



Muskegon Community College
221 S Quarterline Road • Muskegon, Michigan

Spring & Early Summer Plant Key

A Dichotomous Key for Distinctive Plants Along the Trails in the Kasey Hartz Natural Area

A **dichotomous key** is a tool for identifying unknown items using familiar terms. Each step of descriptive choices is done as a choice of two (dichotomous means forked cutting). Pick the choice that most closely matches the plant that you want to identify and follow the numbered steps to ultimately the plant's name and picture.

I have tried to use common, non-biological terms in the construction of this key and hope it aids you in learning the plants along the trail.

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2013
First Edition

When you master this key, perhaps you would enjoy using the **Field Manual of Michigan Flora** by Voss and Reznicek (2012, University of Michigan Press).

Detailed plant fact sheets on-line at:
<http://www.muskegoncc.edu/pages/3146.asp>



Centimeter Rule

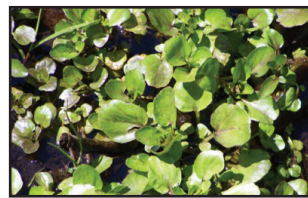


- 1a. Not woody (look for bark or wood formation near its base).
- 1b. At least 13 cm tall and woody.
- 2a. Aquatic, either floating on the water or growing in the water.
- 2b. Not aquatic.
- 3a. Smaller than the size of a dime and floating on the surface of the water.



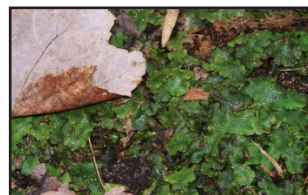
Duckweed
many different species

- 3b. Larger plant and may have a white flower.



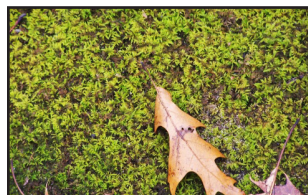
Watercress
Nasturtium officinale

- 4a. Seems to be evergreen (mostly green during the entire year).
- 4b. Not evergreen.
- 5a. Doesn't appear to have leaves or they are narrow and tiny (less than 1 cm).
- 5b. Larger with leaves and may be upright OR creeping on the ground.
- 6a. Lies flat on the ground OR is upright but shorter than 5 cm.
- 6b. Upright and taller than 5 cm.
- 7a. Along the creekbank and lying flat on the ground.



Liverwort

- 7b. May be along the creek, but more upright and may grow in colonies.



Moss
many different species

- 8a. Looks like a tiny "pine tree" but is not.



Club-moss
Lycopodium

Go to 2
Go to 31

Go to 3
Go to 4

Go to 5
Go to 14

Go to 6

Go to 9

Go to 7
Go to 8

- 8b. Doesn't have "branches" like plant 8a.



Shining clubmoss
Lycopodium lucidulum

- 9a. Mostly creeping on the ground.
- 9b. Does not have branches that creep on the ground and leaves may be toothed.
- 10a. Leaves 1-2 cm often with white stripe, twin white flowers, red berry.



Partridge-berry
Mitchella repens

- 10b. Oval 2-8 cm leaves with fragrant pinkish-white flowers in a cluster at end of branches.



Trailing arbutus
Epigaea repens

- 11a. Thick, evergreen leaves that are not lobed, but may be toothed.
- 11b. Tri-lobed evergreen leaves that may or not be toothed.
- 12a. Oval leaves smelling like wintergreen when crushed.



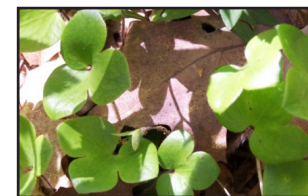
Wintergreen
Gaultheria procumbens

- 12b. Leaves at least twice as long as wide and arranged in a ring on the stem.



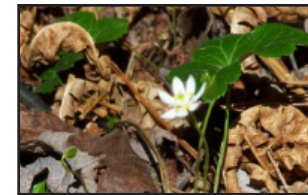
Pipsissewa
Chimaphila umbellata

- 13a. Tri-lobed leaves with no teeth, flower may be bluish, pinkish, or white.



Round-lobed Hepatica
Hepatica americana

- 13b. Tri-lobed shiny leaves, white flower, growing in moist soil.



Goldthread
Coptis trifolia

- 14a. Grass-like leaves.
- 14b. No grass-like leaves.
- 15a. Grows in a cluster with leaves at 120 degree angle from each other at base.



Sedge
Carex

- 15b. May grow in a cluster but leaves on stem are 180 degree angle from each other.



Grass
many different species

- 16a. Toothed leaves.
- 16b. Non-toothed leaves.
- 17a. Finely-dissected (fern-like) leaves OR palmately-lobed leaves.
- 17b. No finely dissected leaves, may have lobed leaves, but not palmately.
- 18a. Fern-like leaves with small white flower and hairy stem, has a weak licorice odor.



Sweet cicely
Osmorhiza claytonii

- 18b. Palmately-lobed leaves, purple flower 2-3cm wide, stem may be hairy.



Wild geranium
Geranium maculatum

(Continued on flip side)

19a. Heart-shaped leaves and white flower, smells like garlic when crushed. An invasive plant.



Garlic mustard
Alliaria petiolata

19b. Leaves more than twice as long as wide, yellow flower.



Field mustard
Brassica rapa

20a. Leaves twice as long as wide and not whorled.
20b. Leaves shorter than twice as long as wide OR whorled.
21a. Between 5 – 15 cm tall



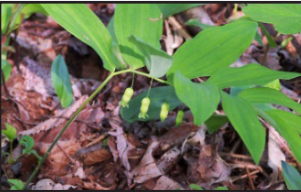
Canada mayflower
Maianthemum canadense

21b. Taller than 15 cm.
22a. Flowers all at the end of the stem.



False Solomon seal
Smilacina racemosa

22b. Flowers not at the end of stem but hanging under along the stem.
23a. Leaves smooth with no hairs on veins on the underside of leaves.



Smooth Solomon seal
Polygonatum biflorum

23b. Veins on underside of leaves have hair (use magnification lens).

Hairy Solomon seal
Polygonatum pubescens

(no picture included because it is so similar to the Smooth Solomon Seal.)

Go to 21

Go to 24

Go to 22

Go to 23

24a. Whorled leaves (arranged in ring around the stem).
24b. No whorled leaves but leaves mostly coming from base of plant.
25a. Leaves whorled and each leaflet at least twice as long as wide.
25b. Leaves whorled and each leaflet shorter than twice as long as wide.
26a. Taller plant, about 25 cm with two whorls of leaves on stem.



Indian cucumber root
Medeola virginiana

26b. Smaller plant, about 12 cm tall with one whorl of leaves, white flower.



Starflower
Trientalis borealis

27a. Single whorl of three leaves or leaflets.
27b. One or two deeply lobed and toothed large leaves, about 25 cm across, white flower under leaves.



Mayapple
Podophyllum peltatum

28a. Leaflets have a main middle vein, flower is hidden in a tube (spathe) with a hood.



Jack-in-the-pulpit
Arisaema triphyllum

28b. Leaflets not with prominent middle vein, large white flower.



Trillium
Trillium grandiflorum

Go to 25

Go to 29

Go to 26

Go to 27

Go to 28

29a. Toothed or undulating edged leaves.
29b. Very large, smooth edged leaves that stink when crushed.



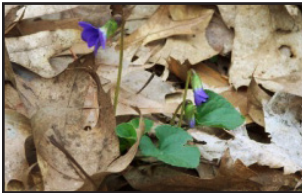
Skunk cabbage
Symplocarpus foetidus

30a. Typically about 25 cm tall and wide, yellow flowers.



Marsh marigold
Caltha palustris

30b. Smaller than 12 cm plant, flowers can be yellow, purple, or white.



Violets
Viola

31a. Woody plant no more than 1 meter tall.
31b. Woody plant taller than 1 meter.
32a. Spines, thorns, or barbs on stem.
32b. No spines, thorns, or barbs.
33a. Grows in the drier upland habitat.



Common greenbrier
Smilax rotundifoliabenzoin

33b. Grows in the moist wetland habitat and is an invasive exotic plant, can be taller than 1 meter.



Japanese barberry
Berberis thunbergii

Go to 30

34a. Has shiny medium green leaves, new twigs are green.



Low blueberry
Vaccinium angustifoliam

34b. Has light green leaves with tiny orange resin dots on the underside of leaves, reddish flowers.



Huckleberry
Gaylussacia baccata

35a. Evergreen needle leaves in clusters of five.



White pine
Pinus strobus

35b. No evergreen leaves.
36a. Large white flowers before or as leaves are emerging, grows in upland.



Flowering dogwood
Cornus florida

36b. Small yellow flowers directly along branches before leaves emerge, smooth-edged leaves, grows in wetland, twigs are aromatic if scraped.



Spicebush
Lindera