

The Blazing Star



NEWSLETTER OF THE NORTH AMERICAN NATIVE PLANT SOCIETY

Native Plant to Know

Wild columbine

Aquilegia canadensis

by *Barbara Hallett*

In my southern Ontario garden, wild columbine, *Aquilegia canadensis*, is one of the first native perennials to flower in late spring. I cultivate it because it is an important early-season nectar source for hummingbirds as well as the host plant for the rather uncommon columbine duskywing butterfly. Its deeply-cleft compound leaves and nodding red and yellow flowers give it a delicate appearance. Wild columbine pairs nicely with blue-eyed grass, *Sysirinchium montanum*, for a late spring/early summer display of primary colours in the garden.

One of the first signs of spring in my garden is the appearance of a rosette of gray-green, immature leaves arising from the crown of each columbine. The crown, an atypical rhizome, is a short, thick, vertical structure bearing two or three adventitious roots and surmounting a tap root. These fleshy, underground structures contribute to columbine's drought tolerance.

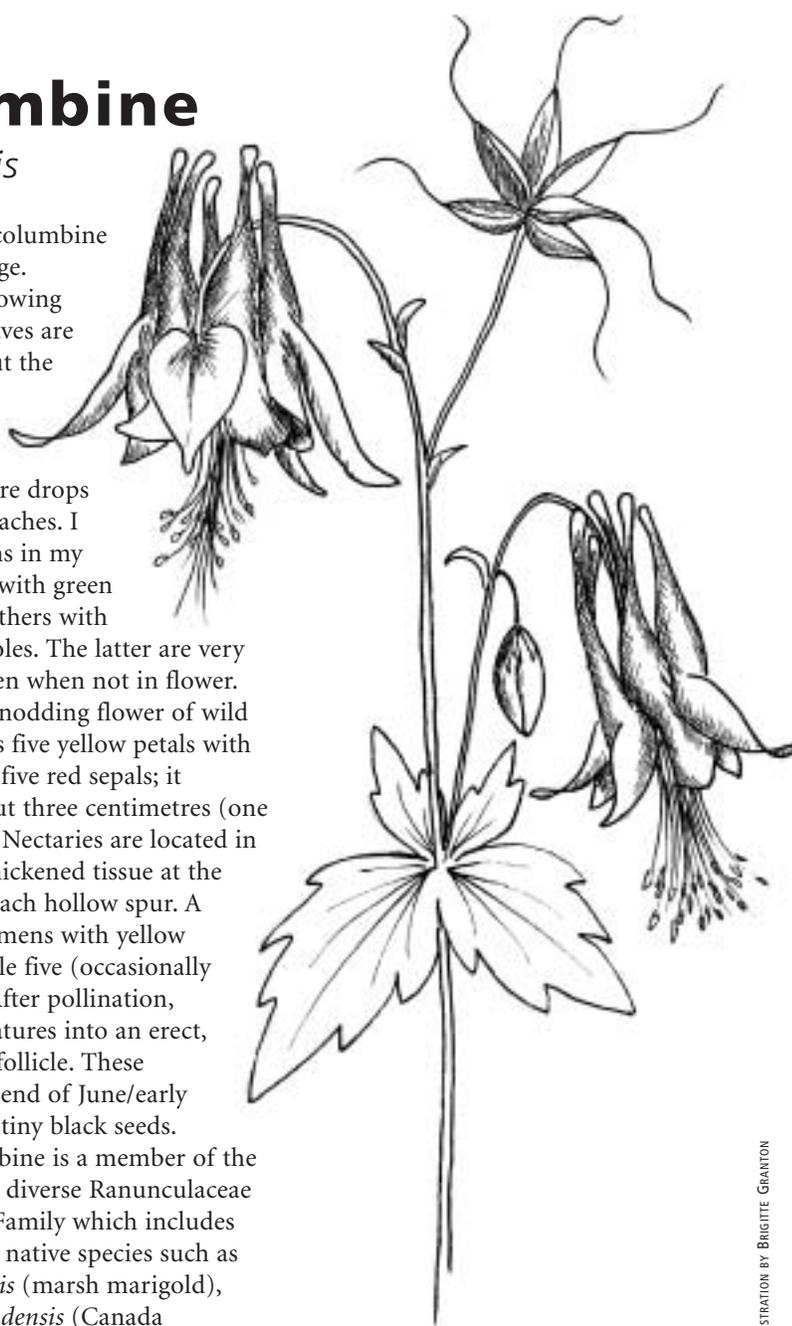
Wild columbine has long-petiolate, doubly compound leaves. The leaflets, borne in threes, are characteristically lobed with margins of rounded teeth and tend to orient at approximately 120° to one another. Although ideal for capturing sunlight, this arrangement of leaflets on stiff petioles allows nearby leaves to interlock,

predisposing columbine to wind damage.

During the growing season, the leaves are blue-green, but the outer leaves turn crimson as the temperature drops and fall approaches. I have two forms in my garden: some with green petioles and others with deep-red petioles. The latter are very decorative, even when not in flower.

The showy, nodding flower of wild columbine has five yellow petals with red spurs and five red sepals; it measures about three centimetres (one inch), overall. Nectaries are located in the knob of thickened tissue at the distal end of each hollow spur. A column of stamens with yellow anthers encircle five (occasionally four) pistils. After pollination, each ovary matures into an erect, many-seeded follicle. These dehisce at the end of June/early July, releasing tiny black seeds.

Wild columbine is a member of the very large and diverse Ranunculaceae or Buttercup Family which includes many familiar native species such as *Caltha palustris* (marsh marigold), *Anemone canadensis* (Canada anemone), and *Clematis virginiana*



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The *Blazing Star* is . . .

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

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Presidents' Message

As I write, snow continues to fall. I scan the backyard and see only the remnant tops of prairie grasses, with the rest well buried. Although the nights remain bitter with cold, the sun's rays are becoming increasingly warm, even if ever so slightly, and, with this, come memories of things green.

For us NANPSers, what better time to begin planning out strategic garden changes, plant purchases and seed sowing. Now is the time to send in your orders to the second round of the **NANPS Seed Exchange**. A complete list of donated offerings is included in this mailing.

The **Plant Sale Committee** has been meeting since early December in preparation for our annual May 9th sale and will have ready an extravaganza of ethically grown native plants to choose from. NANPS members can also go on line (www.nanps.org) to the **Advance Order** page, take pleasure in reading through the list of available plants assembled from various native plant nurseries, and decide which delightful purchases to make this year. Oh the agony, the bliss, the joy! This year we have included changes that should simplify the matching of plants to growing and site conditions.

The **Speakers' Series** is there to spur you on. Let Dennis Flanagan and Charles Kinsley describe how "Gardening Trends" of the past 200 years have influenced changes today. In March Ken Parker will speak about ecological solutions for our gardens along with the culinary, medicinal and spiritual uses of indigenous flora. In April, come hear and see expert arborist Todd Irvine present his photo introduction to native trees along with helpful tree identification tips and basic tree physiology information. Check out our website for details.

NANPS is hosting tables / booths at the Guelph Organic Conference (January), Jump into Spring (February), Seedy Saturdays (February & March) and various Earth Day events in April. Members interested in volunteering for any of these events, please contact volunteer@nanps.org.

We would love to hear from you.

Please consider submitting an application to our annual **Native Plant Garden Awards**. Take photos of your project. Record and note the changes in your garden as the seasons unfurl. Then check out our website (www.nanps.org) for an application form and details about the process. If you have any questions about this, please contact us.

To all of our members, no matter where you reside in North America, we invite you to create and expand native plant opportunities, be it rural, urban or suburban. Write about your experiences, your moments of glory and success, and your challenges too. Share your experiences and stories with fellow members by submitting articles, photos and illustrations to *Blazing Star* editor Irene Fedun (editor@nanps.org). There are some wonderful things happening. Recently we heard this exciting bit of news from member Anne Bossart: Austin, Texas wants to be certified by the National Wildlife Federation as a Community Wildlife Habitat (www.keepaustinwild.com) and city officials are working towards that goal. How amazing is that!

With regrets, we let you know that Janet Harrison has submitted her resignation from the Board. She continues to support media and publicity, as well as continue to send out the **Local Scoop** to all our members. Thank you, Janet, for all that you have done and continue to do on behalf of native plants.

As 2009 unfurls into new possibilities, let us *all* make a difference. Let's make this year noteworthy for both individual and collective achievements and successes. Thank you for all that you do!

Miriam Henriques and Harold Smith

Congratulations to Mona Rowland of Ottawa, ON for winning a one-year renewal to his NANPS membership. All current members are entered in this draw every January 31st. Don't forget to send your renewal in early next year!

Holes in Leaves: The Importance of native plants and of propagandizing for them

by Zoe Dalton

It was a wet, icy, downright miserable night, but the event room at the Toronto Botanical Garden was full on Tuesday, December 9th – the second night of NANPS' 2008/2009 Speaker's Series. Martin Galloway – of TV's *Harrowsmith Country Life* and HGTV fame, botanist, native plant nursery owner, and academic lecturer – was the scheduled speaker for the evening. With a speaker of such repute on the roster, and no possible substitute other than a guitar-toting board member, Miriam Henriques, NANPS' co-president, was more than a little nervous when, two hours before the event, Martin called her from the hospital. He'd slipped off an icy ladder and fallen five metres (16 feet) to the ground, injuring his shoulder. As we all know, emergency rooms are not known for great speed in treating patients, and shoulders are known to be crucial for both driving oneself somewhere and navigating through powerpoint presentations: the NANPS event was clearly in jeopardy.

Luckily for both the audience and the event organizers, Martin can obviously list persistence, perseverance, and, perhaps, stubbornness among his many virtues. Arrive he did, both on time, and with enough comedic energy and heartfelt expression to keep the audience gripped for nearly two hours. No wonder Martin is both a TV personality and a sought-after lecturer at universities and colleges. Throughout the evening, the audience alternated between moments of reverent silence and uncontrollable laughter.

While many in the audience ended the evening feeling that they'd been introduced to Toronto's hottest botanical comedy act, Martin's talk revolved around several serious topics. The first was the beauty, even by conventional standards, of our native plants. Martin is a passionate believer in communicating to the unconverted



PHOTOGRAPH BY DEB DALE

Martin Galloway posing with NANPS' ladies (from left) Janet Harrison, Sue Wells, Allison Warner, Stacey Shannon and Miriam Henriques.

the aesthetic pleasures of indigenous plants. His example of the loveliness of a goldenrod's (*Solidago* spp.) golden hues in combination with the mauve of, say, a *Symphyotrichum nova-angliae* (New England aster) illustrates that even a mainstream desire for prettiness in a landscaped setting can be met (or even exceeded) by plants native to one's home area.

The second point that Martin made related directly to the first. Propaganda is an essential element in the native plant lover's artillery. While the average passer-by may allow that gold and mauve do complement each other quite nicely, "aesthetically pleasing native plants" seems a conceptual oxymoron to many. Martin argues that such a state of affairs is simply a result of long and deep-rooted "plant-ism". He believes that "plant-ist" attitudes are just that – attitudes, not intrinsic human characteristics. Attitudes are based on what is learned, and what is learned is taught. Attitudes are dynamic, plastic, and therefore moldable. Propagandizing for native plants

therefore means teaching people a new version of acceptability, helping people to realize that if they like gold and mauve together, then *Solidagos* and *Symphyotrichum nova-angliae* provide all that could be desired.... and more. Martin is a firm believer in the power of repeated, concerted, strategic messaging to open space in people's minds for a new acceptance of the aesthetics of native plants.

Martin's third point was one that only a NANPS audience could fully appreciate: native plants are good ecologically, and this makes them more beautiful. Lovely pictures of butterflies, spiders and beetles on their native host plants impressed upon the audience the majesty of co-evolution, the intricate, specific and almost too-perfect-to-believe relationships between flora and fauna....the spider camouflaged in the centre of a flower as it awaits its prey or the hummingbird dusted with pollen as its beak, perfectly shaped for its associated plant, sucks up life-giving nectar. Plants and animals have

Continued on page 4

Remember Lianas

by Peter Loewer

Remember lianas? Those woody jungle vines used by Tarzan while trying to catch an unruly lion or a naughty Cheetah? They are also growing in my North Carolina garden as the stems of wild grapes (*Vitis* spp.) or reaching toward Atlanta, Georgia as the invasive alien kudzu vines (*Pueraria lobata*). Lianas are rooted in the soil but climb to the top of a canopy to find the light.

Vines were a favourite subject of Charles Darwin who published a book in 1865 entitled *The Movements and Habits of Climbing Plants*. He suggested that “Plants become climbers, in order, as it may be presumed, to reach the light and to expose a large surface of their leaves to its action and to that of the free air.”

Darwin actually watched a species of *Ceropegia* (members of the Milkweed Family that either climb or trail) over a couple of days and nights as the climbing stem made a grand arc from its affixed position trying to find a new purchase upon which to twine.

Gardeners like to classify things so we have the *faux* vines, plants that have been pruned and trained using the art of espalier to look as though they climb walls or supports, and true vines that naturally employ a number of ways to become upward bound.

We grow vines that scramble along the ground (like the Virginia creeper when it cannot reach to heaven), vines that find a spot to stop then use hooked thorns (think of common bougainvillea, *Bougainvillea glabra*), vines, such as morning glories (*Ipomoea* spp.), that use tendrils to enclose a string or stem, and vines that attach themselves to bark, stone, or stucco using adhesive pads (Virginia creeper again).

Two of my favourite native vines are the passionflowers and the aforementioned Virginia creeper (*Parthenocissis quinquefolia*).

Passiflora is the genus representing the glorious passionflowers, first discovered in the early 1600s by a

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evolved together over millennia to create mutually beneficial relationships, and they come to us as a package. Without animals, there could not be plants. We seem to accept that animals need plants, but many of us hort types are still resistant to the fact that plants need animals – even

NANPS Annual Native Plant Sale

SATURDAY, MAY 9, 2009,
10AM - 3PM

MARKHAM CIVIC CENTRE, ATRIUM
101 TOWN CENTRE BLVD.
(HWY 7 AT WARDEN AVE.),
MARKHAM, ONTARIO

- Forbs, grasses, woodies and ferns, hundreds of books, free talks and free parking!
- Advance ordering is open to current members for pick-up at the sale. Order at www.nanps.org.
- Of interest to members who follow pollinator news: Sheila Colla, a PhD. student, working with Dr. Laurence Packer at York University, will be speaking at 12:30PM on the decline of native bees and what we can do to help (Sheila's work can be seen at www.savethebumblebees.com).
- Volunteers are still needed to receive and sort orders Friday night (from 4PM until finish). On Saturday the jobs include greeters, carpoolers, plant sellers, and clean-up crew (volunteers can work for as many or as few hours as they wish). Leave a message for Alice Kong at (416) 631-4438 or e-mail her at volunteer@nanps.org to be slotted into the schedule. *A big thank you to all our previous years' volunteers - you are the heart and soul of our sale.*

spiders, even snakes. Plants have always, do still, and will forevermore depend on fauna regardless of our squeamishness of “slimy”, “ugly”, or “yucky” creatures. Accepting native plants in all their glory means accepting not only the flora itself, but also its associated fauna.

Maybe only those already converted to the previous point could fully appreciate Martin's final point: if we accept that flora and their associated fauna are one beautiful package, we must accept the results of fauna's presence on – or interaction with – flora as beautiful too. Here, the convergence of Martin's earlier points becomes clear: we who love native plants must develop in ourselves, as well as share with others (or propagandize, if you wish), a love for signs of healthy, active floral/faunal relationships. An example is Martin's 80-slide powerpoint presentation – ready to go, but not yet delivered, as he's not sure many audiences are, at least at this point, ready for it. The presentation is entitled *Holes in Leaves*. Every slide is an artistic photograph of leaves with holes chewed by the plant's associated faunal representatives. The glorious sun shines through these holes, shining dew drops glint on them and cheeky caterpillars peek through them. As Martin says, holes in leaves indicate that the age-old relationship between flora and fauna is working. Holes in the leaves of our prized native plants should be as beautiful to us as the plants themselves. A tough sell for some, but then again, who better to do the selling than our own Martin Galloway?

Zoe Dalton is a University of Toronto PhD candidate, a recently appointed NANPS board member, and a lover of nature in all its many forms. She currently lives in Toronto with her artist husband and young son – all of whom treasure moments together watching bugs, birds and snakes interact with plants in their backyard – and beyond.

Catholic friar working to convert the natives of Mexico. Because in symbolic terms the elaborate floral parts suggested the Passion of Christ and because it was found in heathen territory, the flower became a *cause célèbre*. The Church interpreted its discovery as a message from the Lord asking that the natives not only be welcomed into the Christian church but with the greatest of haste.

Of course the natives used the plant in folk medicine, applying the poulticed roots to boils and cuts, and drinking the tea as an antispasmodic. Perhaps of greater concern was its application as an aphrodisiac, attaching a different meaning to the plant's new name, passionflower.

As the Catholics saw it, the 10 petals represented the apostles, without Peter and Judas; the filaments of the corona were either the Crown of Thorns or a halo; the five anthers were the wounds; the styles were three nails; the three sepals on the floral stem were the Trinity; and the whips of persecution were seen in the coiling tendrils of the vine.

Passiflora incarnata or maypops, is a climbing or trailing vine that uses tendrils to reach out and up. It has soft, hairy stems that sometimes reach a length of 25 feet (7 1/2 metres). The six-inch (15-centimetre) leaves are palmately lobed into three sections. The blossoms are about three inches (seven centimetres) wide, with whitish sepals and petals while the corona is lavender. The greenish-yellow fruit is edible and makes a very good jelly. *Passiflora incarnata* is found throughout the eastern United States from southern Pennsylvania down to Florida. The species name means flesh-coloured and refers to some of the floral parts. Maypops is the official state flower of Tennessee.

Passiflora lutea is less of a traveller with stems usually 15 feet (4 1/2 metres) long. The showy blossoms are a half inch (one centimetre) wide; the flowers have narrow whitish-green petals and a yellow-green corona. The

fruit is a small black berry. The species name refers to the colour yellow and, again, to the floral parts.

Passionflowers should have as much sun as possible to guarantee blossoms. With luck a new vine will sometimes flower the first year if seed was started in late winter.

These are great container plants. Use a six- or seven-inch pot (15 or 18 centimetres) for a few years, fertilizing with a weak solution of plant food every three or four weeks during the summer.

If you wish to overwinter the plant, make sure you keep the pot where the roots get at least six weeks of 40-degree F (4-degree Celsius) temperatures. They will not survive in a warm greenhouse. Remember, before spring cut back about a third of the canes stopping just before a lateral bud.

Propagation is by division, stem cuttings, or by seed. These plants are hardy in USDA Zones 6 to 10.

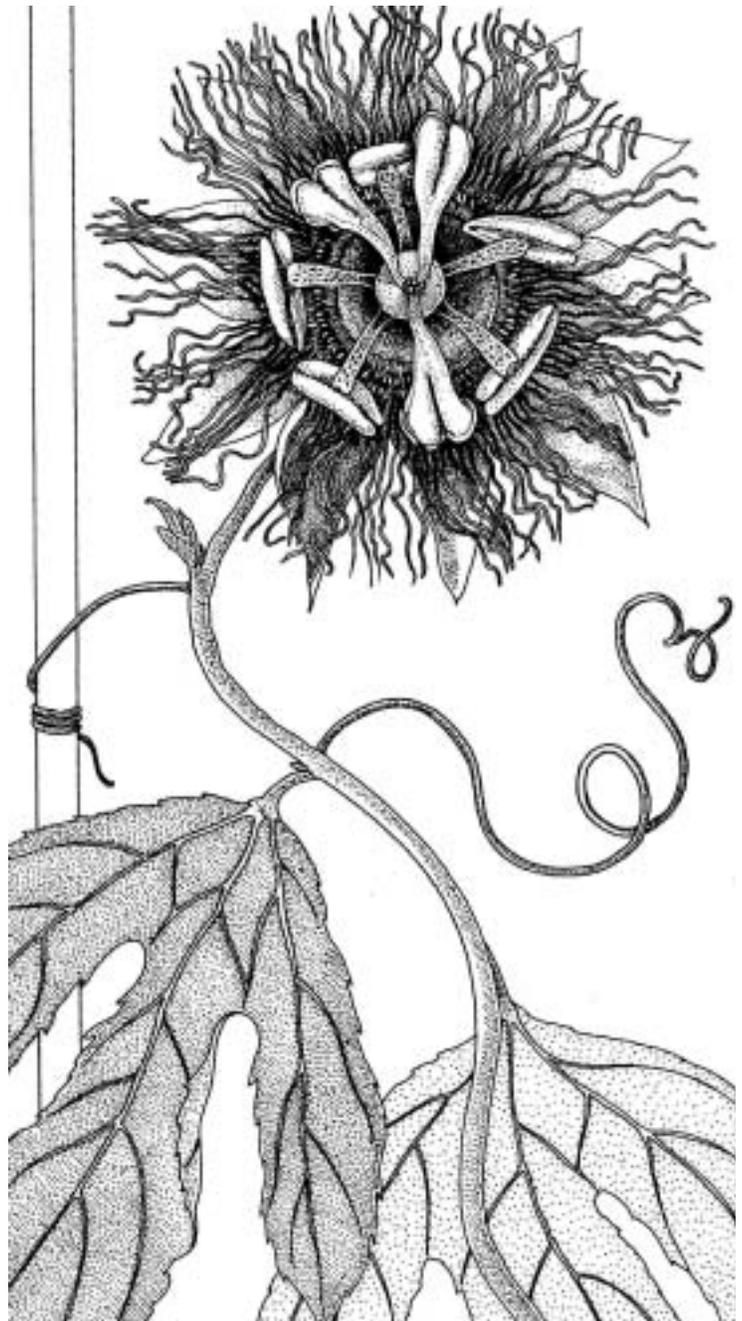


ILLUSTRATION BY PETER LOEWER

Passionflower illustrated by the author, The Wild Gardener, Peter Loewer

My other favorite vine, the Virginia creeper (*Parthenocissis quinquefolia*), is not only able to climb a tree or trellis, but will also ramble along phone wires. Where no support is available (or support has been denied), this vine turns into a magnificent groundcover, wandering about its area, holding the foot-wide (one-third

of a metre) clusters of palmate leaves on foot-high stems. The genus name *Parthenocissis* is Greek for virgin ivy, and the species name, *quinquefolia*, means having five leaves or leaflets. Climbing is achieved with adhesive discs on the much-branched tendrils. Although it is able to climb masonry walls, its holdfasts are relatively weak and may be pulled from the wall by strong winds.

I found the groundcover trait by accident when I happened to cut down a poorly placed white pine (*Pinus strobus*) at the edge of my woods that was acting as host to a Virginia creeper. Not wanting to lose the vine, I carefully pulled the tendrils away from the tree's bark and laid it on the ground, intending to transplant it to another spot. Later I returned to find the vine wandering over the ground and taking root.

So allow me to introduce the creeper as a groundcover and not a climbing vine, although it does this latter job with great gusto. And the glory of it all is in the autumn when the creeper's leaves turn a brilliant scarlet-red, quite unrivaled by anything else except perhaps the sour gum (*Nyssa sylvatica*) or the staghorn sumac (*Rhus typhina*). This vine is also resistant to salt spray,



Virginia creeper demonstrates its rambling tendency.

making it a natural for the seaside garden, and birds love the berries. Finally, once established, it's quite drought-resistant.

There were Native American medicinal uses too. For example, the Cherokee made an infusion to treat yellow jaundice while the Iroquois prepared a poultice applied to swellings of the wrists. Medical authorities today warn that the berries and leaves could be toxic, and people with sensitive skins can get contact dermatitis from touching the autumn foliage.

Virginia creeper ranges from

southwestern Quebec south to Florida, and west to Minnesota and Mexico. It grows in ordinary, well-drained garden soil in full sun or partial shade, USDA Zones 6 to 9. It can be propagated by division or layering where stems touch the ground.

Today it's early winter in Asheville, with the drought we've been experiencing for over four years still in effect. The Virginia creepers are bare stems attached to leafless trees while the passion flowers are but roots in the ground. But come the spring, both of these natives will once again be stars in the garden, ready to survive the rare rainfalls. Passion flowers will open to incredible complexity and entertain pollinators from hummingbirds to carpenter bees. The creepers will produce fresh leaves all summer long, leaves that in the fall will glow with tints of glorious red and vibrant orange.

Peter Loewer is a writer and botanical artist who teaches art at the North Carolina Arboretum, Montreat Elderhostel, McCall University, AB-Tech and Penland School. He practises printmaking and works on pen and coloured-pencil renderings of native plants and their pollinating insects.

NANPS Speakers' Series

Tuesday, March 17

GREEN GARDENING -
A JOINT VENTURE WITH NATURE

Learn to incorporate native species into the home landscape from industry expert Ken Parker, owner of Sweet Grass Gardens Native Plant Nursery. Ken offers ecological solutions for garden enthusiasts and introduces many culinary, medicinal and spiritual uses of North America's native flora. He has been growing, installing and promoting indigenous plants since 1992. Ken shares his native plant knowledge in regular

appearances on HGTV, TV Ontario, City TV, Canadian Gardening Television and the Weather Network.

Tuesday, April 7

NATIVE TREES OF SOUTHERN ONTARIO

Todd Irvine, arborist and Education Coordinator for LEAF (Local Enhancement and Appreciation of Forests), a Toronto environmental non-profit organization, offers a photo introduction to the native trees of southern Ontario. Todd will provide helpful tree identification

tips, discuss basic tree physiology and share personal anecdotes. Todd is founding editor and Green Space columnist for *Spacing* magazine, an award-winning publication.

All talks will be held at Toronto Botanical Gardens, 777 Lawrence Avenue (at Leslie), Toronto, starting at 7:30pm. Members \$5, non-members \$10 per talk. Visit www.nanps.org or leave us a voicemail message at 416-631-4438.

NANPS Numerous Firsts

The North American Native Plant Society (NANPS) was founded in 1985 in Toronto, Canada. For almost a quarter of a century it has been actively promoting the study, conservation, restoration and cultivation of the native flora of North America. From 1985 until 1998 it was the Canadian Wildflower Society (CWS). In 1998 it changed its name to the North American Native Plant Society to more accurately reflect its membership distribution and continental mandate. As the following chronology attests, the Society has pioneered numerous firsts in its bid to fulfill its mandate:

1985 First national native plant gardening and field botany society in Canada, CWS is formed. (WF 1(1):5)

1985 First North American native plant gardening and field botany quarterly magazine called *Wildflower* is published by CWS. (WF vol.1)

1985 CWS is the first native plant society to set up a continental native seed exchange. (WF 1(3):14)

1985 CWS is the first native plant society in Canada to establish a gardening *Code of Ethics* for its members. (WF 1(4):47)

1986 CWS sponsors its first public annual native plant sale. (WF 2(3):10)

1988 CWS sponsors Canada's first native plant propagation workshop. (WF 3(4):7)

1988 CWS sponsors Canada's first wildflower gardens tour in Guelph/Waterloo, Ontario. (WF 4(2):40)

1988 CWS publishes Canada's first *Garden Alert* poster warning against the practice of digging and purchasing plants from the wild. (WF 4(2):45)

1990 CWS establishes its first chapter in Kitchener/Waterloo/Guelph. (DT 1(1):1)

1993 CWS purchases a 20-hectare (50-acre) Carolinian woodlot to primarily conserve the onsite population of the rare native

cucumber tree *Magnolia acuminata*, near Cultus, Ontario. This is a first for Canada. (WF 10(1):11)

1994 CWS and the Federation of Ontario Naturalists (now Ontario Nature) co-publish the first booklet on the native plants of Carolinian Canada with conservation and horticultural advice. (WF 10(4):5)

1996 CWS hosts the first conference in Canada for the Eastern Native Plant Alliance at the University of Waterloo. (WF 12(3):7)

1996 CWS is the first native plant society in Canada to go on the web (www.webcom/acorn/hedge/cws). (WF 12 (3):2)

1997 CWS, London Chapter sponsors the first tour in Canada of 8 native plant nurseries in Carolinian Canada. (WF 13(3):4)

1998 CWS becomes the first native plant society with a continental mandate and changes its name to the North American Native Plant Society. (WF 15(2):3)

WF *WILDFLOWER* magazine

DT DOGTOOTH Chapter, CWS newsletter

Compiled by James L. Hodgins

Winter 2009 QUIZ

Question # 1:

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

Question #2:

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

Question #3:

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

Look for the answers at www.nanps.org or in the spring issue of *The Blazing Star*.

Answers to SUMMER 2008 QUIZ

Question # 1:

Name six native plants from any region in North America with the word "blue" in their name.

Big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), blue oak, nickname for bur oak (*Quercus macrocarpa*), blue camas (*Camassia quamash*), blueberry (*Vaccinium* spp.), blue-flag iris (*Iris versicolor*), bluebells (*Campanula* spp.), blue-eyed grass (*Sisyrinchium* spp.), bluets (*Hedyotis caerulea*), bluebead lily (*Clintonia borealis*), blue-bottle (*Centaurea cyanus*), wild blue phlox (*Phlox divaricata*), willow blue-star (*Amsonia tabernaemontana*), blue cohosh (*Caulophyllum thalictroides*), wild blue flax (*Linum lewisii*), great blue lobelia (*Lobelia siphilitica*), blue-stem goldenrod (*Solidago caesia*), blue vervain (*Verbena hastata*), wild blue indigo (*Baptisia australis*)..... and many more.

Question #2:

Think of six native plants whose name incorporates the name of a bird, reptile, mammal, fish or insect.

Cattails (*Typha* spp.), cat's-ear (*Hypochaeris* spp.), cat's foot, also known as pussytoes (*Antennaria* spp.) and cat-gut (*Tephrosia virginiana*) that also goes by the name Virginia goat's rue. White spruce (*Picea glauca*) has the nicknames cat spruce and skunk spruce.

Dogwood (*Cornus* spp.), crested dog's tail (*Cynosurus cristatus*), false dog fennel (*Dyssodia papposa*) and dogbane (*Apocynum* spp.)

Hawk's beard (*Crepis tectorum*), wakerobin (*Trillium* spp.), partridgeberry (*Mitchella repens*), trumpet creeper (*Campsis radicans*)

Trout lily or dog-tooth violet (*Erythronium americanum*)

Fleabane (*Erigeron* spp.), Butterfly-weed (*Asclepias tuberosa*)

Porcupine sedge (*Carex hystericina*), bearberry (*Arctostaphylos uva-ursi*), Canada buffaloberry (*Shepherdia canadensis*), horsemint (*Monarda punctata*)

Rattlesnake master (*Eryngium yuccifolium*)

Barring Bambi: How to browse-proof your plantings

by Rolf Cachat-Schilling

Wildlife in the backyard is one of the joys of a countryside home. Deer, with their soulful eyes and graceful form, are a symbol of peace. Yet few gardeners feel peaceful after deer have grazed to the ground choice specimen plants that have been lovingly tended all year. What's a gardener to do?

Fortunately, there are several inventive and proven barriers against deer browsing. Deer barriers fall into a few types: chemical, visual, and physical. In using any of these approaches, it is important to note that starving animals, deer included, will eat even toxic material.

With room, plants that grow quickly and that deer love to eat can be planted at a distance from the plants you want to protect. This is distractive feeding. Adding some barrier to the protected plants makes the fodder planting the easy choice. Animals are very geared toward finding the most nutrition for the least effort.

Another trick is to place a salt lick well away from your plantings. If there is a large woodlot available, this is ideal. If not, perhaps there is a spot where a neighbourhood salt lick can be placed to the satisfaction of the neighbours. This will help everyone's deer browse problem. Please be aware that salt licks cannot be placed out during hunting season in some areas (to prevent their use as an unfair hunting tactic).

Break the Habit

Deer are creatures of habit. They take the easiest and safest course across your land and stick to that track unless pressed to change. On a new property, this means you can steer the deer where you prefer them to go with barriers and sprays before they settle into a feeding routine you don't like.

Several wire cordons, hung with cloth flags of a light colour, are enough to block deer and confuse them visually. Be sure the deer cannot



slip under the bottom cordon (less than 10 inches or 25 centimetres from the ground) or leap over the top (more than eight feet or 2 1/2 metres). Flags will discourage deer from trying to pass between the wires and generally spook them (at least initially). Aside from wired cordons, a full-fledged fence on sturdy posts, chain link or heavy-duty mesh can be used. Deer fences are the most effective solution. Fences are also costly and won't work aesthetically for everyone. Deer fences must be eight feet high and attached to the ground to prevent them from going under. Be aware of local zoning regulations if you plan to install a deer fence. Many communities have height restrictions and

require special permits to install a fence over a certain height. Cattle grids have been shown to be ineffective once the deer become accustomed to them.

Another trick is to tie several cordons of fishing line across an area where you want to block deer from entering, or to steer them away from a planting. Fishing line is nearly invisible from only a few feet away, harmless to deer, and effective. I have used this at the Western Garden in Garden in the Woods ("the ever-changing,

living museum" of the New England Wild Flower Society in North Framingham, Massachusetts), where treading and grazing caused extensive damage to new plantings. Blocked and confused by the lines, the deer group chose a new pathway altogether.

ILLUSTRATION BY KIM DU

PRODUCERS OF NATIVE TREES, SHRUBS, GRASSES AND FLOWERS

(PLANTS AND SEEDS) SOUTHERN ONTARIO ECOTYPE

SEED MIXES

PRAIRIE — RIPARIAN — SAVANNA
WILDFLOWER — WILDLIFE
(MINIMUM ORDER REQUIRED)



PTEROPHYLLA

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Deterrence

You can also use inedible plants as a barrier. For example, a wide, thriving skirt of *Rhus aromatica* (fragrant sumac) “Grow Low” circling your rhodies (*Rhododendron* spp.) will deter deer. When using inedible plants as barriers, be sure that they are wide enough to prevent deer from simply leaning over them to reach protected plants. The object of the exercise is to keep the deer moving along to an area where you do not object to browsing. Choice and tasty plants, like oakleaf hydrangea (*Hydrangea quercifolia*), can be covered with fine mesh netting, such as the type sold for orchard use. At a distance, fine mesh is all but invisible and affords effective protection.

Some companies sell statues of coyotes in an aggressive posture. I have heard mixed reports on their effectiveness. Tin pans and clackers have also been employed, and Japanese have long used “deer knockers”. Motion-sensor irrigation towers, which spook the deer with a sudden spray of water, also work for a time. The downside of these methods is that deer appear to eventually ignore them.

Last year at Garden in the Woods, we created a free-form bamboo fence to block deer from plantings reserved

for endangered butterfly larvae as feeding plants. Though the fence was quite open, deer preferred not to stick their heads through the gaps in order to feed. We also found that spraying the fence with deer repellent caused the deer to move along without even stopping at the fence (no tracks milling about the fence area). This shows that a visual barrier that only partly blocks physical access, combined with a scent deterrent, can work well. We received no damage to this area.

Throw them off the scent

Use of scent brings us to the chemical method of deer protection. There are a number of products on the market that are similarly effective. My personal experience has been that antifeedant sprays that contain different combinations of egg yolks, garlic, peppermint oil, and cinnamon are the most effective. Some drawbacks of spraying are that it must be done when there is enough dry weather for the spray to dry, and excessive rain or hot weather shorten the time before spraying must be repeated. In the summer, this can amount to spraying every week. Temporarily, the odour can be unpleasant.

Deer-resistant plants

Bambi needs to eat. However, with some creativity and effort, you can have your garden and the deer. We offer a list of plants that are useful for distractive feeding during winter, as well as a list of plants that deer will only eat if they are starving.

Deer browse plants - tasty to deer and able to regenerate growth:

Cornus sericea - red osier dogwood
Cornus amomum - silky dogwood
Hydrangea arborescens - American hydrangea, hills-of-snow
Ilex decidua - deciduous holly
Viburnum nudum - possumhaw
Viburnum acerifolium - maple-leaf viburnum

Deer-resistant shrubs/small trees:

Rhus aromatica - fragrant sumac
Rhus hirta (*Rhus typhina*) - staghorn sumac
Rhus glabra - smooth sumac
Leucothoe axillaris - coast doghobble
Leucothoe fontanesiana - highland doghobble
Fothergilla gardenii - dwarf witch-alder
Fothergilla major - mountain witch-alder
Lindera benzoin - spicebush
Ilex opaca - American holly

Deer-resistant perennials:

Euphorbia corollata - flowering spurge
Agastache species - American hyssop species
Pycnanthemum species - mountain mints
Apocynum species - dogbanes
Salvia species - sages
Asclepias species - milkweeds, butterfly weed



The pretty sprigs of Virginia mountain mint (*Pycnanthemum virginianum*) are a great deterrent to deer in a summer garden.

Rolf Cachat-Schilling is horticulturist and plant records coordinator for the New England Wild Flower Society. This article was reprinted with permission from the New England Wild Flower Society website, www.newfs.org.

Calendar of Events

February 26 - 27, 2009

14TH INTERNATIONAL WATER CONSERVATION AND XERISCAPE CONFERENCE
Albuquerque, New Mexico
Focus of this conference will be:
Watershed - Foodshed. Visit
WaterConservationConference.org.

March 8, 2009

22ND ANNUAL MICHIGAN WILDFLOWER CONFERENCE
East Lansing, Michigan
E-mail Jean.Weirich@gmail.com or
phone her at 517-627-7927.

March 17, 2009

GREEN GARDENING:
A JOINT VENTURE WITH NATURE
Toronto Botanical Gardens
777 Lawrence Avenue
Toronto, Ontario
NANPS Speakers' Series presents Ken
Parker, owner of Sweet Grass Gardens
native Plant Nursery and native plant
gardening celebrity. Presentation
starts at 7:30pm. Visit www.nanps.org.

April 7, 2009

NATIVE TREES OF SOUTHERN ONTARIO
Toronto Botanical Gardens
Toronto, Ontario
NANPS Speakers' Series continues
with Todd Irvine, arborist and
Education Coordinator for LEAF
(Local Enhancement and Appreciation
of Forests). Visit www.nanps.org.

May 9, 2009

NANPS ANNUAL NATIVE PLANT SALE
Markham Civic Centre
Markham, Ontario
See page 3 or visit www.nanps.org for
details.

May 21 - 22, 2009

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

May 28 - 31, 2009

LONE STAR REGIONAL NATIVE PLANT
CONFERENCE
Nacogdoches, Texas
Contact SFA Pineywoods Native Plant
Center at (936) 468-1832, e-mail
erodewald@sfasu.edu or visit
<http://pnpc.sfasu.edu/>

June 4 - 6, 2009

NATIVE PLANTS IN THE LANDSCAPE
CONFERENCE
Millersville University
Lancaster County, Pennsylvania
Visit www.millersvillenativeplants.org

June 13 - 14, 2009

WILD ORCHIDS OF THE BRUCE
PENINSULA EXCURSION
Bruce Peninsula, Ontario
This two-day excursion put on by the
Southern Ontario Orchid Society,
which encompasses a visit to
Flowerpot Island,
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including taxes.
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transportation,
and guided wild
orchid sightings.
Contact Margaret
Hewitt at
mhewings@tpi.ca
or call
905-634-7084.

July 22-25, 2009

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

Native Plant Growers in the Golden Horseshoe

To "grow your business", request
a listing in the 2010 issue of the
Toronto Gardener's Journal &
Source Book under category
"Suppliers of Plants - Native Plants,
Seeds and/or Trees and Shrubs".
Contact: Margaret Bennet-Alder,
Briar Hill Desktop Publishing,
490 Briar Hill Avenue, Toronto ON
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New & Noted

Growing Trees from Seed: A practical guide to growing native trees, vines and shrubs

By Henry Kock, with Paul Aird, John Ambrose and Gerald Waldron
Firefly Books, hardcover, 280 pages,
\$45 Cdn (ISBN 1-55407-363-4)

The ethics of book reviewing require the reviewer to declare any biases, so let me state my own clearly and upfront: I adored the late Henry Kock, horticulturist at the University of Guelph Arboretum. He was a dear friend, a mentor, and a generous sharer of wisdom. I suspect I'm just one of many who, when faced with a quandary or dilemma, immediately thought: I'll ask Henry, he'll know what to do! He wore his trusted sage status with a grace as never-ending as his bushy beard.

Henry poured his heart and wisdom into the writing of this guide to growing woody plants from seed. Very much a practical resource, the text is guided in spirit by a uniquely grounded philosophy: "Think like a seed," Kock urges his readers. In this high-tech era of bending nature to human desires, this philosophy is as radical as it is simple and sensible.

For Henry, "thinking like a seed" did not mean just plunking a seed, nut, or seedling in the ground and standing back, hands-off. I learned this to my embarrassment one day when I invited him over for a visit in my backyard. It had been a droughty summer, but my hands-off approach meant that I hadn't done any watering. Henry took

one look at my struggling young white pine and stormed into action, dragging the underutilized hose to the back of the garden and putting the pine onto a slow-drip IV. I was suitably chastened, and learned then and there that I had taken my non-interventionist policy beyond good sense. The white pine lives on thanks to Henry's timely lesson: Doing the right thing by seeds and plants (and, indeed, just about anything) means paying attention and taking action.

The action this book advocates is the collecting and propagating of native woody plants of the Great Lakes bioregion. Kock demystifies the whole process, through all the stages, from identifying trees, shrubs and vines to recognizing when their seeds are ripe. He details the full range of propagation techniques, warning of dangers, offering solutions, never making things seem out-of-reach or difficult for someone new to the enterprise. He writes from decades of experience and sprinkles the text with engaging stories. More than 200 species are covered in detail (from *Abies* to *Zanthoxylum*), all with beautiful line drawings, many with photographs.

For anyone who had even a passing acquaintance with Kock from the courses he taught at the arboretum or the public talks he often gave, the voice that shines through this text will be a poignant treasure. The triumverate of friends and colleagues who finalized the book for publication - Paul Aird, John Ambrose and Gerry Waldron - deserve many thanks for

completing the project following Kock's untimely passing.

I'm sure that Henry is beaming his big grin through his big bushy beard now that his words in the book are becoming the seeds for many tree-planting actions. Forests will grow thanks to the lessons he's shared. We'll all be wiser.

Review by Lorraine Johnson, editor of the book, The Natural Treasures of Carolinian Canada.

Letter to the Editor

Pity our poor pawpaw, *Asimina triloba*. The Bible had it right: "A prophet is not without honour, save in his own country, and in his own house." Let me explain. Corey Mintz (in an article published last year in the *Toronto Star*) extols the virtues of an exotic member of the custard apple family, the soursop (*Annona muricata*). But here in Ontario - yes, here, in Ontario! - is found a member of this same wondrous family, the pawpaw. Its fruit is truly like a custard, and smoother than that of a ripe banana. Yet how many even know of its existence? These trees are found in native plant nurseries, and are hardy in the Toronto region. Our garden in Don Mills is graced by several pawpaw trees, and they do bear delicious fruit. More and more we are thinking of consuming local produce, so surely it is the pawpaw's time! May I commend this, our very own member of the custard apple family, to you.

Ton Atkinson, Toronto, Ontario



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GIVING NATIVE PLANTS A PLACE TO GROW

www.lpblt.on.ca

Continued from page 1

(virgin's bower).

Wild columbine is easy to grow. It is adaptable to a range of growing conditions, from dry to average soil and from full to part sun. Columbine grows to an overall height of 30 to 60 centimetres (one to two feet). Although it is generally described as a short-lived perennial, I have robust, five-year-old plants growing on a gentle slope in well-drained soil that are sheltered from the prevailing wind. This is not the case in another location, which is level and exposed to the prevailing wind. I think the key to longevity of columbine lies in protecting the crown from excess moisture and from wind damage.

Columbine readily self-sows, but it is not a good candidate for naturalization. Because the seeds are not buoyant, they drop beside the parent plant resulting in congested growth. I am not aware of birds foraging for these seeds.

Although I practise deadheading, enough seed escapes collection to provide all of the seedlings I need. However, if a large number of seedlings are required, columbine seed is easily germinated in a flat of soilless mix. As columbine's early seed maturation suggests, cold stratification is not necessary. The percent germination for untreated seed and for seed that has been cold stratified for six weeks is similar. In both cases, light germination of surface-sown seed is twice as effective as dark germination.

Columbine is prone to crown rot, an indication of poor drainage. There are two ways to avoid this problem. If your site is level, plant this species on a small "hummock" rather than in a "well." For a heavy clay soil, amend with sand before planting.

You may notice wiggly, white trails in columbine leaf tissue. This indicates the presence of columbine leaf miner larvae. Although you may find the trails unsightly, these fly larvae do not seem to pose a serious problem.

The natural range of *Aquilegia canadensis* extends from Nova Scotia

to Saskatchewan and south to Florida and Texas. A western species, *A. brevistyla*, has a smaller flower of yellow to white sepals and blue to purple petals. *A. vulgaris* is an alien species native to Eurasia that sometimes escapes from cultivation. As

with other alien species, there is a danger of hybridization.

Since I have yet to see either the columbine duskywing butterfly or caterpillar in my garden, I suspect that the host plant is not sufficiently abundant in my area. It is certainly true that I don't see wild columbine when walking in my neighborhood or when driving in my township. Unlike the airborne aster and goldenrod (*Solidago* spp.) seeds that can travel considerable distances from the parent plant, columbine seeds are not widely



PHOTOGRAPH BY BARBARA HALLETT

This closeup of wild columbine shows the spurs with knobs that contain nectaries very clearly.

dispersed. This makes it especially important to include wild columbine in our gardens, thereby creating more favourable habitat for this butterfly.

Barbara Hallett and her husband Ross live in Puslinch Township, Ontario where they garden with species almost exclusively native to Wellington County and hope that others will be inspired to embark on a similar project. Barbara is a former president of the Waterloo-Wellington Wildflower Society and volunteers at the University of Guelph Arboretum.

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