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## A Study of Flora along Cazenovia Creek in West Seneca, NY Part two

Michael Siuta

In Clintonia Volume 25, Issue 4, 2010 there was a plant survey report by Joanne Schlegel and me of a site along the banks of Cazenovia Creek. The area studied is bounded on the south by Leydecker Road running north to the bank of Cazenovia Creek. The area between the road and the creek extend from the Leydecker Rd. Bridge over the creek to a point across the street from the East Rd. entrance of the West Seneca Developmental Center and WNY Children's Psychiatric Center grounds. The original survey was the result of an intense one-day study on July 26, 2010. The survey was requested because New York State was in the process of disposing of this property as part of the shut-down process of the nearby State children's facilities and there was concern about the fate of the site. Note of this report was made by NY State and Town of West Seneca and efforts are in motion for a preservation solution. This current report is a more comprehensive survey of this same site conducted during several visits throughout the seasons from July 2010 through October 2011.

The history of West Seneca has been shaped by the four creeks that run through the town: Cayuga, Buffalo, Cazenovia and Smoke Creeks. Here were important settlements of the Seneca Nation with significant farming activity. The most famous resident from this era was Chief Red Jacket, who loved to sport a large medallion given to him by George Washington. In 1838 the Senecas sold their holdings here and moved to reservations. They were replaced by a religious group, The Community of True Inspiration, the Ebenezers who arrived from Germany and settled here. Extensive farming was done in the rich bottomlands and several mills were located along the creeks. The Ebenezer community eventually moved to Amana Iowa, where they may be found to this day. They in turn were replaced by settlers, mostly from Germany, who continued to farm and operate mills. In the mid 1900's much of the town evolved into a typical suburban town. Fortunately, extensive wetland habitats remain.

The history of the Leydecker Rd.-Cazenovia creek site is interesting. One of the last wooden covered bridges in Western NY was over the Creek and was not replaced until 1935. A local legend, William Sheppard "Old Shep", a Civil War veteran and one-time member of the Jesse James Gang, lived in a shack here on the banks of the creek. Shep, who traveled the area grinding knives passed away in 1933, at the age of about 103 years. Our Study area is of a large creek side flood plain bordered by a steep slope along Leydecker Rd. The plain area was under cultivation until the 1960's when NY State acquired the property. A 1930's photograph shows crops planted almost to the creek bank, but the slopes had big trees – still there now. What makes this survey so interesting is the rich variety of native wetland plants on the floodplain. Since the 1960's this farmland was apparently scoured by ice, shaped by floods and colonized by "invasive" native plants. One may speculate that the "invasion" mostly spread from less-disturbed areas upstream in Elma.

The small parking area on Leydecker Rd. and the path into the preserve is populated with the typical weedy flora of our region. The shoreline area along the creek takes on a very different look as the year goes by. In spring the creek is swollen with a forceful flow of water and blocks of ice. The creek may expand 50 feet or more onto the flat floodplain to a depth of over 2 feet, as indicated by trapped debris that high in shore- hugging willow shrubs observed later. The violent flow insures no woody plants develop here save some very flexible willow shrubs. Further inland is an expansive swamp forest. Through much of the early spring in there is a gradual flow of water a few centimeters deep seeping toward the creek, with scattered pools and drier mounds. The main trees are various willows, cottonwood, silver maple, boxelder and alder. There are vast expanses of fern, so thick that it is difficult to pass through later in the year. Springtime brings forth

interesting flora including *Floerkea proserpinacoides* – False Mermaid, *Cardamine pratensis* – Cuckoo Flower and *Cardamine concatenata* – Cut-leaf Toothwort. Throughout most of the preserve there is a great variety of sedges, grasses, mints, knotweeds, bedstraws and other water-loving plants.

Away from the creek as you approach Leydecker Rd. there is a narrow strip of land that becomes sharply sloping. Plants here are more typical of dry land and there are giant trees here that look like old growth. Species include red oak, white oak, shagbark hickory, bitternut hickory, black maple and basswood.

Not all is wonderful. Unfortunately, this slope along Leydecker Rd. has been used by some as a dumping spot for trash. Some sections along the slope are a mess. The rest of the park is quite litter-free. Visitors are mainly fishermen and occasional kids exploring the area, and they are not slobs. While things look nice in the spring, later in the year some parts of the floodplain develop into thickets of Japanese knotweed and Phragmites. I have seen several deer, but I do not think they have caused too much damage to the flora.

While there are some problems, the property is truly a gem. The abundance and diversity of plant life is impressive. The site is valuable from a historical, scenic, recreational and botanical standpoint. Recent efforts at protections are commendable. A list of the species observed at the site follows.

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*Floerkea proserpinacoides*

Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada & British Possessions*

<i>Acer negundo</i>	Boxelder	<i>Echinochloa crus-galli</i>	Barnyard Grass
<i>Acer nigrum</i>	Black Maple	<i>Echinochloa muricata</i>	Rough Barnyard Grass
<i>Acer platanoides</i>	Norway maple	<i>Echinocystis lobata</i>	Wild Cucumber
<i>Acer saccharinum</i>	Silver Maple	<i>Elymus virginicus</i>	Wild Rye
<i>Agrimonia gyroseopala</i>	Tall Hairy Agrimony	<i>Elytrigia repens</i>	Quack Grass
<i>Alisma subcordatum</i>	Water Plantain	<i>Epilobium glandulosum</i>	Northern Willow Herb
<i>Allium canadense</i>	Wild Garlic	<i>Epilobium hirsutum</i>	Hairy Willow Herb
<i>Allium tricoccum</i>	Wild Leek	<i>Equisetum arvense</i>	Field Horsetail
<i>Alnus glutinosa</i>	European Alder	<i>Equisetum palustre</i>	Marsh Horsetail
<i>Alnus incana</i>	Speckled Alder	<i>Erechtites hieracifolia</i>	Pilewort
<i>Amalanchier arborea</i>	Shadbush	<i>Erigeron annuus</i>	Daisy Fleabane
<i>Ambrosia artemisiifolia</i>	Ragweed	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane
<i>Angelica atropurpurea</i>	Purple Stem Angelica	<i>Erythronium americanum</i>	Yellow Troutlily
<i>Apios americana</i>	Groundnut	<i>Eupatorium maculatum</i>	Spotted Joe Pye Weed
<i>Apocynum androsaemifolium</i>	Spreading Dogbane	<i>Eupatorium perfoliatum</i>	White Boneset
		<i>Eupatorium rugosum</i>	White Snakeroot
<i>Apocynum cannabinum</i>	Indian Hemp	<i>Euthamia graminifolia</i>	Narrow Leaf Goldenrod
<i>Arctium lappa</i>	Great Burdock	<i>Fagus grandiflora</i>	American Beech
<i>Arisaema triphyllum</i>	Jack in the Pulpit	<i>Floerkea proserpinacoides</i>	False Mermaid
<i>Athyrium felix-femina</i>	Lady Fern	<i>Fragaria virginiana</i>	Wild Strawberry
<i>Barbarea verna</i>	Early Wintercress	<i>Fraxinus americana</i>	White Ash
<i>Berberis thunbergii</i>	Japanese Barberry	<i>Galium aparine</i>	Cleavers
<i>Bidens frondosa</i>	Beggar Ticks	<i>Galium boreale</i>	Northern Bedstraw
<i>Boehmeria cylindrica</i>	False Nettle	<i>Galium mollugo</i>	Wild Madder
<i>Brassica nigra</i>	Black Mustard	<i>Galium palustre</i>	Marsh Bedstraw
<i>Bromus ciliatus</i>	Fringed Brome Grass	<i>Geranium maculatum</i>	Spotted Geranium
<i>Calystegia sepium</i>	Hedge Bindweed	<i>Geum canadense</i>	White Avens
<i>Cardamine concatenata</i>	Cut-leaf Toothwort	<i>Glechoma hederacea</i>	Ground Ivy
<i>Cardamine pensylvanica</i>	Pennsylvania Bitter Cress	<i>Glyceria grandis</i>	Reed Meadow Grass
<i>Cardamine pratensis</i>	Cuckoo Flower	<i>Hammamelis virginiana</i>	Witch Hazel
<i>Carex crinata</i>	Sickle Sedge	<i>Helianthus decapetalus</i>	Thin Leaf Sunflower
<i>Carex lupulina</i>	Hop Sedge	<i>Heliopsis helianthoides</i>	False Sunflower
<i>Carex plantaginea</i>	Plantain-Leaved Sedge	<i>Hesperis matronalis</i>	Dame's Rocket
<i>Carya cordiformis</i>	Bitternut Hickory	<i>Hypericum perforatum</i>	Common St. John's Wort
<i>Carya ovata</i>	Shagbark Hickory	<i>Hypericum punctatum</i>	Spotted St John's Wort
<i>Catalpa speciosa</i>	Catalpa	<i>Impatiens capensis</i>	Jewelweed
<i>Caulophyllum thalictroides</i>	Blue Cohosh	<i>Iris pseudacorus</i>	Yellow Iris
<i>Centaurea nigra</i>	Black Knapweed	<i>Juglans nigra</i>	Black Walnut
<i>Cicuta maculata</i>	Water Hemlock	<i>Juncus effusus</i>	Softstem Bullrush
<i>Cirsium vulgare</i>	Bull Thistle	<i>Juncus tenuis</i>	Path Rush
<i>Cornus amomum</i>	Silky Dogwood	<i>Juncus torreyi</i>	Torrey's Rush
<i>Cornus sericea</i>	Red Osier Dogwood	<i>Lapsana communis</i>	Nipplewort
<i>Coronilla varia</i>	Crown Vetch	<i>Lathyrus latifolius</i>	Everlasting Pea
<i>Dactylis glomerata</i>	Orchard Grass	<i>Lemna minor</i>	Lesser Duckweed
<i>Daucus carota</i>	Queen Anne's Lace	<i>Linaria vulgaris</i>	Butter and Eggs
<i>Desmodium sp.</i>	Tick Trefoil sp.	<i>Liriodendron tulipifera</i>	Tulip Tree
<i>Digitaria ischaemum</i>	Small Crabgrass	<i>Lobelia siphilitica</i>	Great Lobelia
<i>Dipsacus fullonum</i>	Common Teasel	<i>Lotus corniculata</i>	Birdfoot Trefoil
<i>Dryopteris intermedia</i>	Common Wood Fern	<i>Lonicera morowii</i>	Morrow's Honeysuckle
<i>Dulichium arundinaceum</i>	Three-way Sedge	<i>Lonicera tatarica</i>	Tartanian Honeysuckle

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<i>Lycopus asper</i>	Western Water Horehound	<i>Ranunculus repens</i>	Creeping Buttercup
<i>Lythrum salicaria</i>	Purple Loosestrife	<i>Rhus hirta</i>	Staghorn Sumac
<i>Lyssimachia ciliata</i>	Fringed Loosestrife	<i>Rubus hispidus</i>	Swamp Dewberry
<i>Lyssimachia nummularia</i>	Moneywort	<i>Rubus occidentalis</i>	Black Raspberry
<i>Lyssimachia vulgaris</i>	Garden Loosestrife	<i>Rubus odoratus</i>	Purple Flower Raspberry
<i>Matteuccia struthiopteris</i>	Ostrich Fern	<i>Rudbeckia hirta</i>	Black-Eyed Susan
<i>Melilotus alba</i>	White Sweet Clover	<i>Rumex crispus</i>	Curled Dock
<i>Melilotus officinalis</i>	Yellow Sweet Clover	<i>Rumex obtusifolius</i>	Broad Leaf Dock
<i>Mentha arvensis</i>	Wild Mint	<i>Salix alba</i>	White Willow
<i>Mentha x piperita</i>	Peppermint	<i>Salix eriocephala</i>	Stiff Willow
<i>Mentha spicata</i>	Spearmint	<i>Salix x fragilis</i>	Crack Willow
<i>Mertensia virginica</i>	Virginia Bluebells	<i>Salix interior</i>	Sandbar Willow
<i>Monarda fistulosa</i>	Wild Bergamot	<i>Salix x sepulcralis</i>	Weeping Willow
<i>Onoclea sensibilis</i>	Sensitive Fern	<i>Sanicula canadensis</i>	Short Styled Snakeroot
<i>Panicum capillare</i>	Witchgrass	<i>Scirpus cyperinus</i>	Wool Grass
<i>Panicum clandestinum</i>	Deer Tongue Grass	<i>Setaria pumila</i>	Pigeon Grass
<i>Panicum dichotomiflorum</i>	Fall Panic Grass	<i>Setaria viridis</i>	Green Foxtail Grass
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	<i>Sisyrinchium montanum</i>	Blue Eyed Grass
		<i>Solidago altissima</i>	Late Goldenrod
<i>Pastanica sativa</i>	Wild Parsnip	<i>Solidago canadensis</i>	Canada Goldenrod
<i>Phalaris arundinacea</i>	Reed Canary Grass	<i>Sonchus oleraceus</i>	Sow Thistle
<i>Phleum pratense</i>	Timothy Grass	<i>Spurgularia rubra</i>	Common Sandspurry
<i>Phragmites australis</i>	Common Reed	<i>Symphotrichum lateriflorus</i>	Calico Aster
<i>Pilea pumila</i>	Clearweed	<i>Symphotrichum novae-anglae</i>	New England Aster
<i>Pinus strobus</i>	White Pine	<i>Taraxicum officinale</i>	Dandelion
<i>Pinus sylvestris</i>	Scotch Pine	<i>Teucrium canadense</i>	Wild Germander
<i>Plantago lanceolata</i>	English Plantain	<i>Thelypteris noveboracensis</i>	New York Fern
<i>Plantago major</i>	Common Plantain	<i>Tilia americana</i>	American Basswood
<i>Plantago rugelii</i>	Rugel's Plantain	<i>Trifolium pratense</i>	Red Clover
<i>Poa compressa</i>	Canada Bluegrass	<i>Trifolium repens</i>	Lawn Clover
<i>Poa palustris</i>	Fowl Meadow Grass	<i>Tussilago farfara</i>	Coltsfoot
<i>Poa pratensis</i>	Kentucky Bluegrass	<i>Typha latifolia</i>	Broad Cattail
<i>Polygonum cuspidatum</i>	Japanese Knotweed	<i>Ulmus rubra</i>	Slippery Elm
<i>Polygonum hydropiperoides</i>	Water Pepper	<i>Valeriana officinalis</i>	Garden Valerian
<i>Polygonum lapathifolium</i>	Dock-Leaved Smartweed	<i>Verbascum blattaria</i>	Moth Mullein
<i>Polygonum pensylvanicum</i>	Pink Smartweed	<i>Verbena hastata</i>	Blue Vervain
<i>Polygonum punctatum</i>	Dotted Smartweed	<i>Verbena utricifolia</i>	White Vervain
<i>Polygonum virginianum</i>	Virginia Knotweed	<i>Vinca minor</i>	Periwinkle
<i>Populus deltoides</i>	Cottonwood	<i>Vitis riparia</i>	Frost Grape
<i>Populus tremuloides</i>	Quaking Aspen	<i>Veronica officinalis</i>	Common Speedwell
<i>Potentilla simplex</i>	Common Cinquefoil	<i>Veronica peregrina</i>	Purslane Speedwell
<i>Prunus serotina</i>	Black Cherry	<i>Veronica persica</i>	Persian Speedwell
<i>Quercus alba</i>	White Oak	<i>Viola sororia</i>	Woolly Blue Violet
<i>Quercus rubra</i>	Red Oak	<i>Xanthium strumarium</i>	Cocklebur
<i>Ranunculus acris</i>	Tall Buttercup	<i>Zizia aurea</i>	Golden Alexanders
<i>Ranunculus ficaria</i>	Lesser Celandine		

*World of the Wild*

**An Attractive Way of Life for Little Insects - Leaf Mining**  
**Allen Benton**

No doubt you have heard the phrase “nature abhors a vacuum.” In ecological terms this means that if there is any niche available, however tiny it may be, which can support some form of life, there will be some organism which will take advantage of it.

One of the extreme examples of this tendency to exploit tiny and unusual niches is the case of the leaf miners. All of these insects are of necessity small, because their whole pre-adult life is spent between the upper and lower epidermis of a leaf. Leaf miners occur in four insect orders. Most of them are flies, but there are also beetles, moths and wasps, which have adopted this particular way of life. The adult insect lays an egg, either on the outside of the leaf or under its epidermis. When the egg hatches, the tiny larva begins to eat its way through the tissues inside the leaf – the only substance it will have until it reaches adulthood.

The most striking form of mine is the linear mine, which occurs when the larva follows a wandering course through the leaf’s interior. As the larva grows, its mine grows wider and the insect’s life history can be traced in the trail it leaves. When it molts, its cast is left in the mine behind it, and when it finally reaches the last stage it usually spins its pupal case and pupates at the end of the tunnel. Some species pursue a different course, chewing a hole through the epidermis and dropping to the ground to pupate.

Less striking are the so-called blotch mines. Instead of chewing its way through the leaf in a linear fashion, the larva eats out a square or oval or hand-shaped hollow, gradually enlarging the hollowed area as it grows.

Leaf mining sounds like an ideal way of life for a tiny insect. Throughout its larval life it is surrounded by food, and to some degree it is protected from parasites and predators. One major problem, however is household sanitation. Even tiny insects produce of waste. Some store it around the edges of the mine, out of the way. Some leave the mine when it gets messy and start life anew in another leaf, of which there are many nearby. A few, making the best of a bad business, roll up the waste and incorporate it into the pupal case.

A few leaf miners are of some economic importance, attacking garden plants or flowers. Nasturtiums and columbines are among the leaves often disfigured by mines. If enough insects attack a single plant, they may do serious damage, but most often the damage lies in the unpleasant appearance of mined leaves. Elms, oaks, poplars and birches are among the leaves frequently attacked by leaf miners. Spinach, Swiss chard and beets, with their large succulent leaves are frequent targets, and on some occasions the insects may be abundant enough to threaten the crop. No one wants to eat greens with insect larvae inside them, or even worse, insect waste.

The adult insect which emerges from the pupa may overwinter in that stage or may lay eggs to start a new generation. In some leaves which remain green in winter, such as mountain laurel, the larva may hibernate in the leaf and resume feeding in the spring. Other species overwinter in the pupal stage.

On the credit side, some leaf miners attack weeds and may be abundant enough to actually control them. Broad leaf plantain, a common lawn weed, is very often mined by a beetle larva. Pigweed and dock are attacked by flies closely related to those that eat beets and spinach. On the whole, leaf mining is an interesting and unusual way of life, but one which has little impact on human affairs except in occasional cases.



Leafmines caused by solitary oak leaf miner, *Cameraria hamadryadella*

Source: University of Minnesota Extension

Field Trip to Spencer Gorge - May 7, 2011  
Joanne Schlegel

Mother Nature definitely threw us a curve ball in 2011. Spring arrived cold and wet and two weeks late. The first NFBS field trip, scheduled for April 30 at Wendt Park near Angola, had to be canceled for lack of spring flora. The second field trip, scheduled for May 7 at Turkey Point Provincial Park, was also canceled because the bird's-foot violets were not yet in bloom.

At that point several NFBS members were champing at the proverbial bit, and so an alternate (inland) destination was chosen for May 7. New member Albert Garofalo suggested Spencer Gorge as a worthy destination, and so on that day 9 participants, led by Albert, set off for this conservation area west of Dundas, Ontario.

On arrival, one of our first pleasures was viewing the first of Spencer Gorge's famous waterfalls, Tews Falls, which drops 135 feet. Albert then led us toward Dundas Peak on a trail rimming the gorge. Along this trail we admired a large number of immense trees, especially cedars, red oaks, and hophornbeams. We were delighted to find a large number of round-lobed hepaticas, which are extremely uncommon on our side of the border. Also appreciated on this morning walk were wood anemones, spring saxifrages, running strawberry bushes, louseworts, rue anemones, and large-flowered bellworts. Most special of all was finding yellow pimpernel (*Taenidia integerrima*), a tiny member of the Parsley Family new to this writer.

We arrived at Dundas Peak at noon, just in time to eat lunch at the edge of a cliff with a 200-foot vertical dropoff. We admired the views of Dundas and Hamilton far below, then retraced our steps. Our afternoon walk took us past the park's second famous waterfall, Webster's Falls which is a tiered falls. We descended to the base of the gorge and followed a trail along a creek. This was a much wetter habitat than the morning's dry stony soil, and contained many different plants. Highlight of the afternoon was probably the discovery of several hundred walking ferns. Other delights included rosybells, dutchman's breeches, foamflower, red trillium, Canada yew, and bulblet fern.

Thanks, Albert, for a great day!

**Flora – rim trail**

<i>Amelanchier arborea</i>	Downy Serviceberry	<i>Botrychium virginianum</i>	Walking Fern
<i>Amelanchier sp (sanguinea?)</i>		<i>Cardamine diphylla</i>	Two-leaved Toothwort
<i>Anemone quinquefolia</i>	Wood Anemone	<i>Carex eburnea</i>	Bristle-leaved Sedge
<i>Betula papyrifera</i>	Paper Birch	<i>Carex plantaginea</i>	Plantain-leaved Sedge
<i>Carex communis</i>	Fibrous-rooted Sedge	<i>Caulophyllum thalictroides</i>	Blue Cohosh
<i>Carex pensylvanica</i>	Pennsylvania Sedge	<i>Cystopteris bulbifera</i>	Bulblet Fern
<i>Comandra umbellata</i>	Bastard Toadflax	<i>Dicentra canadensis</i>	Squirrel Corn
<i>Euonymus obovatus</i>	Running Strawberry Bush	<i>Dicentra cucullaria</i>	Dutchman's Breeches
<i>Hepatica nobilis v. obtusa</i>	Round-lobed Hepatica	<i>Dryopteris marginalis</i>	Marginal Wood Fern
<i>Pedicularis canadensis</i>	Common Lousewort	<i>Erythronium americanum</i>	Yellow Trout Lily
<i>Quercus rubra</i>	Northern Red Oak	<i>Hepatica nobilis v. acuta</i>	Sharp-lobed Hepatica
<i>Sanguinaria canadensis</i>	Bloodroot	<i>Hydrophyllum virginianum</i>	Virginia Waterleaf
<i>Saxifraga virginensis</i>	Spring Saxifrage	<i>Polypodium virginianum</i>	Common Polypody
<i>Taenidia integerrima</i>	Yellow Pimpernel	<i>Ranunculus abortivus</i>	Kidney-leaf Buttercup
<i>Thalictrum thalictroides</i>	Rue Anemome	<i>Sambucus racemosa</i>	Red Elderberry
<i>Thuja occidentalis</i>	Northern White Cedar	<i>Streptopus roseus</i>	Rosybells
<i>Uvularia grandiflora</i>	Large-flowered Bellwort	<i>Taxus canadensis</i>	Canada Yew
<i>Waldsteinia fragarioides</i>	Barren Strawberry	<i>Tiarella cordifolia</i>	Foamflower
		<i>Trillium erectum</i>	Red Trillium
		<i>Trillium grandiflorum</i>	Large White Trillium

**Flora – bottom of gorge**

<i>Actaea pachypoda</i>	White Baneberry	<i>Uvularia perfoliata</i>	Perfoliate Bellflower
<i>Aquilegia canadensis</i>	Wild Columbine	<i>Viola canadensis</i>	Canada Violet
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	<i>Viola conspersa</i>	Dog Violet
<i>Asarum canadense</i>	Wild Ginger	<i>Viola pallens</i>	Northern White Violet
<i>Asplenium rhizophyllum</i>	Walking Fern	<i>Viola pubescens</i>	Downy Yellow Violet
		<i>Viola rostrata</i>	Longspur violet

**Field Trip Report - January 1, 2012**

Joanne Schlegel

Four NFBS members gathered on Goat Island on January 1, 2012 for the annual New Year's Day walk. The weather was an unseasonable 45°, but high winds and the threat of rain possibly discouraged other potential hikers.

Given the wind, Helga Emmert suggested an alternative course of action, namely following a trail down into the Niagara Gorge beginning near the old Schoellkopf Museum. Excellent idea! Once down into the gorge the wind disappeared and a lovely walk was enjoyed by all.

Along the way, two unusual blackberry species were spotted. The first, Cutleaf Blackberry or *Rubus laciniatus*, is a non-native species with attractive dissected leaves which occasionally appears in WNY. The second was tentatively identified as Himalayan Blackberry or *Rubus bifrons*, also an alien. It has leaves conspicuously whitened underneath and large pink flowers in the spring. A large grove of Hackberry trees (*Celtis occidentalis*) was also noticed near the rim. But the best was saved for last, when Herman Emmert pointed out a pair of Purple Cliffbrakes (*Pellaea atropurpurea*) as we were heading toward our cars.

*Pellaea atropurpurea*



**Seaside Goldenrod (*Solidago sempervirens* L. var. *sempervirens*)  
in Buffalo and Niagara Falls, New York:  
Part II.**

**Eckel, P. M., J. Schlegel and M. Siuta**

It is nice to read that there were nearly a hundred species in the genus *Solidago*, whose occurrence is “native chiefly to North America, a few species extending into South America, and one or several into Eurasia; reaching its greatest complexity in eastern U.S.” (Gleason 1974). The same statement applies to the old, unified genus *Aster*, and to some extent *Viburnum* in the Caprifoliaceae, and *Crataegus* in the Rosaceae - abundant reason to rejoice to live in this part of the world, the nursery of such richness in the variety of beautiful flowering things.

Nature waits for September to bring out golden carpets of Goldenrods, and October the rich purples and white of Asters, making the old fields at those times glorious when members of the two genera flower together - and western New York is not behind on the possession of this beauty for all the glories of New England, with their autumn trees in their russet displays.

So it is with some satisfaction to be able to report yet another type of Goldenrod that has relatively recently become established in the Buffalo-Niagara area, and that is *Solidago sempervirens*, the Sea-side Goldenrod.

The first specimen-record we found of the species in the flora was made by Bob Klips on Oct. 17, 1981 as part of the assemblage of rare species he found along Fuhrman Blvd (NY: Erie Co., City of Buffalo: “roadside area adjacent to NFTA Small Boat Harbor ... across from entrance ramp to Rte. 5” BUF). Two publications in the Newsletter of the NFBS by Klips and R. Zander listed additions to the Niagara Frontier flora in alphabetical order, ending with *Liatris spicata* with a note “to be continued”, but no subsequent article where Klips and Zander may have cited *Solidago sempervirens* could be found.

The next report of this species appears to have been by C. W. Lamere (1991) for Niagara County. It was found near a “10-inch sodium chloride pipe line” near a power line cut, which may have been related to the brine pipeline associated with the old Hooker Chemical Plant, now Occidental Petroleum, near Buffalo Avenue in SW Niagara Falls City. There he “counted 22 clumps and six individual stems, indicating that the species was doing pretty well there.” A specimen at BUF collected by Lamere on Oct. 3, 1997 was from Niagara Falls “near jct. I190 and US 62” S of Pine Avenue on Builder’s Way, “on grassy, weedy steep slope of I190; about 400 plants.” A specimen was collected in 2004 across the road from Lamere’s, in “abundance” (Eckel & Zander BUF).

*Solidago sempervirens* has two varieties, var. *sempervirens* L., and var. *mexicana*(L.) Fern. (key after Lamont 1994):

- 1. Robust plants; lower leaves broad, 2-7 cm wide; heads large, involucre 4-7 mm high, ray flowers 12-17 per head, 17-22 disk flowers per head ..... - var. *sempervirens*
- 1. Slender plants; lower leaves narrower, 1-3 cm wide; heads smaller, involucre 3-4(-5) mm high, ray flowers 7-11 per head, 10-16 disk flowers per head..... - var. *mexicana*

Both varieties enjoy habitats present along the Atlantic coast that are predominantly saline, or brackish and are spreading inland along highways that are burdened with salt in winter.

In 1994, Eric Lamont wrote a more extensive treatment of the history of the variety *mexicana*, which is rare in New York State and occurs only near the east coast. That variety has a southern distribution, occurring “from Florida to eastern Texas and Mexico, north to Delaware and locally to southern New York and southeastern Massachusetts” (Lamont 1994; both key and distribution after Gleason & Cronquist 1991).

The var. *sempervirens* has a northern distribution, growing from the Gulf of St. Lawrence to New Jersey and locally to Virginia (Lamont 1994). It is fleshy and generally completely smooth, its leaf margins entire

House (1924) reported the species, without varieties, as restricted to “sea beaches and along tidal streams near the coast of southeastern New York” where it was “common.” The species has since spread westward to Michigan, where it was first



reported in [1980] by A. Reznicek (Michigan Botanist 19:26) (Voss 1996) “spreading along expressways (saline habitat) and on fly ash deposits.” It is still not common in New York State, with stations reported today by the New York State Flora Association mid-state (Oswego, Onondaga} and in the southeast (Bronx and Suffolk). A station is noted for Erie County but not for Niagara, even though Lamere reported it in the NYFA Newsletter.

In the Regional Municipality of Niagara, Ontario, in 2006 the Seaside Goldenrod was found at Niagara by Oldham (#33951 WAT) an introduction and “rare roadside halophytic weed from Hwy. 405,” and now occurs in the Region from 6-20 sites (Oldham 2010). In the USDA Plants Database (for Feb. 2012) the distribution of the variety *sempervirens* has been extended west to Illinois and Ohio, south to Pennsylvania and Virginia and throughout New England (except Vermont) - but probably rare everywhere and probably only (or mostly) associated with salted highways.

Reznicek (1980), when reporting on the occurrence of this Goldenrod at one station in Michigan, noted that the flora of that road was rapidly undergoing change perhaps from the accumulated salting over years, from when the road was first constructed. New species associations noted by Reznicek, also are occurring in roadside habitats in western New York, with such species as *Puccinellia distans*, *Hordeum jubatum*, *Phragmites australis*, *Polygonum aviculare*, *Kochia scoparia*, *Atriplex* spp., *Setaria faberi*, *Spergularia* spp., *Suaeda calceoliformis*. The author noted the origins of many taxa coming from Europe and both eastern and western USA.

Several years ago there was an article published in a newspaper in Syracuse regarding the interesting issue of inland salt marshes west of Syracuse, in the Montezuma swamp area. According to the article “Inland salt marshes are among the rarest plant communities in the eastern United States, unlike the common, tidal salt marshes of the mid- Atlantic region.” The article focused on the rediscovery of *Solidago sempervirens* along highways in the Syracuse area. An interesting book to consult in this respect would be by Goodrich, L. L. H. (1912), not available for the present article.

*Solidago sempervirens* was described in the Syracuse newspaper as “once abundant,” presumably in the Syracuse area. The purpose of the first part of the present two part article, was to demonstrate the geological possibility of native and natural saline habitats and associated species throughout a broad area in the Great Lakes region, including New York State.

Reznicek (1980) noted early disjunct reports in Michigan for halophytes from salt marsh communities along the East Coast occurring in “saline areas on the outskirts of Detroit.” He assessed the possibility that certain halophytes in Michigan may be native, and that these may have found convenient habitats around brine wells near a pre-existing salt spring.

It is most likely, from assessment of increasingly numerous reports of halophyte species and associations, that these reports (in Michigan and southwestern Ontario and New York) describe recent introductions, previously unreported. That early reports of salt species were associated with disturbance: the early major salt industries of Michigan and New York (1980), their factories and storage units may have produced the saline habitats, rather than aboriginal salt substrates. Reznicek speculates from analysis of species and their native centers of origin, that all inland saline species are introductions, probably deriving from disturbance regimes associated with early and later salt industries. Native halophytes located in, e.g., the Syracuse area in 1912 (Goodrich, 1912) may actually be artifacts of nearly a century old salt industry in that area.

In October, 2008, two of us (J. Schlegel and M. Siuta) made a detailed assessment of populations of *Solidago sempervirens* in a circle around Buffalo on the Interstate beltway. This data provides a basis for future comparisons with Interstate populations in subsequent years. The most common species association was *Phragmites australis*, a species closely associated with the ditches, seeps and low areas near highways. The plants occasionally formed dense monocultures, but usually at this point in their introduction into highway habitats, they grew mixed with other species, such as *Ambrosia artemisiifolia*, *Aster novae-angliae*, *Brassica nigra*, *Cirsium arvense*, *C. vulgare*, *Coronilla varia*, *Dipsacus fullonum*, *Linaria vulgaris*, *Lotus corniculatus*, *Lythrum salicaria*, *Hordeum jubatum*, *Kochia scoparia*, *Linaria vulgaris*, *Rhamnus cathartica*, *Sonchus* spp. - many of which are familiar weedy species of low, wet to damp areas in addition to an affinity for salt and other roadside chemicals. Many of these and other species are also associated with the extensive road-building and alteration of road margins associated with a federal program for rebuilding American highway infrastructure - particularly in their procedure for relandscaping roadside margins after mass soil transport and deposition.

Wet ditches seemed to be the habitat of choice for *S. sempervirens* and species composition varied with association with changing habitats along the Interstate. Nearly everywhere there were hundreds of plants. Mowing seemed to be an important means of controlling populations. The species appears to not tolerate shade.

One interesting observation was that the species had not established itself anywhere throughout the length of Route 33, from downtown Buffalo out to the Airport. This may suggest a difference in salting policy between the federal DOT that maintains the Interstate, and State and local DOT administrations. A comparison of their salting volumes and regimes and the load of salt already in place between the two highways would be instructive. M. Siuta also observed large populations (over 1,000 plants) in areas somewhat distant from the major roads, along Ohio Street and near a shopping area in West Seneca, indicating further study of populations radiating from the roads would be instructive.

In years subsequent to 2008, it was interesting to observe populations of the Seaside Goldenrod varying in area, especially when confronted with other aggressive *Solidago* species, particularly the native *Solidago altissima*, whose aggressive, clonal populations encircle the globe and fill huge areas in, for example, Europe and China.

The Interstate beltway (I 90, I 190 and I 290) around the City of Buffalo north to Niagara Falls forms a provocative and new giant habitat for the detection, analysis, interaction and impact of rapidly expanding new species populations associated with human travel patterns, changing chemical substrates and patterns of systematic human disturbance.

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**Specimens at BUF: USA, New York:**

Erie Co., City of Buffalo, gravelly embankment, I 190 just S of the S. Grand Island bridge, site destroyed by populations throughout the neighborhood, P. M. Eckel with R. H. Zander Oct. 6, 1997;

Twn. Amherst, border with Cheektowaga Twp., Wherle Drive just E of I 90, W of Forest Rd. One plant, roadside, J. Schlegel Sept. 30, 1998;

Twn. Cheektowaga on I 90 dense and extensive stands along steep, unmown embankment 1/4 mile S of exit 52E (Walden Ave East), P. M. Eckel with R. H. Zander, Oct. 8, 2001;

Twn. Cheektowaga, along exit rd from Rt. 90 at William St. Exit. Parallel to Rt. 90 on the N side of William St. on dry, sloped area, grass mostly uncut, with *Phragmites australis*, *Dipsacus fullonum*, *Ambrosia artemisiifolia*, *Conyza canadensis*, *Bassia scoparia*. M. Siuta Sept. 29, 2008.

Twn. Tonawanda, *Quercus palustris*-*Cephalanthus* woods with vernal pools, along Two-mile Creek Rd. near jct. with Sheridan Drive, about 2 miles from Niagara River, roadside, P. M. Eckel, Sept. 10, 1999;

Twn. Tonawanda. Kenmore Ave, N of exit ramp from Rt. I 90., flat roadside, by ditch, with *Aster novae-angliae*, *Ambrosia artemisiifolia*, *Daucus carota*, *Sonchus oleraceus*. M. Siuta. Oct. 2, 2008.

Twn. Tonawanda, Grand Island Blvd. below Rt. 90 overpass, in gravel below viaduct, near dipline from overhead road, plants immature, no plant mixture. M. Siuta Oct. 2, 2008.

Niagara Co. City of Niagara Falls, near jct. I 190 and US 62, 0.18 mi. S of Pine Ave on Builders Way, grassy, weedy, steep slope, ca. 400 plants. Clifford W. Lamere Oct. 3, 1997;

City of Niagara Falls, margin of I 90, east side going north, before Exit 22 and Niagara Falls Blvd (Pine Ave.) above ditches, with *Phragmites communis*, *Aster novae-angliae*, *A. pilosus*, abundant, P. M. Eckel with R. Zander Sept. 22, 2004.



*Solidago sempervirens*

Photo by Jennifer L. Dietl, Robert W. Freckmann Herbarium, Univ. of Wisconsin – Stevens Point

*On This and That*

**News about the Clinton Herbarium**

The Buffalo Museum of Science is planning to consolidate the science and research departments on the fourth floor. As part of these changes the Clinton Herbarium is also moving from the 3<sup>rd</sup> to 4<sup>th</sup> floor. New compacting file cabinets will be installed and the entire plant collection will be moved (carefully) to the new location.

**Counterfeiters Ledge Report**

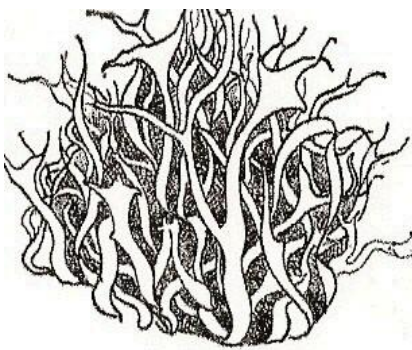
NFBS members Laurie Baldwin, Jim Rauch, and Joanne Schlegel continued to volunteer their time at the Nature Conservancy's Counterfeiters Ledge Preserve in 2011. In addition to spending many hours pulling garlic mustard, swallowwort, and mugwort, they continued to compile plant and bird lists for the property. 53 new plant species were added to the list in 2011, including Slenderleaf False Foxglove (*Agalinis tenuifolia*), Spring Saxifrage (*Saxifraga virginensis*), and Ebony Spleenwort (*Asplenium platyneuron*). Two healthy Butternut trees were also found.

The bird list currently stands at 61 species. New additions this year included Broadwinged Hawk, Great Crested Flycatcher, Bluebird, Warbling Vireo, Ovenbird, Redstart, Indigo Bunting, Brown Thrasher, and 9 species of warblers.

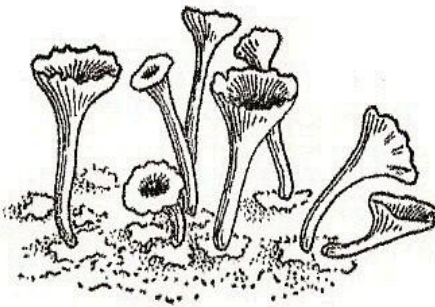
**Spring Native Plant Sale**

Once again the NFBS will be having our famous native plant sale. It is on Saturday, May 19<sup>th</sup> from 9:30 AM to 1:00PM in the Harlem Road Community Center, 4255 Harlem Rd.. Members are asked to donate any spare native plants they may have. If possible drop off your plants between 8:30 and 9:30 AM at the community center on the day of the sale. Or, if need be, several days prior to the plant sale at the residence of the treasurer, Hermann Emmert, 182 Fairvale Dr, Cheektowaga, NY (phone 634-4741). Please remember to remove the price tags on your old pots, to prevent any confusion.

**Lichens**



Physcia  
leucomela



Pyxie-cup Cladonia



Scarlet-crested  
Cladonia  
British Soldiers

GENERAL MEETINGS

General meetings are held on the second week of each month, September--May, at the Harlem Road Community Center, 4255 Main St, one block south of Main St. in Snyder (except April meeting.) All General Meetings are open to the public and free of charge.

**Tuesday, March 13, 2012, 7:30 P.M., Kerrie Gallo**, Environmental Planner for Buffalo Niagara Riverkeeper, will speak. Topic: An Active River-based Strategy for Conserving Habitat in the Niagara River Watershed.

**Tuesday, April 10, 2012, dinner meeting. Speaker will be Doug Bassett**, who has been Park Naturalist at Letchworth State Park for 30 years. Topic: "The Nature of Letchworth" Dinner and talk will be at the Sonoma Grill, 5010 Main St, Snyder. Please reserve your place early. See enclosed flier for details.

**Tuesday, May 8, 2012, 7:30 P.M. Dr. Mary Bisson**, Professor of Biology at SUNY-Buffero. Dr. Bisson will present a program on The Charophytes or stoneworts. Stoneworts are an interesting group of algae including the genus *Chara*, which is abundant in our local bodies of fresh water.

FIELD TRIPS

**Our warm winter weather has made it difficult to predict the arrival of spring flora. Dates listed below may be adjusted accordingly. Check the may Issue of Clintonia for possible changes. Also, if you plan to go on a trip, please contact the trip leader well ahead of time and leave your name and Phone number. Guests are also welcome.**

**Saturday, April 28, 2012 (April 21?): Heartland Nature Center**, a 100-acre private preserve on the outskirts of Niagara Falls, Ontario, which features areas of mature Carolinian forest, wetlands with boardwalk, and vernal pools. Meet at 9:00 A.M. under the Boulevard Mall sign on Niagara Falls Blvd. Bring passport & lunch. Leader: Joanne Schlegel, 835-6042.

**Saturday, May 21, 2012: Turkey Point Provincial Park** (near Long Point Ontario). Meet at 8:30 AM at Front Park adjacent to the Peace Bridge. Bring passport and lunch. This will be a trip to see rare Bird's-foot Violets in bloom. This date will be adjusted if the violets decide to bloom early. Leader: Joanne Schlegel, 835-6042.

**Saturday, May 26, 2012: Harriet Hollister Spencer State Recreation Area**, on west slope of Honeoye Lake. This will be a return trip to a place we raved about when we visited in October 2010. Meet at 8:30 A.M. in East Aurora at the parking lot that is behind the movie theatre on Main St. Bring lunch. Group leader: Michael Siuta, 822-2544.

**Upcoming NFBS Field Trip to Syracuse Saturday-Sunday, July 21-22, 2012**

This year our extended field trip will take us to the Syracuse area, where we will spend a weekend botanizing under the expert guidance of Dr. Donald Leopold. Dr. Leopold is Distinguished Teaching Professor and Chair of the Department of Environmental and Forest Biology at Syracuse University. We have agreed to rely on his knowledge of the area and go wherever he wants to take us.

Dr. Leopold has suggested three possible destinations. The first is Jam Pond, a kettle-hole quaking bog in Chenango County. The second is Nelson Swamp Unique Area, a site in which Chittenango Creek wanders through deciduous forest, white cedar swamp, and wet meadows. This site has recorded over 400 species of vascular plants including many orchids, and 105 species of breeding birds. Access to wet portions is provided by a raised, abandoned railroad line.

The third suggested site is 377-acre Clark Reservation State Park, which features a gorge with towering limestone cliffs plus a number of secondary ravines. It is home to 25 species of ferns, including 90% of the nation's Hart's-tongue fern population.

Dr. Leopold expects our first day (Saturday) to be a very full one, so it is recommended that NFBS members drive to Syracuse late Friday afternoon. The second day will be somewhat shorter. Members can either drive home that evening or opt to stay an extra night and return home the following morning.

Any questions? Call Joanne Schlegel, 835-6042. Also, if you have any good ideas regarding motels in the Syracuse area, please let her know. Hope to see you all there!

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Niagara Frontier Botanical Society  
Buffalo Museum of Science  
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Buffalo, N.Y. 14211

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*Conium maculatum*