



RAVINIA

An Advocate for Community Resources

Published by Friends of the Ravines (FOR)
Fall 2004/Winter 2005

Ferns in the Ravines of Central Ohio *By Brian D. Gara*

FRIENDS OF THE RAVINES is pleased to publish the work of Brian Gara on the topic "Ferns in the Ravines of Central Ohio." The article begins in this issue and will continue in the Spring/Summer 2005 *Ravinia* publication. Brian is a GIS Programmer Analyst with the Ohio EPA Division of Emergency and Remedial Response. He is an avid amateur botanist, with a strong interest in studying native Ohio fern species. He graduated with a BA in Art and Biology from Bluffton College (1985), an MS in Botany from Ohio University (1987), and a PhD from The Ohio State University in Environmental Science (1995). Before going to the Ohio EPA, Brian worked as a researcher with the OSU Biomedical Engineering Center (1988–1995) and as a Wetland Specialist with the Missouri Department of Transportation (1995–1999). His hobbies include hiking central Ohio's parks, playing pick-up basketball, and throwing the frisbee with his 5-year-old daughter, Sarita.

I. INTRODUCTION

Franklin County has an extensive history of botanical exploration. Herbarium records exist for specimens collected in central Ohio that are well over 100 years old. Due to the tremendous development that has occurred in the past half century, much of the biodiversity previously documented has now been lost. Small natural areas still exist, however, and these provide a small glimpse of what the natural setting was once in the region. Gaining an understanding of the factors that have allowed certain species to survive in these remaining pockets of biodiversity is essential to the development of proper management plans that will ensure the long-term protection of these areas. It is also crucial for the identification of additional areas that could be targeted for habitat restoration.

In 2002, I began a study of fern species located in and around the ravines of central Ohio. These ravines occur along the tributaries of the Olentangy and Scioto rivers, upstream from their confluence in downtown Columbus and running north into Delaware County. The primary objec-

tive of this research was to document the types and density of ferns located in the vicinity of rock outcrops occurring along these ravines. The precise coordinates for the identified fern locations were collected using a Garmin eTrex Global Positioning Satellite (GPS) unit and stored in a Microsoft Access database. This will allow for the future comparison of fern distributions with a variety of biologic, ecologic, and socioeconomic factors, using Geographic Information System (GIS) technology. It is my intention to continue building this database as additional areas are investigated in central Ohio.

II. FERNS

Ferns are an ancient group of plants that have been present on Earth for hundreds of millions of years. They were the dominant form of plant life during the age of the dinosaurs. Currently there are thought to be about 12,000 different species of "true" ferns (Taxonomic Division *Polypodiophyta*) worldwide. Most are located in the tropical and subtropical regions of the planet. In Ohio, we have approximately 78 native species of true ferns present in the flora, including recognized

hybrids (Cooperrider, Cusick, and Kartesz, 2001). Unfortunately, an up-to-date, comprehensive guide to Ohio ferns is not currently available. However, a volume titled *Ferns of Ohio* was published privately by Harry Vannorsdall in 1955. While obviously outdated, this book still provides a great deal of relevant information. Other resources exist that can aid in the identification of these species within our geographic area, including: *Ferns of Michigan* (Billington, 1952), *Ferns of Kentucky* (Cranfill, 1980), *Ferns of Tennessee* (Shaver, 1954), *Ferns of New Jersey* (Montgomery and Fairbrothers, 1992), *Ferns of Missouri* (Key, 1982), *Ferns of Illinois* (Mohlenbrock, 1999), and *The Flora of North America*, Vol. 22 (Morin, 1993). Another invaluable reference for this study was an unpublished manuscript by Richard Lowden, "Manual of the Vascular Plants of Franklin County" (Lowden, 1997). This work contains information on species recorded from central Ohio along with the dates and locations for all herbarium specimens collected for each. Although unavailable as an official publication, the draft copy has been used in the past as a textbook for the Local Flora class taught at the Ohio State University. I was able to obtain a copy of this manuscript from Dr. John Furlow of The Ohio State University Herbarium.

Several factors make ferns an excellent group for the Ohio amateur botanist to study. First of all, since there are relatively few species of ferns and most of them are fairly easy to identify, one can become familiar with the most commonly encountered species in a short period of time. Second, most of the native fern species are

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FROM THE CHAIR OF THE BOARD

Glen Echo Ravine Park teemed with activity in May 2004. Early in the month, over 25 Friends of the Ravines volunteers, Graham School students, and students from the Ohio State School for the Blind spent a half a day preparing the soil and installing a woodland perennial garden at the toe of the northern slope. The woodland perennials were purchased with a grant from the Nisource Environmental Challenge Fund. Susan Weber from Urban Wild Landscape and Design opened the session with a talk on native plant species. Visionary founder of Friends of the Ravines, Salle Cleveland, worked with the students all morning and provided valuable planting tips. When the bus arrived to take the students back to school, all plants had been watered and tools packed away, and empty pots sat ready for recycling.

A week later, a "shrub brigade" of twenty volunteers gathered in Glen Echo to move over \$6000 of native bushes to the southern slope. After the shrubs had been moved to the top of the hillside, an assembly line moved them into place on the recently restored tiers. Over the next few weeks, volunteers dug in plants, watered them, and mulched with materials provided by Columbus Recreation and Parks Department. Funding for native shrub plantings came from a grant from The Columbus Foundation.

As the school year ended, students from science classes at Medary Elementary School had a scavenger hunt, taking advantage of Glen Echo Park's natural resources, and students from Upper Arlington's Environmental Science Classes turned the park into an on-site laboratory and spent the day testing the water in Glen Echo Creek.

Thanks to funding from the United Way's Neighborhood Empowerment Grant, restoration work on the southern slope of Glen Echo can continue. Another grant awarded in the spring from the Ohio Environmental Education Fund makes it possible for Friends of the Ravines to publish and distribute throughout Franklin County the *Guide to Protecting Urban Ravines*.

Friends of the Ravines is making a difference. The activities in Glen Echo Park and the *Guide to Protecting Urban Ravines* are helping us fulfill our mission to educate the public about ravine areas and promote good ravine stewardship in Franklin County.

Martha Harter Buckalew, Chair, Board of Trustees



New Supporting Memberships:

(Memberships received since Spring 2004)

Peggy Barylak
Brian Gara
Toni Stahl
Betty J. White

Our Thanks:

Bottled water for Glen Echo Planting Sessions:
The Kroger Company
Plantings: *Paul Cover*
Prizes for Interpretive Signage Design Contest: *Donatos Pizza*, *Jeni's Fresh Ice Creams*
Art Sale Benefit: *Laura Sanders*

NEWS FROM THE RAVINES

GLEN ECHO RAVINE has a watchful resident who witnessed the dumping of construction materials in Glen Echo Stream. A Stormwater Surveillance Technician investigated, and Carson Fence Company has been fined \$250. The case has been sent to the Franklin County sheriff's office for possible criminal charges. If you see someone dumping into a waterway, call 645-STREAM and Nail-A-Dumper (614) 871-5322.

ADENA BROOK COMMUNITY reports that someone dumped concrete blocks on Overbrook Drive. There were no witnesses. ABC urges residents to keep their eyes open and report dumping as soon as possible. For dumping on land call Nail-A-Dumper's hotline given above. For dumping in waterways, call both 645-STREAM and Nail a Dumper. If possible, take photographs for evidence. If dumpers are caught, they can be fined and prosecuted, serve jail time, and do community service.

WALHALLA RAVINE ASSOCIATION is using email to coordinate responses to petty crime, and a community block watch is being formed through the Columbus Police Department. Although city sewer and stormwater reconstruction in Walhalla was completed in summer of 2004, erosion and flooding are still a problem, and cleaning of roads and stormwater pipes is a recurring maintenance need.

RUSH RUN NEIGHBORS are debating how best to protect the stream where it flows through private property. A group called Friends of Rush Run is forming under the auspices of Friends of the Lower Olentangy Watershed and plans to sponsor invasive plant removal and educational events. Please contact FLOW at 267-3386 if interested.

IUKA RAVINE HOMES were featured on a Columbus Landmarks tour on Sunday, October 11. The Iuka Ravine Historic District was placed on the National Register of Historic Places and the Columbus Register of Historic Places in 1986.



Ohio Environmental Education Fund Awards Grant for Publication of Ravine Guide

In April the OEEF awarded Friends of the Ravines a mini-grant to cover the cost of layout, illustrations, and publication of the *Guide to Protecting Urban Ravines*. This resource contains entries on maintaining urban ravine property, invasive plant identification, and the native plants recommended for Franklin County ravines. Artist Jacquelyn Davis from Columbus College of Art and Design prepared original line drawings for the guide. Copies will be distributed without charge throughout Franklin County during the fall and winter. Anyone wanting to receive a copy can email ravine-friends@aol.com or send a check for \$1.00 to Friends of the Ravines, PO Box 82021, Columbus, Ohio 43202.



THE LANDSCAPE OF RUSH CREEK VILLAGE

Late in August 2003, the National Park Service listed Rush Creek Village of Worthington on the National Register of Historic Places for its significance in

American architectural history. The designation recognized not only architecture of individual houses, but also elements of the landscape design that unite the community.

Rush Creek Village is an excellent example of a neighborhood designed for people of modest means, yet incorporating architectural standards not found in typical suburban post-war developments. Each house is individually designed for its owner, but all share a common palette of building materials, finishes, and colors and are constructed using standard building techniques. Careful geometric relationships among the houses are a key design element of the assemblage and constitute one of the district's unique attributes. The numerous ravines and streams, coupled with the irregular terrain, are contributing factors in siting the houses and designing the network of narrow, typically dead-end streets. The houses fit into the existing, natural landscape, with vistas carefully planned to maximize privacy and views of nature. The architectural interrelationships among the individual houses knit these separate elements, together with the terrain, into a

cohesive expression of organic architecture. [Preceding information is from nomination form submitted by Rush Creek Village Company to the National Park Service]

Although much has been written about the architecture of individual houses, less attention has been paid to the landscape of Rush Creek Village. First and foremost, it is a neighborhood created around the Rush Run ravine environment. A consistent design approach knits together separate residences and their lots via a shared landscape. Protection of the historic resource and restoration of the stream are beginning.

RAVINES INFLUENCE THE DESIGN OF RUSH CREEK VILLAGE

The historic designation applies to the 49 houses that were constructed mostly between 1954 and 1976, along with 39 acres of rolling ravine land. The ravine topography influenced the designs of individual houses, as well as layout of property lines and streets. Many houses are sited for bank views overlooking Rush Run and its tributaries.

When builders Richard and Martha Wakefield chose the site in the early 1950s, it had not been developed because of irregular topography. They realized that the proximity to the amenities of Worthington

THE HOUSES FIT INTO THE EXISTING, NATURAL LANDSCAPE, WITH VISTAS CAREFULLY PLANNED TO MAXIMIZE PRIVACY AND VIEWS OF NATURE.

would help recruit other homeowners. Having grown up near Clintonville ravines, they appreciated the exciting possibilities of wooded banks overlooking streams. They relied on Theodore van Fossen of Columbus as a designer who could adapt Frank Lloyd Wright's "organic architecture" to the community as it developed and capitalize on the visual drama of the topography.

These structures were designed for views from the inside out, many with impressive ravine vistas. This design approach differs markedly from contemporary developments designed for curb appeal. In fact, if you drive or stroll through Rush Creek from the road you will see mostly carports and hedges or plants that hide the houses. The carefully placed homes are unimpressive from the street, obscured more than flaunted. Rush Creek Village houses were designed around the streams and are most impressive when viewed from the streams rather than the street.

THEODORE VAN FOSSEN'S DESIGN APPROACH

Theodore van Fossen of Columbus was the designer of Rush Creek Village. He

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Rush Creek house viewed from stream.



Martha Wakefield's house with Kentucky Coffee trees.

Ferns, continued from page 1

present during virtually the entire growing season, so field trips need not be restricted to only a small portion of the year. In fact, some of the more notable species, such as Christmas fern (*Polystichum acrostichoides*), are evergreen and can be observed in Ohio during any month of the year. Also, most fern species have a narrow range of environmental conditions—such as moisture, temperature, and substrate—within which they can grow. Having a good understanding of the ecological factors for a given geographic area greatly increases one's chances of successfully predicting where species may occur. Finally, because ferns frequently inhabit specific niches, a slight alteration of environmental conditions can keep ferns from successfully growing in a particular location, making them excellent indicators of ecological disturbance.

III. GEOLOGY OF CENTRAL OHIO

Most of the bedrock in Franklin County originated roughly 400 million years ago during the Devonian period of the Paleozoic era, when a large, shallow sea covered Ohio. The rocks are sedimentary in nature, having been created by the gradual deposition of marine organisms that settled to the bottom and forming densely compacted layers over millions of years. The type of organisms living during a particular time period determines the type of sedimentary rock that is formed. In Franklin County, four distinctly different layers of bedrock of Devonian origin have been identified and described. From top to bottom (i.e., youngest to oldest), these are: Ohio Shale (~600 feet thick), Olentangy Shale (~25 ft thick), Delaware Limestone (~45 ft thick), and Columbus Limestone (~100 ft thick). Several excellent references describe the bedrock geology of central Ohio in detail (Carman, 1930; Coogan, 1996; Kovach and Baker, 1966; La Rocque and Marple, 1977; Stauffer, Hubbard, and Bownocker, 1911).

The Scioto and Olentangy rivers, running north/south, along with their major east/west tributaries, have eroded most of the glacial till, or "overburden," that was deposited during the most recent glacial event. In several areas along these drainage systems the waterways have cut deep into the bedrock material, leaving massive rock



cliffs running parallel to the water course. In the case of the Scioto River in western Franklin County, the bedrock exposures consist mainly of Columbus Limestone. The Olentangy River, located a few miles farther east, has rock outcrops composed primarily of the younger Ohio Shale. Several publicly accessible areas exist for viewing the Scioto River limestone exposures, including Hayden Run and Indian Run waterfalls (Photo 1). Some of the best locations for observing Ohio shale outcrops along the Olentangy River are Highbanks Metro Park, Camp Mary Orton (Photo 2), Overbrook Drive, and Glen Echo Park.

IV. FERN SURVEY

Considering the high development pressure that exists in and around Columbus and the fact that ferns are highly sensitive to slight environmental modifications, it is somewhat surprising that any areas that can harbor these delicate species still exist in central Ohio. Probably the difficulty and expense of altering steep, wooded ravines that have bedrock exposures have spared several of these locations from development. Since the summer of 2002, I have surveyed several ravines along both the Scioto and Olentangy rivers (Map 1) in the Columbus area and have created a fairly complete inventory of fern species present at these locations.

Coordinates for each fern location were collected using a Garmin eTrex Venture GPS unit, stored as waypoints, and later downloaded to a personal computer for further pro-

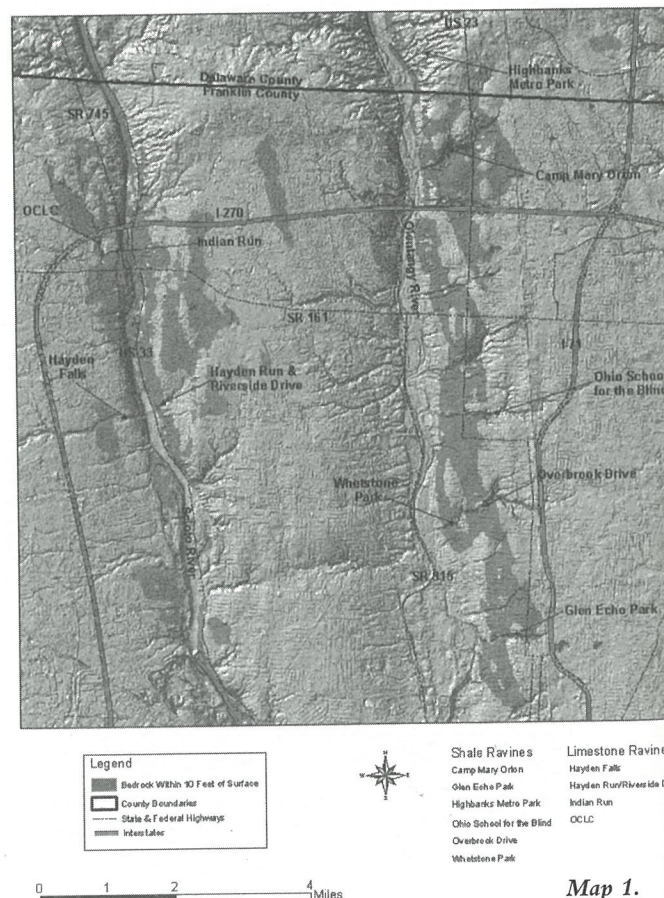


cessing. A Microsoft Access database was developed to record such information related to each fern record as scientific name, common name, date, latitude, longitude, and observer(s). The various ravines and the ferns present in each are briefly described below.

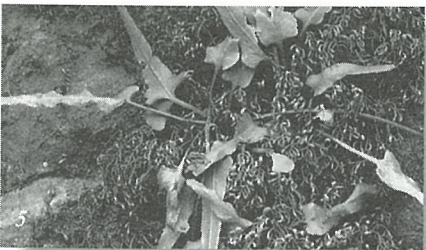
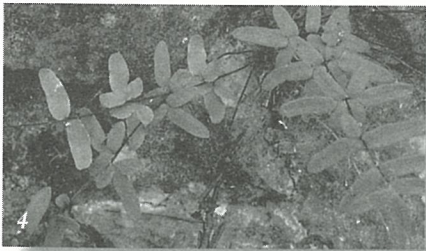
Limestone Ravines

Hayden Falls

One of the best-known ravines in the Columbus area is located on the south side of Hayden Run Boulevard, just west of where it



Map 1.



All photos by Brian D. Gara

as Shrub Honeysuckle (*Lonicera maackii*) and Garlic Mustard (*Alliaria petiolata*) seems to be significantly less than in other local ravine systems.

OCLC

This ravine is found along a small tributary draining into Indian Run from the north, just east of the main waterfall. It is under private ownership (OCLC of Dublin) and therefore has been separated as a distinct study area. It appears to be in roughly the same condition as Indian Run, although because it is a smaller stream, the area of exposed limestone is substantially less. A few individuals of Bulblet Bladder Fern were identified along with a single population of Smooth Cliffbrake growing on the limestone rock faces. I made only a single visit to this ravine, late in the fall of 2003, so it is likely that additional ferns could be located on future trips occurring closer to the heart of the growing season.

Hayden Run/Riverside Drive

This small ravine is hidden away behind a small commercial property on the northeast corner of the Hayden Run Boulevard and Riverside Drive intersection. Obviously stressed by nearby residential development, the area is heavily polluted, with every manner of trash having been washed down the stream during storms. Additionally, an enormous sewer line is suspended above the ravine. Even so, there are still a few reasonably intact areas of limestone cliff. I was pleasantly surprised to find several specimens of Bulblet Bladder Fern growing along these rocks. A few hundred feet from the road, a small waterfall still exists as well (Photo 6). With some protection from the physical erosion currently occurring along the slopes, along with reduction or elimination of the existing pollution stressors, this ravine could be restored and possibly developed into an excellent nature preserve situated in the heart of this highly developed area.

To be continued in next issue of *Ravinia*.



The Hayden Falls area is owned by the Columbus Division of Parks and Recreation, which is in the process of dedicating it as a nature preserve. Although the fern flora are somewhat denuded in its present condition, protection as a preserve, which will probably include the creation of a boardwalk and removal of invasive vegetation, should go a long way toward re-establishing areas where limestone-loving fern species can thrive.

Indian Run

Less accessible to the public than Hayden Falls, but equally spectacular and probably with greater overall biodiversity, is Indian Run Ravine, located in Dublin just north of the downtown area on the west side of Route 745. Owned by the City of Dublin, this ravine has much greater numbers of Bulblet Bladder Ferns (Photo 3) growing on the limestone cliffs than does Hayden Falls. In the vicinity of a large waterfall (approximately 2500 feet west of the confluence of this tributary with the Scioto River) there are two small populations of Smooth Cliffbrake (Photo 4). Walking Fern (*Asplenium rhizophyllum*) (Photo 5), which I have yet to find elsewhere in Central Ohio, is also present in a few areas of Indian Run. This fascinating species can propagate itself by forming roots at the tip of the long frond, allowing it to "walk" across moss-covered boulders.

Of the handful of limestone ravines surveyed in central Ohio for this study, I consider Indian Run to be in the best condition from an ecological standpoint. It is fairly well protected from excessive foot traffic, and the prevalence of such invasive species

crosses the Scioto River. Extensive limestone cliffs extend along both sides of this ravine for approximately 1000 feet, leading to the waterfalls themselves. In many areas, the vegetation growing on the cliffs has been damaged through physical erosion caused by hikers and rock climbers. In addition most of the natural vegetation has been removed at the tops of the cliffs, further altering the natural state of the ravine environment. Several native species of ferns are known to inhabit sheer limestone cliff faces; surprisingly, given the current levels of disturbance, two of them occur in the Hayden Falls ravine: Smooth Cliffbrake (*Pellaea glabella*) and Bulblet Bladder Fern (*Cystopteris bulbifera*). Both of these species grow directly on the exposed limestone rock. Smooth Cliffbrake, in particular, seems to occur in the most inhospitable conditions, high on the cliffs with little protection from the elements. Neither species is particularly common at this site, but in certain secluded portions of the south-facing cliffs, a few healthy populations of Smooth Cliffbrake can be found. Only a handful of Bulblet Bladder Ferns were located, all of them growing on the north-facing cliffs. One other species recorded at this location is the Ebony Spleenwort (*Asplenium platyneuron*) which, while generally common throughout Ohio, is present in very small numbers at this location.

Brian Gara Featured Speaker at March Community Forum

Brian Gara, author of "Ferns in the Ravines in Central Ohio," is the featured speaker at Friends of the Ravines' Community Forum scheduled at 7:30 on Thursday March 10, 2005, in Room 100 of the Northwood High Building located at 2231 N. High Street. The event is open to the public without charge.

Is the Black Walnut a Friend or Foe?

Is the black walnut, *Juglans nigra* an asset or a liability in your landscape? If you're a wood carver, a furniture maker, or a squirrel, it's an asset. If you're a flower or vegetable gardener, a grass mower, or a car-parker-under, it's definitely a liability.

The walnut is a handsome tree, with dark and fragrant wood, a simple and open woody structure, and beautiful compound leaves. The wood is fine-grained and beautiful dark brown with purple streaks, stronger than oak and very stable. It is prized by sculptors and boat builders and in the making of fine furniture and gun stocks. The "Brown Bess" rifles of the Revolutionary War had stocks of walnut. During World War I, airplane propellers were made of walnut. The nuts are rich in fats and protein and are an important food source for wildlife. They were a basic food of woodland Native Americans and early settlers alike. The nut hulls can be processed into dye for clothing, ink, and temporary skin coloring. The raiders of the Boston Tea Party dyed their hands and faces with walnut juice. The black walnut provides food, shade, building materials, and cosmetics. All are assets.

The down side of the black walnut is its toxicity to many other plants. The roots, buds, and nut hulls contain an enzyme called juglone. Plants do not have teeth, claws, or the ability to hiss and get fluffy, so they have to claim and defend territory chemically. This chemical warfare is called allelopathy. Walnuts render the soil under and around their canopies toxic. Cutting them doesn't do much good, since the material persists in the soil for up to 30 years.

Don't even think about a vegetable garden near a walnut. Forget about azaleas, rhododendrons, apples, honeysuckle, peonies, roses, and white pine. In fact, forget about most everything under the canopy. There are some plants that are resistant to juglone and will grow near (not under) a walnut. If you have a walnut and want to landscape around it, consult the accompanying article on plants that are resistant to juglone.

Meanwhile, back to Fun Facts:

Medicine! Because of its resemblance to the human brain, walnuts were, in medieval medicine, used to treat head wounds,

headaches, and mental illness. Hence the terms "nut," "nut-house," "nut-case," etc. In fact, walnuts are a good source of manganese, used today to treat schizophrenia. The oil of the green husks is also said to be good for skin and intestinal ailments.

Magic! Witches used to dance under walnut trees. It is the tree associated with love, healing, and fertility in ancient times, but also with birth control. Have you ever heard this saying? Carry as many roasted walnuts in your clothing as the years you wish to postpone childbearing. The walnut was important to many old pagan goddesses and was believed by early Christians to harbor devils, especially she-devils. It is a remedy to break the links to the past during times of transition.

This writer was unable to locate any relationship between the walnut, werewolves, and vampires. That falls to other plant species and will provide material for future articles. Until then, enjoy your trees. Look how beautiful they are at all times of the year. Hang a bird feeder and enjoy.



Plants Resistant to Black Walnut Toxicity

Landscape enthusiasts have always had difficulty growing various kinds of trees and other plants near black walnut trees. This is the result of juglone, a phytotoxin or natural herbicide, released from the roots, buds, and nut hulls of black walnut trees. Mature trees can affect vegetation to an average of 50 to 60 feet and as far as 85 feet from the trunk.

The effects of juglone can be most readily observed under the tree's canopy, with greatest intensity in the soil directly below its outermost branches. Because decaying roots continue to release juglone, the herbicide effect of juglone may linger for years after a tree is removed.

Fortunately there are some attractive landscape plants that are resistant to the effects of juglone and will grow near (though not necessarily under) a black

walnut tree. The following plants have been observed to grow near black walnut trees.

Trees: Japanese maple, Southern catalpa, Eastern redbud, Canadian hemlock, elm, hawthorn, hickory, black locust, paupaw, persimmon, sycamore

Fruit Trees: peach, nectarine, cherry, crabapple, plum, *Prunus* species, Pear *Pyrus* species

Vines and Shrubs: Clematis 'red Cardinal,' February Daphne, *Euonymus* species, weeping forsythia, rose of Sharon, Tartarian honeysuckle, Virginia creeper, pinxterbloom, junipers, *Rhododendron* Exbury hybrids, black raspberry, arborvitae, Korean spice viburnum and most other *Viburnum* species

Annuals: pot-marigold, Begonia, morning glory, pansy, Zinnia species

Ground Cover: *Pachysandra*

Herbaceous Perennials: bugleweed, hollyhock, American wood anemone, jack-in-the-pulpit, European wild ginger, *Astilbe* species, bellflower, *Chrysanthemum* species (some), glory-of-the-snow, spring beauty, *Crocus* species, Dutchman's-breeches, leopard's-bane, crested wood fern, Spanish bluebell, winter aconite, snowdrop, sweet woodruff, herb Robert, cranesbill, grasses (most) Jerusalem artichoke, common daylily, coral bells, orange hawkweed, plantain lily, hostas (some), common hyacinth, Virginia waterleaf, Siberian iris, balm, wild bergamot, grape hyacinth, sweet cicely, sundrops, sensitive fern, cinnamon fern, peony, summer phlox, mayapple, Jacob's ladder, great Solomon's-seal, polyanthus primrose, lungwort, bloodroot, Siberian squill, goldmoss, stoncrop, showy sedum, lamb's ears, spiderwort, nodding trillium, white wake-robin, Tulipa Darwin White Volcano' and 'Cum Laude,' Parrot 'Blue Parrot,' Greigii 'Toronto,' big merrybells, Canada violet, horned violet, woolly blue violet



Rush Creek Village, continued from page 3

relied on the following design principles, inspired by Frank Lloyd Wright:

- Houses individually designed for circumstances of original owner and the site
- Structures often exhibit repeating geometry: rectangle, circle, or triangle
- Houses not parallel to the street, offset usually 45°, sometimes 30, 60 or 90°
- Design of houses for views from the inside looking out; often sited, for example, to capitalize on views from the edge of a ravine
- Landscaping and design to preserve privacy: no grand visible entrances, off-set angles reduce houses' exposure, landscape plantings that obscure public viewing
- Houses emphasize the horizontal: low ranch or split-level, often with flat roofs; overhangs and cantilevers extending the horizontal roof plane; horizontal lines in siding and concrete block
- Siting of individual houses to create integral relationships among them
- Vistas created by sharing lawns, ravines, or views (Deed restrictions prohibit fences or boundary plantings that would obstruct these views.)

- Landscaping hedges laid out across rather than along property lines to create and reinforce the feeling of shared vistas
- East-west street system axis with short cross streets, dead-ends, and cul-de-sacs
- No sidewalks, streetlights, or curbs on streets (A swale parallel to the street collects stormwater that flows down to the stream.)
- Terraces, porches, decks, or pools, to unite inside and outside
- Use of standard materials interior and exterior: e.g. cinder block, brick, glass block, cypress/redwood/cedar
- Non-standard lot size and shape, based at least partly on natural topography, typically creating lots larger than one-half acre
- Carports, not garages, in original plans, often facing the street

Protecting the Landscape

Rush Run is degraded throughout its length, like other ravine streams in Columbus. It is threatened by development encroachments that do not respect the character of the area, as well as degradation of streams. There is little greenway corridor

left to protect flood zones, and in some areas a private lawn extends right down to the stream, with no trees to stabilize the bank. The stream has been diverted to accommodate building in the floodway. It has been straightened and channelized with concrete sides in some places and gabions (wire baskets filled with rocks) in others. Banks have been hardened with boulders. There are large pulses of runoff that make the stream flashy. In many places the stream is just a ditch to convey storm water. One positive sign is that the City of Worthington has agreed to naturalize a small area of Rush Run, replacing gabions with native vegetation and restoring some of the curving channel of the stream.

Residents of Rush Creek Village are trying to ensure that the community is recognized, respected, and protected. They have formed Friends of Rush Creek Village to educate and advocate for a healthy stream and provide information on and tours of the unique community. The non-profit group is associated with the Worthington Historical Society. For more information, contact forcv@earthlink.net For more information, contact Friends of the Lower Olentangy Watershed at flow@myexcel.org



YES! I WANT TO BE A SUPPORTING MEMBER OF FRIENDS OF THE RAVINES.

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Indicate any special instructions for listing of your name in the Roster of Supporting Members. _____

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☐ Friend: \$15 ☐ Sponsor: \$35 ☐ Sustainer: \$50
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Indicate Shirt size: ☐ M ☐ L ☐ XL *Anyone contributing \$100 or more will receive TWO T-Shirts!!*

I want to volunteer to help Friends of the Ravines carry out its mission to protect ravine areas and educate the public. I can help by:

☐ Distributing *Ravinia* ☐ Writing Articles for *Ravinia* ☐ Preparing Mailings
☐ Maintaining the Website ☐ Giving Computer Advice ☐ Helping with Ravine Clean-ups
☐ Planning Community Forums ☐ Removing Invasive Plants in Ravines ☐ Becoming an On-Call Volunteer

My special area of expertise is _____ My favorite ravine is _____

Friends of the Ravines, PO Box 82021, Columbus, Ohio 43202

Plant Walk on Adena Brook a Big Success

An unprecedented number turned out for the Plant Walk on Adena Brook on April 18, 2004. Among the species participants saw on the hour-long walk led by botanist Jim McCormac were: Virginia blue bells, yellow and white trout lilies, spring beauties, blood-root, mayapple, and trillium. For the past several years residents have removed tons of garlic mustard and bush honeysuckle from Adena Brook. The removal of these pernicious invasives has allowed native wildflowers to return and flourish.



There was a record turnout for the April Plant Walk led by ODNR botanist Jim McCormac.



Ravinia is the official publication of Friends of the Ravines.

CONTRIBUTORS

Martha Harter Buckalew
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Cyane Gresham
Louise Radonovich

Ravinia is funded in part through a conservation grant from The NiSource Environmental Challenge Fund. The mission of Friends of the Ravines is to foster the protection and restoration of ravine areas through community education and conservation.

Submissions and suggestions are welcome.

FRIENDS OF THE RAVINES BOARD OF TRUSTEES

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Andrea Gorzitzke
Cyane Gresham
Tom Logsdon
Sherrill Massey
Susann Moeller

SUPPORT PERSONNEL

Louis Buckalew, Membership Chair
John Husted, Restoration Technician and Spokesperson
Chris O'Leary, Glen Echo Project Director

Web site: friendsoftheravines.org
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Our Volunteers at Work

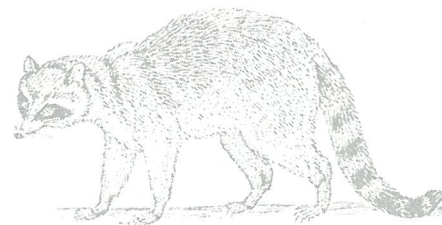
a) Susan Weber from Urban Wild Landscaping (far right) works with students installing a woodland perennial garden in Glen Echo Park.

b) Volunteers place native shrubs on Glen Echo Park's southern slope.

c) Environmental science students from Upper Arlington High School test water in Glen Echo Stream.



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United Way Awards FOR a Neighborhood Empowerment Grant

In spring 2004, United Way's Neighborhood Development Vision Council reviewed more than 30 applications. The volunteer panel was impressed with the quality and depth of project ideas, but it was able only to fund those that most closely matched the grant criteria.

Friends of the Ravines received an award of \$7,807 to continue the Glen Echo south slope restoration and coordinate neighborhood community forums with Columbus Recreation and Parks Department staff involved in the Glen Echo Stream Restoration.

