



Native Plant to Know

Woodland Sedges for Eastern North America

by *Trish Murphy*

I have discovered the perfect plant.

Now, there may be those who consider the pinnacle of plant achievement to be immense, fragrant, gorgeously coloured flowers in bloom for months at a time, but I think differently. In my opinion, the most desirable plant in the world is a low-growing grassy thing that forms an evergreen, glossily good-



Carex pensylvanica

PHOTOGRAPH COURTESY TYLER SMITH

looking lawn in the shade of canopy trees and never needs mowing or fertilizing and seldom needs watering. Acolytes of lawn-worship take note: such a plant exists and its name is *Carex pedunculata*. It is one of the tribe of evergreen woodland sedges native to the forests of eastern North America, and it is the perfect garden alternative to turfgrass.

Sedges are those grass-like plants that aren't grasses, and there are a lot of them. The folks who get familiar with them are mostly field botanists of an especially rarefied form known as "sedgeheads." Ordinary gardeners, alas, remain rather daunted by the subtlety of the distinctions between sedge species. Many sedges are inhabitants of wetlands and their value is well known to wetland restorationists. There is also, however, an array of smallish, evergreen, shade-loving forest species, and they are much too good for gardeners to ignore.

I started thinking about woodland sedges when I was looking for an evergreen native plant to replace the Eurasian groundcover on the north side of my house (in Toronto) in an area of the front garden shaded by the neighbours' big silver maple. Garden centres offered bearberry and wintergreen, two wildly impractical choices for near-neutral clayey till and urban summer heat. Fortunately I knew better than to look to garden centres for lessons on native plants and looked to the woods



Carex pedunculata

PHOTOGRAPH COURTESY TYLER SMITH

instead. I remembered in the winter seeing a patch of a jauntily green fine-textured sedge in my own woodlot, a sugar bush on clay soil in southwestern Ontario, so I went back and carefully collected two small divisions of this species.

My sedge is about 12 cm (5 inches) tall, in neat dense clumps, and very reliably evergreen. It blooms early in the year on stalks that do not extend much beyond the leaves. The bases of the leaves are a rich red-brown and the leaves themselves are dark green, 3 mm ($\frac{1}{8}$ inch) wide, with a leathery sheen. I brought my nameless wonder to a sedge identification workshop at the Royal Botanical Gardens in Burlington, Ontario, and asked the workshop leader, Tyler Smith, for help.

"Ah," he said, smiling beatifically, "that is *Carex pedunculata*."

He then obligingly tried to explain to me the way in which it is more pedunculate than other

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THE BLAZING STAR IS...

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NANPS News

The NANPS annual general meeting, held on October 13, 2001, at the Civic Garden Centre in Toronto, Ontario, was a resounding success. Along with the business portion of the meeting, there was a native plant sale, featuring many donations from members' gardens, and a slide presentation by Philip Fry, who is restoring his large property near Ottawa, Ontario.

Many thanks to all those NANPS members who contributed to the AGM.

The following members were elected to the

NANPS Board of Directors: Sarah Augustine, Douglas Counter, Catherine Crockett, Grif Cunningham, Deborah Dale, Scott Guthrie, Lorraine Johnson, Bill Kilburn, Suzanne Lew, Daisy Moore, Trish Murphy, Jackie Ramo, Erika Thimm, Cora Thomson and Richard Woolger.

Many thanks to those Board members who retired from the NANPS Board at the AGM: Jim French, Cathy Hayes, Donna McGlone and John McGlone.

A Tribute to Jim French



Members of the NANPS Board presenting Jim French (centre), our "rock-solid leader," with a retirement rock.

PHOTOGRAPH COURTESY ERIKA THIMM

At the NANPS AGM, special tribute was paid to Jim French, who retired from the Board this year after close to two decades of leadership. It was Jim French who, in 1984, called a meeting of wildflower enthusiasts and announced the formation of the Canadian Wildflower Society (which later changed its name to the North American Native Plant Society).

He has served on the Board ever since, for many years in the role of President and always in the role of guiding visionary. NANPS has benefitted enormously from his leadership, and we wish him the best as he tends his Wildflower Preserve at Stony Lake and enjoys his well-deserved retirement.

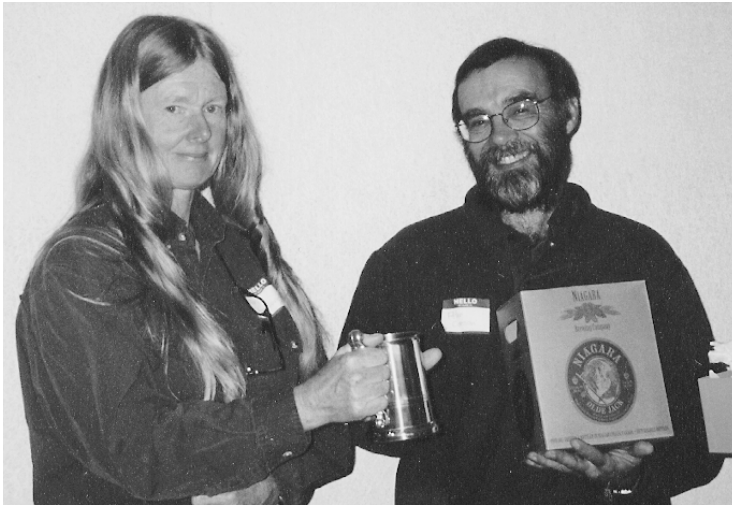
NANPS Seed Exchange

The list of seeds available in the NANPS Seed Exchange will be published in the Winter 2002 issue of *The Blazing Star* (released in February). It's not too late to contribute seeds! We're looking for native species to share with members – even the most common species are appreciated. Please collect seeds and send

them (well labeled, including botanical and common names, and where collected) to NANPS, P.O. Box 84, Station D, Etobicoke, Ontario M9A 4X1. Last year, we had hundreds of species available. With your help, we can do even better this year.

Paul McGaw Memorial Conservation Award

PHOTOGRAPH COURTESY ERIKA THIMM



Mary Gartshore and Peter Carson, winners of the 2001 Paul McGaw Memorial Conservation Award.

The 2001 Paul McGaw Memorial Conservation Award was presented at the NANPS AGM to Peter Carson and Mary Gartshore. Along with their many, many accomplishments and their involvement in countless organizations and initiatives, Mary and Peter are restoring a 24-hectare prairie on their property near Walsingham, Ontario, and somehow also find time to run an outstanding native plant nursery, Pterophylla. As NANPS Treasurer Trish Murphy said, when presenting the award: "Mary and Peter are keystone species of conservation in Ontario." Congratulations on this well-deserved honour.

The Paul McGaw Memorial Conservation Award recognizes an individual or group's extraordinary contribution to the conservation, protection or restoration of the natural heritage/native flora of North America at the community, regional, provincial, national or continental level. Nominations made by any member of NANPS are welcomed. (Send nominations by April 1, 2002 to NANPS, P.O. Box 84, Station D, Etobicoke, Ontario M9A 4X1.)

Letters to the Editor

To the Editor:

I just joined NANPS and was thrilled to read the information on black walnuts (a tree with which I have a love-hate relationship) in the spring 2001 issue of *The Blazing Star*. Here are some of the plants I am growing under this species: little bluestem (*Andropogon scoparius*); white wood aster (*Aster divaricatus*); wild senna (*Cassia hebecarpa*); grey dogwood (*Cornus racemosa*); red-twig dogwood (*Cornus sericea*); purple coneflower (*Echinacea purpurea*); trumpet honeysuckle (*Lonicera sempervirens*); bergamot (*Monarda fistulosa*); brown-eyed Susan (*Rudbeckia triloba*); red elder (*Sambucus pubens*); spiderwort (*Tradescantia virginiana*). I thought about removing the black walnut tree, but when the pileated woodpeckers felt safe enough to bring their young to eat the suet I hang on it, I quickly changed my mind.

Drew Monthie, Queensbury, New York

To the Editor:

I read with interest the account of the fellow who is battling the City of Toronto regarding

a native plant garden on the municipal property in front of his home [Spring 2001 issue of *The Blazing Star*]. My wife Bonnie and I have planted a native plant garden on the municipal boulevard in front of our home in London, Ontario. The boulevard is quite wide, about 5 m from road to sidewalk, so it makes for quite a decent-sized garden. We have used mostly native prairie species with a few hardy cultivars tossed in. I suppose it's really a xeriscape garden, as my main objective is to avoid watering and mowing. We bought plants, plugs and seed from Pterophylla, a native plant nursery in Walsingham, Ontario. The garden had been in place for about five months when a municipal worker turned up as the result of a complaint and suggested that we should comply with a bylaw limiting the height of grasses to 9 inches. (If you don't comply, the City may mow the plants at your expense.) London, however, actually has a naturalization bylaw (mostly due to the pioneering efforts of several gardeners), which allows residents to apply for a municipal consent. The City's bylaw manager was very

approachable. In his experience, many people claiming to be naturalizing a front lawn actually had no plan at all and were simply too lazy to maintain it. The City had prepared a brochure on the topic, and we were able to develop a simple sketch plan with a few management objectives and a species list. In due course this was approved by a committee of Council, and we have umpteen pages of legal-sized paper to prove it. We do take pains to keep the garden looking fairly respectable, limiting the height of the grasses and removing plant litter (I think a burn is out of the question). Of course, not everyone likes it, but I think many people are interested. This year we are experiencing a record drought and there is not a blade of green grass to be found on local lawns; although our garden is suffering too, there is still quite a good show.

Don Gordon, London, Ontario

The Blazing Star welcomes letters to the editor. Letters may be edited. Send comments to editor@nanps.org.

Spring 2002 NANPS Plant Sale

Saturday, May 11, 2002, 10 AM to 4 PM, Civic Garden Centre, 777 Lawrence Avenue East (at Leslie Street), North York, Ontario

Spring woodland flowers, summer meadow and prairie plants, wetland plants, vines, sedges, ferns, shrubs and trees. Hundreds of species, thousands of plants.

For information, to donate plants, or to help out at the sale, please call NANPS at (416) 680-6280.

Is your garden getting crowded? Please consider dividing some of your native plants and donating extras to the NANPS sale!

A list of plants available at the sale (along with advance ordering information) will be posted on the NANPS website (www.nanps.org) in January.

Going (Partly) Native



Anne Morgan's front-yard garden

PHOTOGRAPH COURTESY ANNE MORGAN

by Anne Morgan

Gardening has been a long-term love affair of mine, but including native plants in that passion has been a gradual learning process. I have a real mix of perennials, shrubs and trees in my small suburban garden in Waterloo, Ontario, but no grass. Many years ago when I was invited to go on a plant rescue in a woodland that was slated for development, I realized that the shady north side of my house offered a perfect spot to start my wildflower garden. I brought home a small pagoda dogwood (*Cornus alternifolia*) and a variety of other woodland natives such as trilliums, wild ginger, Jack-in-the-pulpit, mayapples, blue cohosh and bellwort. After another plant rescue I added several types of ferns as well as my favourites, the red and white baneberries. Over the years I have realized that the leaf shapes, textures and berries help to add colour and interest in the woodland garden after the first flush of bloom in the early spring. I have also realized that pagoda dogwood is one of my favourite small trees for any shady or part-shaded spot in the garden, whether it be as an accent tree or part of the woodland edge.

Another "must have" native is the serviceberry (*Amelanchier* spp.) because it is beauti-

ful in all seasons. In spring the frothy white flowers make a show before the leaves appear. The berries that follow later are a real bonus... enjoyed by robins, cardinals and chickadees *and* by us. Even though we share our berries with the wildlife, there always seems to be enough for everyone. We have fresh berries with yogurt daily during the berry season, I freeze some for a treat in winter, and the rest I make into jam. In the fall the leaves on the serviceberry turn a glorious orange/red, and in the winter we appreciate the delicate branching form. No garden should be without a serviceberry.

Underneath one of my several serviceberries, by a path, I have planted a carpet of rescued hepatica, and this has proved to be the perfect spot. The hepatica blooms while the branches of the shrub are bare, and so we are able to appreciate the mass of little white blooms as we walk by. Later, the plants disap-

pear into the understory and are protected from the direct sun. The rest of the groundcover in this mostly shady section of the garden is foamflower, which provides a sea of delicate white spires in the spring and is punctuated later by Siberian irises and ferns. Nearby I have planted several large clumps of bloodroot, and, if the ground stays moist enough, the large attractive leaves provide a show through most of the summer even though the flowers are quite short-lived in spring.

I keep a moist area in a liner buried 45 to 60 cm deep and filled with humus-rich soil. My "bog" takes the overflow from the pond, and allows me to grow plants that would not otherwise be happy growing in the sandy, well-drained soil that underlies our city lot. The cardinal flowers died every year until I put them in the liner area where they now grow well with blue flag iris, turtlehead, Queen of the prairie and shooting star. Some maidenhair ferns are tucked into the shady area behind these other plants in the "bog." I just wish I had made my liner larger because it is so much fun to grow moisture-loving plants with ease.

I keep plants that are not happy in dry conditions, such as red bergamot and Joe-pye weed, in areas of the garden with afternoon shade, or group them with other plants that need extra moisture so that watering can be done in selective areas only (preferably near the rain barrels). Red bergamot is lovely with any blue or purple perennials such as veronica, nepeta, scabiosa or penstemon, and for a real colour knockout I've got a clump of bright yellow Asiatic lilies nearby. This combination also seems to be an attractive calling card for our seasonally resident hummingbirds.

Having sandy soil means that the plants in the sunny sections must be *very* drought tolerant. Along the dry curbside of my southwest-facing front garden I have used a selection of plants that seem to survive the hostile



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PHOTOGRAPH COURTESY ANNE MORGAN

Anne Morgan's back-yard pond

conditions of full sun and sandy soil. All the thymes, especially the woolly thyme, are tough candidates together with various dianthus cultivars, and I have teamed these with natives such as eastern prickly pear cactus, blue-eyed grass and pussytoes. These low-growing plants bloom early in the season and are followed by a variety of taller perennials in behind. One early combination that I really enjoy is the native columbine in amongst orange and yellow bearded iris. The orange butterfly milkweed makes a splash of colour in late June and early July along with black-eyed Susan and Asiatic lilies in all shades of yellow, orange and red. I love lilies! One of the earlier orange lilies makes a striking colour contrast with purple spiderwort and yellow lance-leaved coreopsis. When these are finished blooming in mid-July, there is a procession of native species that provide masses of colour in my sunny front garden. These natives include liatris, purple coneflower, bergamot, mountain mint, shrubby cinquefoil, ironweed, culver's root and Joe-pye weed. The first four of the above list are particularly

good for attracting all sorts of insects. The tallest plant, at 3 to 4 metres, is cup plant, and it makes a real statement! The goldfinches can hardly wait for the yellow flowers to be replaced with the seeds, which they love. I leave these tall stems to project above the snow in winter, but it means I must be very vigilant to remove *all* seedlings in the spring because they put down deep roots amazingly quickly and become quite difficult to pull out.

The end of the season is heralded by the blooming of the asters and the goldenrods. I usually cut back my New England asters by half early in the season so that they bush out and do not get so tall and straggly. I like to have other plants in front of them to hide their lower leaves, which often turn brown if conditions are dry. I use the "tidier" goldenrods such as grey goldenrod in areas where space is at a premium, but I allow some of the Canada goldenrod to spread in wilder parts of the garden because the insects love them so much. Zig-zag goldenrod and (what I think is) calico aster provide some late colour in amongst the hostas, and the calico aster is

especially lovely next to the white berries on the pink stems of the white baneberry. Another attractive combination in the shade garden is the purple-flowering raspberry, with its large fresh green leaves, next to lady's mantle, wild ginger and a cream and green hosta.

All in all, my garden is a gardener's garden, which means it is a real mix of all types of plants. I enjoy the challenge of trying to grow a variety of native plants amongst my other shrubs and perennials, and I try to choose those that will attract the greatest variety of wildlife to the garden.

Anne Morgan is a former university biologist who loves gardening. She is a Master Gardener, is actively involved in the promotion of natural environments in urban settings and has given many lectures on native and ecological concepts in gardening.

The Serpent in the Garden: Feared No More

by Don Scallen

The original serpent in the Garden of Judeo-Christian tradition was most unwelcome. It was, of course, the devil incarnate, the epitome of evil, and Adam and Eve were led grievously astray by his advice. Snakes, in western culture at least, have gained little over the centuries subsequent to the penning of the Old Testament. With the dawn of the new millennium, they remain loathsome beasts in the popular imagination, objects of fear and even disgust. A new attitude towards these unjustly maligned creatures is long overdue.

A familiar maxim states that “ignorance breeds fear and what we fear, we destroy.” We destroy snakes directly – encounters between snakes and people often end very poorly for the snake – and we destroy them indirectly when we alter or eliminate their natural habitat. If we knew more about snakes; if we understood their unique and integral role in the ecosystem; if we understood that the danger they pose to humans, at least in Canada, is almost non-existent and, even in Massasauga rattlesnake country, vanishingly small; if we allowed ourselves to be fascinated, rather than repulsed – imagine a vertebrate that opted in evolutionary terms to lose its legs! – then we would look for ways to ensure their survival, to invite them to share our world.



Willow Park is a five-hectare outdoor ecology centre at the confluence of Silver Creek and the Credit River in Norval, Ontario. Currently under development, it features (or will upon completion) interpretive trails, a butterfly garden, a pond planted with native wetland flora, a compost demonstration area and other ecologically minded projects, including a snake hibernaculum. The primary goal of the Willow Park Ecology Centre is to “educate and inform the public about the natural environment around them and to gather wide support for naturalization in general.”

Willow Park’s hibernaculum is based on what we know of natural snake hibernation sites. These sites are often rocky. Spaces between the rocks permit access to a level below the frost line. In Willow Park’s artificial hibernaculum, buried rocks and stumps provide the shelter and frost-free refuge that hibernating snakes require. It is situated on a south-facing slope to maximize sun exposure.

Snakes, like other reptiles, bask in the sun to regulate body temperature. It is hoped that snakes will soon discover and take up residence in this hibernaculum, but there is no guarantee that they will. I think it is accurate to say that the science of artificial hibernaculums is in its infancy. Snakes are mobile, thinking creatures. They are aware of the nuances of the ecosystem they inhabit and use its elements selectively to increase their life chances. Who knows what their particular reptilian take on this hibernaculum will be? Perhaps their instinct for survival, finely honed over millennia of evolution, will argue against some aspect of its construction. Perhaps a natural site close by more closely fits their needs.

The success of the Willow Park hibernaculum is not, to my mind, dependent on the occupancy of wintering snakes, although that would be wonderful. The presence of the hibernaculum along with a butterfly garden, a wildflower meadow and a created wetland gives snake conservation the legitimacy it deserves. It offers a valuable opportunity for public education. The hibernaculum is an expression of a new attitude of acceptance and understanding that may help snakes survive into the future. If visitors are prompted to ask questions – “What is a hibernaculum?” “Why are snakes being offered a home in the ecology park?” “What are the habitat requirements of snakes?” “What type of snakes



The hibernaculum under construction



John Morton, the hibernaculum “engineer,” at the Willow Park hibernaculum

PHOTOGRAPH COURTESY DON SCALLEN

inhabit this area?” “Are those snakes dangerous?” “What can I do to help snakes survive?” – then the creation of the Willow Park hibernaculum, complete with snakes or not, will have been a success.



Ontario has 16 species of snakes. Some have weathered the trauma associated with the human-modified environment quite well. Garter snakes inhabit the margins of our towns and cities, gaining access along watercourses and green belts. This snake often serves as a child’s introduction to the wonderful world of serpents. Brown and red-bellied snakes continue to thrive, in part because of their small size and secretive habits. Worms, slugs and small insects are favourite food items. Inhabiting the brushy fields and agricultural land that is rapidly being overtaken by suburbia in southern Ontario, is the eastern milk snake. This brown, patterned snake is about the size of a garter snake. It is a constrictor and relishes mouse dinners. Because of its superficial resemblance to a rattlesnake (it even vibrates the tip of its tail to imitate a rattle), it is often killed by people.

These snakes have managed to hold their own up to now, but many other species have declined precipitously in the wake of human-induced habitat change. The blue racer, a former inhabitant of savannas in southwestern Ontario, now clings precariously to a final refuge on Pelee Island. Northern water snakes are often misidentified as water moccasins and summarily dispatched. Draining of wetlands and shoreline development destroys their habitat. Black rat snakes formerly ranged throughout Carolinian Ontario north of Lake Erie. As the forests disappeared, so too did they. Now, small populations occupy a few remnant patches of woodland. The genetic isolation of these populations may signal inevitable extirpation. The Massasauga rattlesnake, formerly found in wetlands and

PHOTOGRAPH COURTESY DON SCALLEN



Northern red-bellied snake

PHOTOGRAPH COURTESY DON SCALLEN

moist woodlands across southern Ontario, is now restricted to a few widely dispersed locations. It holds out in fair numbers on the Bruce Peninsula and the eastern shore of Georgian Bay. Lest you think its demise is justifiable because of the danger of its venom, consider that at Killbear Provincial Park, north of Parry Sound, thousands of people co-exist in harmony every summer with upwards of 400 of these reptiles in their midst. Even venomous snakes should not be feared needlessly.



The survival of snakes into the future will depend largely on two things – landscape and attitude. Both must be favourable for snakes to thrive. The best intentions, the most sympathetic attitudes, will do little to help snakes if all we offer them is the grossly modified environments typical of our urban centres. Conversely, with the ever increasing human presence in more natural environments, poisonous human attitudes can have an equally deleterious effect on snake populations. Snake-positive attitudes must be coupled with snake-friendly landscapes. The snake hibernaculum at Willow Park will, I hope, play some role in dispelling negative attitudes and perhaps serve as a model for snake education in other parks and conservation areas, for if attitudes are to change enough to benefit snakes, voices in their defense must be raised throughout the land.

The context of the hibernaculum, within a park devoted to, and promoting the virtues of, naturalization, is most appropriate. Naturalized landscapes are utterly necessary if we want to seriously entertain the idea of snake survival, surrounding and within our urban centres. A park with carefully managed beds of annuals, with closely shorn grass, dependent on a regime of chemicals, would be a silly place for a hibernaculum. Even if we could delve into a snake's mind and then build the perfect hibernaculum, its placement in a landscape devoid of natural elements would be an exercise in futility. Even its education

value would be negligible; a hibernaculum can be meaningful only if placed in a landscape supportive of all the other needs of snakes. A naturalized landscape combining grasses, forbs, shrubs, trees, shelter (wood or rock piles) and a water source, places a hibernaculum within a meaningful context.

I hope we can achieve a future where snakes can course through our landscapes unmolested; that they can find refuge and sustenance in close proximity to humankind. If we allow our lives to be enriched by snakes – historically maligned and maltreated – what positive news that would be for the rest of creation. It's time we listened again to the serpent in the Garden. This time his message will not portend doom, but possibly salvation instead.

Don Scallen is a teacher and writer living in Georgetown, Ontario. He has written articles for Wildflower magazine and has been a regular




Juvenile eastern garter snake

PHOTOGRAPH COURTESY DON SCALLEN

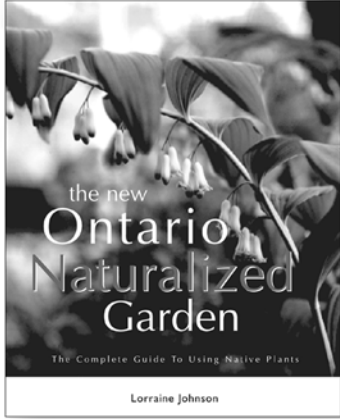
contributor to the Halton/North Peel Naturalists' newsletter. Don has a deep interest in nature and in naturalized landscapes.

Willow Park Ecology Centre is a 2.1-hectare nature education area in the Village of Norval, Ontario, just off Highway 7 between Brampton and Georgetown. For more information, contact the Halton Hills Chamber of Commerce, (905) 877-7719; tourism@haltonhillschamber.on.ca



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Members' Questions

"I live on a ravine lot off the Don Valley in Toronto, Ontario. My garden and lawn are being taken over by the tenacious dog-strangling vine. I have attempted to control it by digging up the weeds. Sadly, I am losing the battle. It's poking its head up everywhere, even in cracks in the concrete walkway! The local garden centre suggested Roundup. I have attempted to have a chemical-free garden and hate to give in. Is there anything else you recommend other than the 'scorched earth' approach?"

– "Strangled Sue," Toronto

We asked Dr. Naomi Cappuccino, a professor of biology at Carleton University in Ottawa who is conducting research into dog-strangling vine control at the Fletcher Wildlife Garden, to respond:

Dog-strangling vine (*Vincetoxicum (Cynanchum) rossicum*) is indeed difficult to get rid of. Compared to the native plants that grow in abandoned fields and along the edges of woodlots – goldenrods and asters, for example – the non-native dog-strangling vine (DSV) has several competitive advantages that make it highly invasive and hard to remove. Adult plants are virtually immortal, producing new shoots each year from buds at the base of the old stem. The only way to eliminate these large individuals is to dig them up, being sure to remove the "core" part of the root with all the little buds. A bulb planter centred on the base of the cut stem is a good tool for this.

The dense mat of fibrous roots around the central core is impressive (dig up a goldenrod for comparison) and helps the DSV keep out other plants; once a monoculture of DSV gets established, other plants cannot compete for water and nutrients. However, the fibrous roots cannot produce new individuals, so you don't have to worry about getting every last bit of root out of the ground.

If you were removing goldenrods or asters, after digging up the roots your job would be done. Not so with DSV. Under the parent plants are hundreds of seedlings, ready to take the place of the adults. I've counted over 300 in a 25 x 25 cm square. Most DSV seedlings aren't able to outcompete their parents for light, water or nutrients, but when you dig up the parents, the seedlings have the resources they need to mature.

You could pick out the little seedlings by hand, but that would be a tedious job. More importantly, other seeds, dormant in the soil's "seed bank," would continue to germinate.



Dog-strangling vine

PHOTOGRAPH COURTESY STEPHEN SMITH

One way we've been able to kill seedlings and prevent seeds in the soil from germinating is to cover the area with semi-composted leaves after we've dug out the adult plants. This is not aesthetically pleasing, but it's effective.

Keeping new seeds from colonizing the site is important. Dog-strangling vine is in the milkweed family and, like the common milkweed, has plumed seeds that are dispersed by wind. Fortunately, the seeds are not nearly as good at dispersing as they might seem; most land beneath the parent plants. So unless there are seed-bearing plants close to your site, recolonization should not be a major problem. On the other hand, if there are enormous populations nearby, the sheer numbers of seeds produced will increase the probability that your site will be recolonized.

So, by digging up adult plants and smothering the seedlings, you may be able to eliminate an isolated patch of dog-strangling vine. But then you're left with an unsightly layer of leaves – not exactly the scorched earth approach, but not much prettier. The final step is restoration. This summer we're setting up an experiment, planting goldenrod and raspberry, two plants that look like they might be able to keep dog-strangling vine at bay once they become well established. We know that grass is not effective at keeping out DSV: germination of DSV seeds is high in grass, and the seedlings survive well. We're hoping that an established goldenrod or raspberry patch will prove resistant to colonization by dog-strangling vine.

Finally, at some point in the future, biological control might become an option. Finding insects that can serve as control agents is a long process, though. Insects found in the plant's country of origin, the Ukraine, must first be screened abroad to make sure they only eat DSV. Imported insects must then be quarantined here, while they undergo another series of tests to make sure they will not adversely affect any of our native plants. Researchers in Switzerland are currently searching for good biocontrol candidates for DSV.

Good luck getting rid of your DSV patch. The monarch butterflies will thank you (silly monarch moms often make mistakes and place their eggs on DSV, dooming their offspring to a rapid death, since monarch caterpillars don't eat dog-strangling vine).



"I've seen trilliums that have green streaks on their flowers. What causes this, and is it a problem?"

– an Ontario member

We consulted Frederick W. Case, co-author of *Trilliums* (Timber Press, 1997):

You have asked me to respond to the cause of the condition of the green and white, often deformed forms of *Trillium grandiflorum* found particularly in New York, Ontario and Michigan. As far back as 1970 my late wife and I noticed that these strange, often attractive forms had leaves that turned deep maroon

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Green and white flowered *Trillium grandiflorum*

PHOTOGRAPH COURTESY ANDREW LEVERLE

early in the season and the plants died down earlier than normal. To us this indicated a pathological problem. At a lecture at Michigan State University in 1970, I mentioned this to Professor Gary Hooper, then of MSU. He agreed that the condition indicated a plant disease, and asked if we could work together to research the problem. This we did.

Living material was collected, flash frozen in the field and prepared for examination under the electron microscope, as Dr. Hooper suspected the symptoms were those of mycoplasma-like organisms. Mycoplasmas are super small organisms, larger than viruses yet smaller than bacteria, and incapable of living independently. They survive only in the cells of a host organism. Mycoplasma-like organisms cause the greening and petal distortion in parrot tulips, cause aster-yellows disease in some plants, and in humans cause forms of walking pneumonia and child-bed fevers.

Our research shows that in our samples, every one of the green and white, green or leaf-distorted plants had mycoplasma-like organisms present. None appeared in any sample of a wholly white, normal trillium plant.

Monitoring wild populations in which the affected plants occurred showed that most such colonies had a gradual increase in greened plants and a continual intensification of symptoms in affected plants, with finally a decrease in numbers or complete disappearance of the colony over time.

We have seen the condition in plants of *Trillium erectum* and *T. undulatum*. In both cases the deformity was enormous.

On South Manitou Island, an island in Lake Michigan off the tip of Michigan's lower peninsula, there are *Trillium erectum*, *T. grandiflorum*, *T. flexipes* and *T. cernuum*. All four

of these species there occur together, as well as hybrids between all but *T. grandiflorum*, which does not hybridize with any species. All four species and most of the hybrids on this relatively small island are heavily infected with this greening and distortion-causing condition; up to half the plants on the island were diseased. In addition to the greening and distortion of petals, abnormal leaves, tufts of additional leaves, totally leafless plants and other weird forms appear. We did not test the island plants but symptoms were exact duplicates of those we had tested.

Our results were published as follows: Hooper, G.R., F.W. Case, Jr., and R. Myers. 1971. "Mycoplasma-like bodies associated with a flower-greening disorder in a wildflower, *Trillium grandiflorum*." *Plant Disease Reporter* 55: 824-828 (US Dept. Agriculture).

Dr. Hooper and I think that the mycoplasma-like condition is vectored between plants by leaf hoppers and perhaps other sucking plant feeders. In some of the greened trilliums the condition appears to stabilize, and those particular plants do not decline. There is the possibility, of course, that some greened plants are not caused by the mycoplasma and perhaps truly are just mutations. In most cases in our study, however, mycoplasma-like organisms were present in any greened or distorted tissue we examined.

Therefore, however beautiful a given green and white-flowered plant may appear, we regard it as diseased and a potential source of infection for other trilliums and perhaps other choice garden plants. If such plants appear in my garden, I destroy them.

To the best of my knowledge, no other study of the green and white flowered trilliums has ever been done. More research is sorely needed.

Calendar of Events

The NANPS on-line Message Board (www.nanps.org) now lists events. Please e-mail (nanps@nanps.org) information about any native plant events you're involved with; we'd be happy to include your listing on the Message Board.

January 19, 2002

SIXTH ANNUAL TOWARD HARMONY WITH NATURE CONFERENCE

Oshkosh, Wisconsin

Sessions include "Prairie Planting and Management" and "Managing and Restoring Woodlands." For info, call (920) 589-2602.

Education Corner

The following information is presented by the NANPS Education Committee (Sarah Augustine, Donna McGlone, Daisy Moore and Cora Thomson).

THE BLAZING QUESTION

The dictionary definition of ambrosia includes "the elixir of life," "anything very pleasing to taste or smell" and "the food of certain bees and beetles." Ambrosia is also the genus name of a troublesome, noxious weed. What is the common name of this weed? (Answer at bottom of page)

NATIVE SHRUBS

Many shrubs native to northeastern North America have spectacular fall colour and are ornamental highlights for the fall garden.

May we suggest:

For shades of red:

- Downy serviceberry (*Amelanchier arborea*)
- Black chokeberry (*Aronia melanocarpa*)
- Maple-leaved viburnum (*Viburnum acerifolium*)
- Staghorn sumach (*Rhus typhina*)

For shades of yellow:

- Spicebush (*Lindera benzoin*)
- Witchhazel (*Hamamelis virginiana*)
- Bottlebrush buckeye (*Aesculus parviflora*)
- Mountain maple (*Acer spicatum*)

FALL GARDEN MAINTENANCE

- Compost is an excellent soil conditioner that can be added to the garden in the fall. It will enrich the soil with organic matter, contribute valuable micro-organisms and serve as a good mulch over winter. Place compost around the base of plants.
- Leave seedheads on plants to provide food for birds and other wildlife.
- Instead of cutting off all stalks of perennial plants, leave them to hold the snow over winter, which will provide insulation and help prevent ground-heaving (the result of freeze-thaw cycles). The stalks will also remind you where plants are, come spring.
- Collect dead leaves to add to the woodland garden or to add to the compost bin.

Answer to The Blazing Question: Common ragweed (*Ambrosia artemisiifolia*) is a member of the family Compositae. It is one of the worst triggers of hay fever in the late summer and early fall. The pollen-producing (male) flowers are in long terminal racemes on the ends of the stems or branches. These small, greenish flowers produce an enormous quantity of tiny pollen grains, which are distributed by the wind. The female flowers are rather inconspicuous and located in the axils of the upper leaves.

New & Noted

The Washington State Department of Ecology recently published their new *Aquatic Plant Identification Manual for Washington's Freshwater Plants*. This guide is designed for field identification of freshwater aquatic plants and contains descriptions of more than 100 species. The manual provides field identification characteristics, relying on line drawings and colour photographs to illustrate the plants. Copies may be ordered from the Washington State Department of Printing by phoning (360) 753-6820 or by visiting their website at <http://waprt.bizland.com/store/index.html>.

The University of British Columbia Herbarium (the third largest in Canada) has approximately 560,000 accessioned specimens. Complete label data from approximately 65% of the collection is now available online at <http://herbarium.botany.ubc.ca>. The vascular plant collection contains more than 217,000 specimens, and the algae collection includes the world's largest collection of Alaskan and British Columbian seaweeds. The databases are served by Filemaker Pro using an iMac computer.

The Royal Ontario Museum and McClelland & Stewart have joined forces to publish a series of field guides. The first in the series is the recently released *ROM Field Guide to Birds of Ontario*, by Janice M. Hughes, with close to 400 full-colour photographs, more than 300 distribution maps, and detailed descriptions of all of Ontario's migrant and resident bird species and accidentals. The next in the series, *The ROM Field Guide to Reptiles and Amphibians of Ontario*, will be released in 2002. For more information, call (416) 586-8000 or see www.rom.on.ca.

The Owen Sound Field Naturalists continues to publish excellent guides to Ontario plants. Although the books are specific to Grey and Bruce Counties, most of the species covered extend into other parts of Ontario, making these guides very useful to a broad audience. Available titles include: *A Guide to the Ferns of Grey and Bruce Counties* (\$15 Cdn plus \$2 shipping); *A Guide to the Orchids of Bruce and Grey Counties* (\$15 Cdn plus \$2 shipping); *Rare and Endangered Species of Grey and Bruce Counties* (\$15 Cdn plus \$2 shipping); and

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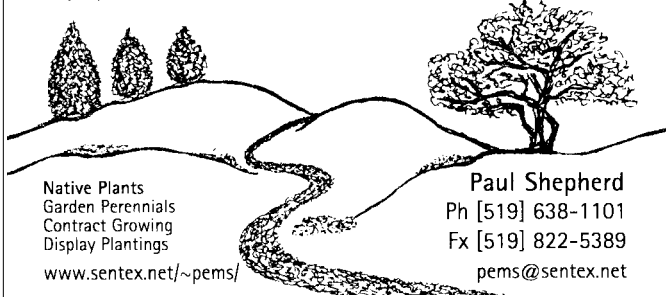
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SEND YOUR GARDEN ACROSS CANADA!

The *Canadian Museum of Nature* and *Royal Botanical Gardens* are working on a travelling exhibit on Canada's native plants. *Green Legacy* will open in Ottawa in spring 2002, then travel across Canada over the next few years.

Have you transformed a traditional garden into a native plant garden?

In *Green Legacy*, we plan to showcase the gardens of Canadian gardeners who have banished the petunias and impatiens and replaced them with native plants. We're looking for "before and after" photos of transformed gardens. Your garden could be among those chosen for the exhibit.

We can use slides, prints, or photo CDs. The deadline is January 31st.

Please send your images along with your contact information to:
Lorraine Brown, Apropos Planning, Box 100, Leith, ON N0H 1V0
lorraine@apropos.on.ca

Include a stamped, self-addressed envelope and we will return your images late in the spring.



The Asters, Goldenrods and Fleabanes of Grey and Bruce Counties (\$8 Cdn plus \$1 shipping). Make cheques payable to Bruce Grey Plant Committee and send to Owen Sound Field Naturalists, Box 401, Owen Sound, Ontario N4K 5P7.



The 1975 edition of the Handbook of *Northwestern Plants* by Helen Gilkey and La Rea J. Dennis has been out of print for many years, but a completely updated edition was recently published by Oregon State University Press, with 21 new families, updated nomenclature and revised keys and descriptions (\$29.95 U.S., paperback, ISBN 0-87071-490-2).



The Lady Bird Johnson Wildflower Center (www.wildflower.org) in Austin, Texas, is creating an online gallery where people can come together on the World Wide Web to share their love, appreciation and stories of native plants, as well as more technical information about cultivation and maintenance. The Center is asking native plant gardeners to send photos of native plant landscapes along with an answer to the following question: How has landscaping with native plants added to beau-

ty and cut cost and maintenance in the area you maintain? Send photos and comments to the Lady Bird Johnson Wildflower Center, 4801 La Crosse Avenue, Austin, Texas 78722.



In response to the horrors of September 11, at least two gardening projects have been planned to honour the victims, and to affirm life and practise hope. A group in Pennsylvania has organized the Pennsylvania Memorial Garden Fund, with the goal of obtaining property at or near the crash site of United Airlines Flight 93 in Western Pennsylvania and turning it into a memorial garden. For more information, see <http://www.pamemorialgarden.org>. Another effort, the Gioni Project, has the goal of planting millions of trees across the U.S. to commemorate the people who have died or suffered from the attacks. For more information, contact Steven Hunt at ecocentricolutions@earthlink.net or (407) 292-0050.



Carole Rubin, the author of *How to Get Your Lawn and Garden Off Drugs*, is now working on a sequel, *How to Get Your Lawn Off Grass*. The book will include colour photographs of

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native plant gardens from each floristic province of the U.S. and Canada. Carole would appreciate hearing from native plant gardeners who have documented their gardens with photographs. Contact Carole at crubin@dccnet.com or phone (604) 885-3618.

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60 Carl Hall Road, Unit 2, Downsview, ON phone: 416-633-1797 email: info@nativeplants.on.ca

Continued from page 1

sedges, but I am afraid the information didn't root. Charles Kinsley, whose Toronto nursery, The Ontario Native Plant Company, sells the wonder sedge, calls it early-flowering sedge, which does nothing for the plant's scintillation quotient but is an accurate description.

After two years of dividing and sowing, I now have enough pots of early-flowering sedge to rip out the Eurasian groundcover and replace it with the sedge lawn of my dreams. It took two years because this sedge, in common with many woodland plants, sets relatively few seeds per plant, and the seeds ripen in spring when my thoughts are on other garden tasks. (The seeds are dispersed by ants, and they were paying closer attention than I was – they got the seeds before I was able to collect them.) While no harder to grow than other sedges, which means it is damn near fool-proof, early-flowering sedge roots a little slower than, say, the ever-obliging common wood sedge (*Carex blanda*), which meant I could not divide it quite as often.



The woodland sedges as a group have great potential as evergreen groundcovers. I became familiar with the common wood sedge (*Carex blanda*) in the course of doing the NANPS display garden at Canada Blooms. Common wood sedge is ridiculously easy to grow and propagate, though it also has the dismaying habit of collapsing in June after it has bloomed and before it puts out its second flush of leaves.

I am very fond of white bear sedge (*Carex*



Carex eburnea

PHOTOGRAPH COURTESY TYLER SMITH

albursina). Its leaves are relatively broad, blue-green and shiny, but, alas, in my garden the leaves are riddled by slugs. It is something to have as an accent in the woodland garden, but not for me the ideal groundcover.

If I happened to be gardening on light sandy soil under high oak trees, I would doubtlessly choose Pennsylvania sedge (*Carex pennsylvanica*), which makes a lovely tussocky lawn in those circumstances.

Carex eburnea has the finest texture of the sedges I know, and it makes lush low cushions of deep green. This beauty needs to acquire a common name worthy of its charms. I have seen it called bristly sedge and ivory sedge – I call it polished sedge. It grows in a variety of

situations, most notably along the top of the Niagara Escarpment in very shallow soil in the shade of cedars. This plant is a strong contender for most perfect plant.

In my search for an ideal groundcover for shade, I grew a variety of other woodland sedges. I tried *Carex rosea*, which makes a fine-textured tassel but is not really evergreen. Broad-leaved sedge (*C. platyphylla*) is a low grey-green rosette, a nice addition to a shaded rock garden. Plantain-leaved sedge (*C. plantaginea*) loves moist soil and makes a handsome mound, like a narrow-leaved hosta but evergreen – a wonderful accent. *Carex gracillima*, *C. communis*, *C. arctata*, *C. cephalophora*, *C. convoluta* – fine plants all, and wonderful additions to any woodland garden, but somehow none has ever surpassed the standard set by my perfect plant, *Carex pedunculata*.

You will not be seeing *Carex pedunculata* offered in mass quantities at the garden department of your local supermarket any time soon. This means that in addition to its many other virtues, it has the irresistible cachet of being almost unobtainable. I told you it was perfect.

Trish Murphy, NANPS's treasurer, is a sedge fan who aspires to sedgehead status. See her website (<http://homepage.mac.com/trishmurphy>) for more photographs of sedges.

The Ontario Native Plant Company sells *Carex pedunculata* and can be reached at 60 Carl Hall Road, Unit 2, Toronto, Ontario M3K 2C1; (416) 633-1797; www.nativeplants.on.ca; info@nativeplants.on.ca.



Carex plantaginea

PHOTOGRAPH COURTESY TYLER SMITH



Carex platyphylla

PHOTOGRAPH COURTESY TYLER SMITH

Calendar of Events

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December 12–13, 2001

NATIVE PLANTS: PROPAGATION AND RESTORATION STRATEGIES

Eugene, Oregon

Sponsored by the Western Forestry and Conservation Association, this conference will explore topics such as plant-quality criteria, project design, riparian restoration, invasive species and project monitoring. For more information, call (513) 226-4562 or e-mail richard@westernforestry.org.

January 19, 2002

SIXTH ANNUAL TOWARD HARMONY WITH NATURE CONFERENCE

Oshkosh, Wisconsin

Sessions include "Prairie Planting and Management" and "Managing and Restoring Woodlands," and keynote speech is by Joyce Powers, president of CRM Ecosystems. For information, call (920) 589-2602.

February 22–23, 2002

XERISCAPE CONFERENCE

Albuquerque, New Mexico

The Xeriscape Council of New Mexico is sponsoring this conference on landscaping to conserve water. Keynote speaker is Senator Paul Simon. For more information, see <http://www.xeriscapenm.com>.

p. 1:

Carex pedunculata

PHOTOGRAPH COURTESY TYLER SMITH

Carex pensylvanica

PHOTOGRAPH COURTESY TYLER SMITH

P. 2: Jim French, founding president of the Canadian Wildflower Society (now NANPS).

PHOTOGRAPH COURTESY ERIKA THIMM

Members of the NANPS Board presenting Jim French (centre), our "rock-solid leader," with a retirement rock.

PHOTOGRAPH COURTESY ERIKA THIMM

P. 3: Mary Gartshore and Peter Carson, winners of the 2001 Paul McGaw Memorial Conservation Award.

PHOTOGRAPH COURTESY ERIKA THIMM

P. 4: Anne Morgan's front-yard garden

PHOTOGRAPH COURTESY ANNE MORGAN

p. 5: Anne Morgan's back-yard pond

PHOTOGRAPH COURTESY ANNE MORGAN

p. 6: John Morton, the hibernaculum "engineer," at the Willow Park hibernaculum

PHOTOGRAPH COURTESY DON SCALLEN

The hibernaculum under construction

PHOTOGRAPH COURTESY DON SCALLEN

P. 7: Northern red-bellied snake

PHOTOGRAPH COURTESY DON SCALLEN

Juvenile eastern garter snake

PHOTOGRAPH COURTESY DON SCALLEN

p. 8: Dog-strangling vine

PHOTOGRAPH COURTESY STEPHEN SMITH

p. 9: Green and white flowered Trillium grandiflorum

PHOTOGRAPH COURTESY ANDREW LEYERLE

p. 12: *Carex eburnea*

PHOTOGRAPH COURTESY TYLER SMITH

Carex plantaginea

PHOTOGRAPH COURTESY TYLER SMITH

Carex platyphylla

PHOTOGRAPH COURTESY TYLER SMITH