

# WILDFLOWER COLLECTION INSTRUCTIONS

## Object:

1. To collect a minimum of 10 different wildflowers.
2. To press, mount, and display the wildflowers, numbering them from 1 to ...
3. To identify the wildflowers.
4. To 'verify' the collection with the date and place the plants were collected.

## Directions:

1. First you need to collect the plants/wildflowers. It is helpful to have as much of the plant collected as possible, because that may help in the identification of the plant. Be sure you have at least the flower and several leaves. The leaf shape and how the leaves are attached to the plant are important, so the more of the plant you have the easier it is to ID later on.

Now is a good time to write down the date and place (see number 5 below). An excellent place to put them is directly onto the newspaper.

It might also be wise to write down some other information at the time the flower is collected: the number of petals, the plant type and/or arrangement of the leaves on the plant, and the leaf type. (See page 5) This information may be helpful when IDing the plant.

2. Second, the plant needs to be arranged, pressed, and dried. Arrange the plant between 2 sheets of newspaper, put that between 2 pieces of cardboard, press it down, and let it dry. (see pages 3 & 4)

\*\*\* steps 1 and 2 should be done right away, steps 3 - 5 can be done at a later date \*\*\*

3. Identify the plant. Many different books are available to ID the plants. The name should be written in 'common' and 'scientific' form (most books include both, or you can cross-reference between books).

[example: Common Dandelion, *Taraxacum officinale* ]

4. Mount the plants. Most students use photo-albums, but there are many different ways to mount the plants. The plants should be numbered from 1 to 10 (or however many you have).

5. Include the verification information. The date (month, day, year) the plant was collected should be included, also the place (place, county, state) at which it was collected. [label includes number, name, date, place]

# Wildflower Collection Scoresheet

Name \_\_\_\_\_

Each area below is graded, and points are given. The total points determines the grade.

10-19	20-29	30-44	45-59	60+
D	C	B	A	A+

## I. Neatness of mounting, display, and numbering

The mounting is how the plant is attached; the display is how the plants are arranged and shown together; the plants should be individually numbered.

1	4	8	12	15
not mounted	poorly mounted and displayed OR not numbered	mounted OK displayed OK and numbered	mounted neatly and displayed and numbered	very neatly mounted typed and numbered

## II. Correct Identification

Plants should be identified by both scientific name (*genus species* as found in Newcomb's Wildflower Book) and by common name (the 'English' name, also in Newcomb's).

1 point for each correct scientific name and each correct common name. [Numbers below refer to the number of the plant in the collection.]

O means correct	X means wrong	? means ?	[] means duplicate
common	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		
<i>scientific</i>	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		

## III. Correct verification

The date and place the plant was collected should be included on the label along with the name and number of the plant.

1	4	8	12	15
labels with some info	0-9 labeled with generic date <u>or</u> place	all 10 labeled with generic date <u>or</u> place	all 10 labeled with general date and place	all 10 labeled with mo, day, year and place, county, state

# COLLECTION AND PREPARATION OF PLANT SPECIMENS

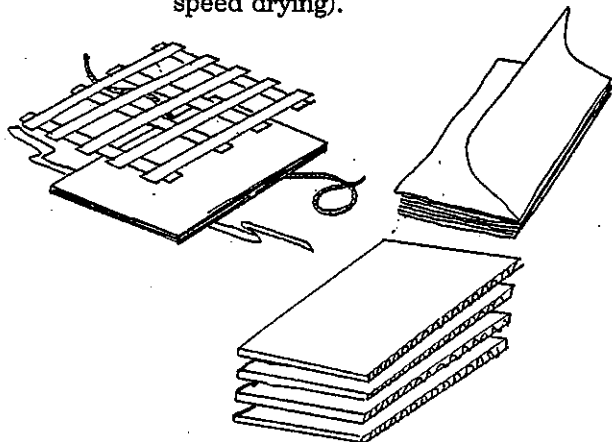
## EQUIPMENT

The following list includes most of the items which plant collectors find useful. None of them are absolutely essential, but most of them are quite helpful.

Plant Press - A series of newspapers and pieces of corrugated cardboard between two pieces of masonite, or similar material, all bound together with two straps or ropes.

If the press is made 12"x18", then single pages of newspaper folded in half are perfect in size. If the press is 9"x-12", it is just the right size for a photo album.

The cardboard should be cut so that all the corrugates run the same direction (so air can be forced through to speed drying).



Vasculum - A container to put collected plants into until they are pressed. Plastic bags with a little water in them work well.

Notebook - To keep field data and other information.

Digging tool, Clippers, Gloves, etc. - Helpful for the actual collecting of the plants.

A Wildflower Fieldguide - To identify the plants even before you collect them while they are still nice and fresh.

## PROCEDURES IN THE FIELD

The main purpose is to preserve the specimen as much like the living plant as possible. It is nice to try to collect the whole plant (roots, entire stem, leaves, and flower) if possible. Large plants may be folded into a 'V' or 'W' shape before being pressed. Plants that are bulky, like a cactus, and plants that are too large may be sliced thinner or cut to a better size if necessary.

Aquatic plants may be 'floated' out of the water by putting waxed paper under then in the water, and lifting the paper out very carefully.

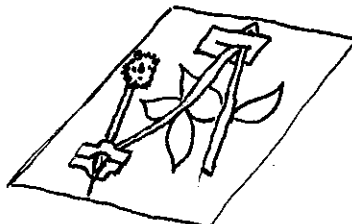
Plants may be put into a vasculum (plastic bag) during the collecting time, or may be put directly into a press. Plants should be pressed as soon as possible to best keep their color and shape. Since heat causes the plants to wilt, keeping them cool is advisable.

Field data should be written down before it is forgotten. The date (day, month, and year), place (as specific as possible - include county and state), notes (the flower color, size of plant, abundance of plants, habitat, etc.), and name of plant (if known) may be written in a notebook, or if the plants are pressed now, it may be written onto the newspaper the plant is pressed in.

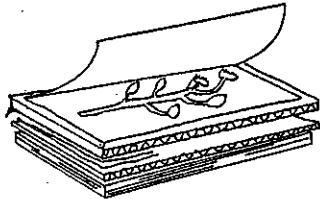
## PRESSING AND DRYING

After returning from the field, the specimens should be pressed as soon as possible. They may be kept in plastic bags in a refrigerator, but they usually lose some quality.

Final arrangement, cleaning, trimming, and folding now occur. The flower should be easily visible, and large plants may need to be folded in order to fit the press. Pieces of paper with a slit in them can be slipped over the 'elbow' of folded plants in order to keep the shape. Place the plant between sheets of newspaper (or in-between folds) and arrange it, turning leaves and flowers as necessary.



Then place the newspaper and plant between pieces of corrugated cardboard. These 'sandwiches' are layered up and tied closed with straps or ropes. It may help to have plywood or masonite boards on the top and bottom, and the more pressure you can apply the flatter the specimens get.



The plants then need to be dried. Setting the press into the sun works, so does blowing air through the corrugates (using a fan, or forced warm dry air). Putting the press on top of the car and driving (especially in the desert) sometimes works.

Plants dry in different amounts of time, but will become stiff and look and feel dry in 8-48 hours usually.

Plants may be kept in the press indefinitely, or at least until you mount them.

### IDENTIFICATION

Plants can be identified most easily if all the flower parts, the leaves, and the stem are easily visible. Whether that is when they're collected, when they're pressed, or after they're dried depends on the care taken at the time.

Many kinds of plant ID books may be used, but I recommend Newcomb's Wildflower Guide.

### LABELS

After identification is completed, a label should be made. There is no standard form for the labels, but the name, place, and date should be included. Labels may be slipped into the newspaper in the press if the plant isn't mounted yet, or put with the mounted plant.

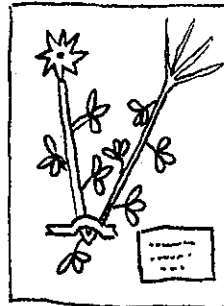
### MOUNTING SPECIMENS

There is no one correct way to mount your plants. The easiest may be to use a photo-album, and put the plant and label on pages under plastic. Plants may also be mounted on individual pieces of paper using the traditional 'glassplate' method.

(The 'glassplate' method involves placing the dried plant onto a sheet of glass which has been covered with glue, then lifting off the plant and placing it onto the paper.)

The label should also be put with the plant, usually in the lower right had corner.

Large, or heavy, plants may need a piece of paper glued across them to hold them in place (tape often discolors).



### THE HERBARIUM

The completed plants must be stored so that they are not damaged by moisture, dirt, or insects. Moth balls (or similar items) will deter insects, and a box or other container, will work well as an herbarium.

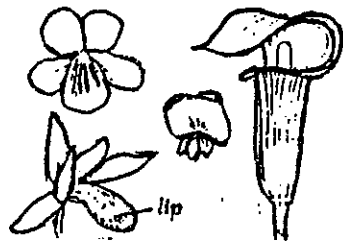
# IDENTIFYING WILDFLOWERS

I prefer to use Newcomb's Wildflower Guide, and there are several available in the library for students to use. Newcomb's guide uses a more 'scientific' method to identify the plants. It uses the "structure" of the plant (number of petals, arrangement of leaves, shape of leaves) to help you ID the flower.

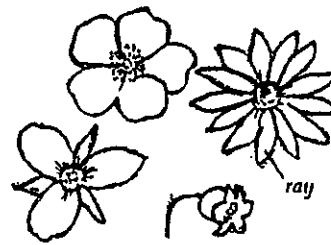
Many other books are available, and each uses its own technique.

There is no shame in asking for help!

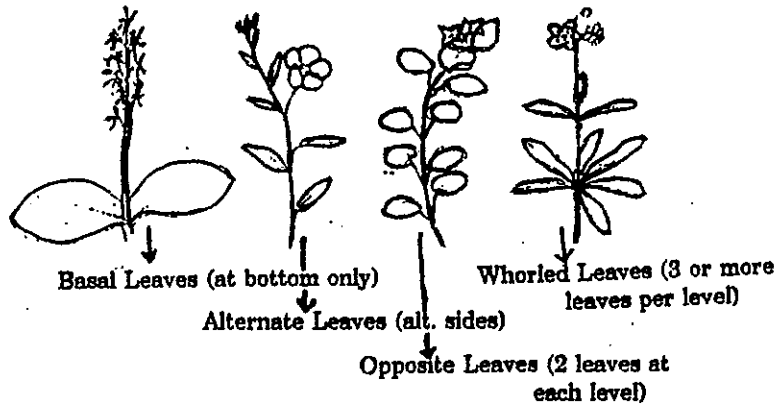
The following diagrams are particularly helpful when using Newcomb's guide:



Irregular Flowers (odd shaped - not perfectly round)



Regular Flowers (radial symmetry - round & normal)



Basal Leaves (at bottom only)

Alternate Leaves (alt. sides)

Opposite Leaves (2 leaves at each level)

Whorled Leaves (3 or more leaves per level)



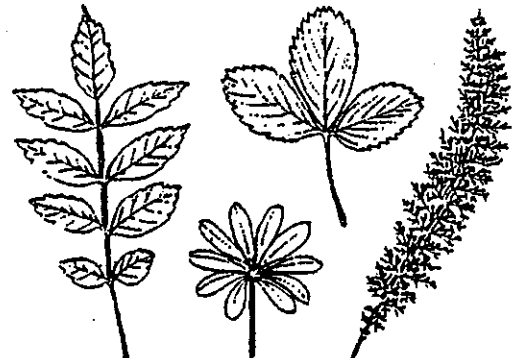
Entire leaves (smooth edge)



Toothed Leaves (saw edge)



Lobed Leaves (have lobes)



Divided Leaves (look like more than 1 leaf)

# Label Info

1. Numbered
2. Date collected  
(mo/day/yr)
3. Scientific name  
(Genus species)
4. Common name  
(in english!)
5. Place collected  
(general discription of place, plus county, plus state)

15

8/1/99

Saponaria officinalis  
Bouncing Bet

1/2 mi E of West Bend on Hw 33  
Washington Cty, WI

5

## WISCONSIN WILD PLANT LAWS

The "old wildflower law" as s. 29.546, Stats. has come to be known, protected such plants as bittersweet, trailing arbutus and trilliums. The wildflower law was taken off the books in 1978 when Wisconsin's Endangered Species Law was amended to include plants. This gives plants rank and standing beside animals on the state endangered and threatened species list. It also provides an additional avenue for funding plant studies.

Plants not listed as Wisconsin endangered or threatened species are protected only by trespass restrictions except for wild ginseng and wild rice which are regulated separately. In other words, the only time it is illegal to handle non-listed plants is when it involves trespass, such as in state parks and forests, or on someone else's property.

There are currently 87 wild plants in Wisconsin classified as threatened or endangered. These plants are rare in the state for a variety of reasons. They may be: on the edge of their geographic growth limits or range; isolated populations persisting since glacial ice advances; plants which traditionally exist in low numbers; or, victims of habitat destruction, contamination or over-collection.

Endangered and threatened plants are protected under the Wisconsin Endangered Species Law (s. 29.415, Stats.). The law makes it illegal to process or sell listed plants without first obtaining a state Endangered Species Permit. Permits are granted for zoological, scientific and educational purposes, and for propagation of listed wild plants for preservation.

Wisconsin landowners have special privileges related to plants on their own property. As the endangered species law reads, you can harvest listed plants if you own or lease the land where the plant grows. In the course of agriculture or forestry, or building or operating a utility facility you may also harvest protected plants whether you own the land or not.

There are three ways in which you could violate the state endangered and threatened wild plant law:

- If you trespass (state lands, someone else's private property)
- If you remove listed plants from land which you don't own or lease: (includes public lands without land manager's consent)
- If you attempt to sell or process listed plants

A special case is Northern Monkshood (Aconitum noveboracense). Monkshood is a threatened species both statewide and nationally. The federal Endangered Species Act prohibits the sale or transport across state lines of federally listed plants, like monkshood. The Act also prohibits federal funding of projects which jeopardize federally listed species; and prohibits collecting federally listed plants on federal property.

For a list of Wisconsin endangered and threatened plants or information about endangered species permits, write: Department of Natural Resources, Office of Endangered and Nongame Species, Box 7921, Madison, Wisconsin 53707.

## PLANTS

### ENDANGERED

- (E) Carolina A
- (D) Hudson Ba
- (D) Large-leav
- (D) Lake Cress
- (G) Purple Milk
- (D) Green Spl
- (D) Alpine Milk
- (E) Prairie Plu
- (G) Cooper's M
- (E) Moonwort
- (G) Goblin Fer
- (D) Floating M
- (G) Wild Hyaci
- (E) Crow-spur
- (D) Hop-like S
- (D) Intermedia
- (E) Brook Gras
- (D) Stoneroot
- (D) Hemlock-p
- (E) Beak Gras
- (D) Lanceolata
- (D) Angle-stem
- (D) Harbinger-
- (D) Chestnut S
- (E) Umbrella S
- (D) Northern C
- (G) Pale False
- (H) Bog Rush
- (H) Prairie Bus
- (E) Dotted Blaz
- (D) Auricled Tv
- (E) Smith Melic
- (H) Fassett's L
- (D) Small-flowe
- Parnassus
- (E) Smooth Ph
- (E) Butterwort
- (D) Heart-leav
- (H) Prairie Whi
- Orchid\*
- (D) Pink Milkw
- (G) Spotted Po
- (E) Rough Whi
- (D) Great Whit
- (D) Pine-drops
- (D) Small Shint
- (E) Seaside Cr
- (E) Small Yello
- Crowfoot
- (D) Lapland Rc
- (D) Wild Petuni
- (D) Sand Dune
- (E) Tussock Bu
- (G) Notted Nut
- (G) Small Skull
- (E) Selago-like
- (E) Blue-stemm
- (D) Lake Huron
- (D) Hairy Meac
- (E) Foamflower
- (D) Dwarf Bilbe
- (D) Mountain C
- (D) Squashber
- (D) Sand Viole

**WILD FLOWERS.** The native flowering plants of a region are its wild flowers. They originated there and grow wild year after year under natural conditions if they are undisturbed by humans.

Plants live in groups because of their similar needs. Some grow in forests, others on the open prairies. The sides of streams and the mud bottoms of ponds also have their flower communities.

Wild flowers have been found blooming in the Arctic, on high mountains, and even at the edges of glaciers. They cover the deserts in a riot of color after a heavy rain. Immense and gorgeous blooms grow in the tropics. The largest flower in the world is the reddish or purplish brown rafflesia of Malaya. It measures up to 3 feet (1 meter) across and weighs about 15 pounds (7 kilograms). The smallest is the duckweed, no larger than a tack head.

The greatest variety of wild flowers is found in the temperate zone. Here each flower blooms in its proper season according to the laws of its nature. In the spring appear those that need abundant water from winter snows and spring rains.

Some wild flowers that grow in the forests store up food in bulbs and rootstocks, so they do not need long hours of sunshine. They are small and low-growing and appear before their taller neighbors can cut off their supply of sunlight. Such flowers include the trillium, bloodroot, spring beauty, and Dutchman's-breeches. As the leaves of the forest open, the shade-loving flowers appear under their protection. Most trees have already finished blooming before the leaves expand.

Plants that live in drier soil and plenty of sunshine have blossomed by midsummer. These include daisies, asters, and sunflowers.

## Increasing Rarity of Wild Flowers

Many beautiful American wild flowers are becoming rare. When land is cleared for farms, homes, factories, roads, railroads, and golf courses, the woodland wild flowers disappear. Even rarer are the flowers of a virgin prairie that has been untouched by the plow. Most people who live in large towns and cities now have to go long distances to find wild flowers growing in any number.

Flowers are saved, together with other forms of wildlife, by the establishment of national, state, and local parks, forests, and sanctuaries. Areas too small to be set aside as parks by federal and state authorities are now being saved by the Nature Conservancy. This is an organization devoted to preserving natural areas as "living museums."

An example of its work is the story of the Volo Tamarack Bog in northern Illinois. Only 47 acres (19 hectares) in area, it was to be drained for a real-estate development. The bog has open water in the center, surrounded by a floating mat of moss with tamarack trees, blueberries, insect-catching pitcher plants and sundews, ferns, and the lovely little bog orchid called rose pogonia.

A committee of the Illinois chapter of the Nature Conservancy collected enough money from a number of individuals and organizations to buy this and the nearby Wauconda Bog. The Conservancy then deeded the bogs to the University of Illinois to be used as study areas for classes in plant ecology.

Everyone should make an effort to save wild flowers. When flowers are picked they are prevented from forming seed and new flowers for the coming years. Some kinds of flowers have been wiped out by careless and thoughtless picking. Moreover, they give little pleasure once picked, for they wilt almost immediately. Several states have laws that forbid the taking of rare species.

## Rules for Picking Wild Flowers

The Wild Flower Preservation Society, whose headquarters are in Washington, D.C., makes the following recommendations: Do not pick or dig up wild flowers in quantity unless they are abundant or weedy. Wild flowers that are not abundant should be picked or dug up very sparingly.

Some species with bulbous roots, such as trout lily, jack-in-the-pulpit, and spring beauty, will not bloom again if the leaves are picked with the flowers. Other species may be picked if the roots are not disturbed and plenty of flowers are left to go to seed. Certain rare flowers should never be dug up or picked. Of course, if it is known that a turnpike is to be run through a