

# Woodland Wildflowers

ANR-1071

A P R I M E R

## Introduction

Common Milkweed (*Asclepias syriaca*), Wild Blue Phlox (*Phlox divaricata*), Wild Rose (*Rosa palustris*). As you might have guessed, this publication is intended to introduce you to the topic of woodland wildflowers. It has been estimated that Alabama is home to nearly 3,000 species of native or naturalized flowering plants. The following topics will be discussed:

- Definitions for such words as wildflower, annual, biennial, perennial, naturalized, and exotic.
- Factors that determine where wildflowers are found, why interest in wildflowers has increased, and some of the pressures being placed on many species of wildflowers by human activities.
- A list of resources useful in wildflower identification and some suggestions for protecting, enhancing, and re-establishing wildflowers.
- Some problems and choices you may encounter when establishing woodland wildflowers in your home landscape.
- Sources of information for identification and cultivation.



## Terms And Definitions

### Terms

Wildflowers can be classified into three groups based on their life cycle.

**Annuals**—complete their entire life cycle in one growing season: a seed germinates, a plant is produced, the plant flowers, produces seed, and dies. Some annuals produce flowers and seeds early in the year, others grow all season and produce their flowers and seeds in the fall.

**Biennials**—require two growing seasons to complete their life cycle. In the first year, a plant is produced from seed. In the second year the plant flowers, produces seed, and dies.

**Perennials**—longer-lived plants. These plants originate from seed the first year, die back to the ground at the end of the growing season, and resprout each spring until plant death occurs. Many, but not all, perennials spend the spring storing energy in underground structures (tubers, corms, bulbs, and rhizomes) in preparation for “going dormant” during the shady summer and fall seasons. Regrowth the following spring occurs from the underground portions of the plant.

### Definitions Of Commonly Used Terms

**Exotic introduced plants**—plants able to survive in their new home only if cultivated by humans.

**Introduced plants**—brought, by humans, animals, or other means from other countries or regions into an area in which they were not previously present.

**Native**—commonly refers to plants which were present prior to the arrival of European settlers.

**Naturalized introduced plants**—plants able to grow and reproduce successfully without cultivation.

**Wildflower**—most often refers to herbaceous flowering plants which occur naturally (without benefit of cultivation).

## History—Native Or Naturalized

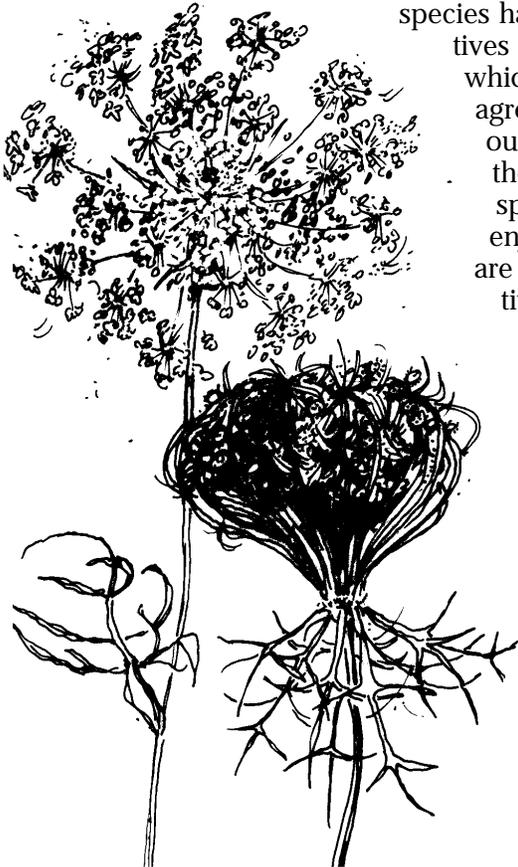
Wildflower enthusiasts often distinguish “native” wildflowers from “introduced” species. But many of the wildflowers we commonly see and assume to be native are, in fact, species that were introduced hundreds of years ago and which have become naturalized. The term “naturalized” means that these species have been able to grow and reproduce successfully in their adopted home without benefit of cultivation. In addition to the many wildflower species which have been here for a long time, there are many recently arrived naturalized species and there will, without a doubt, be more new arrivals in the future.

One problem with making the distinction between “native” and “naturalized” is related to the history of North America. European explorers first arrived in the “New World” more than 500 years ago. When the first settlers arrived they brought with them seeds (accidentally and intentionally) from the “Old World.” Many of the wildflowers that generations of North Americans have grown up with are species that were introduced and were able to establish themselves in their adopted land. Examples include narrow-leaved plantain (*Plantago lanceolata*), common buttercup (*Ranunculus acris*), several types of clover, Queen Anne’s lace (*Daucus carota*), yarrow (*Achillea millefolium*), and mullein (*Verbascum thapsus*).

As you can see, the issue of what makes one species a native, another an introduced species,

and the impact introduced species have had on natives is not one upon which all people will agree. What is obvious is that some of the wildflower species loved and enjoyed by people are no more “native” than most of the people who now live here.

We can enjoy them for their beauty, provided they do not fall into the category of nuisance plants.



Some people would say that all introduced species have, in some way, caused harm to natives. Other people worry only about those species causing obvious problems and presenting a very real and immediate threat to native species. It is virtually impossible to say with certainty how significant the damage caused by these long-ago introduced species might initially have been because there is very little data available from that time period. It is very likely that these long-established immigrants did push some or even many native wildflowers out of the way. We have been able to document the damage caused by several introduced species including kudzu (*Puerarialobata*), purple looses-trife (*Lythrum salicaria*), multiflora rose (*Rosa multiflora*), and Japanese honeysuckle (*Lonicera japonica*). Today, we spend a great deal of money trying to control these and other harmful introduced plant species without much hope. It is clear that these species are here to stay.

## Environmental Stresses

### Importance Of Wildflowers

Wildflowers are an important part of the environment for many reasons—not the least of which is the beauty they add to many of our favorite places. They are also important sources of food for many animals including butterflies, bees, wasps, and other insects, songbirds, wild turkey, quail, and mammals such as raccoons, mice, foxes, and deer.

Like many things that surround us, wildflowers are often taken for granted. These attractive plants have often received very little respect, attention, or study. Gradually, people in many parts of the country and from many walks of life have begun to notice that wildflowers are disappearing from many places. This observation helped to focus some attention on the plight of wildflowers.

### Disappearance Of Wildflowers

There are many reasons why wildflowers disappear from an area. Sometimes species disappear because the environmental conditions which are required by the species change as the surrounding vegetation changes—young forests become older, fires change soil and light conditions, a flood temporarily alters an area. This type of change has occurred throughout time and is either short-term, as in the case of a fire or flood, or longer-term as with the maturation of a forest. Either way, these types of changes allow for the regeneration of existing species or the arrival of different species more suited to the new environment.

There are other, more significant changes which are related to man's activities. These include development of urban areas, agricultural activities, timber harvesting, and large-scale collection of natural populations of wildflowers for retail sale. These activities can have a significant impact on wildflower populations on a local or even regional scale.

### **Urban Development**

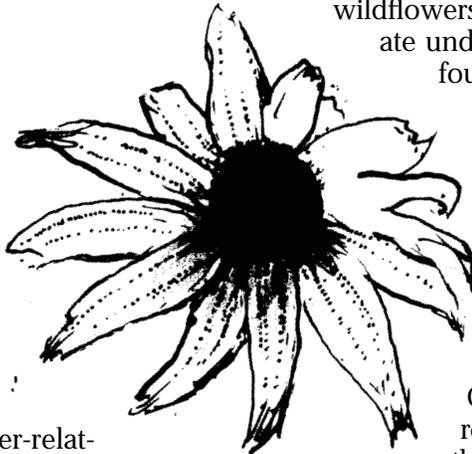
The United States Census estimates that the land area of the suburbs doubled between the 1970s and the 1990s. It further estimates that approximately 400 square miles of new suburban areas are added each year. Most of these new areas will be landscaped using traditional grasses, shrubs, and trees. The wildflowers which existed prior to development often disappear completely. There is some interest in the use of native plants for landscaping but, for many species of wildflowers, the environmental conditions present in landscaped areas are unfavorable for survival.

### **Agriculture And Timber Harvesting**

Agricultural activities which require large open areas for row crops or pastures probably have the same effect on woodland wildflowers as the establishment of suburban areas.

Timber harvesting also impacts the occurrence of wildflowers. Depending on the type and intensity of timber-related activities, some species may be able to reestablish themselves as the forest regenerates. Other species may be more sensitive to this type of disturbance and disappear from the area.

Establishment of pine plantations, especially as a replacement for hardwood or mixed hardwood stands, will result in changes in wildflower species composition due to the different conditions present in the regenerated forest. It is likely that the species which will recover most rapidly are those with small wind-blown seeds rather than those which regenerate primarily from belowground tubers, culms, bulbs, or rhizomes. These types of structures would most likely be damaged by the movement of heavy machinery. However, if timber is harvested in small clearcuts, there is the possibility for gradual regrowth from the surrounding undisturbed forests.



### **Retail Operations**

Another often unrecognized threat to wildflowers is the removal of large numbers of plants from the wild for sale in retail operations. As the interest in native plant landscaping has increased, the availability of some species of wildflowers has become a problem. Since many of these plants are difficult to propagate outside of their natural environment, collecting from the wild has been used to satisfy demand. This type of pressure can actually result in eradication of a species from a given area.

Plants which are particularly at risk from this type of damage are woodland wildflowers such as the trilliums, other members of the lily family, plants which produce few seed, and plants with very specialized environmental requirements such as orchids or bog species such as pitcher plants.

### **Locations Of Wildflowers**

The physical structure and life cycle of a plant affects where and when it will be found. Woodland wildflowers are able to grow, flower, and regenerate underneath trees. The types of wildflowers found in an area will be dependent on the type of forest occurring in that area.

In addition to life cycle and plant structure, environmental factors including such things as rainfall, nutrients, temperature, light levels, and soil pH affect where wildflowers are found. Many wildflowers have very specific environmental conditions which are necessary for successful growth.

Others have very specific environmental requirements which must be met before their seeds will germinate. Another group of wildflowers are more liberal in their requirements and can be found across a diverse range of conditions. Our knowledge of the conditions required for growth and regeneration of many wildflowers is extremely limited.

### **Coniferous Forests**

The trees in coniferous forests do not lose their leaves in the fall which means that the forest floor is shady year round. Many of the wildflowers growing in this type of environment have thick, leathery evergreen leaves. They bloom in response to temperature and moisture rather than in response to light. The evergreen leaves allow photosynthesis to begin early in the year and continue until the first hard frost. Partridgeberry (*Mitchellarepens*) is an example of this type of wildflower. The leathery texture of the leaves helps these plants to withstand dry periods. By allowing temperature and

moisture, rather than the availability of light, to dictate when flowering will occur, the plants maximize the chance for successful regeneration.

### ***Hardwood Forests***

Many wildflowers within deciduous or hardwood forests grow and bloom early in the year—usually before tree leaves have reappeared. Many of these wildflower species sprout, flower, and produce viable seed very rapidly. This early growth allows full sunlight to be captured by the leaves and adequate water to be taken up by the roots without having to compete with trees which are still dormant. The forest floor becomes shady when the trees leaf out, making photosynthesis by wildflowers more difficult. In addition, the soil is usually much drier because of the water taken up by the trees. These conditions make the presence of foliage a burden rather than a benefit for many wildflower species.

## **Wildflower Identification**

Many authors, experts in the area of plant taxonomy, have produced volumes which offer plant identification aids. I have included a suggested list of such references in the section entitled “References For Wildflower Identification.” If you are interested in acquiring copies of these or other publications, you might want to go to your local library before purchasing them. Examine those which are available in order to determine which ones appeal to you the most.

### ***Levels Of Identification Books***

Plant identification books are available at many different levels. Some of the books are geared to the layman—providing color photographs and brief written descriptions of flowers that might be found in a specific geographic area. Many of these books provide primers on plant anatomy and often present information in categories according to flower color. This type of organization minimizes the amount of searching required by the user.

Other reference books are geared to self-trained and professional botanists and consist of a key that allows the user to determine the genus of the plant in question. A “key” is a series of paired questions, each dealing with a specific plant characteristic. As you answer each pair of questions, you are referred to another pair of questions, more specific than the last. Eventually, you will reach a pair of questions which will result in identification of the genus. Once the genus (a grouping made up

of one or more closely related species) is identified, the botanist is referred to a second key which will then allow identification to the species level. These books usually have line drawings (no color photographs) of selected species, some level of information as to geographic distribution of the species, and a brief written description of each plant species included in the key.

If you plan to use the more technical plant keys, you will want to obtain a small, hand-held magnifying glass for close observation of plant parts. In addition, it will be essential to familiarize yourself with the vocabulary used to describe various plant parts. The vocabulary is extensive, but most plant identification books will have labeled diagrams of plant parts and definitions included. Plant identification using a scientific key is challenging, and successful identification of a species gives many people a real sense of satisfaction. I might mention that many plant experts are self-trained, so if you enjoy searching for and identifying wildflowers, don’t be intimidated by the reference books. Work at your own pace and enjoy your hobby.

## **Use Of Scientific Names**

While common names are often used for different plants across different locations, a scientific name is used for only one species. If you are like me, you have probably spent some time talking to another person about a plant using its common name only to discover that you were talking about one species and the other person was talking about another completely different species.

Use of scientific names prevents this problem—as long as the plant has been properly identified. As you can see, it is essential that the serious plant lover at least be aware of the scientific names of plants because of the unique nature of each and every scientific name.

Most plant identification books provide both the scientific and common name (or names) of species. Since scientific names are in Latin they can be intimidating—everyone worries about how to pronounce them. However, since Latin is no longer a spoken language (and hasn’t been used for verbal communication in centuries) you can relax. Your guess is probably as good as anyone else’s as to how a Latin word should sound! If you use the scientific name, pronunciation is definitely much less important than using the correct spelling.

## Enhancement Of Wildflowers

If you are a wildflower enthusiast, there are a number of things that you can do to help protect them. Many people are establishing wildflowers in their yards. Other people, who own forested areas, are either enhancing or protecting existing wildflower areas. If you own an area that has wildflowers in it, consider making protection and enhancement one of your management objectives, if it isn't already. Things to consider might include the use of prescribed fire to promote increased growth of wildflowers, removing special areas of wildflowers from timber management, and manual removal of thick woody undergrowth if it appears to be interfering with the success of your wildflower population.

Another option is the introduction of additional wildflower species into the area. If you are interested in wildflower cultivation use wildflowers that are native to your area. In addition, try to ensure that any plants you buy from retail suppliers were propagated and not collected from the wild so that in establishing your wildflower area you did not inadvertently cause the destruction of another area.

If you have wildflowers growing in one spot and you would like to add them to another location, wait until the seed crop has matured and gather your own seed for planting. The book *Growing and Propagating Wildflowers* by Harry R. Phillips and others, offers instructions for harvesting, cleaning, and storing wildflower seeds. The reference for this book is listed, along with other useful references, in the section "References For Wildflower Cultivation." Remember that many wildflower species have very specific environmental requirements. Try to match your choices with the environmental conditions present in your area. It is unrealistic to think that you can manipulate characteristics such as soil pH successfully without a great deal of effort and expense. Some plants do not respond well to high levels of some soil nutrients, others will only grow in nutrient-rich situations. Take a realistic look at your garden or forest and make wise choices based on what you can find out about the wildflowers you like. If you have access to an area which is about to be paved over and there are wildflowers there, try transplanting them into a suitable location. This should only be done if the area where they are growing is about to be destroyed. We should all use our love of wildflowers to protect them and not let that love actually result in damage to a valuable and beautiful natural resource.

## Sources Of Information

The National Wildflower Research Center in Austin, Texas, is a nonprofit organization dedicated to the preservation and re-establishment of native American wildflowers. Research conducted at this Center has indicated:

- If you purchase wildflower seeds, do not exceed the recommended seeding rate. Wildflower seeds are often quite expensive and overseeding will not result in a more dense stand of plants.
- Make sure the seed is in contact with the soil and be sure to keep the area well watered if rain is scarce.
- Fall seeding is recommended in the southern United States.
- It is better not to mow until all plants have seeded.

Lady Bird Johnson, a former First Lady, emphasized the natural beauty of our surroundings at the national level. She brought the issue of "beautification" to the forefront during her husband's term as President. Luckily for all of us, she had a great love of wildflowers and was instrumental in establishing the National Wildflower Research Center mentioned previously. You can receive information about this center by calling 512-292-4100.

Closer to home, Alabamians should be aware of the Alabama Wildflower Society that was formed in 1971. Local chapters exist in Tuscaloosa, Huntsville, Birmingham, Muscle Shoals, and Opelika. For more information write to: Alabama Wildflower Society, Route 2, Box 115, Northport, AL 35476.

Other resources in Alabama are the various botanical gardens including (but not limited to) the Birmingham Botanical Gardens, the Huntsville-Madison County Botanical Garden, the Mobile Botanical Gardens, the Nockalula Falls Botanical Gardens, the Auburn University Arboretum, the Troy State University Arboretum, and the University of Alabama Arboretum. These gardens offer the opportunity for relaxation and study in very pleasant surroundings.

Most other states have similar organizations that provide excellent opportunities for sharing information, expertise, enthusiasm, and, sometimes, plant materials.

I hope you find the information in this publication useful. The references provided within this publication should allow you to learn more about this interesting topic. If you have additional questions or comments about plants, you can contact Alabama Cooperative Extension System specialists at Auburn University, Alabama A&M University, or Tuskegee University.

## References For Wildflower Identification

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