

Comparison Sheets : Carrot Family



Wild Carrot
Daucus carota
2017-9-13



Caraway
Carum carvi
2016-6-16

Common Traits in Carrot Family

Apiaceae / Umbelliferae

Across all species <small>Exception in MN : <i>Eryngium yuccifolium</i> - rattlesnake master.</small>	Variations between species
Alternate, compound foliage	Compound: 1x, 2x, or 3x Hairy: yes or no? Margins: incised, toothy, lobed , . . . , smooth?
Sheaths at the base of foliage	Size: large or small? Veins, hairs, color ? Length of petiole covered.
Flowers arranged in compound umbels <small>(in Minnesota)</small>	Umbels: Flatness or roundness of umbel Number of rays/umbel and flowers/umbellet. Bracts: presence (maybe lacking), number, form.
Petals: flowers are five-parted .	Color: yellow, white, or greenish (some pink). Size: is it consistent? 2 or 3 of 5 may be larger. Shape: constricted base, incurved tip, . . . , cleft. Extension: open, closed or curled back?
Bloom period	Early to late summer, one month or multiple.
Hollow stems <small>(at maturity)</small>	Color: green, purplish, combination. Veins: subtle, obvious / pronounced. Grooved? Hairs: yes – no, short, long.
Paired seeds	Paired seeds (schizocarp) appearing bristly, flattened, rounded, ridged, smooth, beaked ?



Above: Anise root (anise scent) has smooth stems and leaves (no hairs). Umbellets (3-6) and flowers (7-16).

Below: Hairy cicely (no scent) has hairy stems and leaves. Often fewer umbellets (2-6), fewer flowers (4-7).



Wild Carrot

(*Daucus carota*) : Nonnative

State Listed - Restricted Noxious Weed.

Double compound, finely divided leaflets.

About 4 inches long by 2 inches across.
Basal leaves larger than upper stem leaves.

Petiole (rachis) is **hairy**, narrowly **furrowed**,
sheath at stem is hairy.

Leaves sparingly hairy to lacking hairs.

Crushed leaves – odor agreeable.

Flowering height **2-5 feet**.

Typically, stems are
light green (tinges of red).

Stems have ribs (vertical veins).

Stems typically **hairy**, can be smooth.

Flowering June to September.

White flowers, outer **petal size unequal**.
Often **red flower(s)** in center (not always).

Dome shaped, rather flat umbels.
About 20-90 umbellets, 15-60 flowers each.

Bracts are finely branched, showy.
Present below umbels and umbellets.

Seeds with **spines along ribs**.
Seeds about $\frac{1}{8}$ inch flattened.

Seed head pulls together (bird nest).

Burnett Saxifrage, Caraway, Japanese Hedge Parsley

All three are nonnative.

Burnett Saxifrage (*Pimpinella saxifraga*)

Upper stem leaves reduced in size, lobed, narrow.
Lower leaves nearly rounded leaflets, toothed.

Blooms July to September, flat umbels,
7-20 umbellets, 10-20 flowers per.

$\frac{1}{8}$ inch, white flowers : $\frac{1}{8}$ inch smooth seed.

2-3 feet tall, stems rough with short hairs, ribs.

Caraway (*Carum carvi*)

Upper stem leaves reduced in size,
dissected into very slender leaflets.

Blooms June to August, flat umbels
3-10 umbellets, up to 20 flowers per.

$\frac{1}{10}$ - $\frac{1}{8}$ inch, white flowers, notched petals.
 $\frac{1}{10}$ - $\frac{1}{8}$ inch ridged seed, fragrant when crushed.

1-4 feet tall, stems smooth (hairless), shiny.

Japanese Hedge Parsley (*Torilis japonica*)

Upper stem leaves deeply incised, smaller.
Lower leaves pinnately compound, incised.

Blooms June to August, flat umbels,
5-12 umbellets, 10-20 flowers per.

$\frac{1}{8}$ inch, white (pinkish) flowers:
 $\frac{1}{8}$ inch seed with **hooked bristles**.

2-6 feet tall, stems rough with minute hairs, ribs.

2012-08-09



2012-08-09



2016-06-16



2016-06-16



2012-07-25



2012-07-25



2017-06-30



2017-06-30



2013-08-08



2012-09-07

Wild Carrot

(*Daucus carota*) : Nonnative

Burnett Saxifrage, Caraway, Japanese Hedge Parsley



2015-08-07



2009-08-02

Upper stem



Lower stem

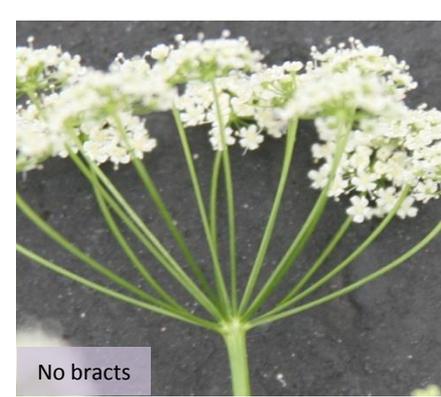
2017-06-30



2007-07-27



2016-07-28



No bracts

Burnett saxifrage

2017-07-09



Few bracts

Caraway

2016-06-16



2 or more
bracts

Japanese hedge parsley

2012-07-25



Upper stem



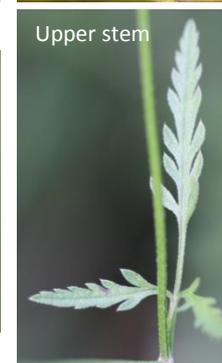
Lower stem



Upper stem



Lower stem



Upper stem



Lower stem



Wild Parsnip

(*Pastinaca sativa*) : Nonnative
State Listed - Prohibited: Control



Pinnately compound.
Leaflet numbers: basal 5-15, stem 2-5.

Coarsely toothed edges.

Flowering at 2-5 feet , June into July (or later).

Monocarpic perennial
(often classed as a biennial).

Stems strongly grooved, hairless.

Hairs possible, stems light green.

Yellow flowers, **petals tightly curled.**
Central floret in umbellet is pedicellate (stalk).

15-25 umbellets, each has **12-35** flowers.
Bracts are absent.

Seed is flattened, ¼ inch long, oval, **winged.**

Darkened resin canals.

**Plant SAP causes rashes,
phytophotodermatitis !**

Root is reported as edible.

Wild parsnip
all seeds / florets
are stalked.

Golden Alexanders
central seeds / florets may
not be on a stalk (sessile).

Golden Alexanders

(*Zizia aptera* and *Z. aurea*) : Native



2 or 3 times compound - 3 leaflets per segment.
Exception heart-shaped, simple basal leaves of *Z. aptera*.

Finely toothed edges, pointed tip.

Flowering at 1-2+ feet, May into June.

Perennial.

Minor ribs on stems (vertical veins).

Smooth, light green stem.

Yellow flowers, **petals barely open.**
Central floret in umbellet is sessile (no stalk).

7-15 umbellets, each has **10-20** flowers.
Umbel bracts are absent.

Seeds slightly rounded, ⅓ inch, not winged.

Seed has no hairs or hooks, 5-ribbed.

Not implicated in causing dermatitis.



Wild Parsnip

(*Pastinaca sativa*) : Nonnative

2017-09-20



2017-06-19



2017-09-08



2017-09-20

Golden Alexanders

(*Zizia aptera* and *Z. aurea*) : Native

2016-05-20



Z. aptera
basal foliage
2017-09-13



3 pictures lower right:

Z. aurea

3-parted basal foliage.
2018-08-30





Poison Hemlock
(Conium maculatum) : Nonnative
 State Listed - Prohibited: Eradicate

Wild Carrot
(Daucus carota) : Nonnative
 State Listed - Restricted Noxious Weed



2 or 3 times compound, triangular.
 About 18 inches long x 12 inches wide.
 Basal leaves larger with longer petioles.

Double compound, finely divided leaflets.
 4 inches long by 2 inches across.
 Basal leaves larger than upper stem leaves.

Basal leaf Upper leaf



Petiole is **hairless, rounded,**
 sheath is **smooth.**

Petiole (rachis) is **hairy, narrowly furrowed,**
 sheath is **hairy.**



No hairs on leaves.

Leaves **sparingly hairy** to lacking hairs.

Crushed leaves – odor not pleasant.

Crushed leaves – odor agreeable.

Flowering height 3-7 feet,
 June to August.

Flowering height 2-5 feet,
 June to September.

Minimal ribs (veins) - smooth.

Stems with slight ribs (vertical veins).

2017-06-30



Stems smooth – **no hairs.**

Stems are typically **hairy,** can be smooth.



Purple spotting (**mottled**).

Light green (tinges of red).

White flowers,
 consistent petal size.

White flowers, outer petals larger.
 Often red flower(s) in center (not always).

Dome shaped, rather flat
 umbels with about 8-16
 umbellets - 12-25 flowers each.

Dome shaped, rather flat umbels.
 About 20-90 umbellets, 15-60 flowers each.

2013-08-08



Umbel and umbellet **bracts** are triangular.

Umbel and umbellet **bracts** are finely branched.



Seeds approximately 1/8 inch, oval
obvious ribs (5) - broken or wavy.

Seed are about 1/8 inch flattened with
spiny ribs (ridges covered by bristles).

Seed matures to light brown.

Seed head pulls together (bird nest).

Poisonous and deadly if eaten!

Root is reported as edible.

Compare to water hemlock, pages 15, 16.

Poison Hemlock

(*Conium maculatum*) : Nonnative

2017-06-19



2018-06-14



Wild Carrot

(*Daucus carota*) : Nonnative

2017-06-30



2015-08-07



2012-09-07



2009-08-02

2017-06-30



2017-06-30



2017-06-19





2014-06-06



2016-05-11



2017-06-19



2016-07-28

Poison Hemlock

(Conium maculatum) : Nonnative
State Listed - Prohibited: Eradicate

2 or 3 times compound, triangular.

About 18 inches long x 12 inches wide.
Basal leaves larger with longer petioles.

Rounded petiole,
sheathed at stem, sheath is **smooth**.

No hairs on leaves.

Crushed leaves – odor not pleasant.

Flowering height 3-7 feet, June to August.

Stems with **minimal** ribs (veins).

Stems are smooth – **no hairs**.
Stems may have a waxy, whitish coating.

Purple spotting (**mottled**).

White flowers

Dome shaped, rather flat umbels.
About 8-16 umbellets, 12-25 flowers each.

Umbel and umbellet bracts are triangular.

Seeds approximately 1/8 inch, oval,
obvious ribs (5) - broken or wavy.

Seed matures to light brown.

Poisonous and deadly if eaten!

Wild Chervil

(Anthriscus sylvestris) : Nonnative

2 times compound, triangular foliage
leaflets divided.

4 inches long x 2 inches wide.
Basal leaves larger with longer petioles.

Grooved petiole (upper surface),
sheathed at stem, sheath is **ribbed, ribs hairy**.

Leaf margins and underside **sparingly hairy**.

Crushed leaves – odor agreeable.

Flowering height 2-5 feet, May thru June.

Stems with **prominent** ribs.

Stems with hairs, especially lower plant.
Hairs noticeable along ribs and at nodes.

Mostly light green.

White flowers

Dome shaped, rather flat umbels.
About 6-15 umbellets, 10+ flowers each.

Umbel bracts lacking, umbellets have bracts.

Seeds are about 3/8 inch elongated,
beaked (styles persist), **smooth** to faint ribs.

Matures brown to shiny black.

Root is reported as edible.

2017-07-15



2017-07-15



2017-07-15



2017-07-15

Poison Hemlock

(*Conium maculatum*) : Nonnative

Wild Chervil

(*Anthriscus sylvestris*) : Nonnative



Nonnative : Family Apiaceae
Not known to be in Minnesota

Compare to cow parsnip (pg. 13-14).

Compare to great angelica (pg. 17-18).

Giant Hogweed

(*Heracleum mantegazzianum*) : Nonnative
State Listed - Prohibited: Eradicate

Singly pinnately compound, 3 leaflets, toothed

Leaflets are deeply incised (cut towards midrib)

Leaves up to **5 feet across**.

Leaf stalks, leaf ribs have coarse, white hairs.

Flowering at **10-15 feet tall**, June to July.

Stems to 2 inch diameter, potentially to 4 inches at base.

Stems with prominent **purple marking**.

Stems have **stiff, scattered hairs**.

White flowers

Petals are cleft much like cow parsnip with some enlarged.

Compound **umbels** are flat topped
and large at up to **2½ feet** diameter with **50-150 umbellets**.

Umbel bracts mostly lacking, umbellets have narrow linear bracts.

Have not seen this stated - comment based on study of web images.

Seeds approximately $\frac{3}{8}$ inch, oval, and flattened.

Seed is brown at maturity, darker resin canals obvious.

Phytophotodermatitis!
Potential to cause severe rashes!



Above left: cow parsnip

Above right: Giant Hogweed



Giant Hogweed

(*Heracleum mantegazzianum*) : Nonnative

Image: Thomas Denholm, New Jersey Dept. of Ag., Bugwood.org



UGA2121077

Image: Leslie Mehrhoff,
University of Connecticut,
Bugwood.org



UCA1148089



Image: Invasive Species Council of British Columbia, Coastal Invasive Plant Council.



Image: Invasive Species Council of British Columbia, Fraser Valley Regional District.



<h2 style="text-align: center;">Cow Parsnip</h2> <p style="text-align: center;">(<i>Heracleum lanatum</i>) : Native</p>	<h2 style="text-align: center;">Stiff Cowbane</h2> <p style="text-align: center;">(<i>Oxypolis rigidior</i>) : Native</p>
Pinnate compound.	Pinnate compound.
3-leaflets , coarse teeth, 3-lobed , up to 20 inches across and long.	5-9 leaflets , each ⅛ - 1 inch wide by 2½ - 4½ inches long, sessile , up to 7 spaced teeth.
Upper surface coarse, often grayish.	Upper surface hairless, shiny green.
Lower surface pale, hairs on veins.	Lower surface hairless and pale green.
Petioles hairy, stout, a large loose sheath.	Petioles 2-4 inch long, sheath is tight.
Flower at 4-8 (10) feet, May to July.	Flower at 2-5 feet tall, July to August.
Stems have ridges, Light green in color.	Stems are typically green.
Stems typically covered with white hairs.	Stems smooth, lightly veined.
Woodlands, open prairies, moist soils.	Wetland species.
White flowers with cleft petals. Outer petal size inconsistent.	⅛ inch, white flowers Petals of consistent size.
Rather flat umbels. About 8-30 umbellets, 8-30 flowers each.	Slight dome shape to umbels. About 12 umbellets, 10-20 flowers per.
Umbels up to 8 inches across.	Umbels are 3-5 inches across.
Seed is ⅓ inch long, ¼ inch wide, flattened .	Seed is ⅓ to ¼ inch, smooth .
4 resin veins visible in seeds.	Seed is oval, rounded - flat on one side.
Implicated in causing irritations to human skin.	Highly Toxic if eaten.

Cow Parsnip

(*Heracleum lanatum*) : Native

Stiff Cowbane

(*Oxyopolis rigidior*) : Native



2014-7-15



2016-5-20



2017-09-08



2017-7-11



2013-6-27



2016-5-20



2017-7-11



2017-7-11

Minnesota Native : Family Apiaceae

Water Hemlock

(Cicuta maculata) : Native

Singly or doubly compound, 3-7 leaflets, coarsely toothed

Toothed leaflets, sessile or very short petiole.
Leaflets $\frac{3}{4}$ -4 $\frac{1}{2}$ inches long by $\frac{1}{2}$ -2 $\frac{1}{2}$ inches across.

**Veins appear to terminate in notches,
between teeth not at tooth tip.**

Leaves are hairless.

Flowering at 3-6 feet tall, June to August

Stems with prominent veins, yet, fairly smooth.

Stems are covered by a whitish bloom (glaucus).

Whitish flowers, $\frac{1}{4}$ inch

Petals have incurved tips and constricted bases.

Flat topped compound umbels.
10-20 umbellets, 12-15 flowers per.

Umbels lack bracts, umbellets have narrow linear bracts.

Seeds approximately $\frac{1}{8}$ inch, ridged.

Seed is brown at maturity.

Poisonous and deadly if eaten!



Water Hemlock

(*Cicuta maculata*) : Native

2017-09-20



2017-09-20



Seedlings
2018-6-21

2017-07-07

Minnesota Native : Family Apiaceae

Great Angelica

(*Angelica atropurpurea*) : Native

A.K.A. Purple-stemmed angelica

Doubly compound, 3-parted, 3-5 leaflets per part.
Large at 6 inches to 2 feet across and long

Toothed sub-leaflets, sessile or very short petiole.
Sub-leaflets may be cleft to deeply cleft,
 $\frac{3}{4}$ - $4\frac{1}{2}$ inches long by $\frac{1}{2}$ - $2\frac{1}{2}$ inches across.

Petiole of compound leaf covered by large, loose sheath.

Leaves are hairless.

Flowering at 3-8 feet tall, June.

Stems large diameter at 1- $1\frac{1}{2}$ inches.

Stems are smooth, covered by whitish bloom (rubs off).

Typically, stems are dark purple in color.

5-parted, $\frac{1}{4}$ inch greenish flowers, petals have incurved tips .

Ball shaped, rounded compound umbels.
15-40 umbellets, 20-45 flowers per.

Umbels and umbellets lack bracts.

Seeds approximately $\frac{1}{8}$ inch, ridged.

Seed is brown at maturity.



Great Angelica

(*Angelica atropurpurea*) : Native



Near the Zumbro River
2018-06-14

Look-alike plants from other families
Nonnative : Family Valerianaceae

Valerian or Garden Heliotrope

(*Valeriana officinalis*) : Nonnative

Opposite, pinnately compound, 4-9 pairs of leaflets.

Basal leaflet (upper right image),
easily confused with wild parsnip (see page 6).

Leaflets are $\frac{3}{4}$ - 2 inches long and $\frac{1}{2}$ - $1\frac{1}{2}$ inches wide.

Lance-shaped leaflets with toothed edges.

Scattered hairs on the lower leaflet surface.

Stems are often green. May be reddish to purple.

Stems are hollow, finely hairy or smooth,
veins produce slight ridges.

Stems **oppositely branched** near the top of plant.

Branches terminated by clusters (panicles) of white flowers.

White or light pink flower clusters at 1½-4 feet, July to October.

Tubular flowers with 5 rounded petals.

Dense flat topped **panicles** (clusters) – terminate branches.

Seeds are $\frac{1}{8}$ inch long egg-shaped capsules,
topped with **feathery hairs**.

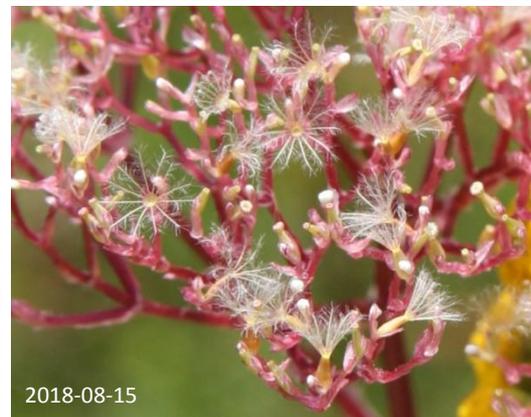
Can be clonal by rhizome.

Part to full sun, meadows to woodland edges, moist soils.
But, tolerates less than ideal conditions.



Valerian or garden heliotrope

(*Valeriana officianalis*) : Nonnative



Minnesota Native : Family Ranunculaceae

Purple or Tall Meadow Rue

(*Thalictrum dasycarpum*) : Native

Alternate, ternately compound (leaflets in groupings of 3)

Leaflets are $\frac{3}{4}$ - 2 inches long and $\frac{1}{2}$ - $1\frac{1}{2}$ inches wide.

Oblong leaflets with smooth edges **terminated by 3 lobes**.

Stems are often purple – varies : green grading to purple

Stems are mostly smooth, sparingly pubescent to no hairs.

Stems unbranched (except at top of plants).

Greenish-white flowers at 3-7 feet, June to July.

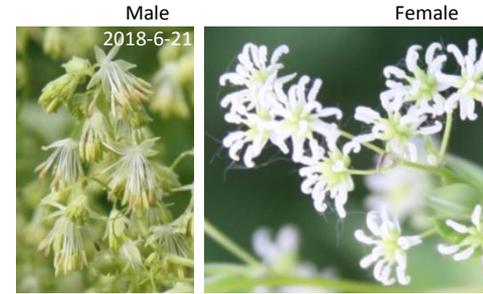
Dioecious – male and female flowers on separate plants.

Dense clusters, open branched –
 $\frac{3}{4}$ - 2 feet long panicles at top of plant.

Seeds are $\frac{1}{4}$ inch long
egg-shaped capsules.

Clonal by rhizome.

Part sun to shade, meadows
to woodland edges,
moist soils



Seed 2018-8-30

2017-06-30

Minnesota Native : Family Caprifoliaceae

American or Black Elderberry

(*Sambucus canadensis*) : Native

Opposite, compound

Leaflets, 5-11 (7 typical), finely serrate edges.

2-5 inches long, 1-2 inches wide.

Hairless upper surface, possibly hairy along lower mid-vein.

Upper surface of leaf stalk is grooved.

4-13 feet tall, **woody** stems.

Older bark – brownish gray.

Pith is whitish, soft.

Many whitish, ¼ inch flower heads, typically 5 petals,
Bloom period early July thru mid August.

Flat to dome shaped, 3-10 inches across.

Fruit – purplish-black, ¼ inch diameter, plentiful, drooping.

Full sun to part shade, moist soils.

Fruit is edible when ripe



2017-7-2



2007-7-14



2007-9-17



2017-7-4



2017-8-22

Minnesota Native : Family Asteraceae

Common Yarrow

(*Achillea millefolium*) :

Considered native, but nonnative introductions occurred.

Alternate, compound, finely divided foliage

Foliage can be up to 6 inches long and 1 inch across
- smaller near the top of the stem.

Pale to medium green foliage.

Stems are pale green.

Covered with hairs, (appressed, tight to stem).

Typically unbranched, except flower structure.

Flowering at 1-2 feet tall, Blooms June to September

Many whitish, ¼ inch flower heads, typically 5 ray florets.

Compound corymb (branched, flat).

Florets replaced by single seed (achene).

No tufts of hair on seeds.

Rhizomes produce clonal colonies
Full sun to partial shade : mesic to dry



Useful Websites and Resources:

- CABI, 2018. Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc.
- Illinois wildflowers (weed species) : http://www.illinoiswildflowers.info/weeds/weed_index.htm
- Invasive Plant Atlas : <https://www.invasiveplantatlas.org/>
- Minnesota Dept. of Agriculture : <https://www.mda.state.mn.us/plants/pestmanagement/weedcontrol/noxiouslist.aspx>
- Minnesota wildflowers : <https://www.minnesotawildflowers.info/>
- Wisconsin DNR : <http://dnr.wi.gov/topic/invasives/>
- Washington State, King County: Invasive Species <https://www.kingcounty.gov/services/environment/animals-and-plants/biodiversity/threats/Invasives.aspx>
<https://www.kingcounty.gov/services/environment/animals-and-plants/noxious-weeds/weed-identification/giant-hogweed.aspx>

Books:

- MnDOT, Minnesota Noxious Weeds. <https://www.dot.state.mn.us/roadsides/vegetation/pdf/noxiousweeds.pdf>



Native look-alike common yarrow highlighted on page 23.