

Public Is Invited

Marietta Natural History Society

Fall 1999 Newsletter



Night Hike

Thursday, October 7, 7:00 PM

Meet at Hermann Fine Arts Center Parking Lot

Leader: Lynn Barnhart

Our last night hike was so popular we're doing it again! Lynn Barnhart, a local naturalist, will sharpen our senses to the sights and sounds of the night. A great experience for kids and adults. Wear walking shoes and dress for the weather.

The Accidental Tourist!

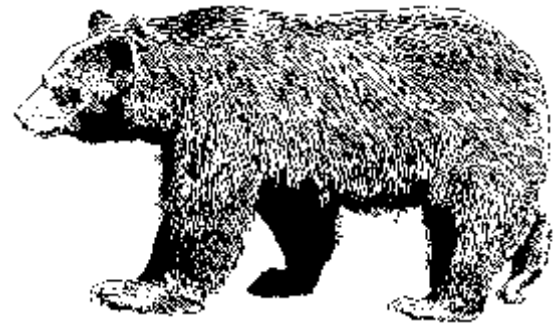
Thursday, November 11, 7:00 PM

Thomas Hall, Room 124

Marietta College

Presenter: Keith Morrow

Keith Morrow is the wildlife officer who sedated and helped remove our June visitor from Mound Cemetery. He will relate some of the bear's route to the center of town, and describe Ohio's bear management program.



Hemp: Fiber of the Future?

Thursday, December 2, 7:00 PM

Marietta College

Presenter: Don Wirtshafter

Hemp has been used as a fiber source for millennia, but its production is currently prohibited in the U. S. Donald Wirtshafter is president of the Ohio Hempery and will explain why *Cannibis* hemp may again become the fiber and food source of the future.



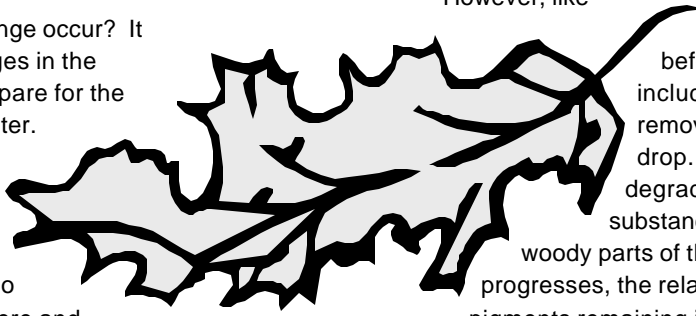
Why Leaves Change Color by Steven R. Spilatro

Of all the alien landscapes and visions imagined of other worlds by science fiction writers, possibly none approach the spectacle that occurs in this part of our own world each fall. Actually, the eastern U.S. is one of the few ecosystems on Earth dominated by the deciduous trees which undergo the transformation, an annual change of color not witnessed in the northern conifer forests, rainforests of the tropics, nor sparsely vegetated deserts. Marietta lies in the heart of one of the great natural wonders of the world!

But why does this color change occur? It is the result of chemical changes in the leaves as deciduous trees prepare for the long dormancy required by winter.

Leaves are the food factories of the plant. During the process known as photosynthesis, light energy is absorbed and used to convert CO₂ from the atmosphere and water from the soil into the organic foods that support the plants and the animals that feed upon them. The energy from light is harvested by clusters of pigment molecules. Chlorophyll is the most familiar pigment, and the one that imbues the predominant green color of leaves.

But other pigments are also present, necessary to maximize absorption of light at many different wavelengths. Usually, the color of these pigments is masked by the green of chlorophyll, but their presence is evidenced even during summer in plants with leaves in which other pigments predominate, such as the Crimson King Maple common on streets of Marietta.



Other pigments include the yellow, orange and red pigments called carotenes and anthocyanins. Sometimes these same pigments are stored in other parts of the plant, such as β -carotene in carrots.

With the shortening of the days and cooling of the weather, photosynthesis begins to slow. Temperatures will eventually decline to a range unsuitable for the photosynthetic process, and deciduous trees prepare to discard their soon-to-be useless leaves.

However, like a good environmentalist who carefully picks out recyclables before discarding trash, valuables, including pigment molecules, are removed from the leaves before they drop. The pigment molecules are degraded into smaller, unpigmented substances before they are exported to woody parts of the plant. As this process progresses, the relative amounts of the different pigments remaining in the leaves change and impart new colors to the leaves.

The colors observed in different leaves depend upon the types of pigments originally present and the relative rates at which they are removed. Residual chlorophyll combines with reddish anthocyanin pigments to create purples in dogwoods and sumacs. In some species, such as maples, the sequential loss of different pigments results in a hue that changes over time.

Weather affects color intensity. Temperature, light and water supply influence the duration and degree of color change. It will be interesting to see how the summer drought of 1999 affects the fall foliage colors.

Clematis Another Invasive Exotic Plant Species by Marilyn Ortt

I first recognized the persistence and vigor of autumn-flowering clematis when it had totally enveloped a fairly large dogwood tree on a lawn strip in Marietta about ten years ago.

The tree was a mass of white flowers in September - a most un-dogwood-like condition. It took well over an hour to cut out the clematis to free the tree. The following several years, I took action earlier in the growing season and kept the vine from engulfing the tree. I certainly do not claim to have won the battle - eternal vigilance is the word.

This species has certainly become much more widespread in the past few years occurring in disturbed soil on riverbanks, herbicided fencelines and railroad right-of-ways that also have been treated with herbicide. Like all invasive exotics, it is an opportunist. When so many trees were destroyed on the face of Harmar Hill by the June 1998 storm, autumn clematis moved right in with a riot of flowering by late fall. Better than nothing you say? THINK MULTIFLORA ROSE! It will be interesting to see how the clematis has fared with the hot, dry weather of the past growing season.

Native species are defined as those that grew in this country at the time of European settlement. Some settlers brought seeds or starts of dooryard favorites from the old country while many species just hitched a ride however they could. Numerous species are still dooryard favorites and require some patience and effort to grow. **see Clematis, page 7**

**Suggestions, Comments
or Contributions for the
MNHS Newsletter?**

Send them to the editor:

625 5th St

Marietta, OH 45750

374-8778

spilatr@s@marietta.edu

October 1999

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Oct 20 - 22 Orionid meteor shower visible between moonset and first light of dawn.					1 X	2
3	4	5	6	7 MNHS Meeting Great Egrets Are Gathering for Fall Migration	8	9 Δ
10	11	12	13	14	15	16
WildLife Refuge Week! Good Time To Visit Ohio R. Islands Refuge						
17 E	18	19	20	21	22	23
Any Monarch You See Is Headed For Mexico						
24 A	25	26	27	28	29	30
Don't Forget To Make Suet For Bird Feeders						
31 X Halloween	Sunday Oct 31— Daylight savings time ends; clocks "fall backward"					

Bird Feeder Watch Time Again

It's almost time again for the Winter Bird Feeder Watch. Here's a great activity for parents and kids. Participants record species and number of birds at their bird feeders every other weekend from November to mid March. You don't have to watch every weekend; all data collected can be used. If you want to participate, contact our feeder watch coordinator, Ava Bradley (373-5790) or Bird Watchers Digest (373-5285).



November 1999

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2 Election Day	3	4	5	6 🐦
Below 45 F Insects No Longer Make Sounds						
7 🐦 Δ	8 Squirrels Busy Collecting Food	9	10	11 MNHS Meeting	12	13
Good Time To Star Gaze						
14	15	16 E	17	18	19	20 🐦
On 17th and 18th Leonid Meteor Best in 33 years						
On 15th, Mercury In Front Of Sun Between 4:30 & Sunset						
21 🐦	22	23 A	24	25 Thanksgiving	26	27
Bare Trees Again Reveal Wildlife And Landforms						
28	29 X	30	Fruit of poison ivy provides food for many bird species through the winter.			

November 29-Dec 5 is deer hunting season. Maybe not the best time for a woodland walk!

December 1999

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Suet Provides Nutritive Boost For Birds	2	3	4 🐦
5 🐦	6	7 Δ	8	9 MNHS Meeting	10	11
10 Inches Of Snow Contains As Much Water As 1 Inch of Rain						
12	13 Geminid Meteor Shower Peaks	14	15 E A Cold Front Moves About Twice As Fast As A Warm Front	16	17	18 🐦
19 🐦	20	21	22 A Winter Solstice	23	24	25
Install A Nest Box						
26	27 Pasteur Born 1822	28	29 X Many Species Over-Winter In Marshes And Swamps	30	31 New Year's Eve	

Bird Silhouette Indicates Bird Feeder Watch Days 



Recycled Paper
50% Total Recovered Fiber
20% Post-Consumer

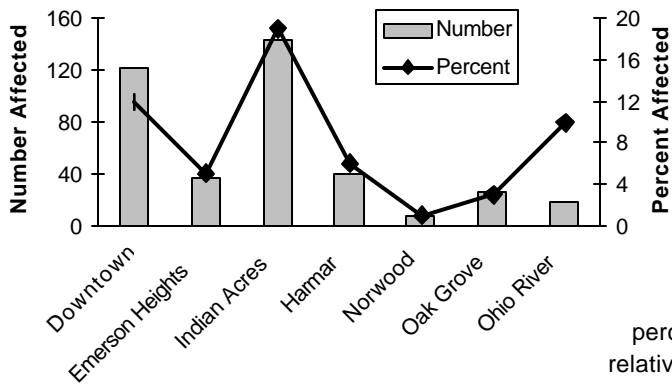


Tree Tragedy: The Impact of the June, 1998 Storm on Marietta City Trees

by Steven R. Spilatro

The storm of June 26, 1998 had lasting impacts on Marietta — on people, homes and trees. The most visible scars lie on the Harmar Hillside and in Sacra Via Park, where the loss of 27 trees (approx. 25%) will require many years to replace. The data presented below summarizes some of the impacts of the storm on Marietta’s city trees. The data was compiled by a survey of the entire city during the week following the storm and entered into the computer inventory. I estimate the numbers presented below to be accurate to within 10-15%. When the city was surveyed, tree damage was recorded as trees downed (83), trees damaged so severely that removal would be required (81), trees requiring significant pruning (157), or trees having only broken limbs (“hangers”) needing removal (73). In the figures presented below, all of these categories have been combined as the number of affected trees.

Number and Percent of Trees Affected in Different Management Zones

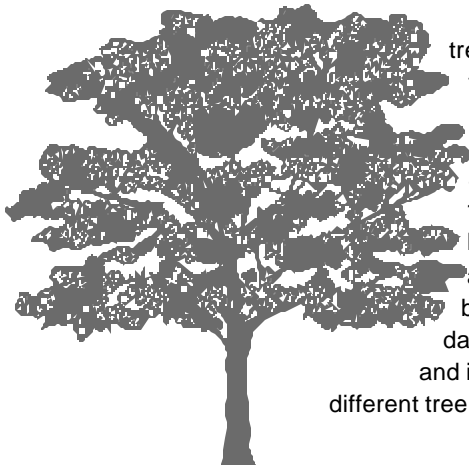


The Tree Commission has divided the city into several “management zones”. These zones are called: Downtown — S of Washington, W of 4th to M. River Indian Acres — N of Washington, W of 4th to M. River Oak Grove — S of Washington, E of 4th to 7th Emerson Heights — N of Washington E of 4th Norwood — E of 7th, N of Pike St. Ohio River — S of Green and Pike to Oh. River Harmar — W of Musk. River

The figure to the left shows the numbers and percent of trees affected in each zone. The greatest impact, in both number and percentage of trees , occurred in the Downtown and Indian Acres zones. The percentage of affected trees in Ohio River zone was relatively high. This may reflect damage to trees along the Ohio R., which possibly channeled some of the stronger gusts. Although the tops were sheared off most of the trees on the Harmar hillside north of the

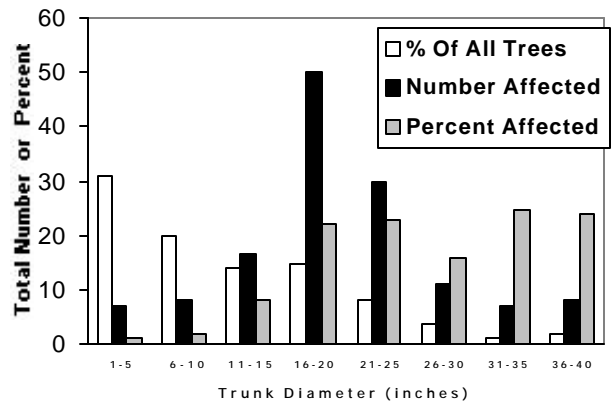
residential district, relatively little effect was felt within Harmar Village itself.

Since the downtown and Indian Acres zones was dealt the brunt of the force, it is interesting to see which types of trees were affected the most. The chart below shows effects relative to trunk diameter. The percentage of the total tree population in each size range (white bar), and the total number of trees in each size range that were affected (black bar) and the percentage of trees in each size range that were affected (shaded bar) are shown. Interestingly, smaller trees faired relatively well. Although trees with trunk diameter 10 inches or less comprise more than 50% of the total tree population, less than 5% were affected. This probably reflects the greater flexibility of trunks and limbs of smaller trees. Indeed, I was personally astounded to see the 3" diameter Franklin tree in front of my house bend at a 45° angle and survive.



In contrast, the impact on trees with diameters larger than 16 inches was proportionally greater. While most of the trees affected were in the 11-25 inch range, a relatively large percentage of the largest and oldest trees were affected. This is probably not of much surprise, since simply by virtue of having more limbs, larger trees are more likely to suffer some sort of damage. The relatively high impact on trees in the 16 to 20 inch range is intriguing, and is at least partially explained by the next chart, showing the impact of the storm on different tree species. **see Tragedy, page 5**

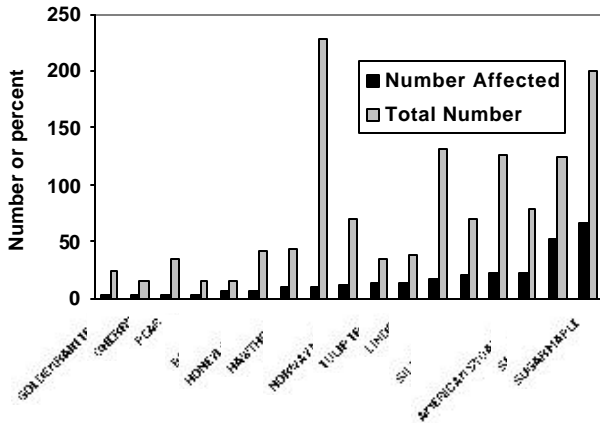
Relationship to Trunk Diameter



Tragedy, con't.

The chart below shows the impact of the storm on different species. Overall, over 40 species of trees were affected. The bar graph shows totals for the Indian Acres and Downtown zones for species where at least 3 trees of a given species were affected; the black bar shows the number of trees affected and the shaded bar shows the total number of each species in these two management zones. There is a rough relationship between these two parameters, with a couple notable exceptions.

Species Affected in IA and DO Zones



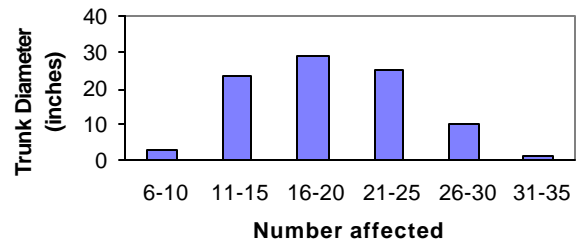
The most glaring anomaly are the oaks, which include mainly red, pin, and willow species. As a group, the oaks represent almost 10% of the total tree population, yet only a small percentage of these were affected by the storm. Similar disparities were observed for ash and red maples. These observations would seem to reconfirm knowledge of wood workers — the wood of these trees is prized for its strength.

Sugar maple and sweetgum trees are among the most common species in this area, and two of the most severely affected. Both were planted in large numbers in the early 1970s as replacements for the American elms lost to Dutch elm disease. Sweetgum has proven itself less than ideally suited as a street tree. Between a remarkable production of seed balls, girdling roots and brittle limbs, it has not been a favorite of residents. These weaknesses were displayed again during the storm; representing only 8% of the total tree population,

it comprised 18% of the total number of trees affected. The canopies of sugar maples and sweetgums tend to be denser than those of many other tree species, and this also may have made these tree more susceptible to wind damage.

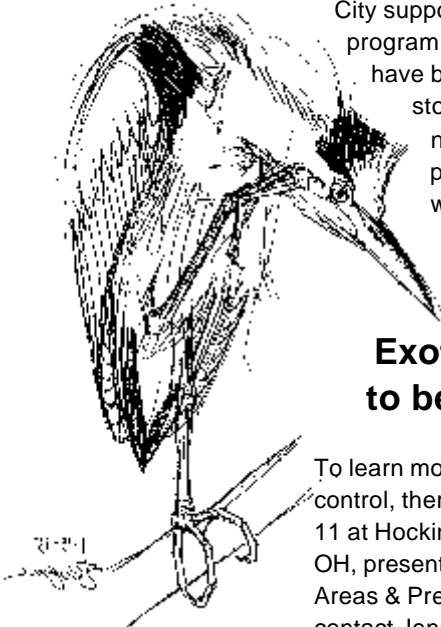
Among affected trees, the large number with trunk diameters in the 11 - 25 inch range also may be related to the impacts on sweetgums and sugar maples damaged by the storm. Taken together, these species represented 40% of all affected trees. As shown in the graph to the right, the size distribution approximates that seen in the Graph for all affected trees on page 4. Ultimately, in a storm with winds as strong as we experienced, the fate of any specific tree will depend ultimately on location. All trees hit by the strongest gusts suffered severe or terminal damage.

Among Sugar Maple and Sweetgum Trees



The impacts of the storm will reverberate for years as storm-damaged trees succumb to the added stress and disease susceptibility that may result.

Nevertheless, from the loss springs renewal. Fortunately, Marietta City supports an active tree planting program, and over 400 new trees will have been planted by 2000 since the storm. Species both familiar and new to Marietta are being planted; and soon Sacra Via Park will become the home of a new City arboretum.



Exotic Plant Workshop to be held in September

To learn more about exotics and their control, there will be a workshop on Sept. 11 at Hocking Hills State Park near Logan, OH, presented by ODNR— Dept of Natural Areas & Preserves. For more information, contact Jennifer Windus, 614/265-6468

National Wildlife Refuge Week October 10 - 16

National Wildlife Refuge Week is an event of significance to the Mid-Ohio Valley. We are fortunate to have the Ohio River Islands National Wildlife Refuge as a neighbor, three of which have been visited on MNHS field trips. The Friends of the ORINWR will be organizing this fall— why not be a part of the action? Call Marilyn Ort, 373-3372, if you are interested.

Special thanks to Julie Z!

The artwork on this page and page 8 are part of a treasure trove drawn by Julie Zickefoose and donated for use in the newsletter. Look for more in the future. Thanks, Julie!

Local Surveys Suggest Changing Beetle Habitats by Brad Bond

With retirement in 1990 I began an attempt to identify the insects of Washington County and learn something of their life history. I bought a set of magnifying lenses for a cheap camera and learned to sneak up on insects on flowers (because the combination made a colorful print) and photograph them without asking permission. When I couldn't identify the insect from a field guide I would take the photo to the Ohio State University insect collection and get help from the staff there.

Site	Number of Species				
	'95	'96	'97	'98	'99
Twp. 58		7	9	10	18
Co. 14	8	12	7	5	15
OEC	5	10	2	7	7

After a few years of this I discovered that June was prime time for a tribe of long-horned beetles (Lepturinae of the Family Cerambycidae) that met on certain flowers to feed and breed. The favorite meeting place is goatsbeard (*Aruncus dioicus*) in early June and wild hydrangea (*Hydrangea*

arborescens) in late June and early July. These are colorful beetles which can usually be identified on sight by pattern, size and shape. They are also a specialty of the extensive forests of unglaciated Ohio because they lay their eggs in dead wood and the larvae thrive on that until they emerge in the Spring of the following year. The end-of-June storm last year provided an abundance of dead wood, and the long-horned beetles have emerged in record numbers. In the last week in June I counted 690 beetles of 18 species on flowers of wild hydrangea in a half-mile stretch I had patrolled for four years. This count is compared with 1996-8 in the accompanying table.

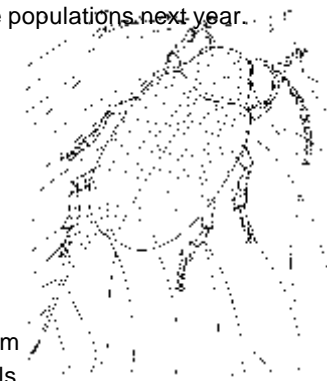
Two other sites are included. The outdoor education area (OEC) back of the Washington County Career Center also had a large number of trees blown down in last June's storm. Reas Run (Washington Co. 14 just before it intersects with Co. 9) is the third. A report on long-horned beetles from this stretch of road has just been accepted by the Entomological News for publication. The remarkable thing is that all those species feast and meet on the same flowers. You can sometimes see 4 or 5 species sharing the same

flower head. If you believe that the various species of a tribe evolve from some single predecessor species because they adapt to different habitats, what are the habitat differences for the Lepturinae? Perhaps the differences arose from where the eggs were laid and the larvae thrived. Many of the Lepturinae have been found to reach adulthood in dead wood.

Site	Number of Beetles				
	'95	'96	'97	'98	'99
Twp. 58		66	99	178	690
Co. 14	123	92	138	24	319
OEC	37	30	6	53	105

However, most do not specialize in a particular tree species. One possible explanation is that they specialize in the degree of wood decay or in the dimensions of the wood.

Whatever the explanation, it will be interesting to see what the emergence of the 17-year cicadas and the dead terminal leaf clusters created by their egg-laying do to long-horned beetle populations next year.



Franklinia Tree — A Stamp in Time by Marilyn Ortt

Franklinia alatamaha is the flower pictured on the postage stamp on this newsletter. John Bartram, the early American botanist described by Linnaeus as "the greatest natural botanist of his time", and his son William discovered it near the Altamaha River in Georgia in 1765.

John Bartram began his botanical travels in 1735 at the age of 36. In 1738 he traveled alone eleven hundred miles through Virginia and the Blue Ridge Mountains in five weeks because he could find no friend willing to accompany him. By 1755, his son John, also an accomplished botanist, joined him on his journeys. The father-son team discovered about 200 new species of plants in their botanical travels.

Bartram planted a start of the tree in his Philadelphia garden. The species has not been found in the wild since about 1790 and all the *Franklinia* trees today are descendants of the original from Bartram's garden. *Franklinia* was named for John Bartram's friend, Benjamin Franklin. The Marietta Tree Commission has planted several of these low-growing trees in Marietta as they have become available. Since *Franklinia* flowers in late summer, the fragrant 3-inch flowers with white petals and gold stamens may still be present when this newsletter is received.

1999 MNHS Membership

Mr. and Mrs. Norman Baker	Diane Mitchell
Lynn Barnhart	Jim & Gwen Noe
Luella Beale	Janet O'Brien
Brad & Bar Dee Bond	Marilyn & Kathy Ortt
Ava Bradley	Robert Scott Placier
Barbara Bradley	Roberta Reese
Chris Broyles	Russ & Anna Lou Reid
Caroline & Craig Butler	Herbert & Nancy Smith
Wes Clarke	Steve, Jane, Michael & Daniel Spilatro
Pat, Harriet, Leah & Daniel Collins	Tom Steckel
Diane Dudzinski	Richard Stoltenberg
Nancy Ezzard	Jay & Jo Ann Stowe
Roland and Margaret Fredericks	Barbara Tabor
Dan & Gillian Harrison	Marilyn Taylor
Dawn Inabnet	Elsa and Bill Thompson
Anne Jacoby	Bill Thompson & Julie Zickefoose
Elin and Arthur Jones	Ruth Thorniley
Jane King	Tanya Troutner-Jarrell
Jody Kohler & Jim Wright	Almuth Tschunko
Douglas & Ethel-Marie LeVasseur	Diane Vezza
Kurt Ludwig	Shirley Voelker
The Malcomb Family	Melanie & Lawrence Wagner
Dave McShaffrey & Ann Delleur	Anita Wall
Laurie Meagle	The Whistler Family
Jim and Marilyn Mills	



Clematis, cont. From pg 2

Others have become naturalized; that is, they reproduce and disperse on their own. So long as the resulting plants grow fairly sparsely, they generally are not a threat to native species or native plant communities.

However, it is estimated that about ten percent of the imports with no limiting parameters such as pathogens, climate or predators become aggressively invasive such as multiflora rose or Japanese honeysuckle. Often, an introduced species will seem fairly benign and then, because of some genetic leap, it is transformed into Attila the Hun so far as our natives are concerned.

The increased search for the unusual in garden plants and the ease with which plants can be transported from one region of the world to another makes it likely that many other plant equivalents of the Trojan horse are lurking in plant nurseries.

Our native wild clematis flowers in June and the fall condition is numerous clusters of feathery seeds. Autumn-flowering clematis is a superficially attractive native of eastern Asia. A description in a horticultural publication in 1991 included phrases such as "it's the blooming that endears this plant", "small flowers gather in great profusion", "dreamy fragrance", "this is one tolerant and determined vine" - uh oh! Sounds like a warning! The same reference even quotes an authority that said it "engulfs every structure in sight".

As recently as eight years ago, the havoc that invasive exotics can wreak on native species was not yet recognized. Such an attitude would be reprehensible today when every natural area program and conservation organization recognizes that the threat from exotic species is second only to outright habitat destruction as a cause of rarity of species and declining biological diversity.

Unfortunately, autumn clematis is still available in the market today. The wheels of designation as a noxious weed by the state move slowly. Meanwhile, beware of anything labeled *Clematis dioscoreifolia*, *Clematis paniculata* or *Clematis terniflora*. They are all the same wolf in sheep's clothing.



The Book Worm

Recent Acquisitions on Natural History at the Washington County Public Library

Bright, Chris. **Life Out of Bounds -- Bioinvasions in a Borderless World.** This publication of the World Watch Institute describes the effects of movement of exotic species into new ecosystems —a topic *a pro po* to our continuing series of articles on exotic species impacting Washington Co. The book describes effects on field, forest, and water ecosystems, and includes a number of descriptive tables and charts. New York, W.W. Norton & Company, 1998.

Keator, Glenn. **The Life of an Oak Tree: An Intimate Portrait.** This monograph is a tribute to the oaks of the world. Not a taxonomic guide, the book rather explores the botany, diversity and evolution of this group of trees. Descriptions of their ecological roles are particularly fascinating. The book is well illustrated with drawings and color photographs. Oakland, CA, Heyday Books & the California Oak Foundation, 1998.

Marietta City Bird Walks

... Will be starting again soon!

A great opportunity to see nature 'at work'
—right here in Marietta

Walks are held on Tuesdays, 7:30 to 8:30 AM

September 14 at Oak Grove Cemetery

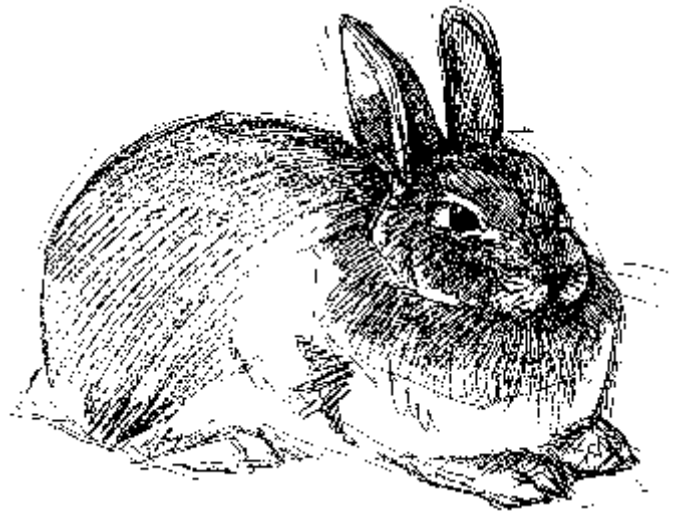
— meet at 8th & Wooster Sts. Should find some south-bound migrants.

September 28 at Buckeye Park

— meet at picnic parking area. This habitat is much different than Oak Grove; maybe surprises.

October 5 at Oak Grove Cemetery again.

— We'll be looking for winter residents
(No walk September 2!)



The MNHS Vision

- i To foster awareness of and sensitivity to our environment and its biodiversity
- i To provide a place where people with these interests can gather for information and activity
- i To create a presence in our community representing these ideas



Marietta Natural History Society
P.O. Box 1081
Marietta, Ohio 45750
(740) 373-5285