The Blazing Star

Spring 2007, Volume 8, Issue 2

Newsletter of the North American Native Plant Society

Native Plant to Know

White Wood Aster

Eurybia divaricata
[Aster divaricatus]

by Catherine Siddall

White wood aster (*Eurybia divaricata*) is an unsung workhorse of the shady garden and woodland. It has graced an inhospitably shady place in my Toronto garden for many years.

As with many native wildflowers that bloom in late season (late August – September for white wood aster), it is often overlooked in favour of the showy and very welcome spring-flowering natives. Nurseries despair of any sales of this plant until well into the summer. Often the flowering of the plant has been "pushed" to an earlier time so that customers will see it blooming and be tempted to buy it, before the nursery closes for the season. (Don't worry. The plant will revert to a more normal later-flowering time the next season, once it has established itself in your garden.)

Over the years I've added wood asters to many gardens I've designed and maintained. The plants have come from a variety of sources and they've been planted in a wide range of conditions so, needless to say, the individual plants have performed differently in these less-than-scientific trials. They have thrived in often-deep shade in sandy, clay and woodsy soils. In most cases the gardens are irrigated but I know that these plants are reasonably drought-tolerant too.

I was never a fan of the aster family because most asters I encountered had mildewy leaves hanging limply off the lower half of mostly bare stems. They were often tall and gangly in garden beds and the sometimes garish purple flowers looked small and coarse to my critical eye. Not only that, but when we left them to go to seed in the large Spadina House gardens (to provide food for the birds), they rewarded us by seeding madly and creating a weeding nightmare in the spring. The clumps also seemed to bulk up quickly and needed regular dividing. Too much work.

I have no such complaints about the white wood aster. Slowly emerging in the spring, the dark, almost black, shiny leaf tips signal the plant's awakening. This can often be late spring; you have to remember where *Eurybia divaricata* is growing and not be tempted to plant spring bloomers in

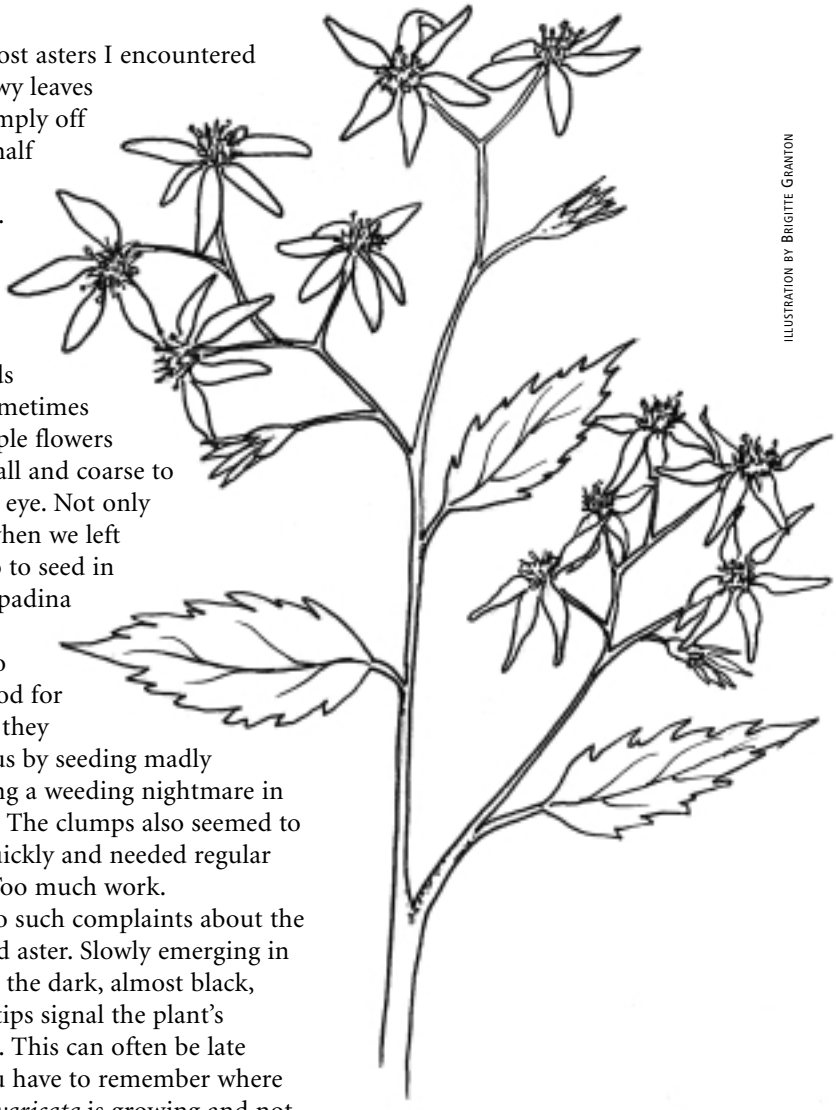

Illustration by Brigitte Granton

Continued on page 12

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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Letter from the Presidents

From its inception, the North American Native Plant Society set out to study, conserve, cultivate and restore the continent's native flora. With ever-growing threats and challenges…be they the bulldozer and urban sprawl, pollution, invasive plants, global warming, or simply the total disregard of what is trampled underfoot…. the loss of diversity and suitable habitat continues. NANPS, as a member organization, is refocusing and revitalizing our mandate. Your Board has undertaken a number of important initiatives, both old and new, to improve overall effectiveness, efficiency and operations. Our activities this year include:

- continuing to provide relevant articles via regular publication of the *Blazing Star*
- upgrading www.nanps.org by improving security and graphics, and expanding content (it is now regularly monitored and updated)
- providing opportunities for member Seed Exchanges
- sponsoring a Naturalized Landscape Workshop
- introducing our new Native Plant Garden Awards
- adding a native plant quiz to the *Blazing Star*
- exhibiting at the Guelph Organic Conference in January 2007
- monitoring our environmentally sensitive properties at Zinkan Cove and Shining Tree Woods
- organizing a Plant Rescue for this spring (Property will be northwest of Markham and Sheppard Avenues in Markham, Ontario. Details on website at www.nanps.org.)
- exhibiting at Seedy Saturday, Earth Day, the Green Living Show
- holding our Annual Native Plant Sale
- following through with our campaign to retain and regain members
- planning exciting excursions to nature preserves
- encouraging gardening practices that help restore the earth, save energy and create landscapes that cool homes in summer
- seeking new opportunities and funding to support them (e.g. recent project approval and funding from the City of Toronto Council for our Downspout Garden initiative)
- holding our annual general meeting and plant sale in the fall

NANPS is a volunteer-based organization. In order to do what we do - and to do it better - we very much need increased member involvement. We need and appreciate your input both in terms of ideas and active volunteering. Spring is now upon us, and NANPS is growing and expanding our reach.

Miriam Henriques and Harold Smith, Co-Presidents

ANNUAL SPRING PLANT SALE

SATURDAY, MAY 5, 2007 - 10AM – 3PM
MARKHAM CIVIC CENTRE (northwest corner of Highway 7 at Warden Avenue), Markham

Please note: last-minute cancellations from our growers may mean that not all of your order is available. NANPS reserves the right to make substitutions. If you choose to, you may replace these substitutions with other plants from the sales floor or donate the cost difference to NANPS and receive a tax receipt. If a large portion of your order is unavailable, you will also receive a $5 plant sale gift certificate for every 10 plants that are substituted. A small handling fee ($5 for the first 15 plants, $2.50 for each additional set of 15 plants) applies to your total order.

PLANT SALE VOLUNTEERS ARE STILL URGENTLY NEEDED!

Please contact volunteer@nanps.org to see how you can help.

Markham's acclaimed VIVA bus service runs from the Finch and the Don Mills subway stations to the Markham Civic Centre. Visit www.yorkregiontransit.com/serviceupdates for travel details.

Sowing the Seed

by Irene Fedun

The weather set the mood for my arrival at Cecil Morris's home in Burlington, Ontario. October rain had given way to a deep fog that parted unwillingly as I made my way up the long, forest-lined driveway. Clearings emerged from the fog – a vegetable garden, a sand prairie, a three-bin composter.

At the end of the drive I was startled by the sight of an enormous, elaborate bird feeder suspended along a wire some six metres (20 feet) off the ground, attached to mature trees on either side of the drive and equipped with baffles to confound the squirrels. Cecil fills the feeder from the ground via a rope-and-pulley system, providing ample food for jays, chickadees, nuthatches and many other birds. For wildlife, the appeal of Cecil's one-hectare (two-acre) property doesn't end there. His native plant gardens offer seeds, nuts, fruits and insects, not to mention the cover and nesting possibilities.

Almost 50 years ago, Cecil planted trees he purchased for one cent apiece from the then Department of Lands and Forests. Mostly they were white pines (*Pinus strobus*), white spruce (*Picea glauca*) and red pines (*Pinus rubra*). The red pines have not fared as well as the others. Dust from a nearby limestone quarry is slowly killing them off. Curiously, the pH of the soil has not changed – it remains at 6.5. Cecil is not too upset at the loss of the red pines since it helps thin out the row plantings he did at the suggestion of the government. Now he wishes he had used a less regimented approach. He also should have planted lots of oaks, especially white oaks (*Quercus alba*). "I should have been digging around to find some nut trees too," he says. Cecil has made up for it by nurturing the red ashes (*Fraxinus pennsylvanica*) and one black ash (*F. nigra*) along the driveway. Half of them came from a plant rescue.

In his backyard, he has planted shagbark hickories (*Carya ovata*) and Kentucky coffee trees (*Gymnocladus dioicus*) that are doing wonderfully well. Pagoda dogwoods (C*ornus alternifolia*) have appeared on their own. The one tree that did not appreciate Cecil's loamy clay was the tulip tree (*Liriodendron tulipifera*).

Aiming for a high biodiversity garden in his mostly shady backyard, Cecil has also planted white and red trilliums (*Trillium grandiflorum* and *T. erectum*), blue cohosh (*Caulophyllum thalictroides*), the woodland-loving zigzag goldenrod (*Solidago flexicaulis*) and false Solomon's seal (*Smilacina racemosa*) that produces a crop of heavy berries turning ruby-red in the fall. And that's just for starters.

A bog garden ("really just a pond", says Cecil) dominates the front yard. Various cultivated varieties and native plants hug the edges of the pond such as blue flag iris (*Iris versicolor*), Joe-pye-weed (*Eupatorium maculatum*), turtlehead (*Chelone glabra*), two meadow-rues (*Thalictrum pubescens* and *T. dasycarpum*) and many others. The "bog" blends seamlessly into surrounding plantings that include switchgrass (*Panicum virgatum*), a tallgrass prairie native that likes relatively wet areas, and big bluestem (*Andropogon gerardii*), another tallgrass plant, but one that prefers dry open places. No doubt this is a testament to how adaptable some native plants are.

The five-year-old sand prairie was a labour of love and determination. Cecil cleared about 460 square metres (5,000 square feet) of woodlot along the driveway. A dump truck brought in a load of sand to a depth of 45 centimetres (18 inches). Cecil's chosen plants – green-headed coneflower (*Rudbeckia laciniata*), big bluestem, Indian grass (*Sorghastrum nutans*), wild lupine (*Lupinus perennis*), the rich blue prairie lobelia (*Lobelia siphilitica*), sky blue aster (*Aster oolentangiensis*) and many others – grow well but yearn for more sunlight and sometimes end up flopping over. To his delight, the bright yellow flowers of tall prairie dock (S*ilphium terebinthinaceum*), which usually takes a long time to reach blooming stage, come every year now.

Cecil burns the sand prairie once a year in the spring using a large propane torch. It's a reliable way of getting rid of the garlic mustard

Continued on page 4

Join us for these great events!

GREEN LIVING SHOW Friday April 27th- Sunday April 29th

Exhibition Place, Toronto, Ontario.

NANPS will be hosting a small display garden at this special event. If you'd like to volunteer to staff NANPS booth please contact nanps@nanps.org. Volunteers receive free admission to the show.

NANPS is hosting booths **at Montgomery Inn** in Etobicoke, Ontario on **Saturday, May 12, at the Harbourfront Herb Fair** in Toronto **on Sunday, June 3**, and **at Toronto's Green Festival on Saturday June 12th**. Help NANPS by volunteering to staff these booths! Contact nanps@nanps.org for more information or to volunteer.

Continued from page 3

(*Alliaria officinalis*) that would otherwise take over. He's managed to cut the reoccurrence of this unwelcome foreigner down to one-eighth of what it once was.

To illustrate the sad truth of alien invasions, Cecil tells the heartbreaking story of his mayapples (*Podophyllum peltatum*). When he bought his property in 1958 these distinctive spring bloomers carpeted the ground. Cecil assumed they'd always be there - those determined fat buds that grow up into fat stalks cloaked in giant umbrella leaves. He didn't realize until it was too late that the garlic mustard was proceeding to wipe out understorey plants through a combination of massive seed production and the release of phytotoxic compounds that depress the growth of grasses and forbs.

The prairie fronting the property also benefits from an annual burn. Cecil has become quite adept at this art, working against the wind for a hotter and lower burn. Some of the beneficiaries are the beautiful, pale-blue-flowered *Campanula americana* (tall bellflower), asters of all kinds, a couple of baby oaks, sneezeweeds (*Helenium autumnale*), the aptly named *Helianthus giganteus* or tall sunflower (with last year's rain some of the sunflowers were a majestic three metres or 10 feet high), and the equally impressive tall coreopsis (*Coreopsis tripteris*).

On the fringes of the roadside prairie where the pine/spruce plantation begins, pokeweed (*Phytolacca americana*) thrusts its reddish stems out of damp pockets. In the fall the skyward-reaching flower clusters are transformed into fleshy purple stems collapsing under the weight of blue-black berries. The birds relish the fruit and this, no doubt, explains why pokeweeds are poking up even in the shade of the woodlot.

Another prolific plant in Cecil's woods is the red elderberry (*Sambucus pubens*). It may be the reason why red-bellied woodpeckers – for whom elderberries are a preferred fruit – have been spotted on the property. And they're only one of over 40 species of birds that use this shrub for food, shelter and nesting materials.

Using a combination of ingenuity, muscle power and native gardening technology, Cecil has created a haven for his family, as well as resident and migrant wildlife.

Irene Fedun is the editor of The Blazing Star.

Photo courtesy Lois Morris

Cecil Morris in his garden

Members' Contributions

On one of my visits to the University of Guelph to a course taught by the late Henry Kock, I asked about fertilizers. Henry's reply was: "Why would you want to keep plants on life support?"

Later he went on explain that if a plant lives in a certain location, it's because it belongs there. In other words, don't try and grow something in an inappropriate location using artificial means.

- John Meagher, St. Thomas, Ontario

To the Rescue: Tips for a Successful Plant Dig

by Mariette Nowak

Plant rescues are a rewarding way to limit the loss of our native flora and beautify our gardens and/or natural areas. Early spring is one of the best times to organize plant rescues. In northern climates, plants are dormant, the soil is usually damp, rain is frequent, and there's a long growing season ahead - all of which help to insure the success of transplants.

As the director of Wehr Nature Center in Milwaukee County, Wisconsin I organized a weekly "Bulldozer Alert" for many years at which volunteers and I would harvest plants from development sites and replant them at the center. I'd like to share with you tips for organizing a successful plant dig.

Finding Sites – Network with real estate agents, contractors and developers, and ask them to notify you about likely sites.

Permission – *Always* obtain permission from the property owners. Nothing can damage your organization's reputation as much as trespassing on another's property.

Waivers – All participants should be asked to sign a waiver of liability for the owner and for your organization.

Telephone Trees – A site may become available at a moment's notice, so organize a phone tree. Phone trees can be arranged in branches according to telephone exchange or geographic area. Each branch head can call three to four others, who in turn will call another three or four. Small sites may be able to accommodate only a few people.

Prepare Planting Site – Plan your planting site in advance - one that will match the dig site as much as possible. Consider soil type, moisture, sun, exposure, etc. If possible, prepare the planting site ahead of time by removing other vegetation, weeding, etc., so that transplanting can be done as quickly as possible. All these things will, of course, help insure the survival of the plants.

Clothing – Wear long sleeves, pants, gardening gloves and sturdy shoes. I know people who have gotten poison ivy from the roots of invisible plants, and could likely have prevented this with protective clothing.

Equipment – Sharp spades are essential. Plant containers can be cardboard boxes lined with plastic, plastic ice cream pails or regular three-gallon pails. Although plastic bags are used by some, I think rigid containers are more protective. Plastic sleds or laundry baskets with rope handles are handy for pulling heavy boxes over rough terrain. Think it through: if part of your route is through shin-deep mud you need to be able to carry, not drag, your load.

Digging – Dig a circle around the plant, disturbing roots as little as possible, and keep the soil around the roots intact, as you lift the plant to your container. This will preserve the fine root hairs and the mycorrhizal fungi associated with the roots. If the plant has buds, flowers or fruits, cut them off so the plant will use all its energy for growing new roots, not forming seeds and flowers. If the plant is in leaf, remove up to 50% of the leaves, especially those at the tip, matching the amount of foliage to the root system that remains after digging.

Don't be Greedy – This is especially important when there is a limited number of prized species available. I encourage planting at restoration sites or nature centers, where the plants are likely to have a more secure future. At the nature center where I worked, volunteers transplanted most plants to our grounds, but could take home one box for their own yards. This was a reasonable reward for their hard work.

Planting – Re-plant immediately whenever possible at the same depth that the plant was originally growing. Water well. In dry soils or during dry season, water the hole for the plant before putting in the plant and then again after planting. Mulch the transplant well, matching the mulch to that in the plant's original habitat when possible.

Post-Dig Care – For the first two or three weeks, water twice a week. For the rest of the first growing season, a weekly watering is usually sufficient.

Thank you – Don't forget to send a thank you note to the owners of the site.

As well, don't forget to be personally thankful for your good fortune. In the Milwaukee area, dig sites are very rare these days, since few undeveloped sites remain, and the Wehr Nature Center has not sponsored plant digs for many years. Most native plant landscapers will have to purchase plants, just as others purchase cultivars.

As Wendy Woolcot, land manager at the Schlitz Audubon Nature Center in Milwaukee says: "It still surprises me when people who should know better assume that landscaping with native plants should be cheap. The cost of a lawn is accepted, like death and taxes, but actually paying for a wild landscape seems wrong because those plants should 'be there anyway.' Well, the days are gone when we could dig up a few plants from Grampa's woods and start our own little nostalgic garden. Why should the endangered wildlings, plants that can't be raised on an assembly line and won't grow in every soil, come back for free?" I couldn't agree more.

Mariette Nowak is a member of the Milwaukee-Southwest/Wehr (WI) chapter of Wild Ones. This article, originally published in the March/April issue of the Wild Ones Journal*, is adapted with permission of Wild Ones: Native Plants, Natural Landscapes (www.for-wild.org).*

NANPS will be organizing plant rescues this spring. Look for details on our website at www.nanps.org.

The Atlantic Coastal Plain Flora of Nova Scotia

by Patti Green

The Atlantic coastal plain flora are a unique and collectively rare group of plants which exist from Nova Scotia south along the eastern coastline of the United States, and in isolated patches around the Great Lakes. This diverse group of plants comprises 64 individual species, most of them taxonomically unrelated, including woody shrubs, herbaceous flowers, graminoids (grasses, rushes and sedges), ferns and aquatic plants.

The plants have an interesting history. They migrated north to Nova Scotia from Massachusetts during the last glacial period in North America, 12,000-14,000 years ago. During this time, parts of the continental shelf were covered with an ice sheet up to one kilometre (3/5 of a mile) in thickness. As a result, sea levels were approximately 60-100 metres (65-110 yards) lower than they are today, exposing a bridge of land between Massachusetts and southern Nova Scotia. Plants invaded the land exposed by the retreating glaciers, colonizing this area of their northernmost distribution.

The flora of the coastal plain are unique in their biology as well, and are tightly constrained to the habitats they occupy. These plants thrive in low-nutrient environments under conditions of periodic flooding and natural variations in water levels. They predominantly inhabit bogs, sandy or gravelly lakeshores, and, to a lesser extent, streams and estuaries. The plants are generally small in size; the flowers on some species are no larger than the size of a pinhead. The plants are slow-growing, perhaps a result of their preference for cooler, nutrient-poor environments. They also experience low seed production. Due to their small forms and reduced growth and reproductive rates, this group faces serious competition with faster-growing, more robust plants. Consequently, the coastal plain flora frequently colonize extreme environments, where seasonal changes in water levels and exposure to wind, wave and ice energy inhibit the growth of other species.

Some plants have developed exceptional means of overcoming the limitations associated with living in challenging environments. One fascinating example is a group of plants called the bladderworts (Uticularia) that comprise five species of the Atlantic coastal plain flora. These tiny plants often grow less than 10 centimetres (four inches) high and survive in harsh environments through carnivory. The bladderworts include both aquatic and terrestrial varieties found free-floating or loosely attached in the waterlogged soils of bogs and fens, or along lake or river shores. These environments are usually devoid of soluble mineral nutrients, as a consequence of either low inflow or continuously moving water that removes dissolved nutrients from the soil. Like the sundews (Drosera) and the pitcher plants (Sarracenia), the bladderworts sustain their nutritional needs by consuming small prey. Most of a bladderwort is submerged;, the only visible portion may be the tiny flowers, which are bright yellow or lavender, depending on the species.

The bladders (hollow appendages for which the plants are named) of this group function as physical traps; the bean-shaped, thin, transparent contraptions are found on the submerged or under-ground stems of the plants. The traps themselves are largest on the aquatic forms and even then may only reach 10 millimetres (less than half an inch) in diameter! Despite their small size, these bladders are recognized as one of the most sophisticated structures in the plant kingdom, capable of capturing protozoa, rotifers, water fleas, mosquito larvae, and even new

Photo courtesy J. Brownlie

*Purple bladderwort (*Uticularia purpurea*)*

tadpoles and small fish fry! Unlike in some carnivorous plants, the trapping mechanism of the bladderworts is run entirely by physics. Water is constantly pumped out by cells in the bladder walls to create a vacuum of osmotic pressure. Trigger hairs located near the outside entrance of the bladder are wired to a 'trap door' of flexible cells. When prey contacts the trigger hairs, the seal on the trap door is disturbed, the door opens and a wave of water is sucked into the empty bladder, sweeping in the organism lurking at the entrance. The entire process occurs in about 1/100th of a second! The prey will be digested over the next few hours or days. The bladder is ready for activation again in about 15 minutes, the time it takes for water to be pumped out again. Beak-like appendages (terrestrial forms), or antennae (aquatic types) extending from the door of the bladder assist in "guiding" food to the door, and obstructing the passage of inorganic or oversized substances which may needlessly activate the bladder trap.

Sundews are another group of carnivorous plants that call the coastal plain home. The spoon-leaved sundew (*Drosera intermedia*) and the Endangered thread-leaved sundew (*Drosera filiformis*) both inhabit acidic bogs and infertile lakeshores. These plants are insectivorous, terrestrial species with special adaptations for luring, capturing and digesting insects. The leaves of the sundews are equipped with gland-tipped tentacles that exude a sticky mucous to attract prey. The tentacles respond to the touch of prey in one localized area, and move to maximize their contact with the insect, which dies within 15 minutes from exhaustion or asphyxiation. Enzymes are secreted to digest the animal and the resulting nutrients are absorbed on the leaf surface. This method of carnivory supplements the nutrients obtained from their shallow rooting in infertile soils.

For several of these plants, there are drawbacks to choosing such a highly specialized suite of environmental conditions in which to thrive. The Atlantic coastal plain flora (ACPF) are extremely sensitive to disturbance of their habitats. Stabilization of water levels through hydroelectric dams and watercourse alteration reduces the competitive advantage of these species over plants that cannot tolerate water level fluctuations. Several practices - including sewage disposal, logging, agriculture and the use of lawn fertilizers - increase nutrients, creating conditions that favour the growth of other, potentially non-native plants. Residential development is likely the biggest current factor in the threat to the ACPF, through shoreline alteration, trampling, ATV use, and habitat destruction.

Photo courtesy The Nova Scotia Nature Trust

Endangered thread-leaved sundew

Eleven species of the coastal plain flora are listed by the Committee on the Status of Endangered Wildlife in Canada as nationally Endangered, Threatened, or Of Special Concern, and five are listed as globally at risk of extinction.

Protecting Threatened Coastal Plain Flora

Steps that individuals can take to conserve coastal plain plants in their natural habitats:

1) Learn to recognize these plants and their typical habitats. This is the first step toward any attempt at conservation.
2) When building wharves or boat haul-ups, beaches or any other shoreline structure, select locations away from species of concern. Use floating docks rather than fixed docks or beaches.
3) Maintain septic systems in proper working order and do not use lawn fertilizers.
4) Leave buffers of natural vegetation along lakeshores and waterways to preserve water quality.
5) Do not drive ATVs along lakeshores or in bogs.
6) Avoid introducing non-native plants to your property.
7) Get involved in activities that support the conservation of these plants.

Patti Green is a Conservation Projects Coordinator for the Nova Scotia Nature Trust (www.nsnt.ca). The ***Nova Scotia Nature Trust*** *is a charitable organization with a mission to protect ecologically significant areas of private land in the province by working with landowners, raising community awareness and encouraging private land conservation. For the past eight years, the Nature Trust has been partnering with other organizations to protect the fragile wetland habitats of the endangered Atlantic coastal plain flora. The Nature Trust engages local communities in hands-on land stewardship through volunteer rare-plant monitoring and property guardianship programs, formal securement of high-priority habitats, permanent conservation agreements with landowners, and acquisition of land through donations and purchase. Patti can be reached at 902-425-5263 or patti@nsnt.ca.*

Designing a Cottage Garden in Steeltown

by Paul O'Hara

I just moved into my first house - a little bungalow in Hamilton, Ontario. Within two days of ownership bills appeared in my mailbox, the roof started to leak, and local dogs were leaving their delightful little sculptures on my lawn. Wow! Modern adult life. Hip hip…

I've been designing and building native plant gardens for a number of years so it's great to have the chance to design and build my own. I would like to share some of my thoughts with *Blazing Star* readers for designing my front yard. These are the existing conditions:

- **Front yard:** almost entirely covered with asphalt for two-car parking; asphalt continues along the side of the house and into the back
- **Soil:** the house sits on a geological formation called the Hamilton Bar, a long pile of sand and gravel that runs through the heart of the city
- **Area:** (8 metres x 7 metres) 27 by 23 feet
- **Aspect**: southeast, lots of morning and mid-day sun, little in the afternoon
- **House:** three windows with pink shutters, two from living room, one from master bedroom; door on the north side; pinkish shingles on the roof; white vinyl siding; air conditioner front along with a half dozen Moonray lights
- **Existing Vegetation:** a 7.5-metre (25-foot) silver maple (*Acer saccharinum*) and a three-metre (10-foot) white cedar (*Thuja occidentalis*) at the corner of the neighbour's house
- **Foundation plantings**: one hydrangea (*Hydrangea* sp.), a shrubby serviceberry (*Amelanchier canadensis*), a dwarf Alberta spruce (*Picea glauca* var. *albertina*), a horizontal juniper (*Juniperus* sp.), and some minor perennials; the other neighbour's privet hedge (*Ligustrum vulgare*) runs knee-high down the south property boundary

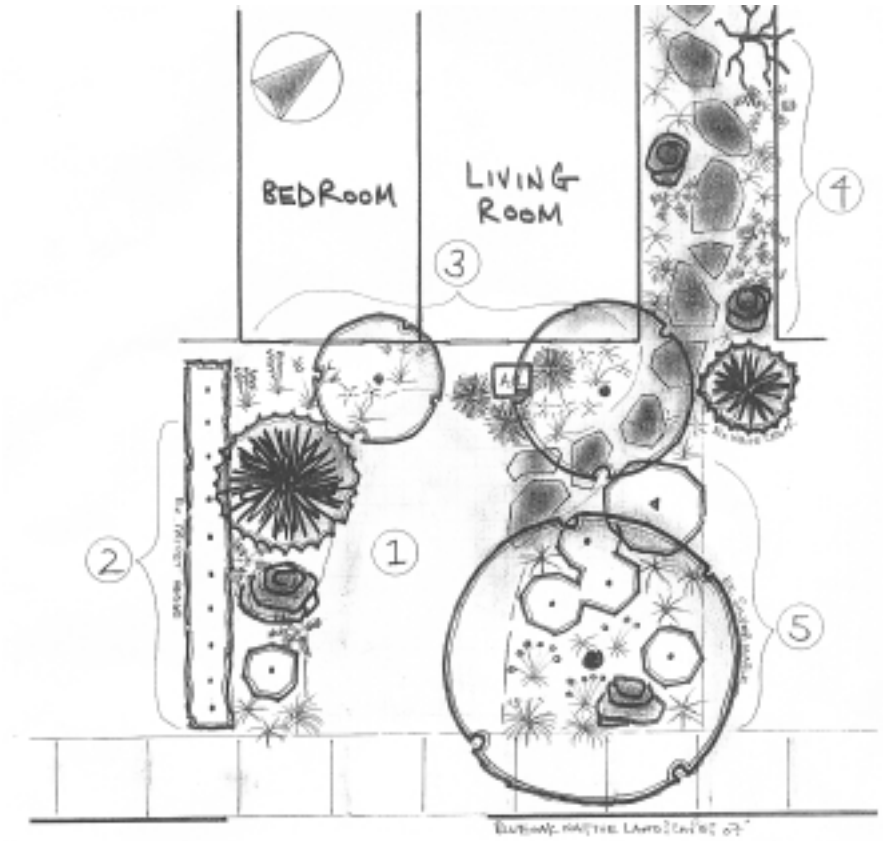

DIAGRAM COURTESY PAUL O'HARA

Paul O'Hara's garden design for his new home.

Needless to say, the existing conditions add up to ugly. The asphalt has to go as well as the pink shutters (I'm thinking green). I don't need parking for two cars, just one generous spot for my work truck. The morning sun is wonderful as well as the view of the neighbourhood from the living room. My bedroom could use a little screening and buffering from the buzz of vehicle traffic. Some winter interest is desirable and the air conditioner needs to be blocked. Most of the existing shrubs will be given away along with those god-awful Moonray lights. It's a pretty little cottage – built in 1890 - that needs a pretty cottage garden. Follow the numbered landscape drawing to see what I came up with.

1) Driveway

I cut out a scaled construction paper rectangle of my truck and moved it around the page to ensure I had enough parking space. My business partner's Bobcat will make quick work removing the hot, impermeable, asphalt surface. In its place I have planned a compacted gravel driveway topped with a couple inches of soft, white pine needles. I have used this look to nice effect along garden pathways - soft on the feet and good for creating the cozy, cottage look. With landowner permission, the white pine needles can be gathered judiciously from local pine plantations in areas where there is no significant returning ground flora.

2) South Boundary

A large caliper evergreen tree will be planted in front of the bedroom window for noise and sight screening. Some would say white pine (*Pinus strobus*) grows too big for this tiny front yard but who cares - every Ontario yard should have our provincial tree and trees can be pruned up with growth. Moreover, the soft needles would be ideal for

brushing up against in this tiny space and will also compliment the new driveway. Other possibilities include: balsam fir (*Abies balsamea*), perhaps a more sensible choice for this small space, or red pine (*Pinus resinosa*), a good tree for well-drained sands and gravels (plus the reddish bark would show well against the pinkish shingles). A large mossy boulder will be placed in front of the white pine with some woodland plantings tucked in that are tolerant of part sun. Marginal wood fern (*Dryopteris marginalis*), fringed sedge (*Carex crinita*), starry false Solomon's seal (*Maianthemum stellatum*) and blue-stemmed goldenrod (*Solidago caesia*) are all good choices. The small shrub near the sidewalk will be shrubby St. John's wort (*Hypericum prolificum*).

3) Foundation Plantings

Two small trees will be planted near the house: a redbud (*Cercis canadensis*) near the bedroom window and a showy mountain-ash (*Sorbus decora*) near the living room window. The spring flowers of the redbud and the fall fruit and foliage of the showy mountain-ash will compliment the pink shingles and soon-to-be green shutters of the house. In time I will prune the lax form of the redbud to drape over the driveway. The showy mountain-ash will do well to attract and feed local birds. Perennial plantings in this area will include prairie and meadow species tolerant of part-sun conditions, and just high enough to be seen in the windows without too much blockage, i.e. bee-balm (*Monarda didyma*), smooth beardtongue (*Penstemon digitalis*), black-eyed Susan (*Rudbeckia hirta*), pale purple coneflower (*Echinacea pallida*), heart-leaved aster (*Symphyotrichum cordifolium*), and the richly nectared Virginia mountain-mint (*Pycnanthemum virginiana*) for insects. I am thinking of blocking the air conditioner with more fringed sedge – a graceful, tufted, knee-high sedge native to moist, forest habitats. I am also considering wild oats (*Chasmanthium latifolium*) because of its good winter form.

4) Entranceway

The neighbours don't like the existing white cedar at the corner of their house. I will try to convince them to keep it as it softens that corner and adds intrigue to my entrance. It's as if you're entering a woodland path. The compacted gravel and pine needles of the driveway will continue in this area and I am thinking of adding some random flagstone and a couple of small, mossy boulders. Woodland plantings will include shade-tolerant species like spikenard (*Aralia racemosa*), Christmas fern (*Polystichum acrosticoides*), marginal wood fern, common wood sedge (*Carex blanda*), fringed sedge, plantain-leaved sedge (*Carex plantaginea*), Solomon's seal (*Polygonatum biflorum*), foamflower (*Tiarella cordifolia*), and the indispensable wild columbine (*Aquilegia canadensis*). In time I might try to grow some cuttings of Canada yew (*Taxus canadensis*) and add a few clumps to this woodland corridor. Sad to say, this species is entirely absent from the local nursery trade. All of these plantings will occur on level ground in a scree-like medium to ensure positive drainage away from the house.

5) North Boundary

The north boundary plantings should not be too high or overpowering to maintain sight lines from the living room window and for safety when backing my truck out onto this busy street. I am still a little unsure of what the larger shrub at the back will be. Some suitable choices are oak-leaved hydrangea (*Hydrangea quercifolia*), one of the dwarf ninebarks (*Physocarpus opulifolius*), or maybe a rhododendron for added winter interest. The four smaller shrubs will be more shrubby St. John's worts to tie both sides of the driveway together, bringing the total to five. Tufted sedges (*Carex* spp.) will dominate the area around the existing silver maple and added mossy boulder. Species will include more common wood and plantain-leaved sedges, and for the 'sedgeheads' I will be growing and planting the locally rare James' sedge (*C. jamesii*) and Carey's sedge (*C. careyana*) from seed I collected last year. Other low-growing perennials I am considering for both sides of the driveway include nodding wild onion (*Allium cernuum*), blue-eyed grass (*Sisyrinchium montanum*), rue-anemone (*Thalictrum thalictroides*) and harebell (*Campanula rotundifolia*).

Well, that ends our virtual garden tour. Hope it helped frame your design mind and gave you ideas for your own garden. Once the shovel hits the ground the garden always turns out a little different from the design. I doubt I will start construction until the fall when I have some time and oh, the money! I hope to submit a follow-up article next spring with before and after photos on how the construction unfolded. Happy spring!

Paul O'Hara is a botanist, landscape designer and native plant gardening expert. He is the owner/operator of Blue Oak Native Landscapes (www.blueoak.ca).

Spring 2007 Quiz

Question # 1:
Which native plant offers a vessel to collect rainwater for birds, insects and mammals to drink from?

Question #2:
Which species of trees, when burned, generate the most heat per kilo?

Question #3:
Which flowering plant is critical to the life cycle of the Karner blue butterfly.

Question #4:
Name a plant genus native to Canada used in the treatment of cancer?

Look for the answers at www.nanps.org.

Native Plants of the Northeast: A Guide for Gardening and Conservation
By Donald J. Leopold
(Portland, Oregon: Timber Press, 2005. 308 pages, hardcover, $49.95 CDN, ISBN 0-88192-673-6)

Given the proliferation of available resources, one might well ask, as author Donald J. Leopold does, "Why another native plant book?" Good question, and this book is answer enough—because the author has compiled a very useful compendium of horticultural information on close to 700 native species for gardens and restoration projects in the northeastern U.S. and eastern Canada. While much of the information may be available elsewhere, here it is presented in one thorough, detailed, visually lush, rigorous guide that will both challenge and inspire readers.

The bulk of the book consists of species profiles, divided into ferns, grasses, wildflowers, vines, shrubs and trees. Arranged alphabetically within these categories by botanical name, it may at first be difficult for readers to find, say, woodland plants for a shade garden. On the other hand, this sort of organizing principle does reward readers who like to dip into and flip through listings—and what gardener doesn't like to do that? As well, for readers on a specific hunt (for example, for plants that tolerate dry shade, or plants that attract hummingbirds), the appendix lists at the end of the book provide thorough guidance.

Leopold (a professor at the State University of New York, Syracuse) includes lots of anecdotal snippets based on his own experiences growing these plants. He also includes named cultivars, but only for cultivars that are selections from the straight native species, not hybrids. While he emphasizes natural plant communities, he's not doctrinaire, pointing out that many beautiful combinations work well even if the plants aren't found together in the wild.

One of the best features of the book is its expansive scope—along with the "usual suspects," you'll find many species not normally covered in native plant books (plenty of sedges, for example) and species that are very specific in their needs and hence relatively difficult to grow (Hart's-tongue fern and clubmoss, for example). There's something for everyone in this fine addition to the native plant gardening literature. Highly recommended.

Review by Lorraine Johnson, author of 100 Easy-to-Grow Native Plants *and* The New Ontario Naturalized Garden.

A Texan *Wildflower*

The Lady Bird Johnson Center in Texas has renamed its publication *Wildflower*. It was formerly called *Native Plants*.

The 36-page magazine, which is published quarterly, "educates people about how native wildflowers, plants and landscapes affect our lives, not only through their beauty but also through the benefits they provide to ecosystems everywhere".

To receive the magazine phone (512) 292-4100. Or subscribe online at member@wildflower.org.

Calendar of Events

May 5, 2007
NANPS Annual Plant Sale
Markham Civic Centre,
Markham, Ontario
Look for advance sale information on the website at www.nanps.org

May 6, 2007
High Park Native Plant Sale
Colborne Lodge, High Park,
Toronto, Ontario
Support the Volunteer Stewardship Program's Black Oak Savannah restoration effort by purchasing plants grown in High Park from noon to 4:30pm. Visit www.highpark.org.

May 19 – October 31, 2007
Art Goes Wild: Innovation With Native Plants
New England Wildflower Society 75th Anniversary exhibition
Farmingham, Massachusetts
Visit www.newfs.org. Contact dstrick@newfs.org or call (508) 877-7630 x3501.

June 7 - 9, 2007
Native Plants In The Landscape Conference
Millersville, Pennsylvania
Visit www.millersvillenativeplants.org for more info or contact Angela Tredwell-Palmer at 717-872-3030.

August 1 - 5, 2007
Nature Canada's 37th Annual Nature Conference
Acadia University, Wolfville, Nova Scotia
Program info and associated activities available online at http://www.nature2007.ca.

August 17 – 19, 2007
Wild Ones Annual Meeting
Dayton, Ohio
Hosted by Greater Cinti Wild Ones, www.cincinnatibirds.com/wildones.

October 4 – 28, 2007
Native Plants At Toronto's Todmorden Mills
Todmorden Mills, Toronto, Ontario
Juried exhibition of fine botanical art. Visit www.botanicalartistsofcanada.org.

Wildlife Waystations

Since I wrote the Native Plant to Know article about musclewood or blue beech (*Carpinus caroliniana*) in the summer 2002 issue of the *Blazing Star* my tree has begun to mature. Last season it provided a plentiful and pretty display of fruit. The papery bracts enclosing the small nutlets were colourful and decorative as they hung for many weeks on the grey-blue branches. The seeds attracted the twice-daily attention of a pair of cardinals whose red and gold matched the showy autumn display of the leaves. The cardinals – along with squirrels - visited the tree regularly to harvest the seeds. I'd see them hanging precariously, upside down on tiny branches, to accomplish this. I wanted you to know that blue beech possesses this added attribute – it might convince you to plant this tree!

Curiously, the daily cardinal/squirrel visits continued for several weeks after the leaves had fallen. Then, suddenly, all the seeds were gone. I suspect that the tree was responding to a signal from the weather: with the drop in temperature it dropped all its seeds at once, giving some a chance to germinate before being eaten.

I was able to make these observations because my tree is right outside my back window. I would be interested in hearing from anyone who has made other observations (or who has a scientific explanation to offer).

Catherine Siddall, Toronto, Ontario

AGM

Stay tuned to www.nanps.org for details of NANPS Annual General Meeting at the Markham Civic Centre on Saturday October 13, 2007.

Speakers Wanted

NANPS will be hosting a series of seminars in 2007 to discuss the role of native plants in stormwater management. If you have an interesting talk on a related topic…ranging from native plant gardening/conservation to hydrology…please contact nanps@nanps.org with details. A small honorarium is available.

Garden Awards

Have you nominated your garden or restoration project for NANPS 2007 Garden Award?

Nominations close July 31st. Suggestions for how to organize your submission are listed on our website. Please don't be intimidated…we just want to gather as much information on how people are tackling these projects as possible. Every effort, big or small, is to be celebrated!

Continued from page 1

its place. In summer this aster displays attractive, deep green, heart-shaped leaves with darker undersides and almost black stems. It has a tendency to sprawl about and by the end of summer will cover - but not harm – spring-blooming perennials. Then when you think all flowering is done for the year, small, white, aster-like flowers burst into a profusion of bloom. Perfectly complementing and cooling the bright fall hues of the trees and shrubs in the shady woodland garden, this aster is a quiet companion to favourite Carolinian shrubs such as sweetspire (*Itea virginica*) and *Fothergilla* (a native of the southeastern United States).

Wood aster's decorative value lasts well into the winter months when the tan-coloured remains of the stems, flowers and seeds linger on arching stems in a lacy filigree effect. Birds appreciate the seeds, especially juncos who are among the last to move south. As with all the plants that I favour in garden usage, the wood aster seems untroubled by pests or diseases and doesn't get unsightly mildew infestations. It is adaptable to many soil types and growing conditions. It has even survived in the deadly dry shade of Norway maples (*Acer plantanoides*).

The white wood aster is generally common throughout the Appalachian Mountains and from New England south to Georgia and Alabama. Pockets of it are concentrated in the Niagara area between Lakes Ontario and Erie. In Quebec it is at the extreme northern end of its range. A paper published by the Committee on the Status of Endangered Wildlife in Canada in 2002 established the status of *Eurybia divaricata* as Threatened due to the "geographically restricted and fragmented populations at risk from continued habitat loss, invasive species, deer browsing and recreational activities impacting populations along trails." This is yet another reason for us to plant this lovely late bloomer.

This article would not be complete without an attempt to shed some light on the thorny question of changing nomenclature. All the (former) asters of the New World have recently been reclassified into different genera, although most of the genera were described 100-170 years ago. The plant that I have always known as *Aster divaricatus* has had its name changed to *Eurybia divaricata*. You will probably still find it labeled *Aster divaricatus* or white wood aster and, I also found it incorrectly labeled *Symphyotrichum divaricatum*.

Plants are now examined at the molecular and genetic level to determine their correct classification (or re-classification!) so visual examination (even with magnification) is no longer satisfactory. Still, for those of us stalled in the early stages of the technological revolution, simple, careful observation will be enough. After all, if it looks like an aster, grows like an aster… that's good enough for me.

Catherine Siddall operates a landscaping business in the Greater Toronto Area that promotes and practises organic gardening. Catherine can be reached at 416-531-2253 or siddall.c@sympatico.ca

Asters

On his website http://www.jcsemple.uwaterloo.ca/asters.htm J.C. Semple indicates that the North American Clade (a term in Biology meaning "group of organisms evolved from a common ancestor") includes some 13 genera of "asters" which occur as basal members of several different main branches of the clade. These include ***Doellingeria***, ***Eucephalus***, ***Eurybia***, ***Herrickia***, ***Ionactis***, ***Oclemena***, ***Oreostemma***, ***Sericocarpus*** and **Subtribe Symphyotrichinae**, which is divided on molecular and morphological grounds into ***Canadanthus***, ***Ampelaster***, ***Almutaster***, ***Psilactis*** and ***Symphyotrichum*** (including *Brachyactis* and *Virgulus*).

Molecular evidence strongly shows that there are ***no true asters in North America*** (members of the genus Aster). The one exception is the arctic-alpine *Aster alpinus* susp. *vierhapperi*. The majority of species placed in the genus *Aster* by North American botanists belong in *Eurybia* and *Symphyotrichum*.