

# The Blazing Star



NEWSLETTER OF THE NORTH AMERICAN NATIVE PLANT SOCIETY

## Native Plant to Know

# Pawpaw

*Asimina triloba*

by Stephen Johnson and Mary Stark

With its large and entire leaves as well as large edible fruit, what could look more tropical on the Mississippi River at Dubuque, Iowa than pawpaw (*Asimina triloba*)?

An interesting story surrounds this short-statured and rather short-lived tree. Like the Kentucky coffee tree (*Gymnocladus dioica*), pawpaw is adapted for proboscidean dispersal, but in every way pawpaw took on adaptations that made it wildly more successful. One primary difference: the fruits of Kentucky coffee are toxic, but the fruits of pawpaw are banana custard on a tree.

Pawpaw, as we know, evolved in the tropics. In Florida, it is called dog banana as not to confuse it with seven sister species. It probably gained some of its cold-hardy traits during the Pleistocene in an unglaciated refugium in the southern Appalachian Mountains. For much of its history, mastodons and ground sloths spread pawpaw north. After the last ice age, the better seed distributors were Native Americans of many nations who found the sweet fruits delectable and spread the species probably farther and faster than any other agent. Native Americans even transported pawpaw to the relatively dry and seemingly unsuitable Flint Hills of Kansas where

the species still occurs today. Pawpaw now grows all the way to southeastern Canada. No doubt most of the range extensions in the west at Kansas and to the north in Canada are purely the works of humankind.

Ancient humans carried the sweetest of native fruits far, but modern humans carried it still farther. Today it is the state fruit of Ohio, and other midwestern states ranging from Kansas to Michigan call it their native banana. It is the subject of an International Pawpaw Conference, an Ohio Pawpaw Growers Association and an International Pawpaw Foundation. Pawpaw is considered, by many, a symbol of the American southland with the folksong “Way down yonder in the pawpaw patch” and the infamous episode of the Pawpaw Massacre in the Hatfield and

McCoy feud. In Ohio, it has also been made into a beer, Pawpaw Wheat by Marietta Brewing Company. Pawpaw also features in two works of fine art: John

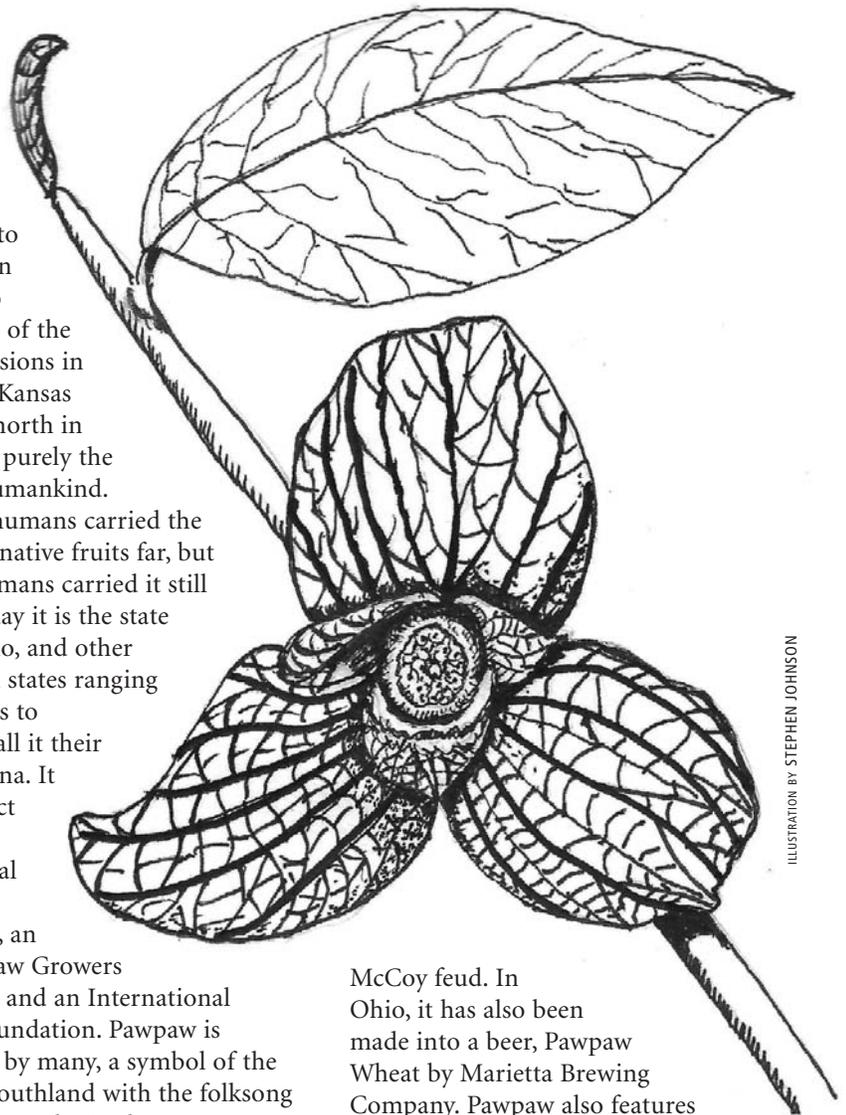


ILLUSTRATION BY STEPHEN JOHNSON

## The *Blazing Star* is . . .

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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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## Changes to NANPS Quorum Requirements

Busy day at work...rush to pick up my daughter at day care as my wife is working late, supper. Just enough time to get to the NANPS board meeting. It's a bit of a drive but it's worth it – I know that NANPS does important work dedicated to education, conservation and cultivation of North America's native plants.

Upon arriving, I learn that the meeting will be cancelled. We haven't met quorum? Sigh... We do not have enough board members present tonight to vote on the issues on the agenda.

In the increasingly busy world we live in, efficiency is of key importance to effective time management. This reality becomes all the more apparent when time is wasted. The Board of the North American Native Plant Society meets once a month throughout the year. When the minimum number of Board members, required by government guidelines, is not achieved, NANPS loses the opportunity to conduct necessary business. The Board has been unable to achieve quorum several times each year and meetings have subsequently been cancelled.

On June 12, 2012, the Board voted unanimously to ask members to vote to change the Board meeting quorum requirement in the NANPS by-laws from 8 people, to 50% of Board members plus 1 of the current Board membership. At the upcoming NANPS AGM on October 20, 2012, we will be asking members to vote on a proposed change to the minimum quorum number needed.

The legal rationale is as follows:

Ministry of Government Services' Not-For-Profit Incorporator's Handbook states: "The quorum for meetings of directors is a majority, unless otherwise provided for in the Letters Patent, Supplementary Letters Patent or in a special resolution of the corporation, and in any event **shall not be less than two-fifths of the board of directors.** (section 288)"

So while the issue of quorum requirements may not be as exciting to members as seeing butterfly milkweed (*Asclepias tuberosa*) flower after four years of waiting, we are asking members to take the time to vote on the following motion:

### MOTION TO VOTE ON AT THE 2012 AGM

That Section 15 of the NANPS By-laws is replaced with the following:

#### 15. Membership of the Board of Directors

Each Board member shall have one (1) vote on matters requiring action by the Board and 50% of the number of Board members plus one of the current Board membership shall constitute a quorum. Action may be taken at a meeting at which a quorum is present by a majority vote of those present except as otherwise required by law or by the Letters Patent or by these by-laws.

We look forward to seeing you at NANPS October 20th Annual General Meeting at Markham Civic Centre.

Paul LaPorte, NANPS Vice-President



A swath of mayapples (*Podophyllum peltatum*) at Shining Tree Woods.

PHOTOGRAPH BY VALERIE LOVE

# NANPS Events

## FALL TOUR: Carolinian Woods of SW Ontario

SATURDAY, SEPTEMBER 22ND, 2012

Expert local guides will take us on an all-day tour of rare Carolinian species at Backus Woods (Canada's largest remaining Carolinian forest), The Arthur Langford Reserve (noted for its wetlands and rare flora and fauna), The Jackson-Gunn Old Growth Forest (an American beech/sugar maple community with many trees over 280 years old) and Van Den Nest Nursery (specializing in Carolinian trees and shrubs).

By bus from Toronto \$35/NANPS members, \$50/non-members. Car-poolers coming from other parts of the province or the U.S. can meet the tour at Backus Woods for a reduced rate. For more info or to reserve your space, contact [excursions@nanps.org](mailto:excursions@nanps.org). Make your cheque payable to NANPS and send to NANPS Excursions, 18 Whitehall Rd., Toronto M4W 2C6.

## ANNUAL GENERAL MEETING & FALL PLANT SALE

SATURDAY, OCTOBER 20, 2012, 12:30PM – 4:00PM

Markham Civic Centre  
101 Town Centre Blvd., (Hwy 7 & Warden Avenue)  
Markham, Ontario



Board members Jenn South and Greg Hagan at NANPS Annual Plant Sale in the spring

- Presentation of NANPS annual Garden Awards, Volunteer of the Year Award and the Paul McGaw Memorial Conservation Award. Share in the successes and challenges of our award winners as they work to restore and conserve native flora!
- Plant Sale – please bring donations of excess indigenous plants from your garden

- Bring your seeds for the fall Seed Exchange
- New Board members will be appointed. **Send in your Board nominations now.** NANPS is a volunteer-run organization – we count on each other to make this organization thrive. Help make NANPS current programs successful and work with us to shape NANPS future endeavours.
- Refreshments (including home-baked treats!) will be served. Free parking.
- Contact [volunteer@nanps.org](mailto:volunteer@nanps.org) or call our voice message number 416-631-4438 for more information.

PHOTOGRAPH BY EILEEN ATKINSON

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## Help with Harebell Study

I am a second-year PhD student at the University of Virginia studying the harebell, *Campanula rotundifolia*, across its range. In order to obtain enough material for study, I am seeking volunteers from the broader botanical community to collect mature fruits and seeds from their local populations. This collected material will allow me to sample widely enough that I can investigate a number of questions that exist in this relatively poorly studied species. Sampling would include collecting five to 10 fruits and two to three leaves from each of 20-30 plants (or fewer if individuals or the population itself are small).

If you would be willing to help me collect or you would like more information, please reply to [bls3md@virginia.edu](mailto:bls3md@virginia.edu) and include a mailing address.

*Brittany Sutherland*

# The Great Garlic Mustard Roundup

by Deborah Dale

NANPS has the great fortune of owning a very special property in a part of southern Ontario known as Carolinian Canada. This area boasts among the highest biodiversity in the country. Only a few miles outside of the Long Point World Heritage site, Shining Tree Woods (STW) includes a diverse cross section of some of the rarest flora of the area. STW is managed as a wilderness with human interference kept to a minimum. It has neither official trails nor signage and is not open to the general public. This isolation has kept it relatively – but not completely – free from some of the worst invasive species commonly

volunteer forces for help in mounting a full-scale assault, the battle scheduled for June 2nd.

A lengthy and absolutely drenching downpour on June 1st, following several weeks of almost no rain and a short but oppressive heat wave, threatened to never end. Cancellations from excursion participants poured down almost as quickly as the rain. Despite forecasts of more of the same, 18 intrepid volunteers refused to be deterred and turned up the following morning at 7:45 for the long drive from Toronto to NANPS premiere conservation property. Their fortitude was rewarded with a sunny, mild and absolutely unforgettable day.

This was the first chartered bus

trip, biologist Patricia Mohr led a workshop introducing the biodiversity of Carolinian Canada and outlining the activities to be undertaken. Thanks to that training, on arrival at the woods the group divided into five teams and quickly settled into their tasks, clearing a section of the forest of garlic mustard that had threatened to overwhelm the small scattered populations of the imperiled putty root orchid (*Aplectrum hyemale*) that shares the same area.

Each team also took charge of separate plots used to monitor the results of our efforts and changes in species composition over the coming years. Dozens of specimens were catalogued, including a large crop of



found in conservation properties receiving more foot traffic.

Garlic mustard (*Alliaria petiolata*) is an Eurasian invasive plant that produces phytotoxins that reduce competition from native species. For the past four years, NANPS Land Management Committee has been actively battling it in Shining Tree Woods. This year, we called on NANPS

excursion NANPS had attempted in several years. A generous grant from the Shell Environment Fund mitigated the risk of having less than a full bus. The coach was quite comfy, with an onboard washroom, complimentary bottled water and snacks, allowing participants ample opportunity to socialize or just relax through the day.

On May 5th, as preparation for the

sassafras saplings (*Sassafras albidum*), moonseed vine (*Menispermum canadense*), wild yam (*Dioscorea villosa*), flowering dogwood (*Cornus florida*), tulip trees (*Liriodendron tulipifera*), and a wide variety of sedges, ferns, and bryophytes.

After a fun few hours, including a NANPS-style teddy bears' picnic, the teams headed back to the bus, leaving

72 bags of garlic mustard at the roadside for later collection by the County. Mary Clark, one of our oldest volunteers, brought in the largest haul...8 1/2 bags! The top puller from

Williams' Peter Carson requested donations to the Long Point World Biosphere Reserve Foundation, [www.longpointbiosphere.com](http://www.longpointbiosphere.com).

Several NANPSters offered their

thanks to Ann Butt, Deborah Dale, Irene Fedun, Jim Hodgins and David Skene Melvin.

Won't you come down to the woods someday? A virtually snowless winter – or perhaps the previous three years of pulling – seems to have decreased the volume of garlic mustard in the woods. While we hope this is the beginning of a trend, we still need your help. NANPS Conservation Team makes several forays down to this amazing forest each year and is preparing plans for more extensive monitoring of the property's endangered species, including the woods' namesake, cucumber magnolia or *Magnolia acuminata* (called "shining tree" by First Nations).

Contact [land@nanps.org](mailto:land@nanps.org) to register for excursions in 2013 (the third annual Weekend Weedend will be June 1st and 2nd) or to offer your financial support for our efforts. If you can't join us in Shining Tree Woods, you can still take part in efforts to protect wilderness lands near you. Register your event at [restorations@nanps.org](mailto:restorations@nanps.org).

*Deborah Dale helps to coordinate NANPS conservation activities at Shining Tree Woods.*



PHOTOGRAPH BY VALERIE LOVE

*NANPS volunteers Ruvani Shaubel, Jaclyn Brown and Carolyn Baird*

each of the five teams received a \$25 gift certificate kindly donated by Lee Valley Tools. Congratulations to Mary, Doug Wilson, Rob Harshman, Jaclyn Brown and Peter Rex. All participants also took home a Lee Valley shopping bag, the Ontario Invasive Plant Council's "Grow Me Instead" booklet, and plugs of butterfly milkweed (*Asclepias tuberosa*) and cylindrical blazing star (*Liatris cylindrica*).

En route to Ontario's oldest forestry station for supper, the group enjoyed a view of the Lake Erie shoreline and some of the dozens of wind turbines that dot it. The station's interpretative centre offered a glimpse into the area's history and illustrated what makes Carolinian Canada so special. We saw miniature versions of several of the large specimen trees during our tour of St Williams Nursery & Ecology Centre across the road. Acres of greenhouses and fields produce thousands of native trees and perennials annually, each tracked according to regional seed source. In lieu of accepting a guide fee, St

financial support with pledges for each bag of garlic mustard removed from the forest (\$3.80 per bag in total was pledged). As a result we raised \$273.60 to help with future expenses. (It is not too late to add your pledge!) Many



PHOTOGRAPH BY VALERIE LOVE

*Shining Tree Woods*

# Surprises in a Native Plant Garden

by Deborah Chute

Butterflies are possessive of my garden. Last July, a feisty little question mark chased a monarch from the swamp milkweed patch (*Asclepias incarnata*). It then landed on top of the redbud tree (*Cercis canadensis*) and stayed there for some time as if keeping watch over its domain. When I tried to take photographs, it twice

was the first-time flowering of both the redbud and the tulip tree (*Liriodendron tulipifera*). The tulips were particularly breathtaking.

Paul Heydon and his local native plant nursery, Grow Wild!, guided our choices. Since it was a new yard with only small trees, the plants needed to fit a hot, sunny, dry environment. We'd help them out the first year with watering, but otherwise these plants

many places around the yard seem to be working for me. This is especially true for the small but vibrant flowers of early blooming blue-eyed grass (*Sisyrinchium montanum*). Colour groupings have also served to highlight blooms, for example, blue harebells (*Campanula rotundifolia*) alongside orange butterfly milkweed (*Asclepias tuberosa*). Plants with differing leaf structures or shades of green also help: the lacy leaf structure of prairie smoke (*Geum triflorum*) near the grass-like and lighter green leaves of nodding wild onion (*Allium cernuum*).

A favourite all-season native plant of mine is foxglove beardtongue (*Penstemon digitalis*). If two or three are planted together, it produces a nice fountain-like display. It revives its green base leaves quickly in the spring, blooms with hundreds of white blossoms on long stems in June, produces rusty red to bright red leaves in the fall and pokes its seed heads out of the snow in winter.

In the beginning, I was diligent about deadheading, hoping to get the neighbours with their manicured lawns on side. I was rewarded for this extra work when a neighbour told me that their son had moved his bedroom to the back of their house so that he could overlook our garden!

Pedestrians passing by the front garden are often attracted to the bright red and yellow wild columbine flowers (*Aquilegia canadensis*) or the sparkling seed heads of prairie smoke... and they go home with pots for their gardens.

We definitely wanted a garden rich in biodiversity and that's what we got. The sunlight often catches the wings of dragonflies hovering around the backyard. A bright yellow calico pennant stopped to do some fly catching from its chosen perch of cylindrical blazing star (*Liatris cylindracea*) in the front yard last summer. Robins and other birds enjoy the wild strawberries (*Fragaria virginiana*) and serviceberries



PHOTOGRAPH BY DEBORAH CHUTE

Goldfinches enjoy an early season snack from *Echinacea pallida* seedheads surrounding York University's Wild Bee Condo.

landed on my head apparently warning me away as well!

A few years ago, my husband and I built a new home and opted for native plant gardens instead of the monoculture of mowed lawns. To our surprise and delight, wildlife heartily approved our choice! And the Richmond Hill Garden and Horticultural Society did too, posting a Front Garden Recognition 2011 sign in our front yard.

Because we made the usual mistake of planting too many trees, we ended up enjoying four years of white spruce (*Picea glauca*) Christmas Trees that we culled from our backyard. This year the highlight among our native trees

were to be on their own. That has worked out well. We are saving on water and watering time.

Fortunately, there is one rather wet area near the landscape swales at the back of the yard that supports the much welcome mid- and late-summer blooms of marsh hibiscus (*Hibiscus moscheutos*) and the beautiful blue bottle gentian (*Gentiana andrewsii*).

Over 50 species of native plants are now thriving in the front and back gardens. The goal is to provide lots of colour and texture contrast at all times. Native plants are particularly challenging in this regard due to their smaller flowers and often short blooming time. Larger groupings in

(*Amelanchier* spp.) before we get to them. Hummingbirds often arrive early in the morning to large patches of tasty columbine when they are ready for the sipping. This spring, it was a delight to spot a male cardinal feeding his mate sunflower seeds. He would then stand guard while she flew down to the ground to break off dried stems from last year's heath aster (*Aster ericoides*) for their nest. They repeated this routine several times over the next few days.

The comical antics of goldfinches provide a daily chuckle. They have discovered how to leap up from the ground to retrieve seeds from the feathery seedpods of prairie smoke. They do the same with the black-eyed Susans (*Rudbeckia hirta*). Gray-headed coneflowers (*Ratibida pinnata*), pale purple coneflowers (*Echinacea pallida*) and round-headed bush clover (*Lespedeza capitata*) will hold the goldfinches' weight and they can pick away at the seedheads while swaying wildly in the wind. They always seem to perch on the highest and slimmest top leader of our tamarack (*Larix laricina*) where they are buffeted ferociously to and fro.

Bunnies come to nibble here and there with no major damage so far. Squirrels beat me to the hazelnuts (*Corylus* spp.). I've even had an early morning face-to-face encounter with a skunk with no disastrous results.

The American lady butterfly tends to visit the garden early in the season. She will fly directly to her host plants, pussytoes (*Antennaria plantaginifolia*) and pearly everlasting (*Anaphalis margaritacea*), laying bright green, striped eggs. The first year I noticed this, the caterpillars did a fine job eating up the pussytoes and I began to wonder if I would have any left. However, by the end of the summer the plants had rebounded and looked almost unscathed. Nature knows what she's doing.

Wild bees (and other interesting insects) have sent me to the books and to knowledgeable people to uncover

how they fit into the total ecosystem of this small yard. As a result, I've learned a great deal about the wild bees that inhabit the ground in my garden and sleep in native flowers, including black-eyed Susans, nodding wild onion and meadow sundrops (*Oenothera pilosella*). When photographing them, I discovered that bees do not wake up easily. At first I thought they might be dead until I

bees on the harebells, two-spotted bumble bees on purple-flowering raspberry (*Rubus odoratus*) and smooth rose (*Rosa blanda*), big black-bodied carpenter bees on wild bergamot (*Monarda fistulosa*) and obedient plant (*Physostegia virginiana*), and smaller sweat bees on meadowsweet (*Spirea alba*) and tall cinquefoil (*Potentilla arguta*), to name just a few!



PHOTOGRAPH BY DEBORAH CHUTE

Allium cernuum, Penstemon digitalis and Potentilla fruticosa (shrubby cinquefoil) in the foreground. At the back, spikes of pink Liatris spicata with Spirea alba behind the gate.

saw a lazy stretching of a leg or a slight movement as they circled the stamens of the flowers they had been clutching in their sleep.

I also learned that the little half-moon-shaped cutouts starting to decorate the leaves of the redbud were the work of the leaf-cutter bee. It rolls the leaves and uses them to make tunnel homes for laying eggs. Members of this species congregate around pale purple coneflower for nectar and even take a slice or two from the leaves of both beardtongues (*Penstemon digitalis* and *hirsutus*).

Every native plant is swarming with a variety of pollinating bees when in full bloom. There are red-belted bumble bees and tri-coloured bumble

I'm pleased to say that my yard now sports a white bee condo. Scott MacIvor, a Ph.D. student at York University, installed the condo and is maintaining it. His research goal is to discover which bees will use nest boxes and to examine how landscape and urbanization influence bee diversity and foraging. ([www.TObees.ca](http://www.TObees.ca)) This is critical work since bees are losing their traditional meadow and farm edge habitat to development. As Douglas Tallamy states in his book *Bringing Nature Home*, if urban gardeners start to include more native plant species, it may be the city gardens of North America that will help provide this much-needed habitat for bees, other

Continued on page 8

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insects and birds.

Some days, when the weeds are overwhelming and the heat is too much, I begin to wonder if this is really better than mowing a lawn. Then I hear the goldfinches twittering or witness the bees pollinating or see a magnificent tiger swallowtail seek out a bright wood lily (*Lilium philadelphicum*) and I am renewed. I am renewed by the variety of life forms attracted to this space. I am renewed by what I have learned from this small patch of native urban landscape.

*Deb Chute is a self-taught naturalist who never tires of exploring nature in all its intriguing forms. In 2007, Deb's garden received Honourable Mention in the Suburban Ground Breaker category, NANPS Garden Awards. For more photos of Deb's garden including a garden key visit [www.nanps.org](http://www.nanps.org).*



PHOTOGRAPH BY DEBORAH CHUTE

Leaf-cutter bee on *Campanula rotundifolia*

## Restoring the Moraine One Hero at a Time

by Allison Roberts

The Monitoring the Moraine partners (EcoSpark and STORM Coalition) recently honoured their fifth year of outstanding Moraine Heroes. The Moraine Hero Awards are given to recognize and celebrate people who help make the Oak Ridges Moraine in Ontario a better place. Five awards are given to individuals, organizations or agencies that have contributed significantly to improving the ecology and hydrology of the Moraine and the social well-being of the people who live, work and play on or downstream from the Oak Ridges Moraine.



PHOTOGRAPH BY JOHN OYSTON

*The eastern swallowtail caterpillar on one of John Oyston's tulip trees (*Liriodendron tulipifera*)*

The water from the Oak Ridges Moraine helps to sustain over 65 river and stream systems that flow south to Lake Ontario and north to Lakes

Simcoe, Scugog and Rice. These systems provide drinking water for over 250,000 people. In addition to being southern Ontario's "rain barrel", the Moraine's kettle lakes, wetlands, woodlands, meadows, prairies and savannas provide habitat for hundreds of plants and animals.

This year's Moraine Hero in the Landowner Champion Category is John Oyston, a physician specializing in Anesthesiology at the Scarborough Hospital. A board member for the North American Native Plant Society, he holds a diploma in horticulture from the University of Guelph. He was nominated by fellow land steward and 2010 Moraine Hero Sharon Keogh. As many readers of *The Blazing Star* know, John has worked tirelessly to improve the ecology of his property on the Oak Ridges Moraine since he and his family acquired the land in 2004. The 41-hectare (101-acre) property – Oak Hills Farm Prairie and Arboretum – is located on the south side of Rice Lake in Northumberland County.

John has transformed 1.6 hectares (four acres) of a former hayfield into a thriving tallgrass prairie, which he has encircled with an arboretum that features 120 species of native trees and shrubs – almost all the species native

to southern Ontario. The 2,500 or so trees John has planted are mostly conifers including white pine (*Pinus strobus*), spruce (*Picea* spp.), hemlock (*Tsuga canadensis*) and tamarack (*Larix laricina*). The deciduous trees include some 200 oaks (*Quercus* spp.), black walnut (*Juglans nigra*), the threatened butternut (*Juglans cinerea*) and many others. For educational purposes (John takes interested groups on tours of the property), each species of tree and shrub is labeled with common and Latin name.

Drawing on varied sources for information and expertise, John planted the prairie with a mixture of grasses and forbs native to the Rice Lake Plains prior to European settlement. John's efforts to recreate the natural prairie environment involved planting four main tallgrass prairie grasses – big bluestem (*Andropogon gerardii*), Indian grass (*Sorghastrum nutans*), little bluestem (*Schizachyrium scoparium*) and switch grass (*Panicum virgatum*) – with Canada wild rye (*Elymus canadensis*) as a nurse crop. This was complemented by the seeds of 14 prairie wildflowers, such as wild bergamot (*Monarda fistulosa*), beardtongue (*Penstemon* spp.), blazing star (*Liatris spicata*), showy tick trefoil

(*Desmodium canadense*), sky blue aster (*Symphotrichium oolentangiense*) and evening primrose (*Oenothera biennis*).

John is now creating walking trails throughout Oak Hills Farm Prairie and Arboretum and welcoming tours from organizations such as NANPS. You can find out more about John's restoration work at [www.oakhillfarms.ca](http://www.oakhillfarms.ca).

The 2012 Community Champion award was presented to Gloria Marsh, Executive Director of the York Region Environmental Alliance. Gloria has been working to protect the Oak Ridges Moraine since the public first recognized it was under threat from expanding urban development. Gloria was selected for being a dedicated Moraine steward, advocate and activist in York Region through her work with the Richmond Hill Naturalists, the Kettle Lakes Coalition, the Oak Ridges Moraine Land Trust and the York Region Environmental Alliance.

Jane Underhill, concerned citizen turned councillor, received this year's award for Municipal Leadership. Jane has lived on the Oak Ridges Moraine in King City for the past 53 years. During that time she has worked to enhance the quality of life for King Township residents by fighting for the establishment and enforcement of regulations that protect the local Moraine environment.

Mark Stabb and Vanessa Slater were this year's Moraine Heroes in the Collaborative Approaches category. For the last two years Mark and Vanessa have been educating local youth about the importance of the Moraine's watersheds through the Uxbridge Youth Centre event "The Brook Never Sleeps". The event not only educates students about the importance of protecting valuable environmental resources, but has helped to foster a new generation of stream stewards for the Uxbridge

Brook and other watersheds on the Oak Ridges Moraine.

The Proactive Approaches Award was presented to Russ Powell for his years of patience and determination in securing an astonishing 890 hectares (2,200 acres) of land on the Oak Ridges Moraine in Durham Region. He tells the story: "Twenty-five years ago my wife and I took a vow of perpetual poverty but we couldn't agree on which religious order to join, so we compromised by buying an 80-hectare (200-acre) farm on the Oak Ridges Moraine." In 1998, Russ went on to initiate the Enniskillen Valley Land Acquisition Project, a 520-hectare (1,470-acre) public greenspace legacy created in partnership with the local landowners. As Russ explains, there are rules one needs to follow when dealing with multiple landowners: "Be Fair. Be Consistent. Be Patient. Be a Good Listener." A strategy that all of us would do well to follow in our dealings with people who do not share our love of native plants and habitats.

This year, two lifetime Moraine Heroes were also chosen – Fred Johnson and Debbe Crandall. For over 30 years, Fred has been an advocate for the Moraine, helping to develop the Oak Ridges Moraine Conservation Plan (ORMCP) and secure land for

the Oak Ridges Moraine Trail, as well as working on the recent Measuring Success Reports and other projects.

Debbe has been involved with the Save the Oak Ridges Moraine (STORM) Coalition since 1990. She has represented STORM on a number of provincial initiatives concerned with landscape-scale conservation planning and regional growth management. She was active in the campaign leading up to the ORMCP in 2001. An inspiration for citizens all across the Oak Ridges Moraine, Debbe continues to work tirelessly in its defence.

As we get closer to the review of the Oak Ridges Moraine Conservation Plan in 2015, it is important to celebrate the landscape and the people that keep the Oak Ridges Moraine movement alive. The 2012 Moraine Heroes give us hope that the preservation of the Moraine's land and water is in good hands and that the unity and passion within the Moraine community will persevere.

*Allison Roberts has been the Program Officer for the Monitoring the Moraine Program at EcoSpark for 2 1/2 years. Her position is wrapping up this summer and she is looking forward to pursuing similarly rewarding work as an advocate for environmental change.*



PHOTOGRAPH BY KIM LOWES

# Protecting Meduxnekeag Forests

by George Peabody

When Wilson Mountain, a prominent hardwood hill along the Meduxnekeag

den under a deadfall, kicking through the drifts of fallen leaves under the mature hardwoods, and watching as a bald eagle soared overhead. At the end

property's small tributary brooks. Wild coffee (*Triosteum perfoliatum*), whose tall stems bear early summer flowers in the leaf axils and orange

berries in fall with seeds resembling a small coffee bean, flourishes both on the floodplain and in several upland sites. Both are provincially rare or uncommon AHF-associated species, as are blue cohosh (*Caulophyllum thalictroides*), northern maidenhair fern (*Adiantum pendatum*) and black raspberry (*Rubus occidentalis*); all of them are abundant at Wilson Mountain.

The Directors didn't rest on their laurels after paying off the Wilson Mountain purchase. If they could successfully buy and protect one property, they

reasoned, they could buy more. Soon Leonard Woods and Bell Forest joined the growing Meduxnekeag Valley Nature Preserve. As of mid-2012, the protected area had grown to nine separate, named preserves totaling about 300 hectares (741 acres) of forest and wetland and protecting in perpetuity more than 10 kilometres (six miles) of forested river front. Several of the later preserves have been acquired through a partnership with the Nature Conservancy of Canada, which has recognized the Meduxnekeag watershed as one of six priority areas in Atlantic Canada.

How does a small local organization finance large purchases? The Meduxnekeag River Association draws inspiration, in part, from the ecological diversity of the rich hardwood forest sites it purchases and protects; diversity is key to its



PHOTOGRAPH COURTESY MEDUXNEKEAG RIVER ASSOCIATION

McCurdy Flats has recently joined the Meduxnekeag Valley Nature Preserve.

River in western New Brunswick, came on the market in 1998, most everyone expected it would be sold and clearcut for the value of its timber. Fate, however, took a different turn.

Earlier that year, the Meduxnekeag River Association (MRA), a small local group whose major interest until then had been maintaining and restoring trout habitat, had learned from the Nature Trust of New Brunswick that the Meduxnekeag watershed contained a high proportion of the few remaining sites of Appalachian Hardwood Forest (AHF). This forest type is unique in Atlantic Canada to New Brunswick and it contains many provincially rare plant species. Wilson Mountain was one of those sites.

On a Sunday afternoon that November, MRA Directors toured the site, scrambling up one of its ravines, discovering a (fortunately empty) bear

of the day, standing around vehicles at roadside, they decided the organization should buy and protect the 60-hectare (148-acre) site with its 1.8 kilometres (1.1 miles) of waterfront.

They might have been – but weren't – deterred by the fact that Wilson Mountain was priced at \$130,000 and the organization had little more than \$100 in its bank account. To finance the purchase, 10 MRA supporters signed personal guarantees and the bank advanced the money. The Directors then set about finding the funds to pay off the loan. The five-year fundraising plan reached its target in four years.

A detailed ecological survey of the Wilson Mountain property found significant populations of wild ginger (*Asarum canadense*) along the river and in the lower valley of one of the

fundraising strategy as well. Support has come locally, from the hundreds of individuals who attend an annual dinner and auction which regularly nets \$20,000 and which over the years has become a highly popular social event. Local organizations, like the Woodstock Rotary Club, have been major contributors; local businesses and individual donors have made multi-year pledges. Provincially, the Nature Trust of New Brunswick and the New Brunswick Wildlife Trust Fund have been key contributors. So have foundations: The EJLB Foundation, Sir James Dunn Foundation, and The McCain Foundation have each made large donations. For each purchase, the organization developed a fundraising plan, obtained interim financing, and usually met fundraising targets ahead of projected time.

The newer preserves protect populations of plantain-leaved sedge (*Carex plantaginea*), Goldie's fern (*Dryopteris goldiana*), pubescent sedge (*Carex hirtifolia*), showy orchis (*Galearis spectabilis*), Sprengel's sedge (*Carex sprengelii*), black snakeroot (*Sanicula trifoliata*), yellow lady's slipper (*Cypripedium calceolus*), lopseed (*Phryma leptostachya*), and the only known New Brunswick population of pointed leaf tick trefoil (*Desmodium glutinosum*). The rare plants are not the only highlight of Meduxnekeag ecology: entomological survey work has discovered species of wasps and beetles previously unknown to science living in Meduxnekeag forests and riparian areas.

Appalachian Hardwood Forest, sometimes also called St. John River Valley Hardwood Forest, has similarities with hardwood forests found much further south. It is characterized by the presence of four "indicator" tree species: butternut (*Juglans cinerea*), basswood (*Tilia americana*), white ash (*Fraxinus americana*) and ironwood (*Ostrya virginiana*) in a forest usually dominated now by sugar maple (*Acer*



*Plantain-leaved sedge*

*saccharum*). Previously American beech (*Fagus grandifolia*) would have been much more common, but has been decimated over the past half-century by disease. Today's mature AHF is considered by the Nature Trust to consist of less than one per cent of the pre-agricultural extent, largely because its natural habitat is the highly calcareous soils which were – and remain – best for agriculture. The Meduxnekeag watershed contains the highest concentration of sites with conservation value, as well as many of the richest sites and those with highest levels of diversity.

The preserves are well-used. All trails are low-impact: narrow, winding, designed to minimize possible erosion, and well-marked for self-guided walks even for first-time visitors. At Wilson Mountain, 500 to 600 local elementary school students – with teachers, parents and other adults – participate in the Association's curriculum-linked guided nature walks each year. An annual Spring Wildflower Walk at Bell Forest draws 50 to 60 participants.

The Appalachian Hardwood Forest ecology is not the only attraction. Trails pass through mature forest of

other types as well: 200-year-old, metre-diameter eastern white pines (*Pinus strobus*) and eastern hemlock or *Tsuga canadensis* (perhaps as old as the pines though not quite as large) are found here too. The Meduxnekeag is a scenic river, easily canoed except in mid-summer low water, its banks mostly forested along the 15 kilometres (nine miles) between Jackson Falls and Woodstock.

The Meduxnekeag River Association's story is also one of organizational growth. When it undertook its first purchase, the organization was almost completely volunteer, the dedication and vision of its Board of Directors supplemented by a varying number of summer student employees financed by federal or provincial programs. All of the work had been stream-centred: habitat and creel surveys, in-stream and stream-bank restoration on selected tributaries.

The Wilson Mountain purchase allowed the vision to become more diverse. Directors saw potential for an outdoor classroom. Soon this took the form of a network of low-impact trails suitable for both student and general

Continued on page 12

PHOTOGRAPH COURTESY: MEDUXNEKEAG RIVER ASSOCIATION

Continued from page 11

public use. In part by offering to pay busing costs – as well as providing guides able to link the walks to specific curriculum areas – the Association brings an annual average of two dozen school classes to the preserve. An increased focus on schools led to the development and implementation of the Meduxnekeag Environmental Showcase competition for elementary students. Now in its 11th year, the Showcase involves 600 to 700 students in a dozen schools. Among the prizes given to the winning student from each school is a special two-hour trip at the Meduxnekeag Valley Nature Preserve for his/her class. For this, there is a trail not used in general class tours. Students in several classes this year got a thrilling close-up view of a barred owl; the owls nest at or near Wilson Mountain and were especially curious this year.

By 2003, the Association was reaching the limits of what could be done by volunteers alone. Funding from New Brunswick's Environmental Trust Fund allowed them to carry out preliminary work leading to water quality-based classification of the Meduxnekeag. This permitted the hiring of two part-time staff. Annual project grants from the Trust Fund have allowed this to continue, enabling the management of the Association

and its properties, and a further range of work, including the restoration of a riparian gravel pit and the development of a Natural Areas Conservation Plan (a detailed document providing ecological and environmental guidance for prioritizing property purchases).

In the late 1990s, MRA directors dreamed of being able to protect the entire forested riparian zone of the Meduxnekeag from the Maine-New Brunswick border to the Town of Woodstock, about 18 kilometres (11 miles). This would mean acquiring over 800 hectares (nearly 2,000 acres) of land, a vision that seemed impossible to achieve for a small local organization.

Fifteen years later, the organization, still small and local, moves toward the realization of what no longer appears an impossible dream.

*George Peabody is a writer, editor, organic gardener and lifelong*



PHOTOGRAPH COURTESY MEDUXNEKEAG RIVER ASSOCIATION

*Pileated Woodpecker holes on an old American beech.*

*community activist. Since 2003, he has been one of two part-time Meduxnekeag River Association employees.*

*The Meduxnekeag River Association won the Paul McGaw Memorial Conservation Award from the North American Native Plant Society in 2011.*

## Gardeners' Help Needed with Invasive Plant Research

The Invasive Species Research Institute (Algoma University, Sault Ste. Marie), as part of their ongoing commitment to research on invasive plant species in Ontario, has developed a survey that asks you, the gardener, to provide opinion and information about your shopping experiences at garden centres, your ways of gardening, and observations you may have made about rapidly spreading plants.

This survey is not a test, but an opportunity to provide information that may be useful in making recommendations about gardening best practices and invasive plant species in the future.

ISRI is a founder and the first Canadian hub in the North American Invasive Species Network (NAISN), and a leader in discovery related to invasive species, their spread and the consequences of introductions. <http://www.isri.ca/current-projects/invasive-plant-species.html>

## WANTED: Seed Donors

Please collect seeds from native plants for our annual Seed Exchange and deliver them to the NANPS Annual General Meeting on October 20th. Or you can send them, separated by species and identified with the source/parentage to NANPS, Box 84, Station D, Etobicoke, Ontario, M9A 4X1. If you have any questions, contact [seeds@nanps.org](mailto:seeds@nanps.org).

To get in the mood, see if you can identify the four seedheads pictured on the opposite page!

# Seedhead Quiz

Here's another opportunity to test your knowledge of native plants and guess the species of seedheads pictured here. Not only will you have the satisfaction of knowing your plants, you could also win a fabulous prize: a one-year membership in the North American Native Plant Society! Send your guesses to [editor@nanps.org](mailto:editor@nanps.org) or mail them to NANPS, Box 84, Stn. D, Etobicoke, ON M9A 4X1. Answers will appear in the fall issue of *The Blazing Star*.



PHOTOGRAPHS BY DARCIe MCKELVEY



## New & Noted

### *Native Plants, Native Healing, Traditional Muskogee Way*

By Tis Mal Crow  
Book Publishing Company,  
1-888-260-8458, [www.bookpubco.com](http://www.bookpubco.com).  
Softcover, 143 pages, \$12.95US

“Our medicine way teaches the interconnectedness of ALL things, and it celebrates and respects all living things. It teaches us to harvest plants with respect by taking only what we need. It teaches us to give back and to live in balance with nature.” This living philosophy underlies the teachings and healings that Tis Mal Crow, a Native American root doctor, herbalist and artist of Cherokee and Hitchiti descent, sets out simply and eloquently in *Native Plants, Native Healing, Traditional Muskogee Way*.

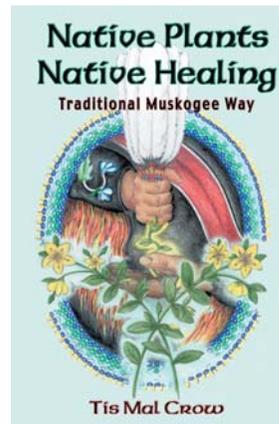
Written with quiet authority and ancestral wisdom, this book takes two dozen plants, the majority native to North America, and describes not only their healing properties but the potential dangers associated with using them (especially unresearched in conjunction with other plants), methods of preparing them, and other traditional uses.

Tis Mal Crow discusses the benefits of responsible wild harvesting over cultivation: “Having used herbs and observed their actions over twenty years, I find that those from the wild are superior to those that are cultivated. I think that the power of a

plant is enhanced when it is allowed to grow freely where it chooses to grow. The nutrients that are essential for its health come from the soil that is fed by the other plants and animals that surround it in the wild.” That said, he voices his strong concerns for the future of our forests and wetlands, describing how certain plants, especially those whose roots are used in medicinal preparations, are being decimated and their habitats irreparably damaged by thoughtless commercial interests.

A prime example is black cohosh (*Cimicifuga racemosa*), the current panacea for menopausal complaints. This woodland plant is being harvested at an unsustainable rate, with few companies involved in this abominable practice reseeding the plants. To add injury to injury, black cohosh is not appropriate for all menopausal symptoms and, if taken incorrectly, can have adverse effects.

Tis Mal Crow teaches sacred harvesting. “Remember the plants are sentient beings, and they know your intent... When we collect plants, we leave an offering of either tobacco or cornmeal as a sign of respect, a form of thanks, and a way to put something back into the earth where we have



taken something.” Careful observation twinned with respect help us discover not only the strongest medicine among the plants we are seeking but also protect the colony and keep it strong. As Tis Mal Crow says, “Plants, like people, usually grow in family groups.” He encourages us to take a little bit from each plant size, all generations – except the grandparent plants, the elders – and never to take more than we need.

He explains how scientific learning and gardening folklore intersect. For example, it is important to consider moon phases when harvesting plants. The gravitational pull of the moon affects not only the ocean’s tides (which are higher when the moon is full) but water levels in plants as well. Water supplies not only nutrients to the plant but also its medicinal strength. Therefore, leaf, stem, flower and tree bark should be harvested when the moon is approaching full while roots should be dug when the moon is waning.

Embellished by his drawings, delicately rendering flowers or gently poking fun at people and their ailments, Tis Mal Crow’s book is an inspirational reference for those who wish to learn more about – and from – native plants.

*Review by Irene Fedun, editor of The Blazing Star*

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## Calendar of Events

### September 10, 2012

NATURALIZING AND RESTORING URBAN GARDENS

University of Guelph, Guelph, Ontario  
This six-week online course starting on September 10th covers practice and theory to convert degraded urban greenspace into ecologically functional areas using native plant species and ecological principles. Program and course descriptions are available on the website [www.UrbanHort.ca](http://www.UrbanHort.ca) or contact [info@coles.uoguelph.ca](mailto:info@coles.uoguelph.ca) or 519-767-5000.

### September 22, 25 and 29, 2012

LEAF TREE TENDERS VOLUNTEER TRAINING PROGRAM

Rouge River Community Centre  
Markham, Ontario  
Fall course costs \$50/\$70 with course materials. Visit [www.yourleaf.org](http://www.yourleaf.org) or call 416-413-9244.

### September 29-30, 2012

POLLINATION AND LAND REHABILITATION WORKSHOP  
Columbus, Ohio  
Organized by the Canadian

Pollination Initiative. To reserve a space e-mail [sbates@uoguelph.ca](mailto:sbates@uoguelph.ca).

### October 17, 18, 20 & 23, 2012

LEAF TREE TENDERS VOLUNTEER TRAINING PROGRAM

Toronto Botanical Garden  
Toronto, Ontario  
Visit [www.yourleaf.org](http://www.yourleaf.org) or call 416-413-9244.

*See page 3 for NANPS Events.*

Continued from page 1 – **Pawpaw**

James Audubon's Yellow-billed Cuckoo in Pawpaw Tree (1827) and Edward Edmonson Jr.'s Still Life with Pawpaw (ca. 1870-1875).

The primitive flower of *Asimina triloba* seems dependent upon native dung beetles to achieve pollination. Those beetles once bred in mastodon dung and were quite common. Now, in the absence of dung, the beetles are rare and wild pawpaw trees have very low pollination and fruit set. Some say that the flower smells like rotted meat but Donald Culross Peattie describes it as “a remembrance of fermenting purple grapes”. The tree's pollination strategy – specializing in insects attracted to carrion – may account for the flower's dark colour and putrid smell. The fruit – the largest edible fruit in North America – is best when fully ripe and just bordering on rotten. In the wild, these delicious fruits are favoured by such creatures as possums, bears, and turkeys.

The leaves, among the largest leaves of any tree of North America, add a tropical appearance to any forest where they grow and in the autumn turn a translucent and radiant gold. They also serve as the host of the zebra swallowtail butterfly.

There is recent medical application for pawpaw, and one that may give it its most enduring feature. Recently, several chemicals labelled annonaceous acetogenins have been isolated from pawpaw. These chemicals, such as asimicin and asiminecin, apparently retard or reverse the growth of certain cancers.

The tree is fairly easy to grow but needs a large area. When we mentioned that the tree is short-lived, we were referring to the aerial stems; they become less productive at 25 years and die at about 40 to 50 years. It's the roots and root runners that may, according to Connie Barlow in *Ghosts of Evolution*, live for 13,000 years. Most pawpaw patches in North America are clearly nowhere near that old and, in the absence of mastodons, the only ways that pawpaw can distribute itself are by water and by human transport. Most pawpaw patches not growing on a river bank were probably planted by either prehistoric or modern humans.

If you plan to grow pawpaw, note these features. The implication of its life history is that it is destined to form a patch. Keeping one on a mown lawn is certain death for the tree while a 25-year relaxation in mowing will yield a pawpaw patch. Unlike Kentucky coffee, pawpaw is shade-tolerant. Also, despite its apparent liking for riverbanks, it tolerates drought and will grow on a wide range of soil types.

This brings up the prickly detail of trying to establish pawpaw; it's very difficult to transplant. It cannot endure root disturbance. We found

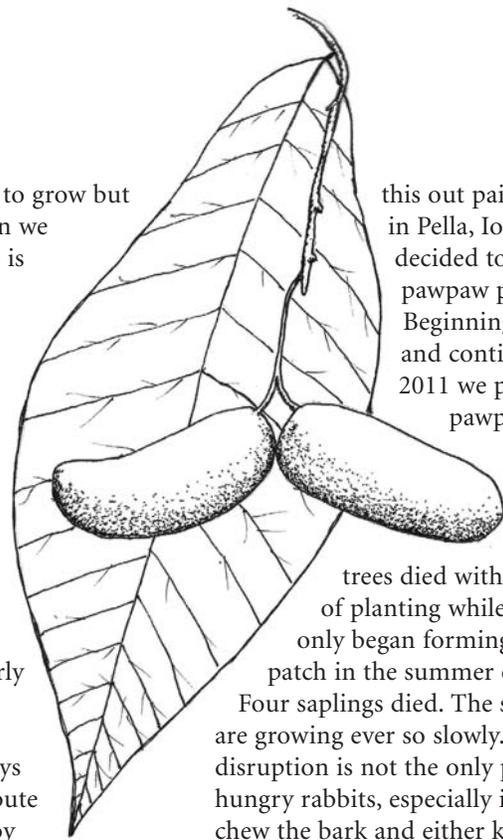


ILLUSTRATION BY STEPHEN JOHNSON

this out painfully here in Pella, Iowa when we decided to establish a pawpaw patch. Beginning in 1999 and continuing to 2011 we planted 12 pawpaw saplings and two good-sized trees. One of those

trees died within a month of planting while the second only began forming its clonal patch in the summer of 2011.

Four saplings died. The survivors are growing ever so slowly. Root disruption is not the only problem; hungry rabbits, especially in winter, chew the bark and either kill a sapling or force it to regrow from roots.

Ultimately, we do recommend that people plant pawpaw. But that suggestion comes with caveats. First of all, you must give it a fairly large place to expand into a patch, certainly no less than a quarter acre (one-tenth of a hectare). It cannot be a street or specimen tree. Secondly, you must have two different clones of the tree together for cross-pollination because pawpaw is self-sterile. Lastly, you may have to function as the pollinator... if you wish to taste that fine sweet custard.

*Stephen Johnson is a plant ecologist in Pella, Iowa; Mary Stark is a Humanities professor learning about plants from Stephen.*



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P.O. Box 84, Station D  
Etobicoke, Ontario, Canada  
M9A 4X1

