



Muskegon Community College
221 S Quarterline Road • Muskegon, Michigan

Late Summer & Autumn 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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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. Herbaceous, and may be a vine or arching/trailing on the ground. Go to 2
1b. Woody ranging from a vine, shrub, or large tree. Go to 19
2a. Vine or arching/trailing on the ground. Go to 3
2b. Not a vine, an upright plant. Go to 6
3a. Leaves smooth edged and stem with thorns.



Figure A
Common Greenbrier
Smilax rotundifolia

- 3b. Leaves or leaflets lobed or toothed. Go to 4
4a. Three to five heavily toothed leaflets with bristly or prickly stem.



Figure B
Raspberry/Blackberry
Rubus

- 4b. Stem without bristles or prickles. Go to 5
5a. Three leaflets with smooth edge or a few wavy teeth, stem may have aerial roots, can grow as a vine or upright. *Caution: Very poisonous to touch at any season. If touched, wash immediately with soap and water or alcohol based sanitizer.*

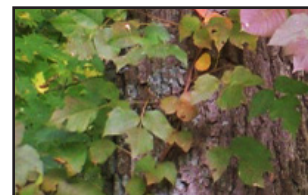


Figure C
Poison Ivy
Rhus radicans

- 5b. Three to five coarsely toothed leaves in a whorl (around stem or petiole).

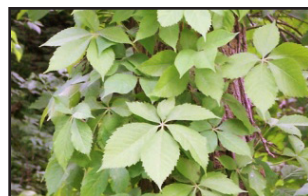


Figure D
Virginia Creeper
Parthenocissus quinquefolia

- 6a. Fern-like leaves. Go to 7
6b. Leaves are not fern-like but may be tiny or large. Go to 11
7a. Usually three fronds joined at top of "stem", grows in drier upland habitat.



Figure E
Bracken Fern
Pteridium aquilinum

- 7b. Leaflets (fronds) not tri-joined but all coming from base, grows in wetland habitat. Go to 8

- 8a. Simple fronds, not deeply and doubly cut on individual lobes. Go to 9
8b. More complex fronds with deeply cut lobes. Go to 10
9a. Simple frond with greenish "stem".



Figure F
Sensitive Fern
Onoclea sensibilis

- 9b. Airy looking fern with purple/red-brown "stem".



Figure G
Royal Fern
Osmunda regalis

- 10a. Mature plant about 1 m tall with triple cut fronds of 8-25 opposite lobes not cut all the way to center vein.



Figure H
Cinnamon Fern
Osmunda cinnamomea

- 10b. Mature plant about ½ m-1 m tall with double cut fronds with lobes cut all the way to center vein.

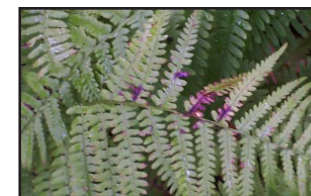


Figure I
Northern Lady Fern
Athyrium filix-femina

- 11a. Aquatic or grows along the water's edge. Go to 12
11b. Grows away from the water, in drier habitats. Go to 14
12a. Floats on the water, stemless, leaves are smaller than 1 cm.

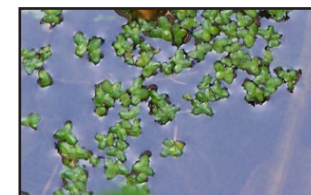


Figure J
Duckweed
several species

- 12b. Grows near water in moist soil. Go to 13
13a. Alternate and rounded-toothed leaves, lemon-orange flower.



Figure K
Jewelweed
Impatiens

- 13b. Alternate toothed leaves, plant ½ m-1½ m tall, scarlet flowers.



Figure L
Cardinal Flower
Lobelia cardinalis

- 14a. Tiny leaves or looks like no leaves with only a stem. Go to 15
14b. Larger leaves either smooth edged, toothed, or whorled. Go to 16
15a. Plant less than 15 cm tall with tiny leaves of less than 1 cm.



Figure M
Club-moss or ground pine
Lycopodium

- 15b. Plant typically taller than 15 cm, many times just a jointed straight stem, may have "branches" or not.



Figure N
Horsetail
Equisetum
(image is sideways)

- 16a. Toothed leaves. Go to 17
16b. Leaves not toothed, but are smooth or whorled. Go to 18
17a. Toothed heart-shaped leaves, with blue-purple daisy-like flower.



Figure O
Large-leaved Aster
Symphyotrichum macrophyllum

- 17b. Alternate toothed leaves with yellow flowers along stem.



Figure P
Bluestem Goldenrod
Solidago caesia

- 18a. Grass-like leaves but mostly 120 degrees from each other.

(see Figure Q for 18a identification image)



Figure Q
Sedge
Carex

18b. Two sets of whorled leaves, blue-purple fruit.



Figure R
Indian Cucumber Root
Medeola virginiana

- 19a. Small shrub of ½ m or less OR a vine. Go to 20
19b. Large tree. Go to 24
20a. Vine. Go to 21
20b. Upright small shrub. Go to 22
21a. Leaves coarsely toothed with overall heart-shaped or tri-lobed, stem has tendrils.



Figure S
Grape
Vitis

- 21b. Leaflets in groups of three, leaflets may be coarsely toothed, stem may have aerial roots, can grow as a vine or upright.
Caution: Very poisonous to touch at any season. If touched, wash immediately with soap and water or alcohol based sanitizer.

(see Figure C for 21b identification image)

- 22a. Leaflets in groups of three, leaflets may be coarsely toothed, stem may have aerial roots, can grow as a vine or upright.
Caution: Very poisonous to touch at any season. If touched, wash immediately with soap and water or alcohol based sanitizer.

(see Figure C for 22a identification image)

- 22b. No leaflets in three. Go to 23
23a. Minutely toothed leaves are shiny medium green, new twigs are green.



Figure T
Low blueberry
Vaccinium macrocarpon

- 23b. Light green leaves with tiny orange resin dots on the underside.

(see Figure U for 23b identification image)



Figure U
Huckleberry
Gaylussacia baccata

- 24a. Needle-like leaves.



Figure V
White Pine
Pinus strobus

- 24b. Broad leaves, either opposite or alternate or compound. Go to 25
25a. Alternate leaves. Go to 26
25b. Opposite leaves. Go to 32
26a. Smoothed edged, grows in wetland habitat, crushed leaves are aromatic.



Figure W
Spicebush
Lindera benzoin

- 26b. Toothed, wavy edged, or lobed leaves. Go to 27
27a. Toothed or wavy-edged leaves. Go to 28
27b. Lobed leaves. Go to 29
28a. Finely toothed leaves with incurved teeth, nearly black fruit grouped at ends of branches.



Figure X
Black Cherry
Prunus serotina

- 28b. Wavy-edged leaves, four yellow petals, flowers in autumn, old dry seed capsules may remain.



Figure Y
Witch-hazel
Hamamelis virginiana

- 29a. Smaller tree, green twigs are aromatic when scraped, up to three different shaped leaves (no lobes, two lobed - like the Lower Peninsula of Michigan, and three lobed).

(see Figure Z for 29a identification image)



Figure Z
Sassafras
Sassafras albidum

- 29b. Five to eleven lobed leaves. Go to 30
30a. Five to nine lobes with rounded tips, bark is thick and light gray.



Figure AA
White oak
Quercus alba

- 30b. Five to eleven lobes that are sharp pointed. Go to 31
31a. Five to eleven lobes with bristle tips, dull dark green above & paler underneath, lobes are shallower and do not pass more than midway to middle vein. Red and black oak hybridize making identification difficult except with acorns.



Figure BB
Red oak
Quercus rubra

- 31b. Usually seven lobes with bristle tips, glossy dark green above with yellow green underneath with some fuzzy hairs.



Figure CC
Black oak
Quercus velutina

- 32a. Sharply toothed and opposite leaves. Go to 33
32b. Smooth edged OR wavy edged opposite leaves. Go to 34
33a. Sharply toothed compound leaves, but not lobed, grows in wetland habitat.



Figure DD
Elderberry
Sambucus canadensis

- 33b. Sharply toothed and usually three (3-5) lobed leaves.



Figure EE
Red Maple
Acer rubrum

- 34a. Small tree, grows in drier upland habitat, may have red fruits in autumn.

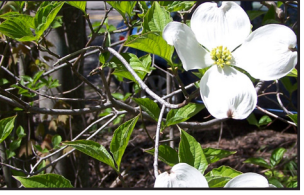


Figure FF
Flowering Dogwood
Cornus florida

- 34b. More shrub-like instead of a small tree. Go to 35
35a. Egg-shaped leaves at least twice as long as wide.



Figure GG
Honeysuckle
Lonicera

- 35b. Oval to egg-shaped leaves less than twice as long as wide. Go to 36
36a. Oval leaves with 5-7 pairs of veins, young twigs usually red, white fruit in a cluster.



Figure HH
Red-osier dogwood
Cornus stolonifera (*Cornus sericea*)

- 36b. Oval-like leaves with 3-6 pairs of veins, silky hairs on flora "stems", bluish fruit in a cluster. Very similar to Red-osier dogwood.

Silky dogwood
Cornus amomum

(no picture included because it is so similar to the Red-osier dogwood.)