



Native Plant to Know

Hackberry

Celtis occidentalis

by Catherine Siddall

The common hackberry (*Celtis occidentalis*) is not a tree that sends me into raptures. Not like the glorious spring bloomer that always appears on the next page in reference books, *Cercis canadensis* or eastern redbud. Still, hackberry is a valuable tree for the urban landscape and I'd like others to get to know it.

The hackberry first caught my attention because of its adaptability to many soil types and growing conditions. It's also salt-tolerant, drought-resistant and oblivious to high winds. It easily thwarts most pests and diseases. (In the wild, disfiguring "witch's broom" branch growth may be caused by mites, and leaf damage may be the work of hackberry nipple-gall, but I have not observed these conditions on the hackberry street trees in Toronto.) Michael Dirr summed up the tree's virtues in *Manual of Woody Plants* when he wrote: "it withstands the dirt and grime of cities."

But those aren't all of its merits. Hackberry is also a good-looking tree. A member of the Elm (*Ulmus*) family, it resembles elms in several ways, most significantly in its graceful vase shape with arching branches and simple, ovate leaf. Hackberry won't usually achieve the height of grand old elms but neither will it succumb to Dutch

elm disease. Other attractive features of *Celtis occidentalis* are its corky bark in raised vertical ridges and clear golden leaves in the fall.

This tree has a wide range. It can be found in most of southeastern North America with the exception of a few Maritime provinces and southern states. Hackberries prefer poor alkaline

soils either on floodplains or high rocky bluffs. One hackberry I encountered in Rattlesnake Provincial Park near Milton, Ontario impressed me with its tenacious ability to survive on a rocky slope. It had gained a good foothold and grown to a venerable age. Depending on where it's found and the conditions under which it grows – not to mention the reference guides we consult – the tree can reach maximum heights of 15, 20 or nearly 40 metres (50, 65 or 130 feet). Everyone agrees that its spread

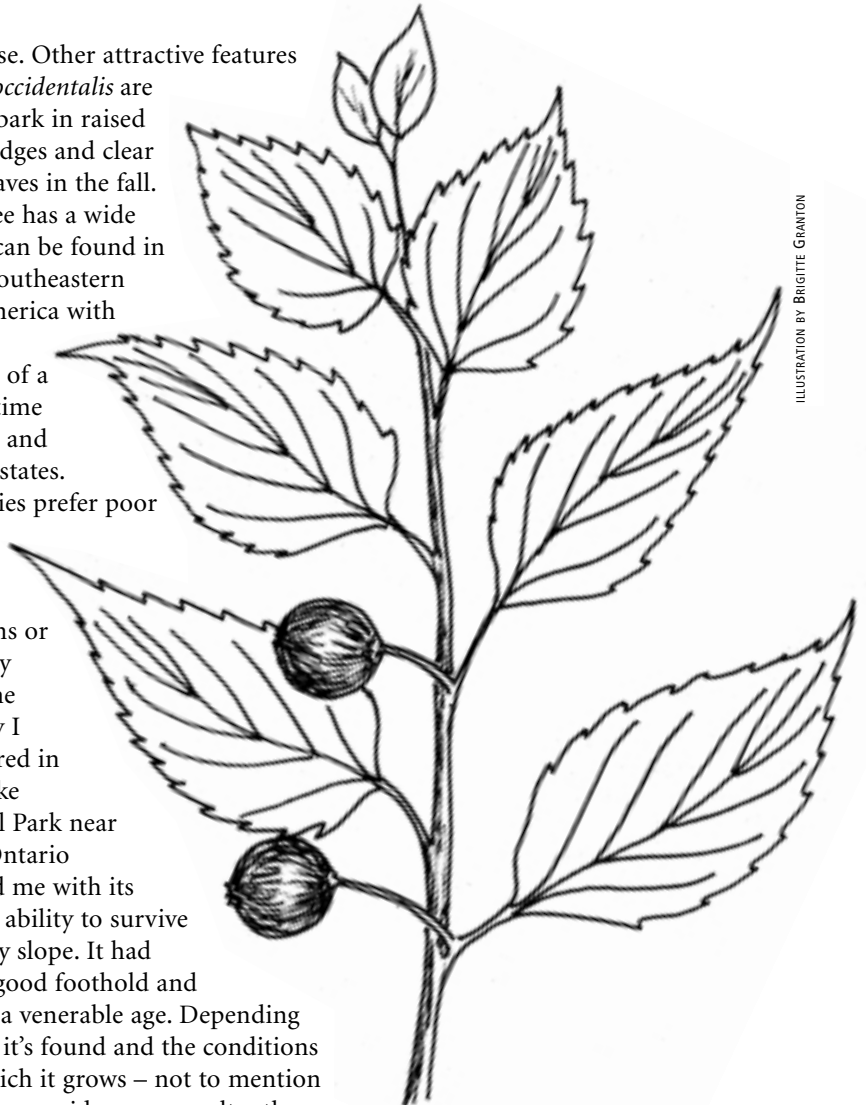


ILLUSTRATION BY BRIGITTE GRANTON

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The *Blazing Star* is . . .

The *Blazing Star* is published quarterly (April, August, November, February) by the North American Native Plant Society (NANPS). Contact editor@nanps.org for editorial deadlines and for advertising rates. The views expressed herein are those of the authors and not necessarily those of NANPS.

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

Spring 2008
Volume 9, Issue 2

Editor: Irene Fedun
Production: Bea Paterson

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North American Native Plant Society,
formerly Canadian Wildflower Society,
is a registered charitable society, no.
130720824 RR0001.

Donations to the society are tax-
creditable in Canada.

NANPS Membership: CAN\$20/YEAR
WITHIN CANADA, US \$20 YEAR OUTSIDE
CANADA

Please make cheques and money
orders payable to North American
Native Plant Society and mail to P.O.
Box 84, Station D, Etobicoke, Ontario
M9A 4X1.

Telephone: (416) 631-4438. E-mail:
nanps@nanps.org. Web:
www.nanps.org.

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Seedy Saturday

Greg Hagan, Howard Meadd and I staffed the NANPS booth at Seedy Saturday, an annual event held at the Scadding Court Community Centre in west Toronto, while Deb Dale presented upstairs, vowing this would be her *last* bog garden talk. Greg and Howard furiously sold seeds. I tried to steer people over to the NANPS petition – that asks Toronto to change its bylaws in order to defend native plant gardens rather than destroy them – and handed out flyers about the NANPS Plant Sale. Greg had made up the most amazing, crazy combination packs of seeds, some containing 30 different wildflower and shrub seeds. They looked right at home in the homespun zoo that is Seedy Saturday. Janet Harrison took pictures of the

event and Harold Smith spread the NANPS word.

The crowd that attends Seedy Sat gets the message about native plants. Most of those folks recognize them as valued plants and they're curious to try them out. They're also very interested in amending Toronto's antiquated Grass and Weeds By-law.

NANPS petition is available online (www.nanps.org) to sign or print out for distribution. While Toronto may be our first target, NANPS intends to ask other municipalities to join in amending their bylaws. Many smaller centres use GTA bylaws as templates for their own rules and regulations.

Stacey Shannon

NANPS PLANT SALE

SATURDAY, MAY 10, 2008 - 10AM – 3PM
MARKHAM CIVIC CENTRE
101 TOWN CENTRE BLVD, MARKHAM

Ontario's largest one-day sale of native plants! Check out the great diversity of plants available from several different nurseries and NANPS members.

Attend a *talk by Local Enhancement and Appreciation of Forests (LEAF) on Helping Trees Thrive the Natural Way at 11am, Alternatives to Lawns by the Toronto and Region Conservation Authority at noon or Great Gardening Opportunities with Native Plants by grower/botanist Paul Heydon at 1pm.*

Visit the booths of these dynamic organizations and companies: Riversides, Coalition on the Niagara Escarpment, Windfall Ecology Centre, *ON Nature* magazine, Forest Books, Friends of Cullen Gardens and the Richmond Hill Naturalists.

In a graphic, step-by-step display Janet Harrison will demonstrate how she created a bog garden from scratch, using a diverted downspout as a water source that allows her to grow two-metre high *Lobelia cardinalis* (cardinal flower).

Volunteers still needed for plant sale

Anyone wanting to learn about native plants should consider volunteering. High school students wishing to fulfill their 40-hour community service requirements are also welcome. Volunteer driver & assistant needed for Friday plant collections – a great opportunity to visit some of our growers. Many other jobs available including setup on Friday the 9th and staffing tables on Saturday, May 10. All levels of experience welcome. Contact volunteer@nanps.org or leave a voicemail at 416-631-4438.

Fall Excursion to Long Point Area

Join fellow NANPS members and native plant enthusiasts for a wonderful tour of the Long Point Basin Land Trust properties led by Peter Carson of Pterophylla on Saturday, September 20. Bus will leave Toronto at 8AM sharp. For details visit www.nanps.org.

NANPS Annual General Meeting

OCTOBER 18, 2008
TORONTO BOTANICAL GARDENS,
TORONTO, ONTARIO

LEAF'S Toronto Tree Tours – An Urban Perspective

by Susan Gulley

What comes to mind when you hear the word "forest"? For me, it evokes many vibrant images from the dense, dark evergreens of the boreal to the delicate, cathedral-like hardwoods of the Carolinian. Since joining Local Enhancement and Appreciation of Forests (LEAF) in November 2007, my vision has expanded to include a unique system known as the urban forest.

There are an estimated 7,000,000 trees in the City of Toronto on both public and private land. Although I had admired many of them as magnificent, resilient individuals, I had never viewed them as a whole. I could not see the urban forest for the trees. I now heartily embrace the concept that, collectively, these trees form a connected and complex ecosystem with its own characteristics and challenges; one that cannot be divided by property lines. This appealing perspective implies that the urban forest is a shared resource and, therefore, a shared responsibility.

LEAF is a Toronto-based non-profit organization that has developed several programs to actively involve people in local urban forest stewardship. We envision Toronto as a city where every citizen cares for the urban forest. Our Backyard Tree Planting Program offers native trees and shrubs to property owners at a subsidized cost. Since 1996, we have planted over 11,000 trees in backyards across the city. Our Tree Tenders program provides arboriculture training for those interested in starting



LEAF's Todd Irvine guides tree lovers on a Tree Tour in Deer Park with a white oak (*Quercus alba*) as a backdrop.

their own community projects or for anyone who just wants to learn more.

LEAF is also reaching out to a new and diverse audience through Toronto Tree Tours, a program run in collaboration with the Toronto Public Space Committee. Todd Irvine, LEAF's Education and Outreach Co-ordinator, uses the tours as a forum to raise such fundamental questions as, "Who is caring for the existing trees in the urban forest and what can we do to ensure their longevity?"

Guided walking tours are given in discrete neighbourhoods throughout the city. Each tree tour involves 12 to 15 stops where local residents tell stories of individual trees and tour leaders use living examples to illustrate the benefits and challenges of the urban forest. On a Toronto Tree Tour, we may wander down a back alley to discover a black walnut (*Juglans nigra*), stroll neighbourhood streets to find surviving white elm (*Ulmus americana*) or newly planted Kentucky coffeetrees

(*Gymnocladus dioica*), or become mesmerized by prairie grasses and wildflowers growing on downtown rooftops.

Several of our tours have been profiled on the Tree Tours website and more will be added throughout the year. Maps, photos, directions and stories allow you to take the tours virtually or print them out and guide yourself around. Tree stops such as "The saddest tree", "A tale of two alleys" or "More dangerous than it looks" are not only entertaining but address the prevalent issues in each neighbourhood.

Through the Tree Tours, we hope to strengthen community pride by helping local residents recognize the value of the trees in their neighbourhoods and by highlighting the work of many dedicated community groups.

2008 is shaping up to be our best year yet. Starting in May, we will be taking our Tree Tours to all corners of the city with tours planned around the Rouge Valley, Samuel Smith Park, the Annex, Cedarvale Ravine and Teesdale-Dentonia, to name just a few. Come out and learn more about our tenacious urban forest this year.

Susan Gulley is LEAF's Tree Tours Co-ordinator. If you want to be added to the Tree Tours Alert List or discuss a tree tour in your neighbourhood, email her at susan@leaftoronto.org or visit www.treetours.to. If you wish to schedule a tree planting or want to learn more about LEAF's other programs, visit www.leaftoronto.org.

Plant Rescues

Volunteers needed to participate in three plant rescues of spring ephemerals in May (dates to be announced) in Tottenham, Ontario (and then another one of meadow/prairie plants in June). To find out more e-mail rescues@nanps.org.



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PHOTO COURTESY ANDREW CHIU

Hummingbirds and Native Plants

by Irene Fedun

They've been called "flying jewels" and "glittering fragments of the rainbow". No wonder. Hummingbirds are amazing: their dazzling plumage, tiny size and extraordinary speed and agility leave us awestruck every time.

In the spring, the ruby-throated hummingbird migrates thousands of miles from its wintering grounds in Mexico and Central America to its vast breeding territory throughout eastern North America and even into central Saskatchewan and Alberta. (The rufous hummingbird occupies the other geographic niche in Canada, breeding throughout British Columbia and into Alberta.) Migration is arduous and full of hazards, and there is no guarantee of finding food en route.

Hummingbirds have co-evolved with certain flowering plants and follow their blooming as they fly northward. In North America, home to less than 10% of hummingbird species, over 130 species of ornithophilous (meaning bird-loving) plants grow. Hummingbirds and other nectar-drinking birds such as orioles depend upon these plants for food just as the plants depend upon the birds for pollination. Many of these plants, especially the tubular or trumpet-shaped ones, have no landing platform for pollinators such as bees. Hummingbirds' remarkable maneuverability - they can hover in front of a plant, fly backwards, even move sideways - allows them to feed at pendulous flowers or those with short or curling petals.

RED, YELLOW OR BLUE?

FROM CLEMENT KENT OF TORONTO, ONTARIO: "I grow a small variety of native plants which are attractive to our ruby-throated hummingbirds. Red flower colour seems to be important; other colour forms are much less attractive. I have had great luck with *Salvia coccinea* (Texas sage) which is obviously native to the southern



PHOTO COURTESY ELOISE APPLÉ COLCCHO

Eloise Colocho captured this black-chinned hummingbird nesting in Albuquerque, New Mexico. The community's xeriscapes with native plants attract hummers.

United States. I use a saved seed form with fiery red flowers and good one metre plus (three feet) height. The main drawback is that this plant needs to be started early to get good growth for summer bloom. I have seen occasional second- year seedling plants on my driest soils which suggests to me that as our climate warms and dries this *salvia* might be able to move north.

My best native hummer plant by far is the bright red beebalm (*Monarda didyma*). I keep a large patch. If I do a bit of judicious cutting back, I can achieve a very long period of bloom. I have seen hummers engaging in aerial duels around these patches, a sure sign of territory defence."

FROM HOWARD MEADD OF TORONTO:

"You always hear that hummingbirds prefer red flowers but I have not seen proof of this nor does it make sense to me. They just seem to like flowers with lots of nectar. I have seen them enthusiastically feeding at blue vervain (*Verbena hastata*), yellow and blue giant-hyssops (*Agastache nepetoides* and *foeniculum*) and tall sunflower (*Helianthus giganteus*)."

FROM BARBARA HALLETT OF PUSLINCH TOWNSHIP, ONTARIO:

"We commonly have hummingbirds feeding at tubular, nectariferous flowers that are *not* red – it depends on what is in flower at the time. I have planted the perennials in masses; this probably has a strong visual impact for the foraging hummer. On our property, the earliest flowering species that attracts hummingbirds is wild columbine (*Aquilegia canadensis*). I grow the lavender-coloured *Monarda fistulosa* (wild bergamot) because *Monarda didyma* is not native to our county. Other species that provide nectar for hummingbirds (as well as butterflies) include bright orange *Asclepias tuberosa* (butterflyweed), purple *Verbena stricta* (hoary vervain), yellow *Silphium perfoliatum* (cup plant) and white milk-vetch (*Astragalus canadensis*). We also grow lots of northern bush-honeysuckle, *Diervilla lonicera*, which is yellow and has a very extended flowering period. It is also attractive to hummingbirds, but I seldom see it mentioned."

In *The World of the Hummingbird*, published by Firefly Books, author Robert Burton explains that birds' eyes

are very sensitive to colour and they perceive red more easily than others, especially in a forest. They often learn to associate red with nectar since many of the flowers they feed on are red. However, this is not instinctive. In experiments where feeders were filled with sugar solutions of various colours, ruby-throated hummingbirds showed no preference. Once hummers find a rich source of nectar they associate that colour with finding more nectar. One advantage that red has over other colours as far as hummingbirds are concerned, though, is that it is not seen by insects (looks black to them). This tidily eliminates competition for the nectar of a red plant.

FLOWERS OVER FEEDERS

FROM CAROL EDWARDS OF WATERFORD, ONTARIO:

"In my bird-friendly garden ruby-throated hummingbirds stay all season long. The males arrive early in May to establish territory; the females come a couple of weeks later. The males tend to favour the 4:1 water to sugar mixture in my feeders. (Note: never use brown sugar or honey, and never less of a water ratio than 4:1. Researchers suspect that too high a concentration of sugar can cause liver damage.) The females are more attracted to the numerous hummer-friendly flowers, especially cardinal flower (*Lobelia cardinalis*). Turtleheads (*Chelone glabra*) are popular too. The birds also nectar on trees that are in flower such as black locust (*Robinia pseudoacacia*), a species native to eastern US but naturalized in southern Ontario.

Dense plantings of evergreens provide safe nesting areas for the females who raise their young on a diet of insects. They build their tiny cup-shaped nests with lichen, spider webs and grasses. During this time the females are seen less frequently until they bring the juveniles out. I have noted that the juveniles prefer the flowers over the sugar mixture in the feeders."

FROM JASON SPANGLER OF AUSTIN, TEXAS: "Sometimes when we are in our garden, ruby-throated hummingbirds chase us out so they can use the tubular, red flowers of standing cypress (*Ipomopsis rubra*), and the cusp blazing star or gayfeather (*Liatris mucronata*), one of the showiest plants in central Texas. The hummingbirds almost ignore the feeders when the native plants are blooming."



PHOTO COURTESY CAROL L. EDWARDS ©

Ruby-throated hummingbird feeding on cardinal flower

FROM MARY RAJAPAKSE OF PENETANGUISHENE, ONTARIO:

"In my garden cardinal flower and beebalm are great hummingbird magnets. They're better than my feeders for hummers since the birds don't have to compete with big black ants and bees for the food. The hummers just give up fighting for the feeder and go for the *Lobelia*, a sensible way to conserve energy."

HOW DO THEY SURVIVE AN EARLY SPRING?

FROM TOM ATKINSON OF TORONTO:

"One year spring was late. Hummingbirds had arrived back from their southern haven. My wife and I worried lest they find no nectar-bearing plants. That year they flew to

the yellow flowers of Oregon grape-holly (*Mahonia aquifolium*) and used them to sustain themselves until the weather warmed up."

FROM CINDY CARTWRIGHT OF THE ONTARIO HUMMINGBIRD PROJECT:

"While doing research on Pelee Island last year, I noticed that hummingbirds use the alien invasive garlic mustard (*Alliaria petiolata*) as a food source in the early spring.

Contrary to the generally held view that hummers don't arrive in Ontario until May, ruby-throated hummingbirds start appearing in small numbers in April. "

FROM CHRIS EARLEY, INTERPRETIVE BIOLOGIST AT THE UNIVERSITY OF GUELPH ARBORETUM:

"Hummingbirds depend at least in part on sapsuckers for their survival in early spring. Four species of sapsuckers in North America drill holes in over 275 species of trees, shrubs and vines. The sap that flows through the tree collects in these 'wells'; sapsuckers eat the sap and the insects that get stuck in it. The wells also provide a sugar-filled energy boost for hungry hummers since very

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Protect Birds From Window Collisions

From Aldona Mitrikas of Wawa, Ontario:

"I have a very sad story of how I discovered hummingbirds were nesting in our big spruce trees (*Picea* spp.). On our farm on St. Joseph's Island we had a large living room window facing the spruce grove and one summer I found several dead hummingbirds on the deck. I was very upset and realized they were flying into the reflection of the spruce trees in the window. Of course we did what we could by pasting up cutouts of hawks and letting the window get dirty and rain-spattered so it was not as reflective."

Hummingbirds and other birds that come near human habitation can easily collide with windows and other reflective surfaces. Many ornithologists now believe that this is the single greatest cause of mortality among birds, apart from habitat loss.

Homeowners and businesses can do their part by reducing or eliminating the reflectivity and transparency of glass. On small panes of glass a couple of hawk silhouettes or anything else pasted on the outside of the window or hung in front of the window may alert the birds to the presence of an obstacle. For large windows the best option is to cover the window with a screen or an opaque film. For more information and suggestions on what you can do to prevent window collisions visit www.flap.org.

If you do find a live bird that has hit your window place it in a cardboard box or paper bag – making certain that it is sitting upright, not lying on its side (place it inside a donut made of tissue if the bird will not stay up) – and wait for an hour to see if the bird recovers on its own. If not, contact your local wildlife rehabilitation facility for instructions (in the Greater Toronto Area contact the Toronto Wildlife Centre at 416-631-0662).

few hummingbird-friendly flowers are blooming in early spring in Canada. It appears that the concentrations of sucrose and amino acids in sap are similar to those found in nectar."

In *An Eclectic Guide to Trees East of the Rockies*, Glen Blouin notes that sapsuckers feed on the sap and bark tissues of species such as apple (*Malus* spp.), two of which are native to North America, and birch (*Betula* spp.), but that hemlocks (*Tsuga canadensis*) are their "consistent favourite" wherever they occur. And ruby-throated hummingbirds naturally follow where sapsuckers drill.

PUTTING ON A SHOW

FROM GILLIAN BOYD OF OTTAWA, ONTARIO:

"In my garden I have seen hummingbirds feeding on early-blooming golden currant (*Ribes aureum*) and Virginia bluebells (*Mertensia virginica*) as well as fly honeysuckle (*Lonicera canadensis*), spotted Joe-Pye-weed (*Eupatorium maculatum*), wild bergamot and swamp milkweed (*Asclepias incarnata*). I have also seen them cruising among wild asters but they may be after the insects rather than the nectar.

One day I was lucky enough to be out weeding when a male ruby-throated hummingbird put on a courtship display for the female. I was aware of a faint thrumming sound, like a very quiet snipe display on a miniature scale. The male was doing a series of U-shaped loops down and up again to his perch. The sound was caused by his tailfeathers on the downward flight. I have always hoped to find a nest in the garden but they're so cleverly disguised, rather like a slight lichen-covered bump on a branch, that I have yet to find one."

FROM HOWARD MEADD OF TORONTO:

"One of my most memorable moments as a nature observer happened as I was walking along a deserted road on Indian Point at Balsam Lake, Ontario. All of a sudden I was in the midst of a hummingbird frenzy. Several of the birds were all

around me performing incredible acrobatics, apparently oblivious to my presence. It was spectacular, with metallic emerald flashing everywhere! I can't think of anything that so completely commands my attention as a visit by one of these cool birds."

Cindy Cartwright of the Ontario Hummingbird Project explains that the looping dives performed by male hummingbirds are acts of aggression often directed towards other males, other birds and even some mammals as well as female hummingbirds. Often this display leads to the real courtship display which is a side-to-side shuttle in front of the female.

ADAPTABILITY IS CRUCIAL...AND MAKES FOR GREAT FOOTAGE

FROM MARY GARTSHORE OF WALSHINGHAM, ONTARIO:

"We have fed our hummingbird visitors all summer every summer since 1990. After we'd been feeding hummingbirds for eight years word got around. One day a TV video photographer turned up with a script that read 'hummingbirds and red flowers'. Was this the place? I thought for a moment, went to the greenhouse and brought out two trays of cardinal flowers in full bloom. The hummingbirds quickly drained the nectar from the flowers. I hid our feeders and supplied the photographer with a glass of syrup complete with syringe and suggested he refill the flowers as needed. The hummingbirds quickly got with the program and a couple of hours and two glasses of syrup later, the photographer – all smiles – left with 28 minutes of 'hummingbirds and red flowers' footage."

CURIOSITY FED THE HUMMER

FROM LARRY LAMB OF KITCHENER, ONTARIO:

"One time, I was coiling up my electric BBQ lighter cord that had an orange plug at face level. A male hummingbird started probing the prongs looking for nectar. This was an easy mistake to make since my deck was covered in flowering trumpet creeper (*Campsis radicans*)."

FROM TOM ATKINSON OF TORONTO:

"One summer's day, I was in my yard admiring a fine display of spotted jewelweed (*Impatiens capensis*) when I noticed a hummingbird feeding at these flowers. After feeding a moment, the hummer flew several circles around my head and then fed again. It was as if he wanted to make sure I was friend, not foe."

In *The World of the Hummingbird*, Burton explains why hummingbirds are quite tame and even seem to admire their human hosts: "Because stands of flowers are continually changing as different species bloom and fade, hummingbirds are continually searching for new supplies of food. They must therefore be curious and examine all likely sources. If they are accustomed to feeding at red flowers, they will investigate anything red, which leads to the inspection of red tin cans, signs, clothing, and even red lips."

MAKE ROOM IN YOUR GARDEN

FROM KEVIN KAVANAGH OF TORONTO:

"In southern Ontario (and likely more widespread geographically), ruby-throated hummingbirds in their southward migration at the end of August and early September feed vigorously on spotted jewelweed which is then at its peak in flowering. Despite its tendency to take over a garden, I always keep at least one small patch of jewelweed since it's guaranteed to attract hummers in late summer/early fall."

BATHING IS A NECESSITY

FROM CLEMENT KENT OF TORONTO:

"Hummers in my country garden like to perch in dense shrubs or small trees where they can survey the open garden; having good perching zones is important. Occasionally I use a sprinkler during the worst droughts, and I have seen the hummingbirds select a shrub in the path of the spray to get a bath, though I've never seen them puddle-bathing the way bigger birds do."

FROM HELEN MARTIN OF

ALBUQUERQUE, NEW MEXICO:

"One time, a baby hummer got itself waterlogged when frolicking under the sprinklers. It was too heavy to fly so my husband Frank put his hand down and the baby alit on his finger. Frank took the baby hummer to the sun and as soon as some water had evaporated off, the little bird flew away."

According to Robert Burton, "Bathing is a common activity. They may stand in shallow water and bob and splash like other birds, but they also perch near spraying water, fly through small waterfalls and lawn sprinklers, dive into pools and rub against wet leaves..." Burton surmises that these hummingbird rituals are not performed to keep feathers clean but rather to soften them and make them easier to preen. As Clement mentions, it's important to have trees nearby, not only for protection from weather and predators, but also for nesting sites.

MAYBE THEY GO NORTH

FROM HOWARD MEADD OF TORONTO:

"One thing I find puzzling about hummingbirds is their yearly pattern of occurrence in my yard. I often see them during spring migration but then might not see any until August, when they are suddenly feeding several times a day. This continues until about Labour Day, when they go south. Also puzzling is the fact that it is almost always female hummingbirds that I see in my garden. Two years ago I was lucky to see a mother hummingbird feeding her baby in midair right in my back yard. Very cute it was!"

FROM JOANNE HARDS OF BARRIE, ONTARIO:

"Our fishing camp is deep in the Quebec bush, northeast of Mattawa, off the grid and accessible only by air or logging roads. For insurance



PHOTO COURTESY RON HEWORTH

*Hummingbirds can feed from any shape of flower but prefer long, tubular flowers such as this pale jewelweed (*Impatiens pallida*) because competition with bees and other nectar-loving birds is decreased. Only hummingbirds have a tongue long enough to reach the nectar at the base of the flower and the ability to hover under the blooms while feeding.*

reasons we have to keep a certain perimeter around the camp brushed out in case of fire. The soil is sandy, the site sunny - the perfect location for a beautiful stand of fireweed (*Epilobium angustifolium*) which blooms throughout the summer.

I have never seen a plant in my gardens that can compete with the fireweed as a hummingbird magnet. (Insects of all types love it too.) Because of its long bloom period, fireweed sustains the birds until they leave in September."

EXPECT THE UNEXPECTED

FROM RUTH ZAUGG OF CALEDON, ONTARIO:

"I have a hummingbird feeder and get visitors but had never seen hummers on my plants. One mid-summer's day, I was in the garden after a rain. I noticed that my royal catchfly (*Silene regia*) had toppled over. I bent down and put my arm under the plant planning to loop it around a stake standing beside it. As I lifted the plant, a hummingbird flew

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off it chattering (complaining, I assume, about the interruption). It was so cute I had to laugh. I must get more of this plant: red summer blooms, drought-tolerant and the hummingbird liked it!"

Although hummingbirds are surprisingly hardy, they still need our help to survive in these challenging times of diminished natural habitat, polluted air and waterbodies, widespread pesticide use on farms, forests and gardens, and increased predation by cats. As climate change takes hold, plants and insects may come alive sooner. This change in the natural order of things – combined with the proliferation of artificial feeders – may well benefit hummingbirds, although to what extent has yet to be determined. Still, it's unlikely these changes will make up for habitat loss and other negative impacts.

We can do no harm – in fact, we do much good – by planting more native species in our gardens. Not only do they attract hummingbirds but other birds, bees, butterflies and insects that pollinate our plants and enrich our world.

For more hummingbird stories, photographs and a list of plants attractive to hummers visit www.nanps.org. Also visit www.birds.cornell.edu/AllAboutBirds/attracting/landscaping and www.ontariohummingbirds.ca.

We welcome your stories about encounters with hummingbirds. Please send them to editor@nanps.org. They may be published in future editions of The Blazing Star or appear on the nanps website.

Emerald Ash Borer Makes Inroads into Ontario

The Emerald Ash Borer (EAB) is an invasive insect from China that was discovered in the Detroit-Windsor area in 2002. From there it moved across southern Ontario and has now found its way to Toronto (in and around Sheppard Avenue East and Highway 404). The insect attacks and eventually kills ash trees (*Fraxinus* spp.). Methods of control have usually involved cutting down all ashes within the potentially infested areas and chipping them to kill the insects. This has meant the loss of tens of thousands of trees in southwestern Ontario and quarantines on the removal of ash wood from infected areas.

The Canadian Food Inspection Agency (CFIA) indicated in a news release distributed in December 2007 that the removal of trees was not an effective tool for control of EAB. Still, the City of Toronto is contemplating just that and quarrelling with Ottawa over which level of government should be responsible for footing the bill (Toronto is estimated to have over 400,000 ashes).

Dr. John Ambrose, former curator of the University of Guelph Arboretum, stresses a different approach. "I think the action to create a 'firewall' in Essex-Kent counties was too narrowly focused on the pest and not the overall problem of the poor health of the few remaining, fragmented forests in the region. Plus, with Highway 401 a major transportation corridor that has the potential to carry a lot of unwanted

passengers such as EAB, and the difficulty of enforcing the movement of firewood, the firewall approach was seen at best as a temporary means to slow the beetle's movement. Looking at the ecosystem and why it was so susceptible to this pest, and taking corrective measures, would be more useful in the long term. Of course many trees would be lost, but that is happening anyhow, by chainsaws and the insect. If the same effort were put into restoring the amount and health of the forested natural heritage systems of the region, creating habitat for healthy populations of diverse predators and parasites, the trees would be able to recover more quickly, and be ready for the next such pest.

"We must also allow the potential ash survivors to survive and be the parents of the next generation. The control program implemented in southern Ontario had no regard for the loss of local genetic ash stock, even going back to eradicate any sign of ash regeneration. This strict protocol ignored consideration of the health of the habitats and the ecology of the species. We need a broader, longer-term approach, which includes recognizing the importance of restoring the integrity and connectivity of the matrix of natural ecosystems in the landscape."

Horticulturist Sean Fox, the Assistant Arboretum Manager, adds: "In southwestern Ontario in the past century there has been increasingly reduced and segregated tree cover and as a result we have a watered-down



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ecosystem. Ash make up a large percentage of the urban and rural trees in these areas (as they do in Toronto). Even disturbed natural areas are full of ash due to their role as an early succession tree species. This lack of biodiversity affects the ecology of these areas. Weather conditions in any given year and pollution (and other factors in large cities) are bound to stress these trees. Stressed trees release a chemical compound that makes them a natural target for insects."

"What made EAB particularly troublesome was the large number of stressed ash combined with the lack of natural predators. People panicked because the beetle was killing most of the ash trees. We experienced the same thing in the '70s with Dutch elm disease. Elms were the most popular street tree so it took a huge toll on our urban forests. The government cut down a lot of healthy elms as well as diseased ones in the hope of creating gaps to stop the spread of the disease. We now know that some individual elms have the ability to deal with the disease. It's impossible to guess how many of these trees were lost."

"As EAB moves further into the province we will continue to see a great deal of ash mortality but a balance will eventually be created. In the cities this will be particularly evident and devastating for the urban canopy. However, as the pest moves into more diversely rich portions of Ontario, the chance for the development of a parasitic/predatory complex towards EAB becomes much greater."

"We once heard dire warnings about the end of Canadian forests due to gypsy moth and forest tent caterpillar outbreaks. Vast sums of money were spent spraying pesticides, even from planes. It didn't eradicate these pests. However, natural processes are now keeping these outbreaks in check. Several wasp and fly parasites now attack the gypsy moth. Other predators include ground beetles, spiders, small mammals, even bacterial, fungal and viral antagonists. To this day we still see trees being defoliated by the pest, but the stronger trees recover and the weaker individuals, which may not be ideal for the site, die off. This is the natural way and much needed to maintain a strong gene pool. If we cut



PHOTO COURTESY SEAN FOX

Feeding galleries caused by larvae of the emerald ash borer on a red ash (Fraxinus pennsylvanica) in Windsor, Ontario. With the bark removed, the damage caused by the insects is very evident.

down all the ash trees ahead of the problem, we do not give the species a chance to sort things out on its own. And a lot of money will be spent on an ineffective measure that will likely slow the natural process of ash recovery."

Calendar of Events

May 4, 2008

NATIVE PLANT SALE AND VSP BOOK LAUNCH
High Park
Toronto, Ontario
Presented by High Park Volunteer Stewardship. Visit www.highpark.org for details.

May 10, 2008

NANPS ANNUAL PLANT SALE
Markham, Ontario
Visit www.nanps.org or see page 2 for details.

May 11, 2008

CAROLINIAN FORESTS
High Park, Toronto, Ontario
Presentation by author Lorraine Johnson. Visit www.highpark.org for other events.

June 6-8, 2008

CARDEN NATURE FESTIVAL & ONTARIO NATURE AGM
Carden Plain, Ontario
Visit www.cardenguide.com/festival for details. Use NANPS group pass number 0508 when you register and NANPS will receive a 25% rebate of your Festival Pass fee.

June 15-21, 2008

FIELD BOTANY AND BIOCLIMATOLOGY ON THE COAST OF MAINE
Steuben, Maine
For a complete list and descriptions of 2008 Botany Seminars at the Humboldt Institute, visit <http://www.eaglehill.us/mssemdes.html> or e-mail office@eaglehill.us.

June 16-21, 2008

BOTANY WORKSHOP
Isle Royale National Park, Michigan
Outdoor workshops learning to identify native plants, discussions about island plant communities, rare species, ecology and invasives.
Contact Jill Burkland at jburkland@irnha.org. 906-482-7860

July 18-21, 2008

SEVENTH ANNUAL NATIVE ORCHID CONFERENCE, APPALACHIAN WEST VIRGINIA AND PENNSYLVANIA
Morgantown, West Virginia
Contact info: Scott Shriver, Conference Chair, phone 412-367-8610 or e-mail SShriver@avonworth.k12.pa.us.

Invasion of the Abode Snatchers

by *Natalie Helferty*

Like most sci-fi horror flicks, *Invasion of the Body Snatchers* was a dark morality tale of individuals fighting for their humanity who, when captured, were replaced by Pod People, the soulless mono-culturists sprouted from pods from another planet. To protect themselves from the invasion, the heroes of the movie must pretend to act like the zombie-like, emotionless Pod People (who look like their original host humans, but are now really aliens).

Art reflects life. Perhaps we native plant lovers, in our attempts to banish the invasive alien plants that, as a society, we deliberately or ignorantly seeded into our landscape, are really protecting our own humanity.

Why have these plants invaded our landscapes? Those of us who are concerned may be prompted to question how society's activities have supported these invasions. As the protagonist in the 1956 film says: "In my practice I see how people have allowed their humanity to drain away...only it happens slowly instead of all at once. They didn't seem to mind... All of us, a little bit. We harden our hearts...grow callous...only when we have to fight to stay human do we realize how precious it is."

And so our society's mistreatment of the Earth through carelessness and greed has led us as individual nature-lovers into a battle against real invasive species, some even from pods.

Dog-strangling vine, also known as black or pale swallow-wort, (*Vincetoxicum nigrum*, *V. rossicum*), one of the most dogmatic of the invasive plants, has a demonic-sounding name that does not bode well for our freedom-loving pets or just about anything daring to eat it. Dog-strangling vine (DSV) contains toxins, like all milkweeds, that only a few predatory insects can stomach. The rest of life, beware!

With its tough fibrous stems and

rhizome-budding habit, DSV is almost impossible to remove or contain. Its seeds are carried on the wind while its roots find purchase in any soil type, including the most desiccated. And there may be the clue to the problem.

Who has caused the soil to lose its "soul", its fertility? Us humans. *Mea culpa* should be our mantra when undertaking any removal effort, asking Mother the Earth for forgiveness of our sins of ignorance.

Dog-strangling vine has now invaded the harshest of habitats,



PHOTO COURTESY RON HEPPWORTH

Up close, dog-strangling vine looks scary but it's perfectly innocuous in its native Ukraine.

exploding upon desiccated ravine slopes in cities where water once ran freely overland, but is now shunted underground through pipes to sewage treatment plants. We have desertified our cities, thus creating the "ideal" habitat for invasion, while killing the nurturing life of soils for delicate woodland natives.

DSV Removal

Dog-strangling vine is a perennial, twining vine growing up to two metres (six feet), with small pinkish to dark maroon five-lobed flowers that appear in late May to early June. Opposite leaves are ovate, dark green, smooth, and shiny. The seed pods begin appearing in late June and are mature by mid to late July. Each pod produces numerous wind-borne, silky-haired seeds that spread, once dried, in fall and through the winter. They spread along highway corridors and in areas of high human activity.

Any removal must be done prior to seed production. Repeated mowing or cutting with a scythe reduces above-ground biomass (living plant matter) and depletes the resources available to the rhizome and roots,

thus killing the plant. Removal of flower heads will reduce seed production, but will not stop its spread by underground rhizomes.

By adding a lot of compost you might also smother the shoots of the rhizomes and improve soil conditions for future native plant seedings. Try planting common milkweed (*Asclepias syriaca*) seeds and other meadow plants thickly as competition. Our native goldenrods (*Solidago* spp.) are allelopathic and may out-compete the non-native dog-strangling vine. Although labour-intensive, digging up the rhizomes is the only long-term solution. Be aware that any one rhizome that is cut will sprout two new shoots.

The invasion of garlic mustard (*Alliaria petiolata*) into woodlots is another "oops" that got out of hand. Forest fragmentation has reduced both the number and size of woodlots and has led to the loss of top predators, allowing an increase in deer density. The deer, who don't like garlic mustard, must either starve or browse every palatable native plant around. Garlic mustard overruns our woodlots, spreading its biennial seeds over the forest floor, crowding out the native graze-stressed plants.

Disturbance of soil from logging, hiking and even squirrel activity will keep the garlic mustard plants popping up for years to come. Pulling them up over many years will eventually deplete the bulk of them, but in the meantime, their allelopathic ways release toxic chemicals (glucosinolates) into the soil, thus inhibiting woody plant growth.

What is a native plant to do? Alas,

all they can do is plead with us humans to pay attention and give them room to breathe, to grow, to flourish...to just give a damn.

Invasive plants are here because we brought them here and because we continue to neglect our duties to this planet, as a part of all life on Earth. If plants could talk, what would they say? Indigenous people who are connected to the life force of nature say that plants do speak; they tell us they are here to serve. Perhaps the invasive plants are also here to send us a message. "We reflect you and what you have done to the Earth. Wake up! You have become the 'body snatchers' of Mother Earth, our collective 'abode', and the invasive 'pod people' that you fear!"

And so ends this sordid tale...with invasive plants screaming at us from all corners of the world. Will it mean our end if we don't recognize ourselves for who we really are, a part of Nature? Protecting native plants

will protect our human essence so that the "weeds" of the world (simply, plants in the wrong place) can stop moving in where they don't belong. Will we finally recognize ourselves as the actors, and, more importantly, the directors of this movie we call "Life"?

Natalie Helferty is an ecologist who has realized that the "matrix" we live in as this world can only be changed if we change ourselves, recognizing that we are of Nature, of life.



ILLUSTRATION BY KIM DU

Garlic mustard may look pretty but it has blanketed out native plants in many southern Ontario forests.

Removal of Garlic Mustard

Garlic mustard is a biennial with heart-shaped, scalloped leaves forming a rosette the first year. In the second year it forms a stalk up to one metre (three and a half feet) high with five-petaled white flowers. The flowers form skinny pods of many seeds in mid-summer. Remove plants by pulling them up – root and all – before they go to seed in order to avoid adding more seeds to the soil. Diligence is key. With hand-pulling each year, one can eliminate this plant in three to four years so that the seed bank is depleted. Again, this is labour-intensive, but effective. (It's rather Zen-like once you get into it.) Disturbed soil still contains the allelopathic toxin produced by garlic mustard, which affects woody plant mycorrhizal fungi associations, so spread native wildflower seeds on the bare disturbed soil to promote re-establishment of the understory and healthy soil.

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equals its height.

I planted one in my front yard as a succession tree for the aging Norway maple (*Acer platanoides*) to the north. Now I am waiting anxiously to discover the flowers and fruits. Michael Dirr writes that the fruit is "fleshy, orange-red to dark purple rounded drupe, 1/3 inch (eight millimetre) diameter...ripening in September and October...flavored like dates and relished by birds and wildlife, one hard seed which if bitten into will shatter teeth."

A tree inspector working for the City told me he had never seen the fruit on hackberry trees in Toronto. We wondered if that was because most of the street trees we knew were too immature to produce fruit or if the birds and animals had stripped the fruit from the trees before we noticed. (Apparently the fruits are well hidden under the leaves.) Is it also possible that the trees need others of the same species in proximity for good fruit set even though they have perfect flowers?

This brings me to a pet peeve about references for trees in general, including the main reference books. Few, if any, include information about when a plant matures. It would be great to know at what age a particular plant – in this case, my hackberry – can be expected to start flowering and producing fruit.

Of note: A related species is the dwarf hackberry (*Celtis tenuifolia*). This tree is listed as a species at risk in Ontario by the Ministry of the Environment.

Hackberry is an ideal candidate for urban settings. I have planted mine with the vision of a renewed urban forest bringing back the majesty of the stately elms of years past, arching hackberry branches meeting over downtown streets forming a perfect, green canopy.

Catherine Siddall operates a landscaping business in the Greater Toronto Area that promotes and practices organic gardening. Catherine can be reached at siddall.c@sympatico.ca.

Concerned about the endangered Black Oak Savannahs?

Zoe Dalton, a University of Toronto PhD student and NANPS member, is working with Walpole Island First Nation on a research project focused on facilitating positive, productive relations between First Nations and non-Aboriginal groups for the restoration of southern Ontario's rare and endangered Black Oak savannahs.

We want to talk about savannah recovery with representatives from Tallgrass Ontario, Carolinian Canada, Nature Conservancy of Canada, World Wildlife Fund, Ontario Nature, the Ontario chapter of the Society for Ecological Restoration, Environment Canada (Canadian Wildlife Service, Ontario Region) and the Ontario Ministry of Natural Resources.

If you are involved with one of these groups, or can suggest someone who is, please contact Zoe at daltonz@geog.utoronto.ca. *One and a half hours for an interview is all that's required.* You, or your contact, can be a part of understanding how to develop good relations, and how to most effectively restore the savannahs. We look forward to hearing from you!

In Memoriam

Lady Bird Johnson, the wife of former US President Lyndon Johnson, an environmental leader and long-time lover of native plants, passed away last year. The former First Lady of the United States championed the seeding of native wildflowers along the highways of Texas, resulting in the transformation of highway verges into colourful butterfly- and bird-friendly meadows. The practice has caught on in many American states creating vast areas of wildlife habitat. In 1982, Mrs. Johnson founded the Lady Bird Johnson Wildflower Center in Austin, Texas, an educational facility and public garden dedicated to increasing the sustainable use and conservation of wildflowers, native plants and landscapes.

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