

NREM 358 Forest Herbaceous Layer: Ecology and Identification

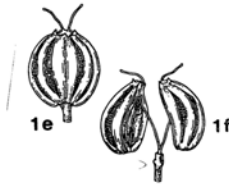
Week 4 – Apiaceae, Brassicaceae, Rosaceae, Violaceae

Family Apiaceae – Inflorescence an umbel (the several branches of the inflorescence radiate from the same point); fruit a schizocarp (a fruit that when mature splits into separate one-seeded segments).

Umbel



Schizocarp



***Cryptotaenia canadensis* (honestwort)** – Stem 30 cm up to 1 meter tall, branching; leaves trifoliate (divided into three parts); umbels numerous loose; flowers small and white; blooms in June and July; fruit very dark. Wide variety of woods.



2. ***Osmorhiza longistylis* (anise root)** – Stem 40 to 80 cm tall; leaves trifoliate (divided into three parts); flowers small and white; blooms in May-June; fruit linear, straight and parallel with long persistent style. Roots with a sweet anise aroma. Moist woods.



Easily mixed up with *Osmorhiza claytoni* (sweet cicely), best distinguished because it does not have the long persistent style on the fruits.

3. ***Sanicula gregaria* (common snakeroot)** – Stem up to 1 meter tall; leaves divided into 3-5 parts, sharply serrate; flowers greenish yellow; blooms June-August; fruits rounded and bristly. Wide variety of woods.

This species is very easy to mix up with *Sanicula marilandica* (black snakeroot) and *Sanicula canadensis* (Canada snakeroot) – you have to look at flower color, the fruits with a technical guide and/or pay attention to range to distinguish them (black snakeroot is common in NE Iowa only).



Family Brassicaceae (Mustard family), formerly Cruciferae – Flowers in four parts, petals arranged in a “cross”; fruit distinctive, a silique or silicle.

Silique – a dry dehiscent fruit typically more than twice as long as wide with two valves that split when fruit is mature.

Silicle – same as silique but less than twice as long as wide.

Flower

Silique

Silicle



4. ***Cardamine concatenata*, formerly *Dentaria laciniata* (cut leaf toothwort)** – A true spring ephemeral, very short, generally around 10 cm; leaves in a whorl of three, deeply divided into three parts with linear segments so leaf appears five-parted; flowers white to pale lavender; blooms in April; fruit a silique. Rich moist woods.

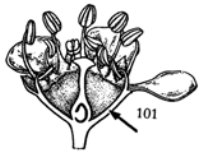


An Invasive Species from the Brassicaceae:

5. *Alliaria petiolata* (garlic mustard) – biennial with stem a vegetative rosette in first year, growing to 1 meter or more in second year; leaves roundish, with deeply inset veins and coarsely toothed; flowers white; blooms in May-June; fruit a silique. Nearly any woodland habitat, and sometimes even in open areas.



Rosaceae (rose family) – A large family, divided into four subfamilies; unifying characters are the regular (actinomorphic) perfect flowers, a cup-like hypanthium (see below -- fused base of and petals, sepals and male flower structures), and many exerted (protruding) stamens.



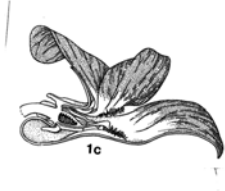
Hypanthium

7. ***Geum canadense* (white avens)** – 30 cm up to 1 meter tall; basal leaves usually serrate but not divided, stem leaves divided with larger leaflets towards the tip; flowers solitary – several, white; blooms in July-August; fruit a dense head of achenes with dense bristly hairs for attaching (dispersal). Woods.



Violaceae (Violet family) – our species with basal or alternate leaves, simple or lobed; flowers distinct – bilaterally symmetrical, with petals fused into a distinct spur that stores nectar; streaks on petals serve as nectar guides for insect pollinators. Viola species also produce colorless, self-fertilizing (cleistogamous) flowers after the first flush of insect pollinated flowers; fruit a capsule.

Flower violet flower showing spur



7. ***Viola pubescens* (downy yellow violet)** – small plant with alternate leaves; yellow flowers solitary in the axils of the leaves; blooms May – June. Rich woods.



8. ***Viola sororia*** (downy blue violet) – small plant with all basal leaves; leaves on stems (peduncles), some longer than the leaves; flowers purple; blooms May – June. Wide variety of habitats, from woods, thickets, fields and lawns.

