The Blazing Star

Fall 2009, Volume 10, Issue 4

Newsletter of the North American Native Plant Society

Native Plant to Know

Black-eyed Susan

Rudbeckia hirta

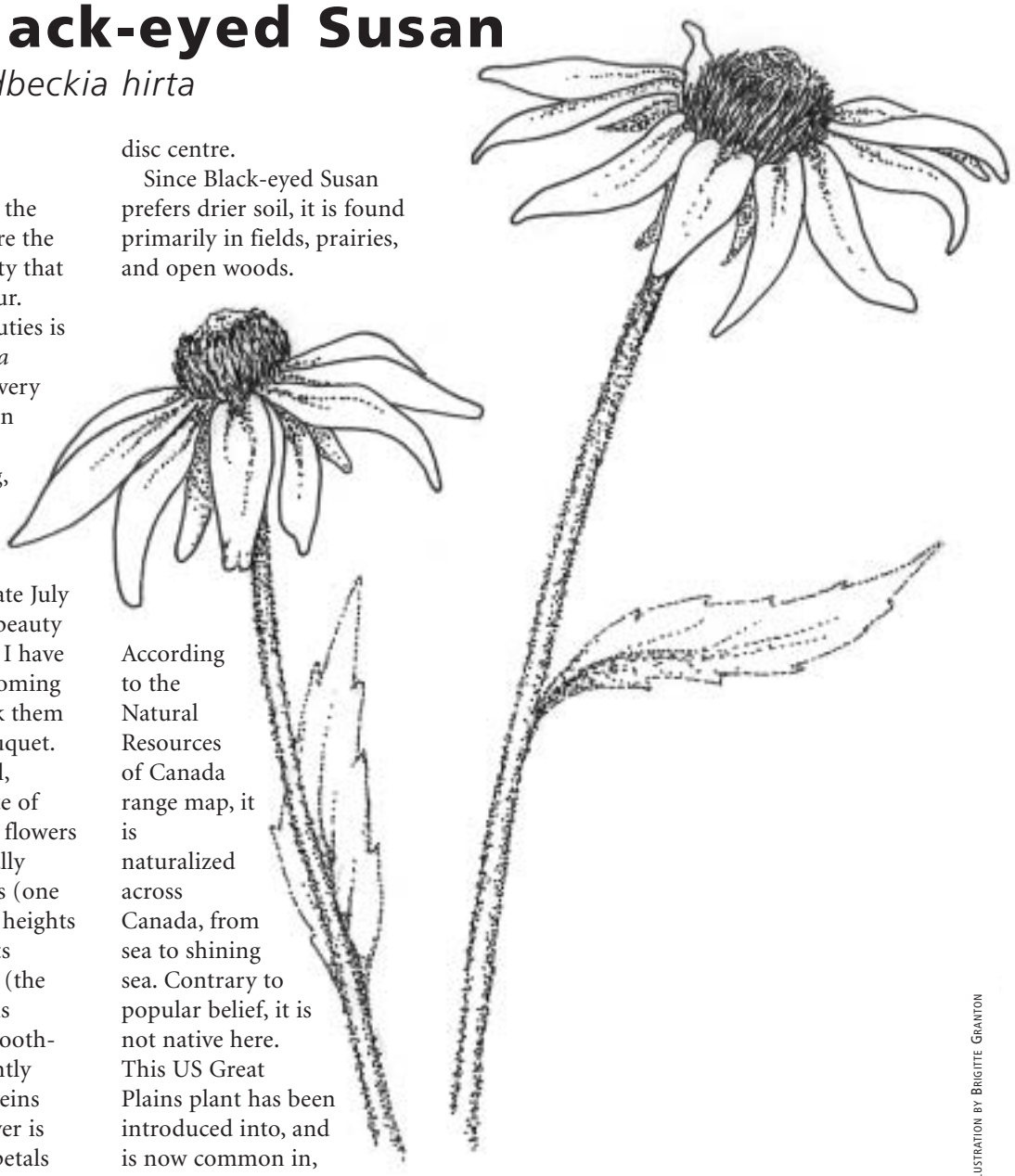
by Kelly Mcnamara

It wasn't until I moved out into the country that I learned to treasure the beauty of wild plants. The beauty that comes in what I call God's colour.

My favourite of the ditch beauties is the Black-eyed Susan (*Rudbeckia hirta*). Its sunny yellow shines every time I drive down the concession roads near Midland, Ontario. When other colours start fading, *Rudbeckia's* yellow is a beacon, begging to be admired. The Black-eyed Susan is also loved for its stamina. Growing from late July well into September, its lasting beauty keeps reminding us of summer. I have seen Black-eyed Susans still blooming in October, tempting me to pick them for a glorious Thanksgiving bouquet.

A self-seeding prairie biennial, Black-eyed Susan forms a rosette of leaves the first year, followed by flowers the second. A tall flower, it usually grows from 30 to 60 centimetres (one to two feet) high, but can reach heights of 90 centimetres (three feet). Its lance-like leaves are softly hairy (the plant's species name *hirta* means hairy), with the lower leaves smooth-edged and the upper leaves slightly toothed with three prominent veins and winged leaf stalks. The flower is composite, with showy golden petals and a chocolate brown cone-shaped disc centre.

Since Black-eyed Susan prefers drier soil, it is found primarily in fields, prairies, and open woods.



According to the Natural Resources of Canada range map, it is naturalized across Canada, from sea to shining sea. Contrary to popular belief, it is not native here. This US Great Plains plant has been introduced into, and is now common in, southern Ontario and

Continued on page 12

Illustration by Brigitte Granton

The *Blazing Star* is . . .

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Presidents' Message

The NANPS 24th Annual General Meeting held on October 3rd was well worth attending just to hear the presentations and impassioned pleas for preservation from our award winners.

The Paul McGaw Memorial Conservation Awards were given to organizations that demonstrated outstanding dedication in preserving and restoring tallgrass ecosystems, a unique and endangered habitat. Nancy Pancheshan, president of **Friends of Ojibway Prairie**, spoke passionately about the current challenges facing the Ojibway Prairie Complex in Windsor, Ontario (see *Blazing Star*, spring 2009, "Struggle to Save Ojibway Prairie"). Andrew MacDougall from the **Garry Oak Ecosystems Recovery Team** demonstrated the need to save this important endangered west coast habitat. The representative from the **Walpole Island Heritage Centre** was unable to attend due to family illness, but NANPS Director Zoe Dalton, who was been working with the Heritage Centre as part of her PhD thesis, delivered an excellent presentation showing some of the remarkable work done there.

NANPS' annual Native Plant Garden Awards give us a chance to connect with individuals who have successfully created personal native plant habitats. This year we welcomed Guelph Councillor **Vicki Beard** and her partner **Mike Fortin** as our Suburban Groundbreakers. In their amazing urban oasis in Guelph, Ontario, nothing is ever wasted and the various habitats support a balanced ecosystem. We also welcomed John Oyston who won for his Rice Lake Prairie Re-creation. He is gradually and very successfully transforming a 1.6-hectare (four-acre) hay field into a tallgrass habitat.

The Volunteer of the Year Award went to **Janet Harrison and Charles Iscove**, creators of *The Local Scoop*, NANPS vastly entertaining e-mail newsletter.

Vicki Beard also spoke to the AGM crowd about her role as the Vice Chair of Pollinator Park in Guelph. She described both the planning and planting experience, and the process of winning over municipal councilors in order to achieve pollinator-friendly by-laws. Useful information indeed!

PHOTOGRAPH BY ERIKA THIMM

Vicki Beard and NANPS Director Karen Boniface

Each year there are the inevitable changes of the guard. We welcome **Dr. Sue Stephenson** of Puslinch, Ontario to the Board as a new director. We send our thanks and best wishes with those directors who gave of their time and expertise to the Board and have moved on to other endeavours: Paul Heydon, Amanda Billard, Alison Warner and Martin Field.

We look forward to another year of active work and advocacy. Our annual **Seed Exchange** begins with this issue and continues into January, so please keep those seeds coming! We will again be hosting a **Speakers' Series**, beginning in January. See the enclosed brochure for details. Our **Plant Sale** will be as enticing as ever. And we're still in the planning stages with other activities – such as a working excursion to NANPS' own Shining Tree Woods for March 27th. Stay tuned!

Next year will be our **25th Anniversary**. To pay for our Silver Anniversary activities and produce a special edition of ***The Blazing Star***, we are requesting donations to help offset these costs. What better time to make a donation for tax savings – year end is approaching! To those members who have already made donations, especially **Carole Rykert** of Collingwood, Ontario and our founders **Jim French** and **Jim Hodgins** …… ***a heartfelt thank you!***

Miriam Henriques and Harold Smith

The Struggle Against Water Soldiers

by Lorraine Brown

Three times this summer we put our canoe into the pond near the house and filled it with the most obnoxious, invasive, aquatic, alien plant I have ever experienced. And still, the plants kept appearing!

Back in the summer of 2007, friends came over to visit and dropped two plants into our pond. "You're going to love these", said our friend, while his wife mentioned that they're called something like "wounded soldiers".

Photograph by Lorraine Brown

She explained that they appear to go down into the water when it's cooler, and come to the surface when it's warm, making them fun to watch. The plant forms a large rosette of long, strap-like leaves, about 30 centimetres (one foot) long and two centimetres (less than an inch) wide. Size can be extremely variable though, especially when you have thousands of them.

That first summer I wondered if the plants would survive. They didn't seem to be multiplying. The next year, as the pond level went down in late summer, I noticed that there were quite a few of them.

Then came the summer of 2009, and suddenly the pond had been overtaken. The water started to have a gloomy, anoxic (oxygen-deficient) look. Our friend visited again, and I told him about the invasion. "Get rid of it", he said. "It did the same thing in our pond. It completely took over and everything else in the pond died." I pictured hundreds of frogs, tadpoles, goldfish and native aquatic plants floating belly up at the surface.

A short time later, my husband, Andrew Armitage, saw an article in the *Toronto Star* about the next big invader in the Great Lakes and there it was – our "wounded soldiers". The correct name is Water Soldiers (*Stratiotes aloides*). Native to Europe and northwest Asia, the plant was first reported in the wild in Ontario at two locations on the Trent-Severn Waterway in 2008. This new invader is sold as an ornamental water garden plant.

Water soldiers reproduce mainly by vegetative propagation, with mature plants producing offsets. The process is similar to the reproductive method of the houseplants known as Spider Plants. As they multiply, Water Soldiers form dense mats that can shade out native aquatic plants.

This plant remains underwater for most of the year, but new leaves produced in late spring and summer contain air pockets that force the plant up to the surface. In the fall, the dying leaves become waterlogged and the plant sinks back underwater. I imagined the bottom of my pond covered with decaying Water Soldiers taking up all the available oxygen, and leaving the rest of the pond's flora and fauna to suffocate.

One good thing about this plant is that it's very easy to remove. It floats free rather than being rooted, so a rake, a canoe, and a competent paddler in the back (Andrew, in this case) were all I needed to wrestle this unwelcome newcomer into submission. Gardening gloves are useful too, because the serrated leaf edges are quite sharp.

Now, in the fall of 2009, my pond is free of Water Soldiers. I'm hoping this situation prevails into next summer, otherwise, we'll be back in the canoe with our rakes.

Our pond runs off in the spring, down to Georgian Bay. There's a shallow cove right in front of us – Coffin Cove. I am concerned that Water Soldiers could become established down there, as the conditions are ideal for them: standing water less than five metres (16 feet) deep.

This is a cautionary tale. I trusted my friends, who know a lot about plants. They, in turn, trusted a local nursery that is usually well informed about the plants they sell. The moral of the story: don't let any plant onto your property if you don't know it really well. And for the water gardeners out there: never release into natural water bodies an ornamental plant that you've bought for your water garden. Better yet, stick with native plants!

Lorraine Brown is a biologist and museum exhibit planner. She is currently replacing mowed lawn with Ontario tallgrass prairie at her rural property north of Owen Sound.

Fall 2009 Seed Exchange

Enclosed with this issue is the list of seeds currently available. Please ensure that you have your order in for this batch of seeds by January 10th, 2010. Our intent is to mail out seeds by the end of January so that members can stratify those that need a cold winter to inspire germination.

A list of seeds left over from the January mailout plus any new donations will be published in the winter issue of the ***Blazing Star*** for distribution by early April.

Note: there are limited quantities of some species. First come, first served. Where seed quantities are limited, all donors will be served first in the order that their requests are received. You can choose up to 30 packets of seeds.

Please continue to send in your seeds!

Tender towards Trees

by Alexander Yoshiki

PHOTOGRAPH BY LIZA BADALOO

Tree Tenders learn how to use an identification key.

A few years ago in a bid to live a healthy lifestyle, I discovered a love for taking walks. I found that I could even walk comfortably during a heat wave. Trees were the mechanism of my comfort during such times. I developed a new appreciation for trees which led me to look for ways to plant and protect them. I got involved with the City of Toronto's Community Stewardship Program which in turn got me involved with LEAF (Local Enhancement and Appreciation of Forests). LEAF offers a Tree Tenders course to those who want to help the environment, but don't want to be saddled with a lengthy and expensive college course.

The Tree Tenders course takes place over three evenings and a weekend day. The classroom presentations cover tree anatomy, physiology and growth. They helped me understand such issues as soil compaction and invasive species – both detrimental to an urban forest. We learned the 3 P's – Protecting, Preserving and Planting – that all boiled down to the right tree in the right place.

A tour of the local trees complemented each classroom presentation. Notable was the Kentucky Coffeetree (*Gymnocladus dioicus*) which is easily identifiable by its very large bipinnately compound leaves (leaflets grow at several places along a common stalk and these stalks, in turn, grow at several places along a common stalk). Native to the Carolinian zone, the Kentucky Coffeetree is a threatened species in Ontario. It got its name from early settlers who used the seed pods as a cheap coffee substitute until tradelines could be established for coffee beans. The pods may still be used to make coffee, but be aware that they are poisonous in large quantities.

LEAF arborist Todd Irvine discussed tree and soil biology. He stressed the importance of giving the root system enough space to develop when planting a tree, discussed the pros and cons of different containers used in transporting saplings and touched on many other topics of interest. Todd conducted our first tour which introduced us to woody and herbaceous invasive plants and how they were affecting the local habitat. Garlic Mustard (*Alliaria officinalis*) is a common invasive of most urban woodlands and disturbed open areas. First introduced to North America from Europe as a garden plant, it makes a good pesto sauce. However like many invasives it has left the garden to outcompete native species. It does this by secreting a chemical into the soil that destroys mycorrhizal fungi. Mycorrhizal fungi are identifiable in the soil as thin white strands; they have a very important symbiotic relationship with tree roots, providing them with inorganic nutrients and removing carbon. Destruction of the fungus disrupts the tree's ability to reproduce and thrive. In addition, Garlic Mustard also puts native woodland plants like Trilliums (*Trillium* spp.) at risk since it leafs out and flowers earlier than most other plants and can shade woodland plants early in the spring at their most critical growing time.

The City of Toronto's Urban Forestry arborist Wendy Strickland took us on a tour using a key to help us to identify tree species by leaf and bark. It can be confusing to differentiate between trees with similar leaves; this is the case with the native Sugar Maple (*Acer saccharum*) and the invasive, non-native Norway Maple (*Acer platanoides*). Here's the trick: Norway Maple leaves will leak a white latex substance when torn. Adaptable urban trees, Norways were planted along streets in Toronto 50 years ago. It took some time to realize that they produce a very dense mat of roots and a very thick canopy blocking out light to the native woodland wildflowers or saplings that would normally grow under them. Because of this and their seeds' ability to germinate and grow in relatively heavy shade where Sugar Maples can't, they have invaded the river valleys and parks.

There are over 6,000,000 trees in Toronto's urban forest. That may seem

like a lot but each one is precious, especially in our polluted and highly developed city environment. Thankfully, the City has passed a by-law protecting trees on construction sites. When there is construction near a mature tree, the city requires a Tree Protection Zone with clear signage to be set up, protecting the root system from compaction as well as preventing damage to the aboveground part of the tree. Also, as arborist Mark Ventrasca mentioned, it is illegal to remove or injure privately owned trees which measure 30 centimetres (one foot) in diameter when measured 1.4 metres (55 inches) above ground level. If someone wishes to remove or prune a tree on their own property they must obtain an arborist's report and a permit.

Mark conducted a tree tour which allowed us to identify stressors like soil compaction, poor or excessive drainage, high acidity or alkalinity of soil (a pH of 6 to 6.5 is ideal where pH 7 is neutral), or not enough soil area (this is the case when trees are planted in concrete boxes or on sidewalks). Soil is of paramount importance to the health of a tree. Sadly, in urban settings the soil often suffers from compaction, poor nutrient cycling and road salt. Although it may be difficult to see the source of the stress it is often easy to spot that a tree is stressed: sprouts at the base of the tree are one excellent clue. When a tree is under stress, it may produce many sprouts in an attempt to quickly grow new leaves and seeds. Other indications of stress would be wilted foliage, pervasive twig dieback, unseasonal discoloration or spots on the leaves which can indicate disease or invasive insects such as the Asian Long-horned Beetle or Emerald Ash Borer.

After the first course I quickly signed up for Tree Tenders II* which had two streams: Community Work in Urban Forestry and Stewardship in Natural Areas. As I was already familiar with Toronto's Community Stewardship program, I decided to follow the Stewardship in Natural Areas stream led by Cheryl Post who coordinates the city's stewardship program. Cheryl discussed the restoration of native plant communities by teaching invasive species identification and removal, the importance of wetlands, and monitoring of indicator species like frogs and pollinators. The course was designed to help us create healthy and self-sustaining niches in public areas.

I preferred this stream as it allowed participants to become co-leaders of one of the stewardship sites across the City of Toronto. This year I was a co-leader of the Don Valley Brick Works stewardship team. Along with another Tree Tenders graduate, I led a group of

Continued on page 6

Continued from page 5

about 15 volunteers each week to help restore a vital wetland which included several stormwater retention ponds. These ponds help clean one of Toronto's better-known "lost rivers", Mud Creek, which empties into the Don River and then Lake Ontario. In an urban centre like Toronto the bulk of the time is spent on invasive species' removal. But we also do native plantings, followed by a lot of mulching, watering and monitoring of the new plants.

The final day of Tree Tenders II united both groups to talk about advocacy. Janet McKay, Executive Director and founder of LEAF, led a discussion with community leaders about their ongoing programs to protect trees and add to the tree inventory list. We learned of volunteer opportunities with local groups that do tree or native herbaceous plantings mostly around wetlands. This included Toronto's front yard tree planting program which is well complemented by LEAF's backyard tree planting program.

To top it all off, Robin Sutherland, LEAF's Marketing Manager, put on a memorable graduation ceremony for all Tree Tender graduates, featuring a keynote speech about the importance of cultivating urban forest stewards by Andy Kenney, LEAF Board Member and a professor in the Faculty of Forestry at the University of Toronto.

A note of interest: the Live Green Toronto program provides grants to encourage churches to green up. My church, Glebe Road United, in conjunction with other denominations in the South Eglinton area, is hosting an eco-fair on November 22nd. I hope to find eager volunteers at the fair who would love to join a green team in my neighbourhood. The team would help with neighbourhood tree projects such as a tree inventory to catalogue some of Toronto's front and backyard trees.

And of course I always look forward to LEAFy Drinks, an informal gathering of volunteers, program participants and newbies to the urban forest scene. It happens from 7 to 10pm on the first Thursday of every month at the Victory Café located at Markham and Bloor. All are welcome. Hope to see you there!

Alexander Yoshiki is forming a green team in Ward 22 (South Eglinton area) next year. If you're interested in joining, contact him at ayoshiki@sympatico.ca.

**The Stewardship stream of Tree Tenders II has been discontinued because there are enough steward team leaders now to fulfill the city's requirements. And the Community Work in Urban Forestry stream of Tree Tenders II has evolved into a more project-oriented program, in which Tree Tenders I graduates become involved in hands-on urban forestry projects such as tree maintenance in their neighbourhoods, helping out with the LEAF Learning Garden, educating their neighbours about tree programs, etc. LEAF provides projects that need volunteer help and welcomes ideas from our Tree Tenders.*

PHOTOGRAPH BY LISA SHANKLY

*Tulip Tree (*Liriodendron tulipifera*)*

About Oaks

by Tom Atkinson

Oaks have an ancient and revered past, be it in the Old World or the New. They provide valuable shade: think of cows at rest chewing their cud under a stately old bur oak (*Quercus macrocarpa*). Aboriginal peoples on continents where oaks grew – Europe, Asia, North America, (northern) Africa, Central America (to Panama), and (northern) South America – used the acorns (the seeds or fruit of the oak) for food. Animals, be they domesticated or wild, treasured the fall bounty and fattened up on acorns. The lumberman to this day fells oaks to be fashioned into barrels to ferment wines, and into furniture, flooring, plaques, judges' gavels, and many more and varied objects. One thinks of the Druids – the priests of the Welsh Celts – and oaks in the same breath: mystic, ancient, wise, strong, almost supernatural.

Native people would eat some types of acorns the way we would consume almonds or apples – straight off the tree. White oak (*Quercus alba*) and Swamp White Oak (*Quercus bicolor*) are examples of oaks whose acorns are edible without processing. The acorns of other oaks required some processing, as the taste – when eaten raw – was bitter. Natives would wash out the bitter tannins (which were responsible for the unpleasant flavour) by using a mortar and pestle (or equivalent) to render the acorn into flour which would then be used in making bread-like food (e.g. bannock).

The common perception is that oaks are very slow-growing. Truth is, they may take a long time to get started but then they take off. Medium trees (up to 30 metres or 100 feet), large trees (up to 40 metres or 135 feet) and very large trees (over 40 metres) will be slow off the mark. Think of a skyscraper: a rock-solid foundation must be established – below ground – before the rest of the structure can rise and be supported.

Photograph by Bill Moses

This Bur Oak in Meaford, Ontario is over a metre in diameter (approximately four feet).

One autumn I planted a Red Oak acorn (*Quercus rubra*). It took seven years for it to grow to the height of my knee, and I am short. Afterwards, it grew about a metre (40 inches) a year, and ideally will grow to 25 metres (85 feet) high. Now, keep in mind that this tree was grown in full sunlight for the first decade or so of its life. If its life had started in a forest, where less light reaches the forest floor, then growth would have been much slower. Even oaks which are longer lived, such as the stately White Oak, once established, have sizable growth rates every year. If this is all new to you, then may you use this information to spread the good word about oaks.

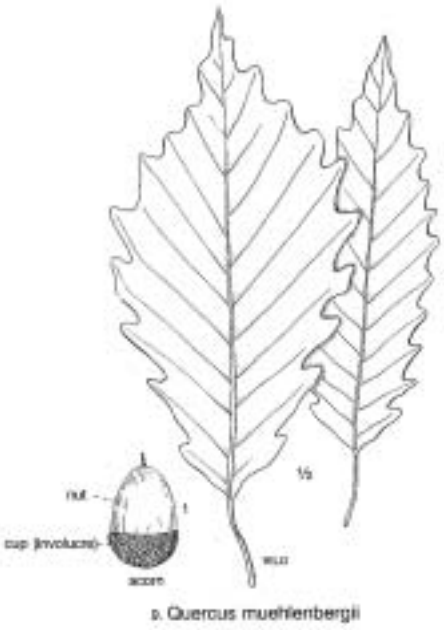
Why would you want to plant a Red Oak? This species is common in the City of Toronto and environs, especially in forested areas where Red Oaks veritably leap out at you once you learn to recognize them. Young bark is smooth, grey-green, almost shiny. Mature bark is a medium grey and, with time, will be vertically ridged, though not dramatically so, with these ridges being unbroken, unlike on Black Oaks, *Quercus velutina*. Acorns are a dead giveaway: very large, with a cup sitting on top of the acorn, almost like a toupee. The cup does not come down to cover the top third of the acorn as would the cup of a Bur Oak. And the cup's scales are tight and compressed, unlike the very "fluffy" ones which are found on

Continued on page 8

Continued from page 7

a Bur Oak's acorn cup. Leaves are a shiny medium green on top, a tad paler underneath, and relatively hairless there (despite what some texts say). The leaves have lobes (the parts which protrude) and sinuses (the indentations between lobes). The latter are not prominent, unlike on a Pin Oak (*Quercus palustris*). The lobes have acute tips, referred to as bristle tips.

All oaks have flowers – just don't expect the saucer-shaped, magnolia-like flowers attractive to so many humans. The male (or pollen) flowers of oaks are expanding catkins. Initially, the catkin is short, maybe five millimeters; when it expands, it grows in length and in diameter, with the purpose of making the pollen available for the wind to carry it to the next oak. Female (or seed) flowers are very small, almost invisible unless one knows what to look for. Pollination is wind-borne and not via insects or other creatures. Eventually, the male flowers die and fall off, to litter the ground for a short time; this is all wonderful compost, of course. The acorns of the Red Oak take two years to mature, and then they fall. Oaks are wise and have evolved alongside squirrels in a mutually beneficial way. Crops of acorns vary radically in number. If the crops were consistent, the squirrel population might grow and consume almost all the acorns every year. So every few years there will be a bumper crop. The squirrels feed, and then they carry and bury; many of the stored acorns will be forgotten, and they are the source of the next crop of oak seedlings.



a. Quercus muehlenbergii


Young White Oak

Photograph by David Orsini

The prevailing belief for many years was that squirrels would destroy the viability of an acorn when they chewed part of it and left the rest behind. Recent studies have shown that this is a myth, and that many of these "worthless" acorns are able to produce a new oak seedling.

Other oaks, with smaller acorns, are attractive to birds such as Blue Jays; thank these rascals, as well as squirrels, if you see a Chinquapin Oak (*Quercus muehlenbergii*) standing on a hilltop. I highly recommend the Chinquapin. Where we live, the tree is subjected to drought, drenchings, heat, cold, humidity, and insects. Yet the leaves are almost undamaged, and despite whatever conditions nature subjects the species to, they're dark green and lustrous from spring till autumn colour change and leaf drop. The tree is not common in the nursery trade, and one does wonder why.

The smallest oak I have seen is the Dwarf Chinquapin Oak (*Quercus prinoides* – where *prinoides* means "like a Chestnut Oak", *Quercus montana*, a tree native to the eastern United States that likes dry sandy soils). In its natural setting, which is the deep sands of Norfolk County (very southern Ontario), a Dwarf Chinquapin may get waist-to-chest high only. It will readily hybridize with the majestic Chinquapin Oak. If your specimen is the true "mini", or a hybrid, then from the planting of an acorn, you may get acorns in seven years – quite precocious. Both the small and the large species have golden male flowers-cum-catkins. In the spring as the leaves are just unfurling, the effect is dramatic, especially for those being introduced to this tree, but even for the "old timer" like me, each season never fails to delight.

Red Oak is the most common oak of eastern North America, from Minnesota to Nova Scotia and the Maritime provinces, and south almost to Florida in the east. If you live in New Brunswick, you should plant a Red Oak which has come from New Brunswick acorns, while if you live in Alabama, you need a red oak with provenance in that state. Where to plant such a tree? Of course, city parks are an excellent place. If you want a signature tree for your yard, and have the space, then this is an excellent choice.

The colour reference in the common name of Red Oaks and White Oaks has nothing to do with the tree or leaf as seen while the tree is standing and alive. Rather, it is the colour of the wood when the tree has been taken to the lumber mill and

sawed into planks. Despite what you may conclude, the wood of a Black Oak is not black; it is similar enough in colour and texture to be sold as Red Oak when in plank form.

Oak has been the wood of choice for the barrels which are used to ferment and age grapes which, with expert handling, become the wines that many enjoy. In North America, the wood of *Quercus alba*, which is impermeable, is preferred.

Red Oak wood is hard, perhaps not as much as the wood of White Oak. It is easy to work, and when finished and oiled produces a honey-like tone. I speak from personal experience, since I created two lovely kitchen cabinets and shelving for a walnut corner cabinet from Red Oak.

"Gustav Stickley was an American craftsman who, tired of the European penchant for fanciness, advocated the creation of a distinctive American furniture style that would integrate furnishings, architecture, handicrafts, and principles of harmonious living; he believed that well-designed furnishings could help 'make life better and truer by its perfect simplicity.' The primary wood that he used was American White Oak from Ohio and the Midwest. Stickley used oak for about 95% of his furniture production and chestnut, maple and mahogany for the other 5%." http://www.gustavstickley.com/stickley-furniture.html

Frank Lloyd Wright was one of the greatest of American architects. He used oak in many, if not all, of the homes that he designed, both as paneling in, and furniture for, the dwelling. His inspiration was the timeliness – and engineering merit – of wooden buildings, temples, and homes in Japan. Oak has been used there for centuries and, in some respects, Wright was not only influenced by the use of oak as an item of construction, but also as something for creation of furniture, cabinets, and screens, the latter so common as room dividers in Japanese homes. Mind you, as my late father (a consulting civil engineer) pointed out, Wright may have been a genius as an architect, but as an engineer, well, he left much to be desired. But that's a story for another day.

Nothing in life is trouble-free, and oaks are no exception. In the late 1990's, there appeared a mysterious decline and demise of the native species in California. This condition is known as sudden oak death. It appears to be a pathogen introduced from Europe on rhododendrons and possibly other plants. This condition appears to be in Ontario, but so far has not clearly made itself visible to those who are looking for it. If you're concerned and want to learn more visit http://www.agf.gov.bc.ca/cropprot/sod.htm.

Another threat to oaks is the rush to create more vineyards in some jurisdictions where grapes flourish. In California, many stretches of oak savannah have been annihilated, the trees uprooted and destroyed utterly. If you consume wine, please consider the possible ecological repercussions.

Photograph Courtesy Macphail Woods

Red oak leaves at Macphail Woods in Prince Edward Island

It may come as no surprise that I am fond of all oaks. The one which I most wanted for our garden, that "seven years till knee-high" one, was a Red Oak. It was, is, and always will be a joy. After I become potash, perhaps the nutrients in this afterlife form I assume will help the next Red Oak begin its life.

Some interesting references:

- Societies: the International Oak Society: http://www.internationaloaksociety.org/home
- Furniture:
  - Gustav Stickley & the arts and crafts movement: http://www.gustavstickley.com/stickley-furniture.html
  - Frank Lloyd Wright:
    - http://books.google.ca/books?id=7CXCkW3FOAgC&pg=PA39&lpg=PA39&dq=frank+lloyd+wright+%2B+oak+lumber&source=bl&ots=n4E1FGWS4g&sig=RSs1foxORcCLBtVr3fKEdqzYg3g&hl=en&ei=S-NtSp67O4eEMf7usPkG&sa=X&oi=book_result&ct=result&resnum=4
    - Interior Style & Design by FLW: http://books.google.ca/books?id=mTlLxdrNm_4C&printsec=frontcover&dq=frank+lloyd+wright+%2B+oak+lumber&source=gbs_similarbooks_s&cad=1
- Wine: in wine making (via Jancis Robinson) - http://www.jancisrobinson.com/articles/winenews0403.html
- Food for humans:
  - http://74.125.95.132/search?q=cache:X8ewBTEc2zwJ:www.swsbm.com/ManualsOther/UsefulPlants/Useful_Wild_Plants-3.PDF+acorn+%2B+aboriginal&cd=4&hl=en&ct=clnk&gl=ca
  - California aboriginals: http://www.swsbm.com/ManualsOther/UsefulPlants/Useful_Wild_Plants-3.PDF
- Uses of oaks:
  - http://www.helium.com/items/828109-oak-trees-identification-and-uses
  - use of *Quercus robur*: http://www.controverscial.com/Oak.htm
- Bear oak (*Quercus ilicifolia*): http://www.fs.fed.us/database/feis/plants/shrub/queili/all.html#STATES/PROVINCES
- Problems:
  - Sudden oak death: http://www.agf.gov.bc.ca/cropprot/sod.htm
- Trees:
  - *Trees in Canada* – John Laird Farrar (Fitzhenry and Whiteside, ISBN-1-55041-199-3)
    Silvics of North America – http://na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm

A Peatland Plant Rescue

by Cherry Dodd

I have always loved wild habitats and abhorred their destruction. In 1999 a group of friends lost the fight to save one of the last and best remnants of aspen parkland within the city of Edmonton. This parkland had seepage springs and solonetzic soils that made it unsuitable for farming. It had never been ploughed and was a patchwork of prairie meadows, wetlands and aspen groves.

Its name was Little Mountain Natural Area. When it was bulldozed, we realized that we had to start concentrating on saving the native species themselves if we couldn't save their habitat.

We formed the Edmonton Naturalization Group (ENG) with the aim of preserving some of the native plant diversity of the Edmonton area. We do this mostly by rescuing plants from habitats that are about to be destroyed as a result of development, and by propagating these plants at our garden plot. The City of Edmonton has made land available to us at Old Man Creek Nursery, the city's tree nursery.

Little Mountain was our first plant rescue site. Since then we have been to many more, always with the permission of the land owners, and our garden plot has expanded over the years to include over 160 species of flowers, grasses, sedges and rushes native to our area.

We harvest the seeds of these plants so that we can build up a seed bank for each species. We also donate plants to schools, community groups and our volunteers. Our goal is to see these plants growing in as many new habitats as possible, and we have found that gardens make great habitats for native flowers and grasses. To facilitate this process ENG works with two Edmonton commercial nurseries who are interested in growing native stock. These nurseries are encouraging gardeners to try local native plants which, unlike most horticultural species, are drought-tolerant and tough enough to survive extreme weather conditions.

Propagating natives from seed brings up two questions: what are the best ways to germinate seeds and how do we find the best habitat for each species? How to use the stock thus propagated to restore a degraded ecosystem is another huge question, which so far is beyond our capability to answer. The sad fact is that once a habitat is lost in the rapidly growing metropolis of Edmonton (which receives thousands of new residents each year), it remains lost. Nevertheless, we feel that our efforts are worthwhile and we are making progress in answering the first two questions. We are preserving genetic stocks for future restoration, and our recreated "microhabitats" are helping to support birds, native bees, butterflies and other insects.

Photograph by Cherry Dodd

Western Woodland Lily rescue at the peatland

Sometimes, we get an opportunity to rescue plants from a specialized habitat that cannot be duplicated in a garden or nursery situation. An example is a peatland west of Edmonton. (Peatlands previously existed within the west boundary of Edmonton, but they have virtually all been lost to residential or industrial development.)

The site in question had been forested with Black Spruce (*Picea mariana*) and Tamarack (*Larix laricina*) and had a high water table, with groundwater rich in calcium ions. This resulted in a richly diverse understory of calciphile shrubs and herbaceous species. The area supported large quantities of peatland grasses and sedges (probably encouraged by the opening up of the canopy), including large patches of brilliant white Cottongrass (*Eriophorum angustifolium*), shrubs such as Labrador Tea (*Ledum groenlandicum*), Bracted Honeysuckle (*Lonicera involucrata*) and Bog Cranberry (*Oxycoccus microcarpus*), and flowering herbs such as Marsh Marigolds (*Caltha palustris*), Grass-of-Parnassus (*Parnassia palustris*), Saline Shooting-stars (*Dodecatheon pauciflorum*), Bog Violets (*Viola nephrophylla*) and Round-leaved Orchids (*Orchis rotundifolia*). The site even hosted some Northern Starflowers (*Trientalis borealis*), which are quite rare this far south of the boreal forest zone. From the road it looked like a typical logged-over site, with brown denuded areas covered in wood chips and ragged zones of regenerating willows (*Salix* spp.), but a walk over its uneven ground revealed an absolute treasure trove of species. Alas, it was heartbreaking to know that it was extremely unlikely we would find homes for all of them.

Recreating the water source that is vital to peatlands seemed like an impossible dream, even if we could replicate soil conditions using peat. Nevertheless we have attempted a limited salvage and a lot of volunteers took home plants to experiment with,

to see which species would adapt well to their drier garden conditions. I created a miniature bog garden in my yard for the species that I thought would be most vulnerable to drying out. It's a downspout garden lined with plastic and filled with peat. It was planted last spring with three different species of wetland violets (*Viola* spp.), Bog Rosemary (*Andromeda polifolia*), Labrador Tea, Kalm's Lobelia (*Lobelia kalmia*, an annual), Grass-of-Parnassus, Narrow-leaved Cottongrass, Northern Starflower and a Marsh Marigold. They all need a lot of water so I am watching and waiting to see how they thrive. They have done fine so far in spite of an extremely dry summer.

Some of the species that also thrive in drier forests, such as Dewberry (*Rubus pubescens*), Stemless Raspberry (*Rubus acaulis*), Bunchberry (*Cornus canadensis*) and Bog Violets have done particularly well in a drier, shady spot in my garden. These species were so abundant on the peatland site that I think that they must be quite adaptable when faced with different conditions.

The logged peatland site was also home to a number of Western Wood Lilies (*Lilium philadelphicum*). These plants are much prized for their ornamental value, and so they have frequently been dug up from the wild. This may be one reason why they have become scarce in wild habitats. Recent droughts in Edmonton may be another reason. Also, people often pick the flowers, not realizing (or caring) that this thoughtless action effectively kills the plant, as the leaves and flower are on the same stem. Once the leaves are severed from the bulb no further nourishment is available to it.

Since wood lilies are easy to spot when in glorious orange or red flower, but pretty much inconspicuous when in green fruit, ENG volunteers spent a day at the wetland last year tagging them with surveyor's tape when they were in bloom. Then we went back to find them again in the fall when the bulbs were dormant and could be dug. We transplanted 11 lilies to the Old Man Creek Nursery plot last fall. We weren't sure how they would do in drier conditions, but six of them bloomed this year and we are hoping more will bloom next year as they settle in.

We have tried growing wood lilies from seed, but so far with little success. It takes four or five years for a lily to reach the blooming stage, and the seedlings grow so slowly for the first three years that many succumb during this time. Clearly, however, growing native wood lilies would be an excellent undertaking for someone with the interest and patience to pursue it!

We still have a great deal to learn about salvaging and growing native plants and there are no guarantees that we will always be successful. On the other hand it is enormously satisfying to see healthy native plants grow, knowing that these populations would no longer exist if it had not been for our efforts. We continue to learn and experiment, while enjoying the company of our fellow volunteers, as we look forward to a more enlightened age in which more people understand and appreciate the value of our natural heritage.

*Cherry Dodd is a founding member of the Edmonton Naturalization Group. Next year she is going to try growing a native grass lawn using Salt Grass (*Distichlis stricta*).*

Photograph by Cherry Dodd

Rescued Lilium philadelphicum *blooming in the propagation plots at Old Man Creek Nursery this past summer*

Calendar of Events

January 12-14, 2010
Restoration Of Disturbed Sites With Native Plants: An Integrated Approach
Vancouver, Washington
Contact richard@westernforestry.org.

January 22-23, 2010
The Science, Practice And Art Of Restoring Native Ecosystems
East Lansing, Michigan
This conference put on by The Stewardship Network & Midwest Invasive Plant Network.

February 16-18, 2010
Society For Ecological Restoration Northwestern Chapter Regional Conference
Marysville, Washington
For details:
www.ser.org/sernw/default.asp.

February 23, 2010
Seed Growers Workshop: Cultural Practices For Native Plants
Ontario, Oregon
E-mail Erin Denney at
edenney@fs.fed.us for information.

February 25-26, 2010
15th Annual Water Conservation Conference
Albuquerque, New Mexico
The Xeriscape Council of New Mexico 2010 conference will focus on Land Use - Water Use Connections. For an agenda, visit www.xeriscapenm.com.

NANPS SPEAKERS' SERIES
January through May 2010
Toronto Botanical Garden and Markham Civic Centre
Visit www.nanps.org for details.

Continued from page 1

most American states. Happy in disturbed soil, it has spread rapidly. In fact, the Ontario Ministry of Agriculture, Food and Rural Affairs lists *Rudbeckia serotina*, an alternate species name for *R. hirta*, as a weed because it is so aggressive. Oddly, Black-eyed Susan is the state flower of Maryland, even though it is not indigenous to that state.

A taller relative, Green-headed Coneflower (*Rudbeckia laciniata*), grows on moist rich ground from Manitoba east to the Maritimes and in British Columbia.

Like many composite flowers that offer landing pads, Black-eyed Susan is attractive to butterflies, including such delightfully named ones as variegated fritillary, pearl crescent and summer azure. It also offers food and protection for several song and game birds. Happily for gardeners living out in the country, deer find *R. hirta* unpalatable.

Unlike many native plants whose petals were used for pigments or whose leaves were steeped to make a poultice, it was the roots of the Black-eyed Susan that were appreciated for their medicinal uses. Being astringent, the roots were infused producing a warm wash for sores and swellings. The Ojibwa also used them as a poultice for treating snake bites. An infusion was given to children for colds or worms. The Menominee and Potawatomi found the plant helpful as a diuretic. Drops from the juice were used to treat earaches.

Many traditional remedies are the source for modern medicines. Researchers believe that *R. hirta* has potential for treating modern ailments such as cancer, the diseases of aging, neurological disorders, inflammation, diabetes, and bacterial infections. (Note that some people have an allergic reaction to this plant.)

Botanist Carl Linnaeus named the genus *Rudbeckia* in honour of Olof Rudbeck, a Swedish explorer and scientist, and his father of the same name, a botanist and founder of the Uppsala University Botanical Garden. The work of Linnaeus, who was a student of Rudbeck Jr., formed the basis of today's biological nomenclature.

As I learn more about the Black-eyed Susan and other beautiful wildflowers, I find out more about culture and history. It's like finding out the provenance of a cherished antique!

Kelly Mcnamara grew up in Weston, a suburb of Toronto, snipping the heads off the dandelions in her Mother's colourful garden. Now she lives in Wyevale, Ontario, and still snips the heads off the dandelions in her own garden.

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