

# Plant Resources for Scouts

## Field Guides

Technical guides like state or local floras are all inclusive, but very technical in terminology. Shorter, more local field guides are good for beginners, but may lack some plants. Choose a reference that fits your needs and the age of the Scouts involved.

Barnes, B. V. and W. H. Wagner, Jr.

1981 **Michigan trees**. University of Michigan Press: Ann Arbor, MI.

Billington, C.

1949 **Shrubs of Michigan**. 2nd edition. Cranbrook Press: Bloomfield Hills, MI.

Cobb, B.

1963 **A field guide to the ferns and their related families of Northeastern and Central North America**. Houghton Mifflin Company: Boston, MA. (Peterson Field Guide Series)

Deam, C. C.

1940 **Flora of Indiana**. Indiana Department of Conservation: Indianapolis, IN.

Elias, T. S.

1989 **Field guide to North American trees**. revised edition. Grolier Book Clubs Inc.: Danbury, CT.

Farrar, J. L.

1995 **Trees of the northern United States and Canada**. Iowa State University Press: Ames, IA.

Gleason, H. A.

1974 **The new Britton and Brown illustrated flora of the northeastern United States and adjacent Canada**. 5th printing. The New York Botanical Garden: New York, NY.

Gleason, H. A. and A. Cronquist

1991 **Manual of vascular plants of northeastern United States and adjacent Canada**. 2nd. edition. The New York Botanical Garden: New York, NY.

Grimm, W. C.

1993 **The illustrated book of wildflowers and shrubs**. Stackpole Books: Mechanicsburg, PA.

Grimm, W. C.

1983 **The illustrated book of trees**. Stackpole Books: Mechanicsburg, PA.

Harlow, W. M.

1957 **Trees of eastern and central states and Canada**. Dover Publications: NY.

## Plant Resources for Scouts

Little, E. L., Jr.

- 1980 **The Audubon Society field guide to North American trees.** 2 vols. (eastern & western). Alfred E. Knopf, Inc.: NY.

Mohlenbrock, R. H.

- 1986 **Guide to the vascular flora of Illinois.** revised and enlarged. Carbondale: Southern Illinois.

Mohlenbrock, R. H.

- 1996 **Forest Trees of Illinois.** Springfield, IL: Illinois Department of Natural Resources, Division of Forest Resources.

Petrides, G. A.

- 1986 **Trees and shrubs.** (a Peterson Field Guide). 2nd edition. Houghton Mifflin Co.: Boston, MA.

Swink, F. A. and G. S. Wilhelm

- 1994 **Plants of the Chicago region.** 4th edition. Indiana Academy of Science: Indianapolis, IN.

Voss, E. G.

- 1972 **Michigan flora. Part I.** gymnosperms and monocots. Cranbrook Institute of Science: Bloomfield Hills, MI.  
1985 **Michigan flora. Part II.** dicots (Saururaceae-Cornaceae). Cranbrook Institute of Science: Bloomfield Hills, MI.  
1996 **Michigan flora. Part III.** dicots (Pyrolaceae-Compositae). Cranbrook Institute of Science: Bloomfield Hills, MI.

Watts, May Theilgaard.

- Flower Finder.** A guide to identification of spring wild flowers and flower families. Nature Study Guild Publishers: Berkeley, CA

Watts, May Theilgaard.

- Master Tree Finder.** A manual for the identification of trees by their leaves. Nature Study Guild Publishers: Berkeley, CA

Watts, May Theilgaard.

- Winter Tree Finder.** A manual for identifying deciduous trees in winter. Nature Study Guild Publishers: Berkeley, CA

Wiley, Farida A.

- Ferns.** National Audubon Society: New York, NY.  
(A good pocket guide with excellent drawings and information about ferns.)

# Plant Resources for Scouts

## Plant Growth Forms

- annual** Plant completes its life cycle in one growing season; e.g. it germinates, grows, matures, sets seed and dies in one growing season.
- biennial** Plant completes its life cycle in two years; e.g. it germinates and grows vegetatively the first year, then grows flowers, sets seed and dies the second season.
- perennial** Plant is long lived, growing and setting seed for many years.
- herbaceous** A plant that is not woody, and typically dies back to the ground at the end of the growing season. Examples: aster, blue grass, lily, bee balm.
- woody** A plant whose stems are characterized by the presence of lignin which makes them stiff and usually perennial.
- tree** A plant, usually a taller woody perennial, with a trunk or single stem supporting the above ground portions. Examples: oak, ash, maple, hickory.
- shrub** A plant, usually a shorter woody perennial, with multiple stems/trunks supporting the above ground portions. Examples: viburnum, forsythia, gray dogwood, honeysuckle.
- vine** A plant, either woody or herbaceous, with weak stems that are supported by other vegetation. They usually climb by twining, the use of tendrils, hairs or small sucker-like structures. Examples: bittersweet, grape, poison-ivy, Virginia creeper.
- forb** Any herbaceous plant that is not a grass or grass-like (sedge/rush/cryptogam).
- grass** A plant that is a member of the Grass Family (Poaceae) that has simple usually linear leaves, a stem that is jointed and tubular (round), single seeds enclosed in paired husks or glumes. Example: blue grass, timothy, big bluestem, bamboo.
- sedge** A plant that is a member of the Cyperaceae Family, usually belonging to the genus *Carex* that has simple usually linear leaves, a stem that is jointless and triangular in cross section with seeds enclosed in a structure called a perigynia.
- rush** A plant that is a member of the Rush Family (Juncaceae), usually belonging to the genus *Juncus* or *Scirpus*, that have simple, linear leaves, jointless round stems, and small hard, nut-like fruits.
- cryptogam** A plant that reproduces by means of spores. Examples: ferns, horsetails, mosses.

# Plant Resources for Scouts

## TWIG ANATOMY

**terminal bud** — a bud that is at the tip of a stem or branch

**bud scale** — a small modified leaf on the outside of a bud

**lateral bud** — a bud that is situated along the sides of a branch and not at the tip

**lenticel** — a corky spot on the bark which originally permitted air to enter the twig

**leaf scar** — the scar left on a twig when a leaf falls

**bud scale scar** — the scar left on a twig when a bud scale falls

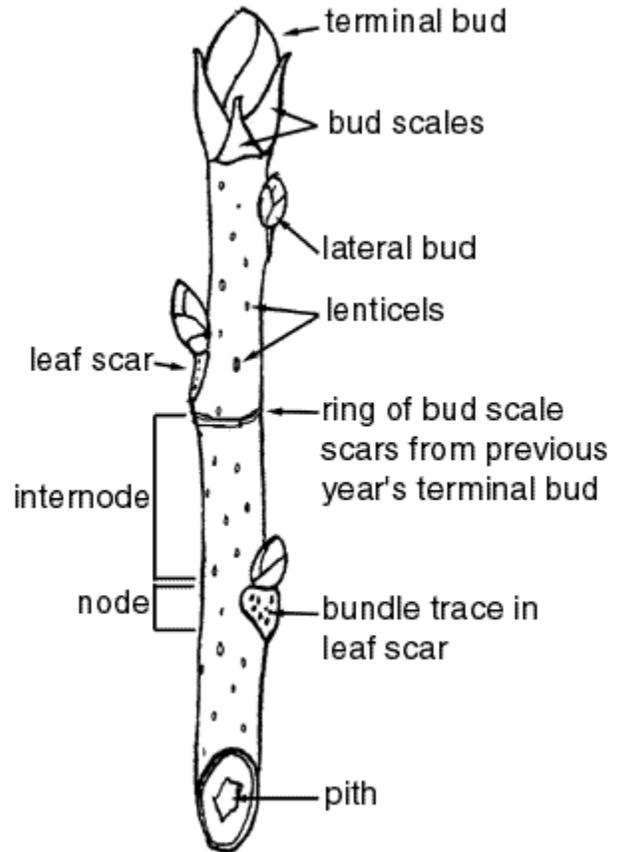
**bundle trace** — dot-like scars within a leaf scar, representing the broken ends of ducts which led to the leaf stalk

**node** — the place on a twig where a leaf is attached

**internode** — the part of a twig between two nodes

**pith** — central, usually soft portion of a twig, *chambered piths* are divided into empty compartments by cross partitions

**thorns and spines** (not pictured) — sharp-pointed, rigid structures arising from the twig or leaf



# Plant Resources for Scouts

## Online Resources

[www.efloras.org](http://www.efloras.org)

Searchable electronic floras from around the world, many with identification keys, illustrations and range maps. A very technical resource which is a collaborative effort among botanical institutions around the world.

[http://www.ars-grin.gov/cgi-bin/npgs/html/tax\\_search.pl?](http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl?)

U.S. Dept. of Agriculture Germplasm Resources Information Network (GRIN). A technical resource for finding the correct name for plants used by the U.S. Dept. of Agriculture from around the world. Very thorough with good range information. Searchable by family, scientific and common name.

<http://plants.usda.gov/index.html>

Plants Database is the U.S. Dept. of Agriculture. Natural Resources Conservation Service online plant database. It contains plant information for the United States and Canada. It includes plant names, range maps (to a county level), photographs and much more.

<http://www.vplants.org/>

vPlants is a virtual herbarium combining the botanical and herbarium resources of The Morton Arboretum, Chicago Botanic Garden and the Field Museum of Natural History. It is a searchable database of herbarium specimens for the Chicago Region, with collection information and high quality scanned images of the actual herbarium sheets.

## Poisonous Plants

<http://www.ces.ncsu.edu/depts/hort/consumer/poison/poison.htm>

North Carolina State University and the NC Extension Service put together this excellent resource on poisonous plants.

<http://www.ansci.cornell.edu/plants/index.html>

Cornell University put together this resource aimed at plants poisonous to livestock.

<http://www.mchc.org/ipc/>

Illinois Poison Center web site and phone 1-630-222-1222 – 24-7, 365 days a year.

## Plant Resources for Scouts

### Invasive Species Lists on the Web National

***Plants Database*** – U.S. Department of Agriculture database of invasive plants and noxious weeds, with links to state and regional sites.

[http://plants.nrcs.usda.gov/cgi\\_bin/topics.cgi?earl=noxious.cgi](http://plants.nrcs.usda.gov/cgi_bin/topics.cgi?earl=noxious.cgi)

***Invasive Species – gateway to Federal and State invasive species activities and programs*** – site covers federally listed plants, animals, and microbes.

<http://www.invasivespecies.gov/>

***The Nature Conservancy Wildland Invasive Species Team*** – site contains information about state listed invasive species, with descriptions, interactive maps, control measures, and lots more.

<http://tncweeds.ucdavis.edu/index.html>

***Invasive and Exotic Species of North America*** – a cooperative effort of the USDA, US Forest Service, and University of Georgia, contains descriptions, pictures, control methods and more.

<http://www.invasive.org/>

***Ecological Society of America*** – site has fact sheets with general information about invasive species, and a list of further sites and mailing addresses for more information.

<http://www.esa.org/>

***Great Lakes Information Network*** – site contains a variety of environmental topics with links for further reading.

<http://www.great-lakes.net/envt/flora-fauna/invasive/invasive.html>

### State

***Illinois Department of Natural Resources*** – photographs, and descriptions of common exotic and invasive species in Illinois.

<http://dnr.state.il.us/lands/education/ExoticSpecies/photogallery.htm>

***Illinois Natural History Survey Vegetation Management Guide*** – descriptions, photographs and control measures for Illinois invasive species.

<http://www.inhs.uiuc.edu/chf/outreach/VMG/VMG.html>

***Indiana Department of Natural Resources Invasive Species*** – main DNR site for invasive species information

<http://www.in.gov/dnr/invasivespecies/>

***Michigan Department of Natural Resources*** – link to Michigan Invasive Plant Council at the Michigan State University with an extensive list of links to local and regional invasive species sites.

[http://www.michigan.gov/dnr/0,1607,7-153-10370\\_12146\\_12214---,00.html](http://www.michigan.gov/dnr/0,1607,7-153-10370_12146_12214---,00.html)

***Wisconsin Department of Natural Resources*** – lists, resources, and control measures.

<http://www.dnr.state.wi.us/invasives/>

# Plant Resources for Scouts

## Endangered Species Lists Available on the Web

### International

**IUCN** – World Conservation Union Red List

<http://www.iucnredlist.org/>

<http://www.redlist.org/>

### National

**US Fish and Wildlife Service** – separate lists for plants and animals

<http://endangered.fws.gov/>

**USDA** Plants database – links for endangered plants

<http://plants.usda.gov> – main site with link to endangered and invasive species.

<http://plants.usda.gov/threat.html>

rare and endangered species lists – federal and state.

**Canadian** Species at Risk

[http://www.speciesatrisk.gc.ca/default\\_e.cfm](http://www.speciesatrisk.gc.ca/default_e.cfm)

### State

#### Illinois

plants and animals: <http://dnr.state.il.us/espb/datalist.htm>

#### Indiana

Indiana DNR

wildlife: <http://www.in.gov/dnr/fishwild/endangered/e-list.htm>

plants: <http://www.in.gov/dnr/naturepr/endanger/plant.html>

#### Michigan

plants and animals:

[http://www.michigan.gov/dnr/0,1607,7-153-10370\\_12142---,00.html](http://www.michigan.gov/dnr/0,1607,7-153-10370_12142---,00.html)

plants and animals:

[http://www.dnr.state.wi.us/org/land/er/working\\_list/taxalists/TandE.htm](http://www.dnr.state.wi.us/org/land/er/working_list/taxalists/TandE.htm)

**Canadian and US** endangered species, map linked for state or province

[http://www.sis.ec.gc.ca/ec\\_species/ec\\_species\\_e.phtml](http://www.sis.ec.gc.ca/ec_species/ec_species_e.phtml)

#### State links from USDA Plants

<http://plants.usda.gov>

**NOTE:** use any web search engine; use terms like (state name), endangered, species, threatened, etc.

## Plant Resources for Scouts

### Harmful Plants

There are many types of harmful plants that can affect us. The one we know best in our area is poison-ivy, *Rhus radicans*. It is poisonous to the touch, because all parts of the plant contain an oil that causes an allergic reaction in many people. There are however many more harmful plants that we should be aware of as leaders. Below is a list of the more common do not touch plants in our area. It is by no means an inclusive list.

**Do not eat any wild plant** unless you have been told by an expert that it is safe to eat. Just because you see an animal eating a plant part does not mean it is safe for you to eat it. Remember, birds can sit on a poison ivy vine and eat the berries without any reaction at all! Get medical help quickly when you see an allergic reaction starting, or if symptoms of internal poisoning are noticed. Know where the local hospital is, and the telephone number of the closest poison control center.

In case of poisoning contact your state Poison Control Center.

The **Illinois Poison Center** emergency telephone number is: 1-800-222-1222 (24 hrs. a day, 365 days a year; administrative phone is: 312/906-6136.

They also have a website at: <http://www.mchc.org/ipc/>.

Note: This site includes links to other poison centers across the nation.

The following plants are harmful to touch. Some, like poison ivy can cause an allergic reaction that may include redness, swelling, itching, and blister formation. The reaction will vary with exposure and susceptibility; it can occur quickly or take as long as a week to fully develop. Others like the nettles can cause a stinging or burning sensation with redness that is painful but relatively short lived. Pictures of these plants can be found on the web by using Google Images. For best search results use the scientific name rather than the common name.

**Poison ivy** (*Rhus radicans*) is common in a wide variety of habitats from woodlands to sand dunes to wooded floodplains. It is native to western and eastern US and southern Canada. It has a variable **habit of growth**, it can be a ground cover, vine, small bush or even look like a small tree; **aerial roots** develop when it climbs up a tree or fence, they are very fine, dense, and hair-like. Its **leaves are alternate** 4"-14" long, **compound with 3-leaflets** 2"-4" long. The **leaf surface** may be covered with fine hairs or smooth and glossy, **leaflet shape** is also variable from smooth edged with no teeth to coarsely toothed like an oak leaf. **Fall color** ranges from yellow to bright red. Poison ivy **fruit** are small, white berry-like drupes in fall (they can persist through the winter into the spring), **stems** are covered with a fine layer of short, tan hairs.

There are two forms of poison-oak, a western and an eastern version. Neither form grows in our area. What we call poison oak is really a coarsely toothed form of poison ivy.

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**Western poison oak** (*Rhus diversilobum*) is usually a shrub, 3-7 ft (1-2 m) high, sometime vining and up to 50 ft (15 m). Its **leaves are alternate**, 1-3" long, **pinnately compound with 3 leaflets**, each leaflet is rounded, with a blunt tip, a glossy upper surface, and an edge that is irregularly toothed. Leaves may be highly colored (red and gold) in fall. **Fruit** is a 5 mm diameter, berry-like drupe, white or cream colored that are in open clusters on the plant.

**Eastern poison oak** (*Rhus toxicodendron*) is a vine or ground cover, and looks very much like our native poison ivy, except the edges of its leaves are more deeply and coarsely toothed. Its **leaves are alternate**, 4"-14" long, **pinnately compound with 3 leaflets**, each leaflet 2"-4" long, covered with fine hairs, leaflet shape is variable, and **fruits** are open clusters of small cream-white berry-like drupes.

**Poison sumac** (*Rhus vernix*) is rare in our area. It is typically found in bogs, acid wet places, and shaded marsh borders in Lake and McHenry counties in Illinois; bogs in the dune areas in northern Indiana; and scattered wetland areas of southwestern Michigan. It is a small tree with alternate leaves that are 7-12" long, each leaf has **7-13 leaflets** each 2-4" long, they are smooth and may have a reddish leaf stalk, fruits are open drooping clusters of yellowish-gray berry-like drupes.

In addition to the above plants that can cause severe allergic reactions that could result in a trip to the doctor or hospital, the following three plants are also hazardous to touch, and are common enough that you should be aware of them.

**Wild parsnip** (*Pastinaca sativa*) is a member of the carrot family. It is a European cousin of the cultivated parsnip. It is found as an abundant weed in pastures, vacant lots, and mowed rights-of-way. Contact with the plant sap, in strong sunlight can cause skin redness, itching, and blisters to form in a reaction that is similar to poison-ivy. It looks like a 3-4 ft tall, coarse, wild carrot. It has a stout ribbed stem, and large, coarse, parsley-like leaves. Its flowers are arranged in a large, flat-topped cluster at the top of the plant stem. Individual flowers are small and yellowish-green.

**Tall nettle** (*Urtica dioica* ssp. *gracilis* or *U. procera*) is frequent along streams, and in moist waste places. It is a tall plant with long narrow leaves, covered with very fine hairs that act like small needles. Contact with this plant will cause redness and a very strong stinging or burning sensation which usually will go away after an hour or so.

**Wood nettle** (*Laportea canadensis*) is an abundant broad-leaved plant that grows on shaded floodplains and in moist woods. It is a tall plant with broad leaves, covered with very fine hairs that act like small needles, usually found on floodplains and in wet disturbed woodlands. Contact with this plant will cause redness and a very strong stinging or burning sensation which usually will go away after an hour or so.