

The Blazing Star



NEWSLETTER OF THE NORTH AMERICAN NATIVE PLANT SOCIETY

Native Plant to Know

Virgin's bower

Clematis virginiana

by Gillian Boyd

I have always included wildflowers in my garden to attract birds and insects and create a habitat for wildlife. I live in Ottawa and try to grow as many native plants as will do well in my dry sandy soil.

One of these natives is *Clematis virginiana*, a vine commonly known as virgin's bower or devil's darning needles. I first noticed it by a roadside woodlot in Ottawa through which a bypass ringroad had been driven. (It reminded me of the European *Clematis vitalba* of country lanes in my childhood.) I was later able to collect seeds along a rural sideroad.

The seeds were easy to grow and did not need any stratification. I duly planted out the first seedlings on the east-facing wall in my back garden. They had no kind treatment - just a handful of compost in a hole excavated in the 15 centimetres (six inches) of stony soil between the wall and the patio. They took hold without trouble and now grow very vigorously indeed.

This clematis is an attractive shrubby climbing or trailing vine belonging to the buttercup family (Ranunculaceae). The leaves are trifoliate with toothed leaflets and the leaf stems or petioles twist round other plants for support as the plant grows. The creamy white panicles of flowers

usually start sometime in July and last about a month. Showy clusters of silky seeds follow and then turn to fluffy seedheads. If left for winter interest, they sow themselves plentifully round the garden.

The flowers themselves are very interesting. Each individual vine produces three types of flowers: all-male staminate flowers, all-female pistillate flowers and perfect flowers which combine stamens and pistils together. While the male flowers soon wither away, the female flowers produce showy feathery achenes or one-seeded fruits in late summer, initially green and silky but eventually turning brown. Some find the flowers fragrant but I have never noticed this in my garden probably because of the natural variation within individual plants.

These plants are very hardy (USDA Zones 2-10) and need no special care. They can be found throughout the eastern half of North America from



ILLUSTRATION BY BRIGITTE GRANTON

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The *Blazing Star* is . . .

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The North American Native Plant Society is dedicated to the study, conservation, cultivation and restoration of North America's native flora.

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
Zoe Dalton




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Presidents' Message

NANPS Annual **PLANT SALE** is coming up fast and furiously and we hope to see you there. Don't forget to tell your friends  the day before Mother's Day is a  great time to buy plants, especially natives that will delight Mom for years to come, free of pesticides or fertilizers, requiring little or no watering, just a commitment from you to help her plant them!

This is the largest offering of native plants in Ontario and we need to get the word out! Help us by posting the enclosed flyer in your neighbourhood or e-mailing us at volunteers@nanps.org to obtain more copies for a door-to-door distribution - especially if you live in Markham!  Presentations at this year's plant sale include creative approaches to urban native plant gardening, including green roofs, living walls, bio-swales and more by **biologist/native plant nurseryman Mathis Natvik**, gardening strategies for encouraging native bumblebees by **Sheila Colla of York University**, and planting trees for a healthy environment by the **Town of Markham's Karen Boniface**  who is now very capably heading up  website committee!


NANPS plant sale  stepped up a notch this year, adding  photographs and a searchable plant list to the online advance ordering system. Advance orders close April 19th,  but you can still play with the plant list to find the perfect plants for your gardens. We hope to add more regional selections in the future. Meanwhile, we'd love to have more members' photographs on the site...please send your best to nanps@nanps.org. Full credit will be noted for all photos used here or elsewhere in NANPS website or future publications.

NANPS **Speakers' Series** is complete for this year but we hope to do it again next year. Attendance has been excellent - the most recent talk by Dr. Nina Katalin Barabas, who was able to fill in with a charming talk on the medicinal uses of native plants, attracted over 70 participants!

The deadline for the **Paul McGaw Memorial Conservation Award** has

been extended to June 1st. Please send in your nominations for individuals or organizations who have made an extraordinary contribution to the conservation, preservation, or protection of native flora.

Once again NANPS will be offering our **Garden/Restoration Project Awards** to those who have contributed to natural ecosystems in significant ways through their garden or restoration plantings. Deadline for submissions: July 31st.

Many thanks to our webmaster, Regan Pestl of Typhoonit, for creating the new plant sale ordering system, Lindsay McM  who added data for the new species on offer this year, Howard Mead & Ruth Zaugg for organizing the Seed Exchange, Greg Hagan for putting together the popular seed packages sold at NANPS info booths this spring, and Janet Harrison & Charles Iscove for writing and distributing NANPS newest offering: The Local Scoop. If you're not getting the Scoop, email nanps@nanps.org.

NANPS 25TH ANNIVERSARY happens in 2010 and we have big plans in the works. Please send us your **Memories of NANPS**. Were you one of our earliest Canadian Wildflower Society members, helping to shape our vision? Did you take part in our adventures to New Mexico or Manitoulin Island or elsewhere? Have you taken NANPS message to your neighbourhood by planting a native garden? Has your local government responded positively or charged you with the "crime" of environmental gardening? Most importantly, how would you like to see NANPS grow into the future? Stories, long and short, photographs, illustrations, poems all gratefully received. Send e-mails to editor@nanps.org or snail-mail letters to NANPS, Box 84, Stn D, Etobicoke, ON M9A 4X1. Or leave a voicemail message at 416-631-4438.

Miriam Henriques and Harold Smith



More Than Honey: Understanding Bees - and Bee Decline

by Zoe Dalton

Honey, hives, complex social structure: everyone knows about bees. Or do we? At NANPS' third Speakers' Series night, Laurence Packer, professor of biology and environmental studies at York University, revealed that most of us know a lot less about bees than we think – and that includes the experts.

Think all bees produce honey? Most do not. Some bees provide their offspring with a different kind of food altogether: a ball made of collected pollen, which their larval young will feed on until maturity. Thought all bees were social? Think again: Packer informed us that a complex social structure is not a ubiquitous bee feature at all; most bees are solitary. Always thought bees and hives went together like a horse and carriage? In actual fact, most bees have a very different preferred habitat: dirt. That's right: they nest in plain old bare ground.

So, with the three defining features most commonly attributed to bees having just been dispelled as mere myth, what, exactly, is a bee? Well, for one, bees have branched hairs, while wasps do not. OK, so there's a way to distinguish bees from their common look-alikes. But these branched hairs can be very small – and I mean very, very small. Forget trying to distinguish bees from wasps on your own, unless you've got a high-powered microscope and a pair of trained eyes at your disposal.

In fact, distinguishing bees from wasps is only the beginning: how about trying to distinguish one of the 20,000 species of bees from another? As is the case in all areas of biology these days, there is a move away from identifying species via morphological traits, and towards using sophisticated genetic analysis techniques instead. Good thing, too, indicates Packer, if we're truly interested in keying out species accurately. At one point in the evening, a series of slides was put up,

each with lines of seemingly repeating Latin binomials, as well some bars in the margin, which were offset from one another to more or less of an extent... “Hmm?” thought many audience members to themselves. The apparently convoluted slides Dr. Packer had on display showed the results of a series of genetic analyses. As the aura of mystery surrounding the visuals began to fade, and the findings from these analyses were clarified, the twitters of enlightenment and renewed interest in what genetics can tell us fairly rippled through the audience. Packer's findings indicated that in one case, what was previously thought to be a single bee species was actually over 200 individual species. Similar analysis indicated that a group of bees formerly thought to comprise several different species was in fact not a group at all, but one single species – one with an incredible range of morphological variability. Similar confusion has come in the form of two “different” bees actually being simply the male and female counterparts of the same species.

What does any of this mean? Well, for one, it means a lot of mistakes have been made in terms of bee identification. So don't feel bad if you're not quite sure what it is you're looking at. In fact, we can feel quite smug if we have any bee ID abilities at all: Dr. Packer displayed the cover of a book focused entirely on bees – their lives, their life history, their ecological



ILLUSTRATION BY HAMILCAR PEREIRA

needs and related problems, all tied together with a lovely, close-up, full-colour cover picture of ...a fly.

Now, NANPS folks are not just thinkers, but doers: audience members came wanting to know what is wrong, ecologically-speaking, with bees, and what can be done to help solve the problems facing these creatures.

There is no question that bee numbers are on the decline these days. In fact, *Bombus affinis* – our third most populous bee in Ontario in the '80s – is now all but extinct in Canada. And this species is only one example of broader decline. Half of Europe's bumblebee species are in decline, a pattern mirrored – if less intensively studied – worldwide.

What is causing such a drop in numbers? As Packer explained it, there are two dimensions to bee decline – one extrinsic, one intrinsic. Extrinsic factors that appear to be influencing bees' ability to survive and successfully reproduce include habitat loss, possibly climate change, and pesticides. Dr. Packer highlighted the fact that pesticide impact evaluations often use mortality as their yardstick in clinical trials; the impact of these chemicals on a species' reproductive abilities or patterns is not something conventionally considered. This latter

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type of impact may be significant in understanding why such dramatic declines are occurring.

Understanding bee reproduction is key on many levels to working out just what is going on with population declines. Intrinsic factors contributing to decline include what Packer cryptically terms “*the diploid male extinction vortex*”. There are three possibilities in bee reproduction. The first is that unfertilized eggs will produce healthy males. The second is that fertilized eggs will produce healthy females. The third quirky possibility is that fertilized eggs can produce males – but unhealthy ones. These individuals are, in effect, the outcome of bee reproductive processes gone wrong: healthy females were supposed to be produced, but were replaced instead by these problem males – which cause plenty of problems. The first problem is that some of these males are inviable – they simply die, so can be considered a “waste” of reproductive effort. The second problem is that those that don’t die stick around trying to mate – but they’re infertile, and so waste the reproductive opportunities of their mates. The biggest problem is that the smaller the population of bees, the more likely it is that these “dud males” will be produced. So a feedback loop gets created, where populations shrink because of the production of these unhealthy males, which shrinks populations further; and then the shrunken population produces even more of these individuals...and the extinction vortex scenario worsens. What a bleak tale...

The night did not end on such a gloomy note, however. NANPS audience members were brought back to their backyard, action-oriented roots with a focus on what can be done, on a small scale at least, to help bees. One surprising suggestion, in keeping with the myth-dispelling talk as a whole, I suppose, was that in our native plant gardens we should leave some space for bare ground. Covering up every last square inch of dirt with plants or mulch is not helpful to the majority of bees, which nest in the ground. A second gardening suggestion was an easy one for NANPS folks: out with the exotics, in with the natives. Bees need all the help they can get, and exotic plants – which provide minimal sustenance or habitat value – shouldn’t take up precious space in our landscapes. A third recommendation was a nice affirmation for those of us who prefer the lazy route: Leave those old, dead stems right where they are – many bees nest in old hollow stems. If you’d like to go a step further in ensuring bees find a home in your landscape, you can do a craft project with your local kids by constructing bee nests out of a bundle of different-sized drinking straws (or rolls of paper, if you’d prefer to avoid plastic) attached to a fence pole or some other such structure.

So, in total, the night was a success – shock value, drama and tragedy, and a happy ending, all rolled into one fabulous talk. I’ll venture that no one went home disappointed.

Zoe Dalton is a University of Toronto PhD student and NANPS board member. She and her family have enjoyed many summer afternoons of bee watching in their backyard (at least, they thought those were bees they were watching...).

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Lake Superior's North Shore

by Joanie McGuffin

We all store maps in our minds of the places we know, the places we've been and the places where we live. These maps are sometimes like roadmaps joining one place to another but most often, for us, they are broad landscapes dotted with natural, seasonal features that we dream of experiencing. Lake Superior became one of those special places in 1983 when my husband Gary and I canoed the north shore en route from the Gulf of St. Lawrence to the Beaufort Sea. Eighty-kilometre (50-mile) days blurred one horizon into the next leaving us with an impression like a great abstract painting you love but whose details remain a mystery. Lake Superior possesses the open-space feeling of the prairies or the vast, wild Arctic. But as much as it's about big, strong, ancient, it is also about the small, delicate, brief existence of the flowering plants, the insects, the mushrooms.

In 2002 when our daughter Sila was 3, we set off on a summer-long voyage from Lake Superior's Pigeon River to Georgian Bay's Severn Sound along the newly designated Great Lakes Heritage Coast. As official champions of a provincial initiative that stated: "the first priority was the protection and restoration of the ecosystem of the Great Lakes Coast", we felt compelled to paddle and tell the story of this place. We would travel slowly, stop often and share the journey in real time through words and pictures in

newspapers, and through radio interviews, and via a website using special technology powered by the sun.

The weather was warm and gentle the afternoon we launched into Pigeon Bay at the sound of a black powder salute from the voyageurs of

Sharing our child's perspective meant getting down on our stomachs, eye level with plants we had seen in Greenland and Baffin Island: black crowberry (*Empetrum nigrum*) and prickly saxifrage (*Saxifraga tricuspidata*).



Glorious meadow of wild blue irises at Sleeping Giant Provincial Park

PHOTOGRAPH © GARY AND JOANIE MCGUFFIN

Old Fort William National Historic site. Following a string of islands receding toward the flat-topped mesa of Pie Island, we landed on Victoria and Spar Islands. Sila crawled around on the warm, flat rocks while Gary photographed the patches of brilliant orange lichens. Sprays of purple harebells (*Campanula rotundifolia*) grew in the crevices of two-billion-year-old granite. A bald eagle circled, white head and tail flashing its identity.

Those first days set the tone for the journey. Travelling in child's time meant that we were, at last, slow enough to discover that the brilliant green between the rocks was the waxy leaves of an arctic plant called butterwort (*Pinguicula vulgaris*).

Several days later we crossed Thunder Bay making a beeline for the Sleeping Giant. A windbound day off the water provided an opportunity to hike to the top of these towering cliffs. As much as the view 250 metres (800 feet) above Superior was inspiring, it was the glorious meadow of flowering blue flags (*Iris versicolor*), wild blue irises, that we would remember as one of the journey's great highlights.

Within a week of travel, we had reached the western end of the Rossport Islands' archipelago that now forms the Lake Superior National Marine Conservation Area, the largest protected area of fresh water in the world. We traversed Black Bay and Nipigon Bay camping on the islands as we went. Our evening ritual consisted

of tent-setting, a brief exhilarating swim and an exploratory shoreline walk before supper.

The impression of being in the Arctic was always very real, and, in fact, it is a mere geologic eye blink of 11,000 years since the glaciers melted filling these basins we know today as the Great Lakes. At the top of the watershed, Lake Superior happens to be the coldest and deepest creating a microclimate near shore that is akin to a climate 800 kilometres (500 miles) to the north. The short growing season, harsh storms and cold water have ensured that numerous relics from the glacial age continued flourishing here long after the boreal forest overtook the tundra with the warming climate.

The primary range of these plants – known as arctic disjuncts – encircles the globe in the arctic and alpine regions of the northern hemisphere. Originally they migrated here moving ahead of the advancing glaciers, and then when the climate warmed and the glaciers receded, they disappeared except where cool micro-environments endured such as Lake Superior's shores.

The little white flowers of the arctic saxifrage, the profusion of nitrogen-rich beach peas (*Strophostyles helvola*) on many beaches and thick mats of luscious crowberries on Cobinosh and in the Slate Islands reminded us of an arctic tundra that existed here not so very long ago.

Like all arctic flora, the flowers that grow on Superior's north shore have a very low annual rate of growth due to a shorter growing season. Also, the

fierce winds account for their ground-hugging height. And like most arctic plants, the harebells, saxifrage and beach peas are brightly coloured, in varying shades of blue, purple and lavender.

By the time we arrived in Pukaskwa National Park it was August and we had been more than a month on the water. We met three wardens doing the annual count of Pitcher's thistle (*Cirsium pitcheri*) growing in Oiseau Bay. This provincially threatened species is found on the open sand dunes and low ridges of the Great Lakes' shores. It is less prickly than other thistles and the blue-green leaves covered with fine white hairs give the plant a downy appearance. For thousands of years, it has coped in an environment where nutrients are marginal and herbivores graze. The thistle takes six years to bloom. Then it dies, the seed disperses and the cycle starts again. Due to its slow reproductive rate – combined with the fact that sand dunes everywhere are magnets for humans and browsing white-tailed deer, and, as a result, are more susceptible to erosion – the Pitcher's thistle has almost been wiped out. But here in Pukaskwa, the plant



PHOTOGRAPH © GARY AND DANIE MCGUFFIN

Devil's club (Oplopanax horridus) is slow-growing and sensitive to human disturbance despite its formidable looks.

still stands a chance.

Ancient rock formations and huge rolling headlands with sheer cliffs and bald summits characterize the coast south and east to Michipicoten Bay. The rolling rugged terrain is cut through with major ruptures or fault valleys where the White, Pukaskwa and Dog Rivers flow. Layers of volcanic ash, kneaded and twisted millions of years ago, create an incredible mosaic of colours and textures and rock chemistry which contributes to the unique plants found along Superior's shores.

In August, shrubs of ninebark (*Physocarpus opulifolia*) are covered in small white flowers in back of Sheesheb Bay, slender stems clustered with pretty pink bird's-eye primrose (*Primula farinosa*) can be found on the Caldwell Peninsula, and bright orange wood lilies (*Lilium philadelphicum*) pop up along the Pukaskwa coast.

Sandy and raised cobble beaches, quiet coves, river mouths, pictograph sites and unusual geological



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formations contribute to the astonishing beauty and variety of the Superior coast. On calm days, the green beds of lava intrusions reflect a deep-sea colour, while the white sand beaches make the water Caribbean-blue in the shallows.

By late summer, berries of all kinds are ripening: hips of prickly wild rose (*Rosa acicularis*), red bunchberries (*Cornus canadensis*), purple elderberries (*Sambucus* spp.), soft thimbleberries (*Rubus parviflorus*), and blue juniper berries (*Juniperus horizontalis*). Most of all we enjoyed picking the blueberries (*Vaccinium* spp.). Plump and sweet, these delicious berries ripening at the forest edge were equally appreciated by the black bears and gulls.

For two months we traversed the Canadian coast of Lake Superior hugging the shore as it dipped into bays and jutted out as peninsulas. We circumnavigated little islands amazed by the daily changes as the dark green boreal forest of jack pine (*Pinus*

banksiana) and black spruce (*Picea mariana*) eased into the multi-hued greens of the Great Lakes-St. Lawrence forest. Feathery limbs of great white pines (*Pinus strobus*) thrust skyward above the hardwood canopy of sugar maple (*Acer saccharum*) and yellow birch (*Betula alleghaniensis*).

Then one afternoon in the last week of August a brilliant splash of red in the hills of Batchawana Bay reminded us of the coming season. Soon hard white frosts would crisp the leaves and halt the flow of chlorophyll. The deciduous trees would reveal their true colours. By the time we reached our journey's end on Georgian Bay and returned to our home in these hills, red, orange and yellow would blanket the landscape from Lake Superior Provincial Park to the Algonquin Highlands – a scene so vivid that no painting or photograph could do it justice.

Our travels in the Arctic have taught us something about our Lake Superior

experiences. The landscape is grand, almost overwhelmingly so for a tiny canoe. Icy cold water temperatures, sudden mysterious fogs and autumn's ocean-like storm conditions humble even those that pilot thousand-foot freighters. But noticing the small things, like the arctic plants, the short but brilliant season of shoreline flowers that appear so fragile yet are amazingly resilient, even in the fiercest weather, reminds us of the importance of the parts within the whole. The cumulative effect of these little plants recalls to us our not-so-distant past, when, like Lake Superior, we were only a dream of the future.

Joanie and Gary McGuffin are Canadian wilderness ambassadors, photojournalists and conservationists. They helped to found the Lake Superior Conservancy and Watershed Council, an international non-profit dedicated to preserving the Lake Superior watershed. www.garyandjoaniemcguffin.com

Calendar of Events

May 9, 2009

NANPS ANNUAL NATIVE PLANT SALE
Markham Civic Centre
Markham, Ontario
Visit www.nanps.org for details.

May 21 - 22, 2009

WAKE UP AND PLANT THE NATIVES:
PLANTING TODAY TO PRESERVE
FLORIDA'S TOMORROW
West Palm Beach, Florida
The Florida Native Plant Society's
29th annual conference. To register
call 1-800-376-2292 or visit
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May 28 - 31, 2009

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June 4 - 6, 2009

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CONFERENCE
Millersville University
Lancaster County, Pennsylvania
Visit www.millersvillenativeplants.org.

June 11 - 14, 2009

THE WONDERS OF WILDFLOWERS
Inlet, New York
Photography workshop in the
Adirondacks with Kathleen Clemons.
Website: [http://www.adkpi.org/
workshops/2009/clemons](http://www.adkpi.org/workshops/2009/clemons)

June 13 - 14, 2009

WILD ORCHIDS OF THE BRUCE
PENINSULA EXCURSION
Bruce Peninsula, Ontario
This two-day excursion put on by the
Southern Ontario Orchid Society,
which encompasses a visit to
Flowerpot Island, costs \$269 per

person twin including taxes. That
covers accommodation, breakfast,
motorcoach transportation, and
guided wild orchid sightings.

Contact Margaret Hewings at
mhewings@tpi.ca call
905-634-7084.

July 22-25, 2009

CULLOWHEE CONFERENCE:
NATIVE PLANTS IN THE LANDSCAPE
Western Carolina University, North
Carolina
Visit www.wcu.edu/503.asp.

July 24, 2009

MIDWEST NATIVE PLANT CONFERENCE:
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McCormac at
ambrosia@columbus.rr.com or Kathy
MacDonald at kmc@one.net.

Native Medicinals in My Garden

by Paul Sakren

In the past 30 years I have grown many species of medicinal plants from all parts of the world, but I've concentrated on native species, especially those indigenous to the region where I grew up and still live, northwestern Connecticut.

Some of these species are easy to establish as long as they are given the right conditions. Still, extra care will often help them thrive. Local weed species are notorious for invading and choking out anything that can't compete with them, and factors such as drought, extremely cold winters, and excessive wet weather can affect the vitality of certain plants.

Zanthoxylem americanum (prickly ash) grows wild in a few places near my home. I have collected it as small offshoots which sprout from the ground around the older stands. It is fairly easy to transplant and is quite happy in poor, dry soil. But it grows rather slowly; it will take years before the tree gets large enough to provide a reasonable harvest of the inner bark, which is collected in early spring when the sap starts to run. Prickly ash is a wonderful stimulant to the whole system, its action a bit like capsicum without the intense lingering heat, although it is a very strong-tasting and pungent medicine with a "hot" bite. To Native Americans, who used it for dental complaints, it was known as Toothache Tree.

Cassia marilandica (Maryland senna) is our milder equivalent of the East Indian senna (*Cassia hebecarpa*), a traditional laxative. It's a beautiful shrub-like perennial for partially shady, moist sites. It grows up to five feet (1 1/2 metres) high and produces beautiful yellow flowers followed by decorative seed pods.

Although some growers recommend that you nick (scarify) the seeds, I have found it's sufficient to soak them for a day (this speeds germination). I have learned that it is easier to sow them first in cell flats and then soak

the entire flat in a tray of water for a day or two. Doing this early in the spring will have the benefit of exposing the seeds to fluctuations of temperature and this may also enhance germination.

Cassia grows fairly rapidly. It's fine in full sun as well as partial shade. It's also adaptable in terms of moisture needed: early in the season it needs a moist site but after that it can handle dry gravelly soil as long as the earth is fairly rich. *Cassia* can be overwintered in pots in a protected location and planted out the second year in a

gallon-size (four-litre) container.

Aralia racemosa (American spikenard) is one of my favorite native plants, not just for its medicine, but for its beauty, especially when in bloom and when fruiting. It seems to be extremely rare in my area; I have only found a couple of wild specimens growing in places that were once frequented by Native American tribes, along wooded rivers on damp rocky slopes. It could also be that they have difficulty surviving as seedlings. I stratify this species as ripe seed in moist sand in the fridge in fall. The



Maryland senna prefers partially shady, moist sites.

PHOTOGRAPH BY PAUL SAKREN

seeds will germinate readily outside in flats when the weather warms up, but they grow very slowly. They are also highly susceptible to slug damage, which is why I set the germinated flats high off the ground in shade or in a shady spot in the greenhouse. Covering the flat with a piece of hardware cloth will also help. The flats will overwinter well outside in a protected place, but they must never dry out completely.

Aralia likes constant but not excessive moisture. I have lost so many plants from seed that now, just before winter (when they have gone dormant), I separate the healthy seedlings from the soil and put them in moist sand in the fridge for the winter. I know they will be safe there. The sand can't be too moist and the seedlings should be checked every month to make sure they aren't getting moldy. Once established, *Aralia* makes a wonderful specimen shade plant as long as it gets the moisture it needs. After a droughty spell the plant may collapse and appear dead, but will often revive the following spring. The root in late fall makes an excellent pulmonary medicine and alterative.

Eryngium yuccifolium is known rather cheekily by the common name rattlesnake master, not because it can tame a rattlesnake, but because it has beneficial effects on the male organs. It is not only considered a male sexual tonic, but is generally good for the entire urinary system. It is easy to start in flats in the spring, doesn't require any stratification, and will grow over two feet (60 centimetres) high. At this point it blooms and sets thistle-like seed heads. The only challenge in growing it is that it's easily swamped by weeds which can limit its spread and even hamper its growth.

The worst weeds in my area, apart from the grasses, dandelions (*Taraxacum officinale*), and Queen Anne's lace (*Daucus carota*), are certain goldenrods (*Solidago canadensis*, *S. rugosa*, *S. altissima*). Because they spread by rhizomes, they



PHOTOGRAPH BY PAUL SAKREN

In late fall, the root of American spikenard (*Aralia racemosa*) makes an excellent pulmonary medicine and alterative.

choke the crowns of other less vigorous species while their flowering stems overshadow shorter plants. Goldenrods have wiped out one stand after another of *Echinacea purpurea* (purple coneflower), another native medicinal I have grown over many years. *Echinacea* has done best for me in a partly shaded area where the weeds are more easily controlled (although I don't know if this affects its strength as an immune system enhancer, for which all parts of the fresh plant are used).

Licorice (*Glycyrrhiza lepidota*) and *Grindelia* (*G. squarrosa*, *G. robusta* and other species), commonly known as gum plant, are not found in my area. They tend to be more western, but since they are major warriors in my

medicine cabinet, I grow them nonetheless. Licorice is easy to start but a bit slow-growing for the first few years, so I overwinter the plants in pots until they reach the one-gallon size, then plant them out in a well-drained loam that has been previously cultivated for another crop such as vegetables, annual herbs or flowers. Once a plant gets established it should spread by stolons and form a fairly vigorous patch, but I am still waiting to see how it competes with the grasses and goldenrods!

In spring, I start *Grindelia* from seed in flats like *Eryngium* and the others. It sprouts when the weather warms. This charming plant, which has coarsely-toothed shiny leaves and

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sticky, aromatic flowers, grows moderately quickly, so it needs to be repotted at intervals until it is in quart-sized (one-litre) pots. Then it can be planted out in a clean, well-drained bed on a slope. One caveat: the crowns must not be exposed to very cold winters with freeze/thaw fluctuations that crack and destroy them. When the weather warms, meltwater must be able to run away from the crowns (hence the recommendation of planting on a slope). At the same time they need sufficient moisture during the growing season. Planting them in a sheltered spot will also increase their chances...and yet they do need a lot of sun! For me they tend to die out after two or three years, so they need to be started annually to ensure a future crop, which comes in the second year. The unripe and freshly ripened flowering tops are used to make a tincture that is good not only for pulmonary ailments but also to stop the itch of poison ivy rash.

Finally, *Baptisia tinctoria* (wild indigo) is a plant I have been trying to understand for years. One year I grew a crop from seed that turned out to be *B. australis*, (wild blue indigo) which disappointed me very much. I have since been able to source *B. tinctoria* (from Prairie Moon Nursery, where they pre-scarify the seed). I planted out my first field specimens last year. Once again, germination is fairly easy, just treat the seed like *Cassia* using the soak method. If the seed is not scarified (rubbed between two pieces of sandpaper) it should be planted out to overwinter and stratify. Once the seedlings have started to grow they must never get too wet. Let them dry out completely before rewatering. The soil must not only be well-drained (I add pea gravel to my mix) but also on the acid side. I finally found a few stands of *Baptisia tinctoria* growing in the hills of northwestern New Jersey last year and understood at last their habitat requirements: acidic, dry, rocky, partly shaded elevations on the sides and tops of hills, along roadsides and

walkways. But it can be grown in the garden if given the right conditions.

The only medicinals I have grown that do not require periodic cultivation practices such as weeding, watering and feeding are the following trees, shrubs and shade-loving perennials: *Cimicifuga racemosa* (bugbane, black cohosh, squaw root - used by Native Americans for many conditions from gynaecological issues to snake bites), *Polemonium* spp. (abscess root, sweatroot), *Sanguinaria canadensis* (bloodroot, a strong cathartic stimulant), *Trillium erectum* (birthroot, good for many women's issues), *Polygonatum canaliculatum* (giant solomon's seal, with a wide variety of uses which affect the epithelial tissues), *Hydrastis canadensis* (goldenseal, used for its astringent and antiseptic actions), *Asarum canadense* (wild ginger, which contains aristolochic acid, a carcinogen, and has been discouraged for internal use), *Collinsonia canadensis* (stone root, good for gravel in the kidneys), *Caulophyllum thalictroides* (squaw root or blue cohosh, another female medicine), *Scutellaria ovata* and *S. lateriflora* (skullcaps, which have nervine properties) and *Podophyllum peltatum* (mayapple, another strong cathartic).

None of these medicines should be used without the supervision and advice of a trained and experienced herbal practitioner, since they can have unpredictable effects if used improperly. But for their ornamental and ethnobotanical value they equal or surpass, for me at least, the attraction of classic garden perennials. Together we are brothers of the land, and if their potencies ever come in handy for my use, I know where to find them.

Paul Sakren is a botanical herbalist, photographer, and landscape gardener who lives on Chief Waramaug's old stomping ground in northwestern Connecticut, where he has befriended the local plants all his life. Several years ago a well-known designer bought a large Zanthoxylum (the Toothache Tree) from Paul for a garden installation for a dentist!

Struggle to Save Ojibway Prairie

by Nancy Pancheshan

The Ojibway Prairie Complex in Windsor, Ontario is a rare and unique five-park system that encompasses some of Canada's most endangered ecosystems. A massive development proposal by Coco Paving, directly adjacent to one of the parks, the Ojibway Prairie Provincial Nature Reserve, and a further 32-hectare (80-acre) plaza for the proposed bridge crossing, directly adjacent to Black Oak Park, threaten to compromise the natural features and ecological function of these ecosystems.

The Complex represents half of the remaining natural areas in Windsor. It filters millions of litres of water, cools and cleans the air and provides habitat for over 4,000 species of plants and animals.

The Ojibway Prairie Provincial Nature Reserve is the best example of the remaining .5% of Endangered tallgrass prairie in Canada. Professor Larry Lamb of the University of Waterloo in Waterloo, Ontario calls Ojibway Prairie an "important ecological reserve" representing an ecosystem that once covered a large part of North America. He maintains that it has greater biodiversity than Algonquin Park or the Bruce Peninsula. It harbours more rare species of plants and animals than any other provincial park in Ontario, with 90 plants at risk, of which four are endangered and three threatened. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) lists slender bush-clover (*Lespedeza virginica*), purple twayblade orchid (*Liparis liliifolia*), prairie white-fringed orchid (*Platanthera leucophaea*), and pink milkwort (*Polygala incarnata*) as endangered. On the threatened list are the lovely mauve-flowered dense blazing star (*Liatris spicata*), the white spikes of colic root (*Aletris farinosa*) and willow aster (*Symphotrichum praealtus*).

The prairie white-fringed orchid is extirpated in much of its large historic

range and is very rare throughout its current range. This species depends upon wet prairie habitat, most of which has been destroyed as a result of drainage and conversion to agriculture, fire suppression, and intensive mowing. Large populations no longer occur in the United States since most of the grasslands east of the Mississippi River have been destroyed. The only population with more than 2,000 individuals is in Ontario. Many of the small, isolated populations that remain are infrequently visited by appropriate pollinators, putting their survival into jeopardy.

An Ontario Municipal Board hearing is slated for July 6th, 2009 to hear a proposal to build three to four big box stores over an area of 38,000 square metres (over 400,000 square feet) with an adjacent 2,350-space parking lot near the Ojibway Prairie Complex. This would bring an additional 130,000 vehicles per week into the area increasing air, water, noise and light pollution. The proposal also requires a 10-metre (30-foot) widening of one of the roads, construction of a 10-metre median, loss of a drainage ditch plus construction of large buildings. To make matters worse, this project is only the beginning: a 166-hectare (411-acre) hotel and commercial development is proposed for surrounding land in the not-too-distant future.

The development threatens to change the hydrogeology or underground “water activity”. Prairie plants need the groundwater at a certain depth; if you change that, the prairie dies. Prescribed burns, essential to the health of tallgrass prairie, will likely be affected as well. The Ministry of Natural Resources (MNR) has documented a decrease in the number of burns over the last five-10 years due to abutting residential development.

Black Oak Park – the other threatened preserve – has a G1 rating in the NatureServe rating system

(NatureServe represents an international network of biological inventories known as natural heritage programs or conservation data centers operating in all 50 U.S. states, Canada, Latin America and the Caribbean). That means that this type of ecosystem occurs less than five times *in the entire world*. It is not just a Canadian, but a global, rarity. Proper planning principles must be observed to protect this fragile ecosystem for future generations.

I have always taken my children, Emily and Matt, to see the progression of the prairie from early spring into late fall, watching it rise from ankle to towering heights. Although my children are getting older, they are still captivated by the beauty. The prairie is brimming with delights at every turn of the path – a firework display of flowers and grasses. We had been walking among rare and endangered species, not even knowing it, simply appreciating the beauty, thinking every city had this.

Since mid-February press coverage of this issue in the Windsor area has resulted in protests from individuals and concerned organizations, and the Friends of Ojibway has received over \$6,000 in donations. But more money



PHOTOGRAPH BY BETTY LEARMOUTH

The wild lupine is a lovely May bloomer in the Ojibway Prairie Complex

is needed to hire legal representatives and secure scientific experts. Your donation would be very much appreciated, but even more we would ask that you write letters to your provincial, federal and municipal representatives asking them to preserve the Ojibway Prairie Complex. Visit the website at www.saveojibway.com to find sample letters and addresses of elected officials. You can also e-mail nancy.pancheshan@sympatico.ca or call 519-978-3590. Please help us save this priceless ecosystem.

Nancy Pancheshan is the president of the Friends of Ojibway.

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Manitoba to Nova Scotia, south to Florida and west to Louisiana and Kansas. They will grow in sun, part sun or shade. They are usually found along creeks, ditches, roadsides or woodland edges where roots are shaded and they can grow towards the light. In harsh conditions they will die back naturally but in smaller gardens I'd recommend pruning them back since they can be extremely vigorous. In good conditions they could grow up to six metres (20 feet) in their first year and, with suitable support, could eventually reach 15 metres (50 feet).

The plants in my garden only get watered by whatever rain comes their way. On my east wall this is minimal since we rarely get driving rainstorms from the east in summer. The plants clearly benefit from a cool root run and moisture under the patio stones. When digging up smaller volunteer plants, I notice the roots can be quite extensive. This leads me to believe that mature plant roots find adequate moisture in the subsoil. In hotter climates they would clearly need more moisture, shade and a richer soil.

C. virginiana attracts innumerable species and varieties of bees, flies, wasps, spiders, ants, butterflies, moths and beetles for its nectar and pollen or as a source of prey. Hummingbirds are also frequent visitors.

Aboriginals used this plant for many purposes. The Iroquois made an extract from the stems to induce hallucinogenic dreams and also as an infusion with milkweed (*Asclepias* spp.) for backache. Both Cherokee and Iroquois used infusions from the roots for kidney, stomach and nervous disorders.

The popular use of *Clematis virginiana* in pioneer medicine probably originated with the Native Americans. It was a common remedy for skin disorders, itching and venereal eruptions. The leaf of the plant was used for treating cancers and tumors, as well as for fevers, ulcers and scrofula. Past records show that it was also considered an effective diuretic and purgative as well as a cure for

rheumatism and palsy.

The early settlers often called *C. virginiana* traveller's joy or old man's beard, two common names for the very similar European *Clematis vitalba*. This old world plant was associated with beliefs dating back many hundreds of years. The ancient Romans believed that clematis grown up the walls protected their homes from thunderstorms while the Germans believed such plants would attract lightning. In French legend it was called *herbe aux gueux* (beggar's herb) because French beggars were said to crush the leaves into fine powder and apply it to their skin to raise ulcers. Their aim was to induce pity and hoped-for generosity from passers-by. Hence clematis was perhaps unfairly known in the language of flowers as a symbol of artifice or ingenuity.

If you need a tough plant to enhance habitat or attract more insects, *Clematis virginiana* could provide the answer.

Gillian Boyd is an amateur naturalist and long-time organic gardener with a concern for the environment.

Answers to WINTER 2009 QUIZ

Question #1:

Name a tree whose leaf is in the shape of a star.

Answer: Sweet gum (*Liquidambar styraciflua*)

Question #2:

Which tree requires high temperatures such as those created by a wildfire for its cones to open?

Answer: Jack pine (*Pinus banksiana*)

Question #3:

Name a native plant (or two or three) whose seeds are spread by ants.

Answer: Bloodroot (*Sanguinaria canadensis*), wild ginger (*Asarum canadense*) and wood poppy (*Stylophorum diphyllum*) are three examples. The seeds of these plants have a fleshy attachment or oil body called an elaiosome which is very nutritious. Ants carry the seeds to their nests, eat the elaiosomes and discard the hard-coated kernels in their debris-enriched chambers. The ant midden provides the ideal conditions for the germination of seed.

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