rail corridor for nature studies.

This section of the Auburn Trail runs along a rail bed that was built by hand in the 1840's, much of it as a raised berm in the floodplain of Irondequoit Creek. (It is unlikely that this could be built today, given current wetland regulations.) The Upper Irondequoit Creek Valley is known for its biodiversity – it is an area of high lime soils, glacial kame and kettle topography, and several listed plant species. The Auburn Line of the New York Central Railroad ceased operations in the early 1950's, and the tracks were removed in the 60's. For the past fifty years the berm has been colonized by a variety of plant species. It is a utility right of way, so mowing and tree trimming have kept the top of the berm open as a meadow area with a narrow footpath, while the sides and slopes have undergone succession with woody plants.

The Town of Victor plans to use local and federal funds to substantially widen the existing 1' footpath, and to pave the linear meadow on top of the berm with crushed stone. A Coalition of several environmental groups, along with many trail users, concerned about environmental and aesthetic impacts, have asked the town to keep this 3000' section of the 2 1/2 mile long project narrow. The topic has become highly controversial (see www.saveauburntrail.org.) For disclosure, I have been an advocate to protect this area.

In spring of 2008, the NY Natural Heritage Program staff visited the site to document the presence of *Jeffersonia diphylla* (a NYS threatened plant). In the summer of 2008 I found and later reported to NYNHP two additional threatened species growing along the trail corridor – *Agastache nepetoides* and *Pedicularis lanceolata*. In December 2008, responding to the newly-documented listed species and high level of public controversy, the Federal Highway Administration directed the Town to prepare an Environmental Assessment to fulfill the requirements of the

National Environmental Policy Act. Trail projects like these are typically assumed to have little environmental impact or controversy, and are usually exempt from such requirements. Indeed, the project consultant assumed from the start that there was nothing biologically significant on the trail - despite being advised by DEC of records in its database of several listed species from the area.

With the assistance of Carol Southby and others, I began to look more closely at the plant diversity along a the 3000' segment of the project – an area referred to as the Railroad Mills Special Environmental Area. Between fall of 2008 and fall 2009, the area surveyed was mainly the linear meadow - the top of the berm that was the path of the old railroad - as well as the sides of the berm. We did note some species in immediately adjacent areas including wetlands and woodlands, though those areas were not carefully surveyed. The total surveyed area was approximately 3 acres.

Our findings detail a surprisingly diverse flora. In addition to the three threatened species, we have tallied 315 species, of which over 71% are native. These include 75 woody species: 42 trees, 23 shrubs, and 10 woody vines.

These results highlight the importance of the site's geography – its setting in the upper Irondequoit Creek Valley. They also point to the importance of the surrounding areas as a seed source. When the railroad was abandoned over 50 years ago, it is likely that nearly all the woody plants, and most of the herbaceous plants, recolonized the berm from nearby seed sources. By wind, birds, mammals, and ants – the berm was colonized with a surprisingly robust plant diversity. The rail bed is a window to the biodiversity of the area.

The species richness, in total numbers and percentage of native species in this small area, surprised us. The percentage of native species along the trail is likely higher than it is for other portions of the region. Marks et al (2008) have shown just 62% of the species in Central New York are native, though the discrepancy is likely explained by the fact that most non-native species are relatively rare.

In addition to plants, other groups are diverse along

this rail bed: 41 species of butterflies, and over 130 species of birds have been recorded. The ease of viewing plants and wildlife, along with easy walking, has made the site a regular field trip destination for local birding and butterfly clubs, and other natural history organizations.

All rail trails are not created equal. This section at Railroad Mills is unusually diverse precisely because of geography, geology, and habitat diversity of the surrounding areas. It would be interesting to see how this site compares with other areas of similar size, whether railroad beds or not.

As abandoned rail corridors get slated for development it would be prudent to suspend assumptions about ecological richness, or lack of it. Planners should carefully consider the biodiversity and geology of the surrounding lands through which the rail bed travels. The Auburn Trail demonstrates that unusual plant diversity may be found in an unlikely place.

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Plants of the Railroad Mills Special Environmental Area

<i>Acer negundo</i>	<i>Circaea lutetiana</i>	<i>Glechoma hederacea</i>	<i>Persicaria virginiana</i>	<i>Smilax rotundifolia</i>
<i>Acer nigrum</i>	<i>Cirsium vulgare</i>	<i>Glyceria striata</i>	<i>Phalaris arundinacea</i>	<i>Solanum dulcamara</i>
<i>Acer rubrum</i>	<i>Claytonia virginica</i>	<i>Hackelia virginiana</i>	<i>Phleum pratense</i>	<i>Solidago altissima</i>
<i>Acer saccharum</i>	<i>Clematis virginiana</i>	<i>Hamamelis virginiana</i>	<i>Phlox paniculata</i>	<i>Solidago canadensis</i>
<i>Achillea millefolium</i>	<i>Clinopodium vulgare</i>	<i>Helianthus strumosus</i>	<i>Phragmites australis</i>	<i>Solidago flexicaulis</i>
<i>Actaea pachypoda</i>	<i>Convallaria majalis</i>	<i>Heliopsis helianthoides</i>	ssp. <i>australis</i>	<i>Solidago gigantea</i>
<i>Actaea rubra</i>	<i>Cornus alternifolia</i>	<i>Hesperis matronalis</i>	<i>Phytolacca americana</i>	<i>Solidago juncea</i>
<i>Adiantum pedatum</i>	<i>Cornus amomum</i>	<i>Hordeum jubatum</i>	<i>Picris hieracioides</i>	<i>Solidago nemoralis</i>
<i>Agastache nepetoides</i>	<i>Cornus florida</i>	<i>Hypericum perforatum</i>	<i>Pilea pumila</i>	<i>Solidago patula</i>
<i>Ageratina altissima</i>	<i>Cornus racemosa</i>	<i>Hypericum punctatum</i>	<i>Pilosella aurantiaca</i>	<i>Solidago rugosa</i>
<i>Agrimonia gryposepala</i>	<i>Cornus sericea</i>	<i>Impatiens capensis</i>	<i>Pilosella caespitosa</i>	<i>Sorghastrum nutans</i>
<i>Agrostis gigantea</i>	<i>Coronilla varia</i>	<i>Impatiens pallida</i>	<i>Plantago lanceolata</i>	<i>Symphotrichum cordifolium</i>
<i>Agrostis perennans</i>	<i>Corylus americana</i>	<i>Jeffersonia diphylla</i>	<i>Plantago major</i>	<i>Symphotrichum lanceolatum</i>
<i>Alliaria petiolata</i>	<i>Crataegus</i> sp.	<i>Juglans cinerea</i>	<i>Poa annua</i>	<i>Symphotrichum lateriflorum</i>
<i>Allium tricoccum</i>	<i>Cynanchum rossicum</i>	<i>Juglans nigra</i>	<i>Poa compressa</i>	<i>Symphotrichum</i>
<i>Allium vineale</i>	<i>Cyperus bipartitus</i>	<i>Juncus nodosus</i>	<i>Poa pratensis</i>	<i>novae-angliae</i>
<i>Alnus incana</i>	<i>Cystopteris fragilis</i>	<i>Juncus tenuis</i>	<i>Podophyllum peltatum</i>	<i>Symphotrichum pilosum</i>
<i>Ambrosia artemisiifolia</i>	<i>Dactylis glomerata</i>	<i>Lamium purpureum</i>	<i>Polygonatum pubescens</i>	<i>Symphotrichum</i>
<i>Amelanchier arborea</i>	<i>Danthonia spicata</i>	<i>Lapsana communis</i>	<i>Polygonum aviculare</i>	<i>prenanthoides</i>
<i>Amphicarpaea bracteata</i>	<i>Daucus carota</i>	<i>Lathyrus latifolius</i>	<i>Polystichum acrostichoides</i>	<i>Symphotrichum puniceum</i>
	<i>Desmodium canadense</i>	<i>Leersia oryzoides</i>	<i>Populus deltoides</i>	<i>Symphotrichum undulatum</i>
<i>Anemone virginiana</i>	<i>Desmodium</i> sp.	<i>Leersia virginica</i>	<i>Populus grandidentata</i>	<i>Symphotrichum urophyllum</i>
<i>Angelica atropurpurea</i>	<i>Dianthus armeria</i>	<i>Lemna minor</i>	<i>Populus tremuloides</i>	<i>Symplocarpus foetidus</i>
<i>Apios americana</i>	<i>Dianthus barbatus</i>	<i>Leonurus cardiaca</i>	<i>Potamogeton</i> sp.	<i>Taraxacum officinale</i>
<i>Aquilegia vulgaris</i>	<i>Dichanthelium</i>	<i>Lepidium campestre</i>	<i>Potentilla argentea</i>	<i>Teucrium canadense</i>
<i>Arabisopsis thaliana</i>	<i>acuminatum</i>	<i>Lepidium virginicum</i>	<i>Potentilla canadensis</i>	<i>Thalictrum dioicum</i>
<i>Arctium minus</i>	<i>Digitaria ischaemum</i>	<i>Leucanthemum vulgare</i>	<i>Potentilla recta</i>	<i>Thalictrum pubescens</i>
<i>Arisaema triphyllum</i>	<i>Dipsacus fullonum</i>	<i>Lindera benzoin</i>	<i>Prunella vulgaris</i>	<i>Thelypteris palustris</i>
<i>Arrhenatherum elatius</i>	<i>Dryopteris carthusiana</i>	<i>Liriodendron tulipifera</i>	<i>Prunus serotina</i>	<i>Thuja occidentalis</i>
<i>Artemisia vulgaris</i>	<i>Dryopteris marginalis</i>	<i>Lithospermum officinale</i>	<i>Prunus</i> sp.	<i>Tilia americana</i>
<i>Asarum canadense</i>	<i>Echinocystis lobata</i>	<i>Lobelia siphilitica</i>	<i>Prunus virginiana</i>	<i>Toxicodendron radicans</i>
<i>Asclepias incarnata</i>	<i>Elaeagnus umbellata</i>	<i>Lolium perenne</i>	<i>Quercus alba</i>	<i>Tridens flavus</i>
<i>Asclepias syriaca</i>	<i>Eleusine indica</i>	<i>Lonicera dioica</i>	<i>Quercus rubra</i>	<i>Trifolium hybridum</i>
<i>Asparagus officinalis</i>	<i>Elymus hystrix</i>	<i>Lonicera</i>	<i>Quercus velutina</i>	<i>Trifolium pratense</i>
<i>Athyrium filix-femina</i>	<i>Elymus repens</i>	<i>tartarica/morrowi</i>	<i>Ranunculus abortivus</i>	<i>Trifolium repens</i>
<i>Barbarea vulgaris</i>	<i>Elymus riparius</i>	<i>Luzula</i> sp.	<i>Ranunculus acris</i>	<i>Trillium erectum</i>
<i>Berteroa incana</i>	<i>Elymus villosus</i>	<i>Lycopus americanus</i>	<i>Ranunculus recurvatus</i>	<i>Trillium grandiflorum</i>
<i>Bidens cernua</i>	<i>Epilobium coloratum</i>	<i>Lysimachia ciliata</i>	<i>Ranunculus sceleratus</i>	<i>Triosteum perfoliatum</i>
<i>Bidens</i> sp.	<i>Epipactis helleborine</i>	<i>Lysimachia nummularia</i>	<i>Rhamnus cathartica</i>	<i>Tussilago farfara</i>
<i>Bulbostylis capillaris</i>	<i>Equisetum arvense</i>	<i>Maianthemum racemosum</i>	<i>Rhus typhina</i>	<i>Typha angustifolia</i>
<i>Calamagrostis</i>	<i>Equisetum hyemale</i>	<i>Malus cf. coronaria</i>	<i>Ribes americanum</i>	<i>Typha latifolia</i>
<i>canadensis</i>	<i>Eragrostis pilosa</i>	<i>Malus</i> sp.	<i>Ribes cynosbati</i>	<i>Ulmus americana</i>
<i>Cardamine bulbosa</i>	<i>Eragrostis</i> sp.	<i>Malus pumila</i>	<i>Robinia pseudo-acacia</i>	<i>Ulmus rubra</i>
<i>Cardamine concatenata</i>	<i>Erechtites hieracifolia</i>	<i>Matteuccia struthiopteris</i>	<i>Rosa cf. palustris</i>	<i>Urtica dioica</i>
<i>Cardamine diphylla</i>	<i>Erigeron philadelphicus</i>	<i>Medicago lupulina</i>	<i>Rosa multiflora</i>	<i>Verbascum blattaria</i>
<i>Cardamine hirsuta</i>	<i>Erigeron pulchellus</i>	<i>Melilotus alba</i>	<i>Rubus allegheniensis</i>	<i>Verbascum thapsus</i>
<i>Carex bebbii</i>	<i>Erigeron strigosus</i>	<i>Melilotus officinalis</i>	<i>Rubus flagellaris</i>	<i>Verbena hastata</i>
<i>Carex blanda</i>	<i>Erythronium</i>	<i>Menispermum canadense</i>	<i>Rubus occidentalis</i>	<i>Verbena urticifolia</i>
<i>Carex normalis</i>	<i>americanum</i>	<i>Mentha arvensis</i>	<i>Rubus pubescens</i>	<i>Veronica americana</i>
<i>Carex plantaginea</i>	<i>Eupatorium perfoliatum</i>	<i>Mentha X piperita</i>	<i>Rudbeckia laciniata</i>	<i>Veronica officinalis</i>
<i>Carex</i> sp.	<i>Eurybia divaricata</i>	<i>Mitella diphylla</i>	<i>Rumex crispus</i>	<i>Veronica persica</i>
<i>Carex stipata</i>	<i>Euthamia graminifolia</i>	<i>Monarda fistulosa</i>	<i>Salix bebbiana</i>	<i>Veronica serpyllifolia</i>
<i>Carex trichocarpa</i>	<i>Eutrochium maculatum</i>	<i>Monotropa uniflora</i>	<i>Salix cf. alba</i>	<i>Viburnum lentago</i>
<i>Carpinus caroliniana</i>	<i>Fagus grandifolia</i>	<i>Muhlenbergia frondosa</i>	<i>Salix discolor</i>	<i>Viburnum opulus</i>
<i>Carya cordiformis</i>	<i>Fallopia convolvulus</i>	<i>Muhlenbergia mexicana</i>	<i>Salix lucida</i>	var. <i>opulus</i>
<i>Carya glabra</i>	<i>Fallopia scandens</i>	<i>Muhlenbergia schreberi</i>	<i>Salix</i> sp. (<i>a tree</i>)	<i>Viola pubescens</i>
<i>Carya ovata</i>	<i>Festuca ovina</i>	<i>Oenothera biennis</i>	<i>Sambucus canadensis</i>	<i>Viola rostrata</i>
<i>Caulophyllum</i>	<i>Fragaria chiloensis</i>	<i>Onoclea sensibilis</i>	<i>Sanguinaria canadensis</i>	<i>Viola sororia</i>
<i>thalictroides</i>	<i>Fragaria virginiana</i>	<i>Ostrya virginiana</i>	<i>Saponaria officinalis</i>	<i>Vitis aestivalis</i>
<i>Celastrus orbiculata</i>	<i>Fraxinus americana</i>	<i>Oxalis stricta</i>	<i>Sassafras albidum</i>	<i>Vitis riparia</i>
<i>Celastrus scandens</i>	<i>Fraxinus nigra</i>	<i>Packera aurea</i>	<i>Schedonorus pratensis</i>	<i>Zanthoxylum americanum</i>
<i>Celtis occidentalis</i>	<i>Fraxinus pennsylvanica</i>	<i>Panicum capillare</i>	or <i>arundinaceus</i>	
<i>Centaurea stoebe</i>	<i>Galium aparine</i>	<i>Panicum dichotomiflorum</i>	<i>Schizachyrium scoparium</i>	
subsp. <i>micranthos</i>	<i>Galium asprellum</i>	<i>Parthenocissus</i>	<i>Scirpus atrovirens</i>	
<i>Cerastium fontanum</i>	<i>Galium mollugo</i>	<i>quinquefolia</i>	<i>Scrophularia marilandica</i>	
<i>Chelone glabra</i>	<i>Geranium maculatum</i>	<i>Pedicularis lanceolata</i>	<i>Sedum</i> sp.	
<i>Cichorium intybus</i>	<i>Geum canadense</i>	<i>Persicaria maculosa</i>	<i>Silene latifolia</i>	

IN MEMORIAM

Rogers McVaugh

30 May 1909 – 24 September 2009

A Columbia County Perspective

By Claudia Knab-Vispo and Conrad Vispo

Rogers McVaugh, the author of the *Flora of the Columbia County Area, New York*, celebrated his 100th birthday in May and passed away peacefully in his sleep at his home in Chapel Hill, North Carolina on the 24th of September, 2009.

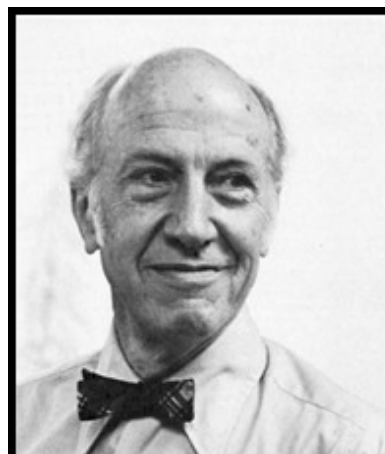


Rogers McVaugh photograph taken in 2008
by Claudia Knab-Vispo and Conrad Vispo

Rogers McVaugh was born on the 30th of May 1909 in New York City. He studied botany at Swathmore College and the University of Pennsylvania and, as a graduate student in the mid-1930's, he spent several summers exploring the plants of Columbia County, where his parents had acquired a farm and established an apple orchard. With state botanist Homer House as a mentor, his father's Model T Ford for transportation, and supplied with photographic film and the promise of publication by the NY State Museum, he spent several summers in the 1930's criss-crossing Columbia County and cataloging its plants. He recorded the common plants of forests and field, and with the help of his soil survey map, some local plant lists, suggestions from House about interesting sites, and the lack of "posted" signs, he explored many of the rarer habitats, such as calcareous marshes and fens, bogs, calcareous outcrops, and remnants of old forest patches. He collected about 3000 vouchers which are deposited in the State Museum in Albany and most of the "historical records" of rare plant occurrences in Columbia County date back to his work.

McVaugh's first publication "Recent changes in the composition of a local flora" (Bull. Torrey Bot. Club 62: 479-489. Nov. 1935) discusses the changing landscape as indicated by the changing plant composition around Kinderhook, where his parent's farm was located, in the century between the 1830's and 1930's. This publication gives us a valuable starting point in our local efforts to monitor and document the changing landscape of our county and to share with others the insight that our actions today will determine what sort of a landscape the next generation will be able to enjoy.

The manuscript for the *Flora of the Columbia County Area, New York* was completed in 1942, but "due to an unfortunate series of events" the book was not published until 1959 and had to undergo two revisions to bring the nomenclature up to date. According to Dr. McVaugh, the ultimate publication was realized thanks to Dr. Ogden at the State Botanist's Office. We are grateful that everybody involved persisted in completing this project, which at the time was the first county flora in the upper Hudson Valley. To this day, it is our best county-specific resource on the occurrence, distribution, abundance, and habitat preferences of 1334 plant species that



Photograph courtesy of the University of
Michigan Herbarium
<http://herbarium.lsa.umich.edu/news.html>

were found in Columbia County in the 1930s. Furthermore, the Flora provides an excellent review of the county's geology, soils, climate, and the resulting habitats, as well as the biogeography of its plants.

We had the honor to meet this great botanist and gracious gentleman last year and to spend a delightful three days speaking with him about his early botanical work in Columbia County. At the age of almost 99 years, Dr. McVaugh still had vivid memories of “bumping along” abandoned railroad beds in a Model T Ford in order to reach remote destinations for his botanical explorations. He even recalled particular collection sites and special botanical finds from more than 70 years ago. Dr. McVaugh also shared how lucky he felt as a young man to have met the Pine Plains botanist Lyman Hoysradt a few months before his passing and how that made him feel part of a continuum of botanical exploration in our area. We feel the same about the privilege of having met Rogers McVaugh, whose name we knew so well as the author of the *Flora of the Columbia County Area, New York*, a book that was instrumental in getting us started with our work in the county and which we still consult regularly.

Dr. McVaugh's early work in Columbia County was only the beginning of a very long botanical career which, however, did not involve any more work in New York State. He became an internationally renowned specialist in Compositae, Myrtaceae, Campanulaceae, woody Rosaceae, and the flora of western Mexico, as well as botanical history and nomenclature. His publication list of 12 books and 200 shorter articles (posted at <http://herbarium.unc.edu/Collectors/McVaugh.htm>) attests to a very long, active and productive professional life. The Herbarium of the University of Michigan (MICH) alone holds at least 23,000 of his plant specimens, thousands more are deposited in GA, US, UC, and NY. Dr. McVaugh started his career as an instructor and then assistant professor of botany at the University of Georgia in Athens (1935-38) and moved on to work as an associate botanist with the Division of Plant Exploration and Introduction of the USDA (1938-46). It was during this period that he was able to conduct his first botanical explorations in Mexico. His fascination with the flora of western Mexico would draw him back there again and again, and make the Flora Novo-Galiciana a focal point of his research. In 1946, he began his long tenure at the University of Michigan in Ann Arbor, where he stayed for 30 years, serving as professor of botany, curator of vascular plants, and director of the University of Michigan Herbarium. During this time, he served as a council member (1950-58) and president (1956) of the American Society of Plant Taxonomists, and as vice president (1969-72) and president (1972-75) of the International Association for Plant Taxonomy.

In 1980 he “retired” to Chapel Hill and was able to enjoy 25 productive years as research professor of botany at the University of North Carolina and adjunct research scientist at the Hunt Institute, Carnegie Mellon University.

Dr. McVaugh received numerous honors for his outstanding scholarly contributions from the Botanical Society of America (Merit Award, 1977 and Centennial Award, 2006), the Sociedad Botánica de México (Gold Medal, 1978), the International Association of Plant Taxonomy (Festschrift in Taxon, 1979), the New York Botanical Garden (Henry Allan Gleason Award, 1984), the American Society of Plant Taxonomists (First Annual Asa Gray Award, 1984), the University of Guadalajara, Mexico (First Luz María Villarreal de Puga Medal, 1993), the International Botanical Congress, St. Louis, USA (Millenium Medal, 1999 – one of eight worldwide), the Smithsonian Institution (First Cuatrecasas Medal for Excellence in Tropical Botany, 2001), and the Botanical Society of America (Centennial Award, 2006).

Dr. McVaugh continued into his nineties the work on the multi-volume Flora Novo-Galiciana. Last year, he still regularly visited his office twice a week at the Herbarium of the University of North Carolina. His keen knowledge of plants and his gentle spirit will be missed by his colleagues and friends.

IMPONDERABLES

We received the following responses in answer to last month's question: *"It seems that tree leaves color earlier in fall around bodies of water. Why?"*

Dick Lighty suggests *"Could be that anaerobic soils produce an "artificial senescence", which quickly manifests as premature leaf coloring? I've noted that in extremely wet summers around the upper Lake Champlain region, red maples in inundated flood plains color up in July. Often these trees do not drop their leaves until near the usual fall drop time (an adaptation in a plant that normally grows in wet sites?)."*

Donald Windsor of Norwich, NY writes *"The operative word here is "seems". Where is the evidence? Consider the difficulties in measuring this putative phenomenon. The best approach would be to take a series of aerial photographs, in color, of a wide area containing plenty of ponds/lakes of various sizes. The photos would have to be taken weekly from all green to full color. Perhaps someone has already done this. Assuming that tree leaves really do change color earlier around water, the most simple explanation is that more of the early color changing Red Maples and Aspens grow there. However, here is another possible explanation. Water accumulates in the lowest place it can. So does cold air, which is more dense than warmer air. Consequently, the trees around water may receive more doses of cold air than trees higher on the watershed. This is why grapes are raised on the watersheds of the Finger Lakes. The colder air does not settle on them, but moves down to the lakes. I live a block away from the Chenango River, about 10 feet higher. Frost often appears on the grassy river banks but not at my house."*

Michael Kudish of Arkville, NY responds *"Are you referring to Adirondack bodies of water, or lakes and ponds in the greater Burnt Hills area? What tree species are you referring to? Most Adirondack lakes are surrounded abundantly by red maple. This species tends to start turning color in late August, earlier than most others (at least in the greater Paul Smith's area): I don't know why. Silver maple, a floodplain [species], begins to turn in late August too. Because of the high water tables adjacent to most lake and pond shores, three dominant species of northern hardwoods (sugar maple, beech, and black cherry) cannot grow. Only red maple and yellow birch proliferate along with most conifers. Look at those lakes and ponds which have steep banks and/or cliffs bordering them. See if there are as many red maples on top of the steep banks and cliffs (sites with deep water tables) than there are on the lowlands adjacent to the shoreline"*.

Thanks to you three for your interesting and thought-provoking responses!

This month's "Imponderable" is from Thomas Schottman: *"If one has a single female winterberry plant (*Ilex verticillata*) and no space for another plant, would it be possible to get a scion from a male plant and graft it onto the female so as to have a pollen source and obtain the beautiful fruits"?*

Please send your answers to editor@nyflora.org

MUSINGS

Dust of Snow

The way a crow
Shook down on me
The dust of snow
From a hemlock tree

Has given my heart
A change of mood
And saved some part
Of a day I had rued.

Robert Frost



From the NYFA Blogroll

DEC Launches New York Nature Explorer

What animals, plants and significant habitats are found in your county, town, and neighborhood? What places in New York are home to the American dragonhead, the black-throated blue warbler, Virginia pine, or riverside ice meadows?

Anyone with an interest in the natural history of New York State can now find the answers to these questions with New York Nature Explorer – <http://www.dec.ny.gov/animals/57844.html> – a new online tool launched by the New York State Department of Environmental Conservation (DEC). New York Nature Explorer is an interactive gateway to biodiversity information that can be utilized by residents, landowners, land managers, municipal officials, planners, consultants, students, and anyone else interested in researching the natural world.

DEC maintains many databases holding documented locations of plants, animals, and habitats, and, increasingly, much of this biodiversity information is being made available on the DEC public web site. Through New York Nature Explorer, users can learn about birds from the 2nd New York State Breeding Bird Atlas (2000-2005); reptiles and amphibians from the state Amphibian and Reptile Atlas Project (1990-1999); and rare animals, rare plants, and significant natural communities from the databases of the New York Natural Heritage Program. While not all information on animals and plants are currently available, DEC plans to add more databases over time.

Users can look up information by choosing a county, town, watershed, a defined area, or a particular species. Then, Nature Explorer provides geographic information in both map and list form about the animals, plants, and significant natural communities such as wetlands, forests, grasslands, ponds, and streams. Other information can also be easily obtained, including links to fact sheets about a particular species, and whether it is considered rare, threatened, or endangered. For sensitive species, including animals that are state or federally listed as endangered or threatened, location information will show only the counties and watersheds where the plant or animal is found.

The information available on New York Nature Explorer can:

- Help provide a better understanding of the diversity of life in the state and local communities.
- Serve as a resource to better inform land use decisions, natural resource management, biodiversity conservation, and environmental assessment.
- Offer an initial indication of possible rare and protected animals and plants for those involved in the planning or permitting of a project or action.

New York Nature Explorer was developed in part with funding from the U.S. Environmental Protection Agency, NYS Biodiversity Research Institute, and contributions to Return a Gift to Wildlife (RAGTW). RAGTW is a law established to help provide additional funds to enhance DEC's fish and wildlife programs. It's a voluntary contribution line on the state income tax form to provide taxpayers with an easy, simple way to support fish and wildlife conservation.

Regional Spotlight



Even in late November, not all is quiet in the botanical world. This shining clubmoss (*Huperzia lucidula*) in western New York is busily producing wafts of airborne spores.



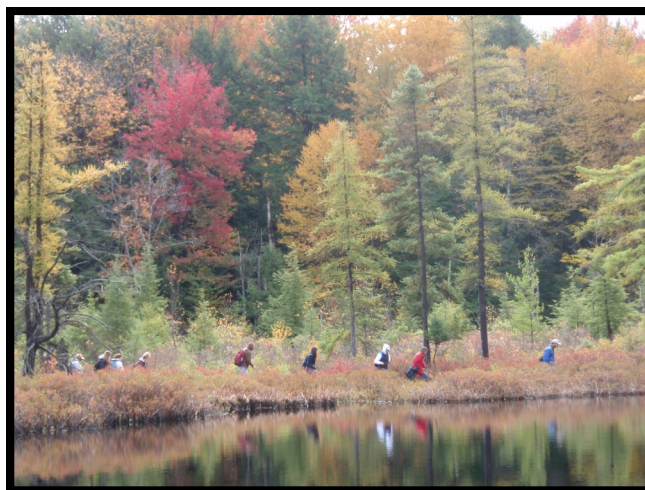
NYFA HAPPENINGS



Next Year's NYFA Workshops

There is still time to provide your input regarding next year's workshops. To date members have expressed interest in ferns, grasses, *Carex* species, aquatic plants, composites, and willow species. If you would like to improve your botanical skills, make your workshop interests known, by contacting Connie Tedesco at :

TEDECL17@oneonta.edu



NYFA Field Trips 2010

We are planning next year's field trips and want some input into where you want to go. The trips that we are currently working on include:

- Flat Rock sandstone pavement barrens in Clinton County
- Alvar in Jefferson County
- Peat lands at Star Lake/Cranberry Lake and/or Spring Pond or Massawepie in St. Lawrence and Franklin Counties (July 2010)
- Allegheny State Park (possibly see Trichomanes) in Cattaraugus County
- Breezy Point and Gateway NRA in Queens and Brooklyn
- Inman and/or Lorraine Gulf Tug Hill (Jefferson County)

Please let us know which you trip(s) you are interested in attending and/or suggest others by going to the following website and voicing your opinion:

<http://doodle.com/ikyrmzrni2za9hqv>

You can add suggested field trips in the comments section.



Other Selected Regional Events

The Niagara Frontier Botanical Society is once again offering a New Year's Eve field trip. This year the trip will explore the Reinstein Woods Nature Preserve in Cheektowaga, New York (near Buffalo). The Preserve is surrounded by suburban developments but contains a variety of significant habitat types including old growth forest. This is an excellent opportunity to hone your winter identification skills with a group of jovial experts. If you are interested in attending, call Joanne Schlegel (716-835-6042) of the Niagara Frontier Botanical Society for more details.

FOR YOUR CONSIDERATION

Next Year's Newsletter Schedule

Volume and Issue Number	Submission Deadline	Scheduled Print Date
Volume 21, No. 1	December 15, 2009	January 15, 2010
Volume 21, No. 2	March 15, 2010	April 15, 2010
Volume 21, No. 3	June 15, 2010	July 15, 2010
Volume 21, No. 4	September 15, 2010	October 15, 2010

Please contribute to making this a newsletter you look forward to reading by sending articles, suggestions for articles, interesting photographs, questions for the "Imponderables Column" and other suggestions or contributions to editor@nyflora.org

NYFA Merchandise

Our new website www.nyflora.org links to the Cafe Press site where we have many items for sale with our logo. Shirts, hats, mugs and even buttons. Take a look and proudly wear your NYFA logo. A percentage of the proceeds from each item helps us continue with our projects to study and protect our native flora.



Handy Resources

Alternatives to Ornamental Invasive Plants

The Cornell Coop Extension of Suffolk County has recently put together a brochure of suggested native alternatives to invasive plant species. The guide includes a list of Invasive Plants currently banned on Long Island and species that are appropriate for a similar setting. The brochure can be downloaded at:

<http://ccesuffolk.org/annual-conferences/>

Look under the "Annual Conferences" link.

Electronic Historical Botany Publications Now Available on the World Wide Web

Among the documents that the State Library has converted to electronic format are the State Museum Bulletins. This well-known series began in 1887 with the publication of Contributions to the botany of the State of New York. Replete with plates, figures, photographs and drawings, these scientific studies are the foundation of our knowledge about the State's geology, fauna and flora. Now almost 500 of these important works can be accessed from the State Library's website; no login with a State Library card is necessary. Related State Museum publications, including John Torrey's Flora of the State of New York and Lewis C. Beck's Mineralogy of New York are also available.

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Go Green with an Electronic Newsletter

If you don't need to renew at this time and would like to receive the newsletter electronically in .pdf format, please send an e-mail to young@nynhp.org and put "NYFA electronic newsletter" in the subject line. We appreciate your efforts to save paper, money, and time by receiving your newsletter electronically. An electronic membership has the added advantage of delivery before paper copies are sent out and includes full color photographs. You can also simply click on web addresses instead of typing them into your browser. To date more than 30% of our members receive the newsletter electronically. In the future, we hope to convert most of our members to the electronic newsletter format!



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Thank you for supporting NYFA and the flora of New York State!