

# NATIVE PLANT SOCIETY OF NORTHEASTERN OHIO

Founding Chapter Of

## THE OHIO NATIVE PLANT SOCIETY

6 Louise Drive  
Chagrin Falls, Ohio 44022  
(216) 338-6622

*On the Fringe*

Volume 3

March/April, 1985

Number 2

### MARCH PROGRAMS AND EVENTS:

24th-(Sunday)-2:00 p.m.; Engineers Bldg. at 3100 Chester Ave. near E. 30th St. Dr. Jane Forsythe, Chairman of the Geology Dept. of Bowling Green State University, will talk to us on "How Ohio's Geological History Gave Us Our Plant Heritage". Jane is recognized as the leading authority in her field in Ohio. Knowing the geology of Ohio will help you find more rare plant communities because you will know where to look.

\*30th-(Saturday)-9:30 a.m.; Big Creek Park, Geauga County. Take old 44 N. out of Chardon to Woodin Road, turn right on Woodin to Robinson Road, turn left to Big Creek Park. Meet at Maple Grove Shelter. Nate Finck will lead us on an early spring foray to look for the first wildflowers, tree buds, and returning birds. Last year our group found a big-horned owl on it's nest. Don't forget your mud boots!

### APRIL PROGRAMS AND EVENTS:

13th-(Saturday)-9:30 a.m.; Rocky River Reservation. Meet at the Trailside Interpretive Center. From east of Cleveland, take 90 W. to 71 S. to 480 W. to Clague Road exit, turn left (south) to Mastick Road, turn right to Shepard Road, turn left to Valley Park Road, turn right to Trailside Museum. One of the park naturalists will lead us to some unusual spots in the Rocky River area to see the spring blooms that they have. The plants on the west side of Cleveland can be very different and are always about two weeks ahead of the east side display. Bring your hiking boots and film!

25th-(Thursday)-7:30 p.m.; Holden Arboretum. Allison Cusick, botanist with the Division of Natural Areas and Preserves, will talk on "Saving the Past; the Development of Ohio's Natural Areas Program". Allison is the author of many articles in prestigious botany publications, and considered one of the most talented and learned botanists in the state. He will show slides of many rare plants and their communities, and relate how the program to save these areas came to be.

\*Note change of Saturday date from your white 1985 program schedule.

EDITOR'S COMMENTS

A correction to our board members list from the January newsletter: Member-at-large is Donald Dean and Tom Yates is Special Projects.

The years that I've been in the Society I've seen marvelous support from our board members and a few others. We've grown well and this is the year to establish ourselves. Every member needs to evaluate how they can best aid the club to ensure our existence. We need volunteers who have expertise in fund-raising, writing, art, book reviews, places to go and typing. Oh, and don't forget our Wade Circle ravine project. We need weeders and planters. Our club is blessed with knowledgeable and talented members and we thank you for your support and participation.

Also, I'd like to give a special round of applause to Dr. Shya Chitaley and Dr. Norman Alldridge for their excellent programs in January and February. Shya is a petite dynamo that had us all captivated with her plant fossils. Norm puts an enthusiasm into the complex world of algae that I've never witnessed before. Many thanks to you both.

Dr. Donald Dean repeated his highly popular plant identification class and surpassed last year's success. We are blessed with the support of this kind and gentle person.

If you would like to support our club by advertising, or if you need a gift for that special plant lover...we still have T-shirts. They come in S-M-L-XL and are a 50/50 cotton blend for less shrinkage. At \$ 6.00 a piece they're the bargain of '85. Give your check to Laurel Giblock at the next meeting or send it to: 6 Louise Drive, Chagrin Falls, Ohio 44022. Note the size on the check. They'll be great for summer field trips!

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"GIVE A HELPING HAND"

It is vitally important that everyone support our wonderful institutions in Cleveland and the surrounding areas that help support us. The Holden Arboretum, The Cleveland Museum of Natural History, and The Garden Center of Greater Cleveland rely on memberships to keep financially solvent. They are all nationally recognized as the finest of their kind in the country and Cleveland would be a poorer city without them. We are all working towards the same goals, and it is important that our members support these institutions as much as possible. The benefits from membership in these organizations is great.

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OUR RENEWAL RATE this year has been tremendous. Over 100 people have renewed just since our last newsletter and that's not counting the new members from the same time period. Due to space, we are listing the new members only.

Mr. & Mrs. George L. Baker  
Mr. & Mrs. Alex Apanius  
Bill & Mary Baum  
Mr. & Mrs. Vic Soukup  
Howard Vormelker  
Gwen Woodcock  
Dorothy Elliot

Milford Adams  
Jim McDonald  
Dorothy Warriner  
Jim Schroeder  
Janet Owens  
Jean Loria  
Libby Hyde

OUR HEARTIEST WELCOME TO YOU ALL!

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SOME VERY IMPORTANT CORRECTIONS to our program flyer must be made. Nate Finck will lead us on March 30th NOT March 23rd. The follow-up field trip for Dr. Dean's plant identification class will be May 11th NOT May 15th. And finally, our composites field trip will be October 5th NOT October 6th. We apologize for the inconvenience. It was the holidays, we didn't use the care that we should have and it showed.

In addition, we must clarify. Those attending the Dean class decided we would combine the May field trips. After the class, numerous people said they would like both field trips. So.....

May 4th field trip to Hogback Ridge at 9:30 a.m. One of the naturalists will lead us through a very interesting area.

May 11th field trip. The follow-up field trip to Dr. Dean's plant identification class. We will meet at Penitentiary Glen at 9:30 a.m. We will remain in that area, though not necessarily in one spot.

#### PLACES TO GO

Good things always happen at once, and one of the benefits of the foray to Cincinnati in January was that we discovered the Cincinnati Nature Center, just east of Milford, which is east of Cincy. I am writing this to you now so that you can plan ahead for a trip that obviously will be an overnigher. The Center consists of 755 acres of woods, trails, lakes and fields. Keep in mind that this is an entirely unique environment representing the southwest portion of our state. In addition, they have a brand new interpretive building that is an architectural beauty. It takes advantage of every available inch for windows looking out on vistas and feeders that attract hundreds of birds. The Center has an excellent library where one can sit in front of a woodburning fireplace (one of several) and browse at their leisure. The nature shop has a wide selection of quality gifts, but even more important is that they have over 1400 book titles for sale covering every facet of nature study. For those of you who have had difficulty finding books on other states of the Union when planning a trip, here is where to go. They even cover all the continents!! Birds, flowers, geology, astronomy, trees, insects, butterflies, etc., etc. The Center offers an outstanding program each year, both of a local nature and in terms of trips around the country and out of it. The Center is open to visitors Monday thru Friday, but open only to members on the weekend and holidays so that members are not crowded. I highly recommend this wonderful place to visit. If you want directions to the Center, call me at 338-6622. (3)

# THE LEGACY OF OUR LANDSCAPE

by Guy L. Denny

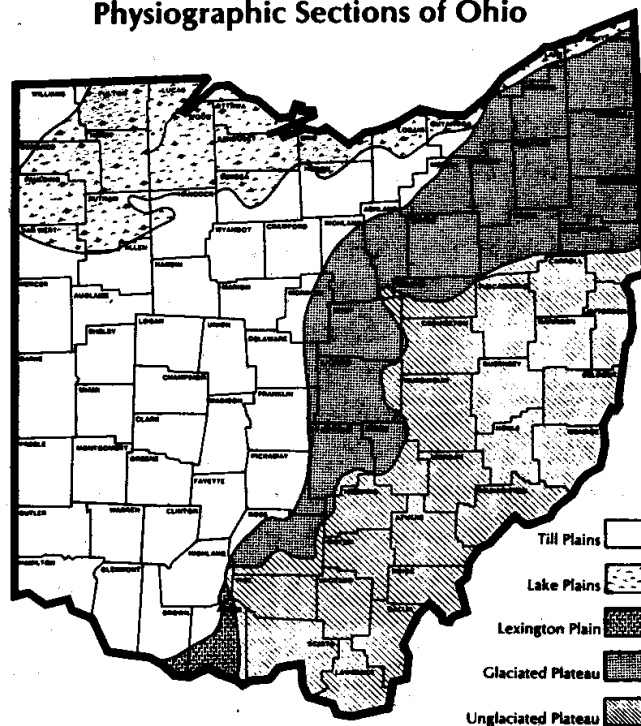
Our present day landscape is the result of past geologic events, as well as of the bedrock geology itself. Geology, in fact, is the basic foundation upon which all ecosystems are based. So, we must first study its geologic history if we are to understand the complexities of our landscape.

Accordingly, if we examine the western half of Ohio, we see that the exposed bedrock here is primarily limestone which is easily eroded. Consequently, millions and millions of years of erosion prior to the Ice Age had reduced western Ohio to a relatively flat plain which offered little or no resistance to the slowly advancing wall of ice. Unimpeded, glaciers were able to cover almost all of that part of the state, laying down a thick mantle of fertile glacial soils which today support rich forests composed primarily of American beech trees and sugar maples as well as of elm-ash swamp forests. On the other hand, the more erosion resistant sandstone hills of eastern Ohio stood high enough to prevent the ice front from pushing up and over them. Consequently, the hilly unglaciated portion of the state has only a relatively shallow covering of acidic, well-drained soils which, in turn, support forests of mixed oaks and hickories as well as mixed mesophytic forests. Although these are the basic dominant landscape types in Ohio, they are only the matrix in which we find a multitude of less extensive, yet very fascinating, features of Ohio's greatly diversified landscape.

An examination of the map depicting "The Natural Vegetation of Ohio at the Time of the Earliest Land Surveys" that was produced by the Ohio Biological Survey, shows that Ohio is a living tapestry of many different landscape types. Such rich diversity is primarily the result of a complex series of past geologic events, the evidence of which is still reflected in our present-day landscape.

Near the close of what geologists refer to as the Tertiary Period, about 10 million years ago, neither the Great Lakes nor the Ohio River had come into existence yet. However, there was a major river system in what was to become Ohio, called the Teays. The Teays flowed somewhat diagonally across the western half of Ohio in a northwesterly direction from present-day Portsmouth to St. Marys. Its headwaters were in the Appalachian Mountains of North Carolina and Virginia. From there, the Teays flowed north and then west until it eventually joined the pre-glacial Mississippi River in central Illinois. During the 20-30 million years or more

Physiographic Sections of Ohio



that this great river was in existence prior to the Pleistocene, it served as a major avenue for the migration and range expansion of Appalachian plants northward, much the same as the Mississippi River does today. Not only did seeds and pieces of roots float north where they then washed ashore and sprouted but, also, the river bank itself formed a continuous protective corridor along which southern species were able to slowly expand their ranges northward.

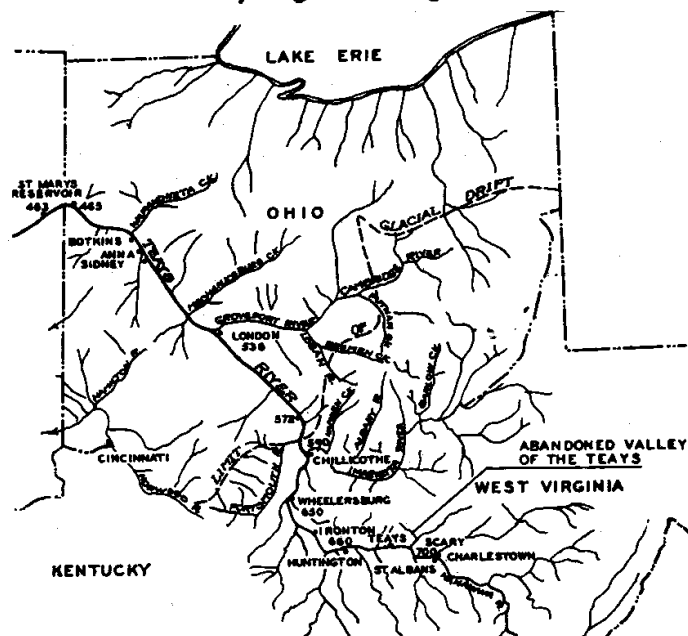
With the onset of the Ice Age, more than a million years ago, all vegetation within the glaciated portion of the state was eventually buried and destroyed beneath the ice. To the south, vegetation within the valleys of the Teays was also destroyed as a result of its being drowned as the advancing wall of ice blocked the north flow of the Teays causing extensive ponding of water in front of the glacier. Yet some of the Appalachian species survived and still occur even today adjacent to the old valleys as disjunct relicts of the Teays. A few of the more typical examples of Teays age relicts in the landscape of unglaciated Ohio include great rhododendron (Rhododendron maximum), flame azalea (Rhododendron calendulaceum), fringe tree (Chionanthus virginicus), bigleaf magnolia (Magnolia tripetala), and cliff-green (Pachystima canbyi).

Just as the Teays River introduced Appalachian Mountain vegetation to southwestern Ohio, so too the Teays Age Pittsburgh River, which had its headwaters in the Allegheny Mountains of Pennsylvania, influenced the present-day flora of northeastern Ohio. Here we find a number of Allegheny Mountain species such as White Pine (Pinus strobus), Hemlock (Tsuga Canadensis), pin cherry (Prunus Pennsylvanica), hobblebush (Viburnum alnifolium), and Carolina spring beauty (Claytonia caroliniana).

Even the great rhododendron population in unglaciated northern Jefferson County was probably introduced to Ohio by way of the ancient Pittsburgh River. Of course, the glaciers also overrode and destroyed this Allegheny vegetation throughout most of northeastern Ohio. However, as the Wisconsin glacier melted back the newly exposed landscape which emerged from beneath the ice apparently provided ideal habitat for many of these boreal mountain species to become reestablished in northeastern Ohio from sources east of the glacial border in Pennsylvania and West Virginia.

Although the continental glaciers destroyed most of the Teays River influence on our landscape, it introduced a new element of diversity--the boreal forest influence. The leading edge of the glacier moved slowly, only about 50 to perhaps 400 feet per year. This was slow enough to enable a wide band of boreal forest to precede it. As the climate warmed and the Wisconsin Glacier, the last in a series of major glaciers to invade Ohio, began its final retreat from Ohio, boreal vegetation growing along the mar-

Teays-age Drainage.



gin of the ice sheet colonized the newly exposed glacial soils and countless ponds and lakes left behind by the slowly melting wall of ice. Later, as the climate continued to grow warmer, and more southern deciduous forests began replacing the spruce-fir forests, many of these Canadian species were to survive in only a few special places such as bogs, fens and narrow, moist bedrock gorges where suitable environmental conditions occur. Even today, 13,000 years later, many of these boreal species persist as living relicts of the Ice Age.

There are two basic kinds of bog communities in our landscape: acid peat bogs which occur in sphagnum peat filled depressions, and fens which occur on spring-fed alkaline mineral soils. Typically, peat bog communities surround small glacial lakes with concentric zones of boreal vegetation from open water to bog forest. It is on the floating sphagnum mat zone next to the water where some of the most typical and fascinating bog plants occur, such as large cranberry (Vaccinium macrocarpon), pitcher-plant (Sarracenia purpurea), round-leaved sundew (Drosera rotundifolia), and tawny cotton-grass (Eriophorum virginicum).

The shrub zone occurs next with such species as leather-leaf (Chamaedaphne calyculata), huckleberry (Gaylussacia baccata), highbush blueberry (Vaccinium corymbosum), and black chokeberry (Pyrus melanocarpa). And finally, we encounter the bog forest zone at the outer margin of the bog. Typically, this zone is dominated by tamarack (Larix laricina) and red maple (Acer rubrum).

Unlike sphagnum peat bogs, fens support both boreal relicts of the Ice Age as well as a number of Atlantic Coastal Plain species. Fen communities probably originally flourished along the beaches of the extensive meltwater lakes adjacent to the glaciers. However, as the glacier continued to melt back, thus exposing new and lower outlets which caused these lakes to drain away, fen communities were relegated to those sites where cold artesian springs of highly alkaline groundwater saturated the soil, thus approximating conditions similar to the glacial lake shores. Fens are characterized by sparsely vegetated wet marl openings surrounded by a dense zone of low shrubs. Primarily shrubby cinquefoil (Potentilla

fruticosa) mixed with kneehigh sedges, rushes and grasses. Some of the typical boreal species present are Kalm's lobelia (Lobelia kalmii), Queen orchid (Cypripedium reginae), fen cotton grass (Eriophorum viridecarinatum) and hoary willow (Salix candida).

Some of the more typical Atlantic Coastal Plain species include twig-rush (Cladium mariscoides), false asphodel (Tofieldia glutinosa), spiked blazing star (Liatris spicata) and purple gerardia (Gerardia purpurea).

Although the only fen in which arbor vitae or Northern white cedar (Thuja occidentalis) occurs is Cedar Bog in Champaign County, it also occurs within a number of deep limestone gorges in the western half of the state. Other boreal species which have also been able to persist since the Ice Age in such narrow bedrock gorges throughout the state include Canada yew (Taxus canadensis), mountain maple (Acer spicatum), red-berried elder (Sambucus ubens), cherry birch (Betula lenta) and spikenard (Bralia racemosa).

As the Ice Age drew to a close about 14,000 years ago, tremendous volumes of meltwater were ponded between the receding glacier to the north and the extensive Fort Wayne end moraine to the south. Thus was born early Lake Chicago and in Ohio, early Lake Maumee, the first known stages of the modern Great Lakes. During the next several thousands of years, as the glacier shifted back and forth, lake levels in the Erie basin varied substantially. Consequently, at least 11 major levels can be identified, each with its own name and series of distinctive beaches. The first and highest of these levels was Lake Maumee I which stood over 225 feet above the present level of Lake Erie.

About 12,000 years ago, while the boreal forests were still a major feature of our landscape, most of that which is now northwestern Ohio was beneath the waters of Lake Warren, the 7th in this series of ancient predecessors to modern Lake Erie. Beach ridges produced during the Lake Warren stage are strikingly sandy. The sand had been washed into Lake Warren from its source in northern Michigan by way of the ancestral Detroit River. Then about 4500-3500 years ago, when the lake dropped to current levels, the extensive sand dunes and sandy beaches of Lake Warren were left high and dry, thus setting the stage for yet another element of diversity in our landscape. Today, where these sand deposits are thickest, subsurface drainage is excessive, consequently the acidic sandy soils are very arid. As a result, these sand dunes are capable of supporting only open stands of stunted oak trees which is why this area of northwestern Ohio is referred to as the "Oak Openings". Where the sand deposits are thinnest, the high water table, trapped by the underlying impervious lake clays, gives rise to swamp forests and wet sedge meadows.

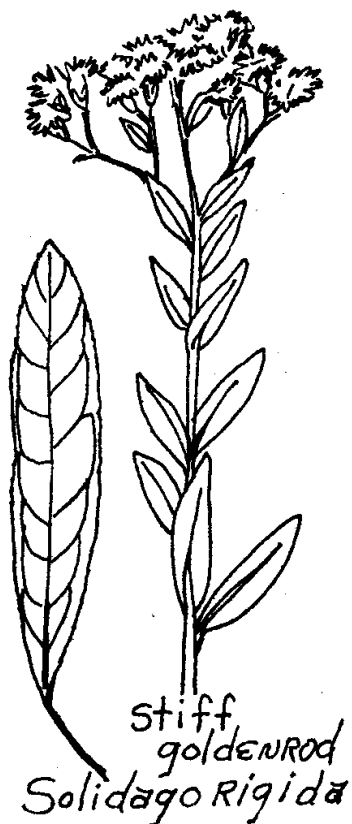


Because of these unusual conditions, the Oak Openings are characterized by an extraordinary group of rare plants, including prairie boreal and Atlantic Coastal Plain species. As a matter of fact, there are more species of rare and endangered plants occurring in the Oak Openings of northwestern Ohio than in any other single location in the state. Among these are such species as sweet-fern (Comptonia peregrina), Kalm's St. John's-wort (Hypericum), wild lupine (Lupinus perennis), colic root (Aletris farinosa) and even prickly pear cactus (Opuntia humifusa).

About 9500 years ago, thousands of years prior to the existence of the Oak Openings, during what is known as the Algonquin stage of the development of the Great Lakes, the weight of the Wisconsin Glacier had so depressed the earth's crust that the salty St. Lawrence Sea, an Atlantic embayment, encroached up to the Lake Ontario basin. Of course, once this dissipated, the earth's crust began to rise slowly. Eventually this crustal rebound forced the St. Lawrence Sea to recede to the Atlantic, thus creating the modern St. Lawrence River. However, while the sea extended into the Lake Ontario basin, another element of our diverse landscape came into being. For this continuous band of shoreline between the Atlantic and the Great Lakes provided access for Atlantic Coastal Plain species to extend their range eastward into the Great Lakes region. Once crustal rebound isolated the Great Lakes from the Atlantic Ocean, species such as beach grass (Ammophila breviligulata, sea-rocket (Cakile edentula), beach-pea (Lathyrus maritimus) and seaside spurge (Euphorbia polygonifolia) all remained as Atlantic Coastal Plain relicts throughout the Great Lakes basin and in Ohio along the sandy beaches of Lake Erie and from approximately Port Clinton, east.

West of Port Clinton, Lake Erie is so shallow that sandy beaches give way to extensive cattail marshes and wet prairies composed primarily of bluejoint grass (Calamagrostis canadensis). These great wetlands are, of course, another major feature of our landscape.

Pollen profiles taken from peat bogs in Ohio reveal that about 4000 to 6000 years ago an extended period of drought conditions prevailed throughout the Midwest. This warm, dry climate favored the expansion of drought resistant western tall grass prairie species eastward well into and across most of Ohio as the woodland species, less capable of withstanding drought conditions, died back. During this Xerothermic Period, as it was called, many prairie species such as the tall prairie grasses, prairie dock (Silphium terebinthinaceum), nodding wild onion (Allium cernuum), prairie loosestrife (Lysimachia quadriflora), and small fringed gentian (Gentiana procera) invaded and became a permanent part of many of our fen communities, especially in west central Ohio, along with the boreal and Atlantic Coastal Plain species which al-





ready occupied these fen sites.

Although cooler and moister weather eventually returned, thus enabling the deciduous forest to become reestablished, remnants of this prairie invasion managed to survive and remain today as a significant feature of our diversified landscape. During early settlement of our state, there were reported to be about 300 prairie openings in Ohio encompassing about 1000 square miles of prairies. In some counties, entire townships were covered by prairie vegetation. Although many of these sites have given way to modern agriculture, a number of small prairies remain even today. In glaciated Ohio, these prairies are dominated by the tall prairie grasses, big bluestem (Andropogon gerardi) and Indian grass (Sorghastrum nutans) along with a colorful variety of prairie wildflowers such as gray-headed coneflower (Ratibida pinnata), prairie dock (Silphium terebinthinaceum), purple coneflower (Echinacea purpurea), and stiff goldenrod (Solidago rigida). The short grass prairies in unglaciated southwestern

wild Lupine  
Lupinus  
PERENNIS



Ohio, especially in what is referred to as the Blue Grass Region of Adams County are primarily dominated by little bluestem (Andropogon scoparius) and side-oats grama grass (Boutelous curtipendula). These cedar glade prairies which occupy ancient, unglaciated calcareous soils, are distinctively different from their tall grass counterparts in glaciated Ohio. It is believed that they even pre-date Wisconsinan glaciation, a

position supported in part by some of the distinctive prairie wildflowers found here including false aloe (Agave virginica), spider milkweed (Asclepias viridis), bluehearts (Buchnera americana) and Texas sandwort (Arenaria stricta).

While it may be true that Ohio does not possess the visual grandeur of places like the Rocky Mountains or the Grand Canyon, we can boast of that which few other states can--a spectacular array of ecological diversity in our landscape--a rich, fascinating, living history to be savored, revered, protected, and, in turn, to be relinquished, intact, to those who follow. This then is our legacy, a splendid landscape which reflects the richness of our geologic past.

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What a nice introduction for our March program with Dr. Jane Forsythe. Thank you, Guy, very much. Guy is the Assistant Chief for the Division of Natural Areas & Preserves and a member of our Society.

## PRESIDENT'S COLUMN

For two years I believed that it would be a cold day before the Cincinnati Wild Flower Society would become a chapter of the Ohio Native Plant Society. Well, that cold day arrived on January 20th. Marian and I braved the elements and drove to a meeting in Cincy, only to arrive and find that on the appointed day the entire city was frozen solid at 24 degrees below zero, including all of our available transportation. We finally corraled a taxi and drove the remaining 25 miles from the center of Cincy to east of Milford and the Cincinnati Nature Center. The deep freeze disappeared at once in the face of the warmth of our reception and we quickly came to mutual understandings. At their February meeting, the Cincy group voted unanimously to become our southwest chapter!! This is a very old (I think 1917) and prestigious group. They worked in close association with E. Lucy Braun, among other notable botanists. They have done wonderful things in Edge of Appalachia and a whole new vista is opened up to the rest of the chapters in the state. We are highly honored and privileged to have them join us. I must give great credit to my daughter, Katherine, who engineered the whole thing, and to Marian for once again being the good and faithful supporter.

On our way home from Cincy we stopped at Otterbein College in Westerville, just outside of Columbus. There we met with a DANDY lady, Dr. Jean Willis, chairman of the Biology Department. She is brimming with enthusiasm, and along with Dr. George Finney, they got right down to the business of forming the Columbus chapter. They are ten minutes drive from the heart of Columbus and will be able to draw from all the surrounding area. In addition, the Columbus Metroparks have just received an estate quite close to them that is designated as a wildflower preserve, so they will have a built-in project.

The same week I received a telephone call from the Director of the Dayton Cox Arboretum and he has received permission from his Board of Directors to sponsor the Dayton chapter. He has a ready made core in a group of women volunteers called the "Shady Ladies" who have worked very diligently in creating an impressive prairie garden for the Arboretum.

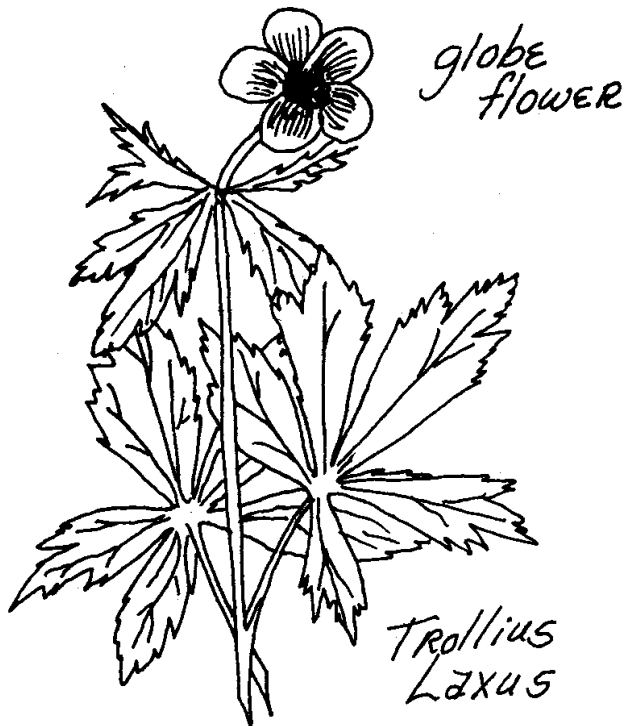
The Wilderness Center Chapter is actively meeting and we hope to promulgate their articles in the May newsletter.

All in all, we have taken into our Society a very talented, highly trained and extremely interesting new group of people. I am stunned to discover, as I make these journeys, the wealth of human resource within our state, all people who are just as interested and enthusiastic about native plants as we are. We've got something mighty BIG going, and I hope that with everyone's co-operation and support we can accomplish great things. We will be setting up the mechanism for having them share our newsletter, so all of you will know what programs, field trips, and projects are happening, as well as interesting new places to visit.

Ann Malmquist

# THE "MISSING PLANTS" OF NORTHEASTERN OHIO

by James F. Burns



In November 1984 the Division of Natural Areas and Preserves published Ohio Endangered and Threatened Plants: Abstracts of State-Listed Taxa. Analysis of the data generated for this book revealed some interesting conclusions. Most relevant to residents of northeastern Ohio is the conclusion that this region (bounded on W and S by Lorain, Ashland, Wayne, Stark, and Mahoning counties inclusive) has more than its share of "missing plants". This refers to Endangered and Threatened Plants with pre-1960 (historical) records without corresponding post-1960 (current) records. This 13-county area has 32% of the state's missing plants

and only 14% of its counties. In fact, of the ten Ohio counties with the highest number of missing plants, six are in northeastern Ohio. This high number of missing plants can be explained by three general factors. First, the presettlement territory that was to become northeastern Ohio had a high number of diverse habitats, many of which were unique in the state. Second, knowledge of the rare plants which grew in these habitats was gained by the many early plant collectors that lived in this area. Third, there has been a tremendous loss of rare plants from this part of the state due to general and specific habitat destruction.

Northeastern Ohio at the time of settlement was, like the rest of the state, mostly forested. Some of the forest types which occurred here, though, were unique in the state. The hemlock-white pine-hardwood forest and the hemlock-white pine-hardwood swamp both reached the southwestern limit of their range in this area. These communities harbored many peripheral species. Many rare plants, however, occurred in the scattered openings in the forest cover, such as bogs, fens, kettle-hole lakes, riverine habitats, Lake Erie beaches, ancient beach ridges, and sandstone cliffs and gorges. Some of these habitats were unique in the state or reached their best development in this region.

That we have some record of the plants that grew in these habitats is a tribute to many early plant collectors. A few were professional botanists, but most were amateurs. A partial list includes such names as H.C. Berdlee, R.J. Campbell, Mrs. T.W. Case, F.O. Grover, L.E. Hicks, L.S. Hopkins, A.N. Rood, L.D. Stair, E.W. Vickers, R.J. Webb, and W.C. Werner. The height of their collecting appears to have occurred from about the late 1800's through the 1930's. Many of these collectors had favorite areas of unique habitats that they visited repeatedly. The impact of many of these

collections on the knowledge of the Ohio flora was often delayed due to the common practice of keeping personal herbaria. Many of these collections were unavailable for study until after the collector's death. A case in point is the A.N. Rood herbarium, with collections from 1896 to 1955, which was acquired by Kent State University shortly after Rood's death in the late 1950's.

The massive alteration of the Ohio landscape which has occurred since the first European settlement has had a particularly devastating impact on northeastern Ohio. First through agriculture, then more importantly through industrialization and urbanization, natural habitats have been destroyed or severely disturbed to the point where they no longer harbor rare species. Some celebrated examples of destroyed habitats from which we have early plant collections include Pymatuning Swamp and West Ashtabula Beach in Ashtabula County, Camden Lake in Lorain County, Canton Bog in Stark County, Copley Swamp in Summit County, and Bloomfield Bog in Trumbull County.

The following is an annotated list of plants with historical records from two or more northeastern Ohio counties. In general it contains only those plants that could be identified by an amateur botanist with a good field guide. Some general information is given for each plant, but more detailed information can be found in Ohio Endangered and Threatened Vascular Plants. The first number after the status designation refers to the number of northeastern Ohio counties with current records, the second is the number of northeastern Ohio counties with historical records. Equisetum sylvaticum - Woodland Horsetail (T) (5/4). This horsetail occurs in a variety of wet semi-shaded habitats. It is distinguished by its elaborate branching. It can be recognized throughout the growing season.

Gymnocarpium dryopteris - Oak Fern (T) (2/4). This delicate fern occurs in mesic woods, especially with hemlock. It resembles a miniature bracken fern. It can be recognized from June through October.

Clintonia umbellulata - Speckled Woodlily (T) (3/4). This attractive wildflower occurs in mature mesic woods, often with hemlock. It can be distinguished from its close relative, C. borealis, by its white speckled flowers and black berries from mid May through July or August.

Corallorhiza trifida - Early Coral-root (E) (1/2). This pale inconspicuous coral-root occurs in damp coniferous woods, often in deep shade. It is easily overlooked. It should be sought from late April through early May.



Platanthera psychodes - Small Purple Fringed Orchid (T) (3/7). This attractive orchid occurs in swamp woods and alder thickets. It can be recognized in flower, from June through August.

Spiranthes lucida - Shining ladies'-tresses (T) (4/4). This plant occurs in wet, sometimes disturbed, calcareous soils: wet meadows, damp woods, and pastures. It is the earliest Ohio Spiranthes to flower and should be sought in May and June.

Triphora trianthophora - Three-birds-orchid (T) (0/8). This distinctive wildflower occurs in mature woods, especially beech-maple forests. It is seldom reported because its blooming period lasts only about three days and can occur from late July through August.

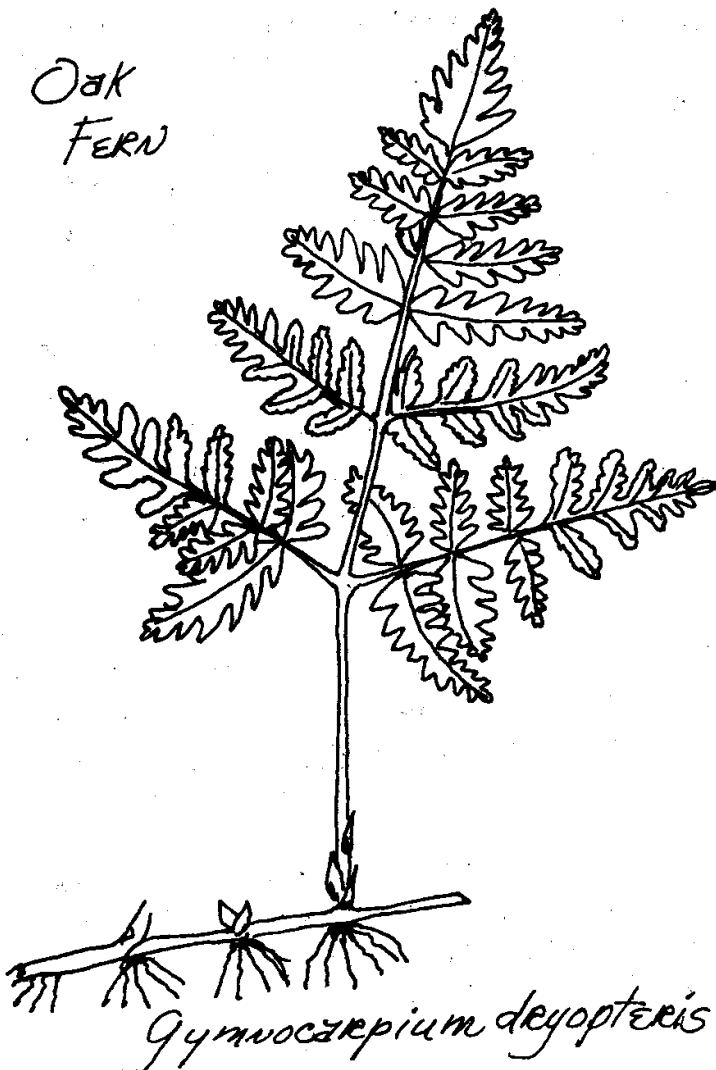
Comptonia peregrina - Sweet-fern (T) (1/4). This shrub with fragrant foliage occurs in dry, sterile, often sandy soils in openings. Its seeds can remain dormant but viable in the soil for up to 70 years. It should be sought in sandy soils, especially in recently-cleared areas. It is recognizable throughout the growing season.

Trollius laxus - Spreading Globe-flower (E) (2/2). This nationally-rare plant occurs in a variety of wet semi-open habitats: wet meadows, swamps, and alder thickets. It is easily overlooked due to its early flowering period, late April through early May. Both extant populations have been discovered within the last 7 years.

Adlumia fungosa - Mountain-fringe (T) (2/5). This biennial vine occurs in a variety of well-drained openings, often in acid soils. Second-year plants are distinctive and can be recognized throughout the growing season. Some known populations are adventive from cultivation and care should be taken to distinguish this type from native populations.

Corydalis sempervirens - Rock-harlequin (T) (2/6). This attractive wildflower occurs in well-drained openings, often on sandstone exposures. It is distinctive in flower, from late May through mid June. Due to the small size of most Ohio populations, collecting should be avoided. If absolutely necessary, only a portion of the plant with some flowers and fruits should be taken and the remainder left undisturbed.

Dalibarda repens - Robin-run-away (E) (1/2). This plant occurs in moist mossy woods, often with hem-



lock. It is fairly distinctive in flower, from June through September. Lathyrus ochroleucus - Yellow vetchling (T) (2/4). This plant occurs in dry upland woods, thickets, and rocky banks. It is the only native Lathyrus to produce yellowish-white flowers, from May through July.

Epilobium angustifolium - Fireweed (T) (2/9). This large striking wild-flower, aggressively invades a variety of man-made clearings and occasionally can be found in natural openings in dry sandy soil. It is easily recognizable in flower, from June through September. It should be sought in recently-disturbed areas.

Cornus canadensis - Bunchberry (T) (3/4). This plant occurs in moist acidic woods, often with hemlock and/or white pine. It is distinctive in flower or fruit, from May through October.

Chimaphila umbellata - Pipsissewa (T) (2/5). This low evergreen shrub occurs in sandy acid soils in dry woods or pine woods. It has solid green leaves, while its close relative, C. maculata, has green leaves striped with white. It can be recognized in flower or fruit, from July through September.

Pyrola secunda - One-sided wintergreen (E) (0/6). This plant, with its distinctive one-sided inflorescence, occurs in mossy woods and hemlock slopes. It is easily recognized in flower, from June through early August.

Melampyrum lineare - Cow-wheat (T) (4/3). This root-parasite occurs along riverbanks and in oak woods and their borders. Its smaller white flowers distinguish it from members of the related genus Agalinis. It is recognizable in flower, from June through August.

We would appreciate your help in relocating these and other missing plants. Keep an eye out for them on your next hike. Try different trails from those you usually take. See what's on the other side of the ridge, around the next bend. Don't neglect the disturbed areas because some of these plants thrive in them. Keep flowering and fruiting dates in mind. Sometimes it's only a matter of being at the right place at the right time. If you find any of these plants, report the localities to the Division of Natural Areas and Preserves or to someone who has a collecting permit from the Chief of the Division. It is illegal to collect Endangered or Threatened plants without such a permit or written permission from the landowner.

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Jim was born in northeastern Ohio and lived here until 1982 when he moved to Columbus. There he worked first for the Nature Conservancy and is now employed by the ODNR. Jim co-edited the Ohio Endangered and Threatened Vascular Plants. Thank you, Jim, for your superb article. This editor appreciates your voluntary donation.

Also, a reminder, you can still purchase a copy of the ODNR's 635-page book containing abstracts on 367 Ohio Endangered and Threatened Plants. Send a check payable to the ODNR for a total of \$ 18.08 and mail to: Publications Center, ODNR, Fountain Square, Columbus, Ohio 43224.

## BOOK REVIEW

Since so much of this month's newsletter is dedicated to the influence geology has had on our native plant life, it seemed appropriate to draw your attention to a new book on geology, one written for the layman. Published in 1983, "The Crust of Our Earth, An Armchair Traveler's Guide to the New Geology" is a world tour of the earth's crust beginning on the west coast of the U.S. and proceeding eastward around the globe. The explanation of plate tectonics is clear and concise. Once you have read the chapter on Yellowstone you will not take for granted the eruptions of Old Faithful, for it, as well as the Hawaiian Islands, are on the march westward and will someday occupy an entirely different spot on earth. Nor will you be able to forget, on your next trip to the Cape, that you are standing on land once attached to Africa. The author is Chet Raymo, the price \$12.95, and it is available at the Ark in the Park at the Museum of Natural History. An additional book that goes into more detail and depth is "The Evolution of North America" by Phillip King, published by Princeton University Press. I recommend both books for those who wish to know more of the answers to the unending question, "Why?"

The publication of the New York Museum of Natural History, "Natural History" has been running a series of articles by our speaker of last February, Harold Mohlenbrock. They feature a national forest each month, and isolate one area in the forest that harbors rare species of plants and animals. For those of you planning summer trips, there are good suggestions for places to go. The magazine is one of the best around for nature lovers.

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### CONSERVATION ALERT

Purple loosestrife (Lythrum salicaria) is an erect, perennial wetland herb that was probably introduced from northern Europe. It has become a serious threat to native emergent vegetation in shallow-water marshes. It is a prolific seed producer, and is spread in many ways. It even reproduces from cuttings that are left lying on the ground. Purple loosestrife is currently being sold by horticulturists for landscaping and by agriculturists for naturalization as a "wetland" honey plant. Once established it is very difficult to eradicate. If it can be gotten in the early stages of its growth, it can be pulled and the entire plant, roots and all, burned. But when it gets mature, or is in big masses, it becomes impossible. At this point, 2,4,D must be used with a hand sprayer, and that is not practicable for the average layman. Watch for this plant on your land and get rid of it at once when you find it.

The source for this alert was the U.S. Fish and Wildlife Service and Dr. Ronald L. Stuckey of Ohio State University Botany Department.

6 Louise Drive Chagrin Falls, Ohio 44022  
THE OHIO NATIVE PLANT SOCIETY  
Founding Chapter Of



# NATIVE PLANT SOCIETY OF NORTHEASTERN OHIO

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Founding Chapter of The Ohio Native Plant Society

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