

Roadside Botany of Illinois - May

Identifying Common Roadside Plants by Bloom Color



By Molly Hacker

This monthly series highlights the colorful blooms you might see as you drive through Illinois during the growing season. It is designed to help you identify common roadside plants by the color of their blooms. It's easy! Find your bloom color of interest in the title blocks of this piece.

Species lists are based off of my 2017 observations primarily along I-57, which traverses the state north-south. Although my typical drives spanned four ecophysiographic divisions, the roadside "assemblage" mainly consist of a typical suite of weedy species - non-native ornamental or agricultural escapees and invasive species. These species are adapted to the roadside conditions and can exploit the road network as a mode of dispersal. Occasionally, more conservative species and tiny patches of the remnant community can be observed hanging on along the roadside in wetlands, woodland interior, adjacent to railroads and under power lines. Bloom times do vary year to year and generally, the spring blooms of 2018 appear to be a few weeks later than spring 2017. This list is by no means exhaustive.

Conium maculatum, Apiaceae

Poison Hemlock



The Death of Socrates, Jacques Louis David, Creative Commons, 2018.



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This species appears as a large herb and grows to heights of 5-8 feet tall. Small, white flowers are in clusters called umbels (an arrangement of flowers in the shape of an umbrella typical of its family) and its alternate, divided leaves appear “lacy” or “ferny”.

In ancient Greece, this plant was commonly used to execute criminals condemned to death. Its most famous casualty was Socrates, the famous philosopher and teacher of Plato. Toxicity is due to the compounds coniine and γ -coniceine (alkaloids), which, when ingested cause paralysis of respiratory muscles - death is ultimately the result of lack of oxygen (Reynolds 2005). Even small amounts can be fatal and there is no known antidote. Ironically, this plant is everywhere. It is common in nutrient rich soils including roadsides, waste grounds and agricultural edges (Wilhelm and Rericha 2017). See “Poisonous Plants of the Midwest” on our website for more information on this species and other sinister plants.



By Ryan Duddleson



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Daucus carota, Apiaceae

Queen Anne's Lace, Wild Carrot



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Daucus carota is the ancestor of the familiar cultivated varieties of carrot that we eat today. This non-native herbaceous perennial is generally weedy. From the roadside, its white flowers are arranged in a single white umbel (an umbrella shaped inflorescence type). Upon closer inspection, you will notice a single mauve colored flower in the center of the umbel, which is said to be a drop of Queen Anne's blood from a pin prick she got while making the lace; the central flower is sterile, but may serve as a nectar guide to foraging pollinators.

In both its native and introduced range, this plant has many ethnobotanical uses. Folk uses worldwide include as a “morning after” contraceptive as seeds contain compounds that can stop conception. Other noted medicinal uses reported are as as a diuretic, for worm expulsion, and for its antibacterial properties (Foster and Duke 1990).



By Scott Namestnik



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Erigeron spp., Asteraceae

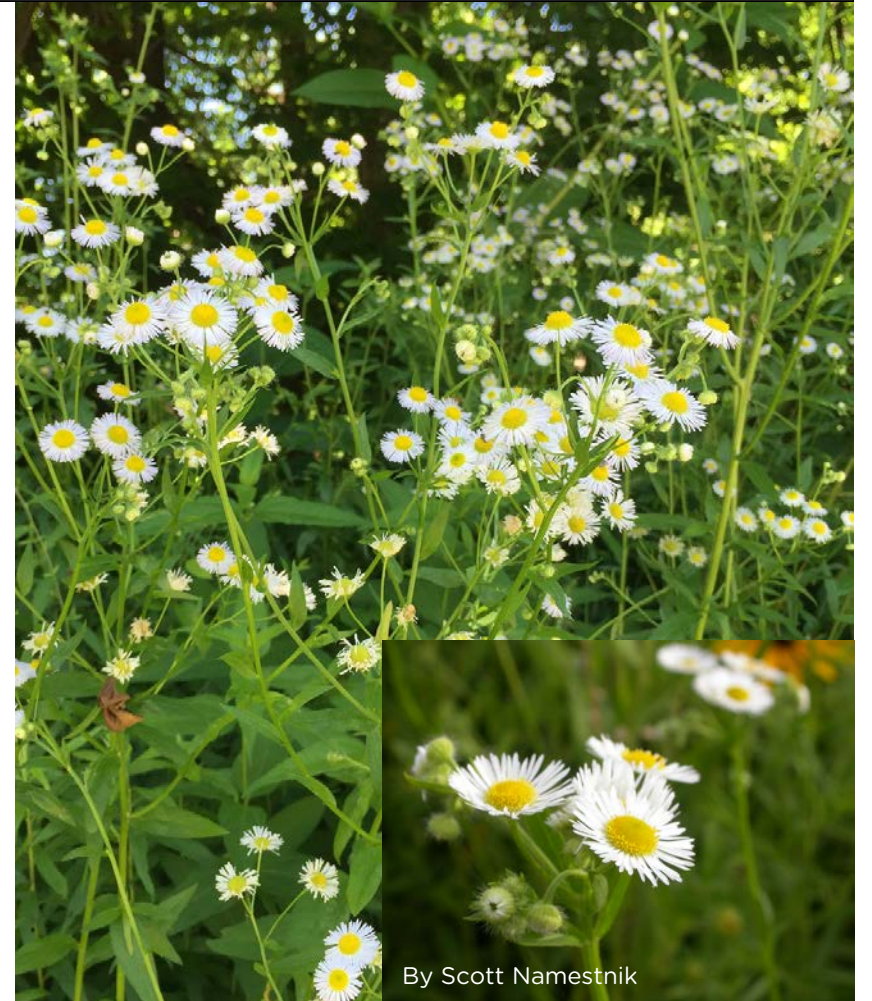
Fleabane



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Erigeron spp. are abundant on the roadway throughout the growing season. The white flowers of this genus are small and daisy-like. There are four species of *Erigeron* reported in Illinois, and all of them are likely observed from the roadway.

Many folk remedies have been reported for this genus in the eastern U.S. (Foster and Duke 1990) and recent research supports the medicinal value of scutellarin, a compound derived from some eastern *Erigeron* spp., including *E. breviscapus* used in Chinese traditional medicine and *E. multiradius* from Tibetan traditional medicine, which suggest that they may be effective in treatment for postmenopausal symptoms and Alzheimer's disease (Zhu et al. 2009) and inflammation (Luo et al. 2008), respectively.



By Scott Namestnik

Euphorbia corollata, Euphorbiaceae

Flowering Spurge

This native perennial appears as a deep green herb with small white “blooms.” This species has an interesting floral morphology in that its white “blooms” are actually a modified leaf structure (a cup-shaped involucre) containing a single pistil (female bit) and a few male flowers with a single stamen each (male bits), collectively referred to as a “cyanthium.” *E. corollata* is only mildly conservative but probably the most conservative species highlighted thus far ($C = 4$, see discussion of Coefficient of Conservatism in Wilhelm and Rericha 2017). It is widespread in Illinois, occurring in sandier, open areas.

At least one species of *Euphorbia*, *E. cheiradenia*, is recognized for its capacity to efficiently accumulate most heavy metals (Pb, Cd, Zn, Cu and Ni) (Chehregani and Malayeri 2007) and is utilized in phytoremediation, a strategy by which toxic compounds are removed / stabilized from polluted soils (mediated by plants and their microbial associations). [FYI: Heavy metal and other toxic compounds get into the ecosystem from anthropogenic inputs, including fertilizers, emission from power plants and automobiles, and sewage, then into the food chain (Ullah et al. 2015)]. *E. cheiradenia* does not occur in North America and I have not yet come across any studies on the utility of our native roadside species, *E. corollata* in phytoremediation.



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"cyathia at two stages of
development, 1.5 X" Copyright ©
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Lonicera spp., Caprifoliaceae

Eurasian Fly Honeysuckle, Bush Honeysuckle



By Scott Namestnik

This common roadside shrub is a non-native invasive species and major threat to biodiversity of natural areas, with impacts across ecological scales. Efficient invasion strategies include growth plasticity (it can grow in many lighting regimes), allelopathy (roots exude compounds that affect the growth of neighboring plants), rapid growth rate, and dispersal mechanisms (i.e. prolific producers of fruits and exploitation of wildlife as long distance dispersal vectors) (McNeish and McEwan 2016). The berries are like candy for wildlife - they are sugary sweet but provide little nutrition for the birds and deer who eat them and then disperse the seed through defecation (McNeish and McEwan 2016).

There are four main species of non-native invasive bush honeysuckles in the state (*L. maackii*, *L. morrowii*, *L. tatarica* and *L. xylosteum*) and many described hybrids. Do what you can to fight their spread. I recommend cutting the shrub at the base of the stem(s) and treating the cut stump(s) with herbicide.



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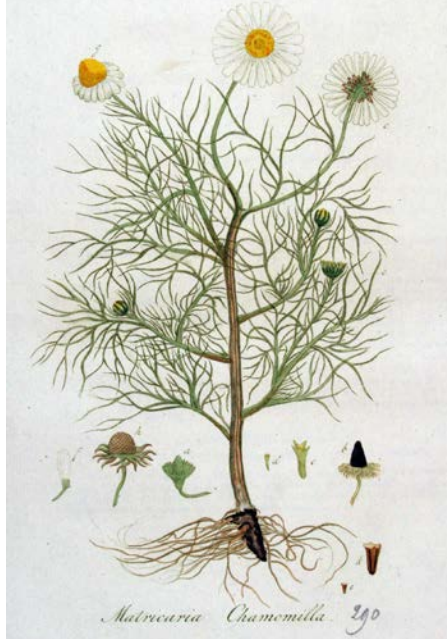


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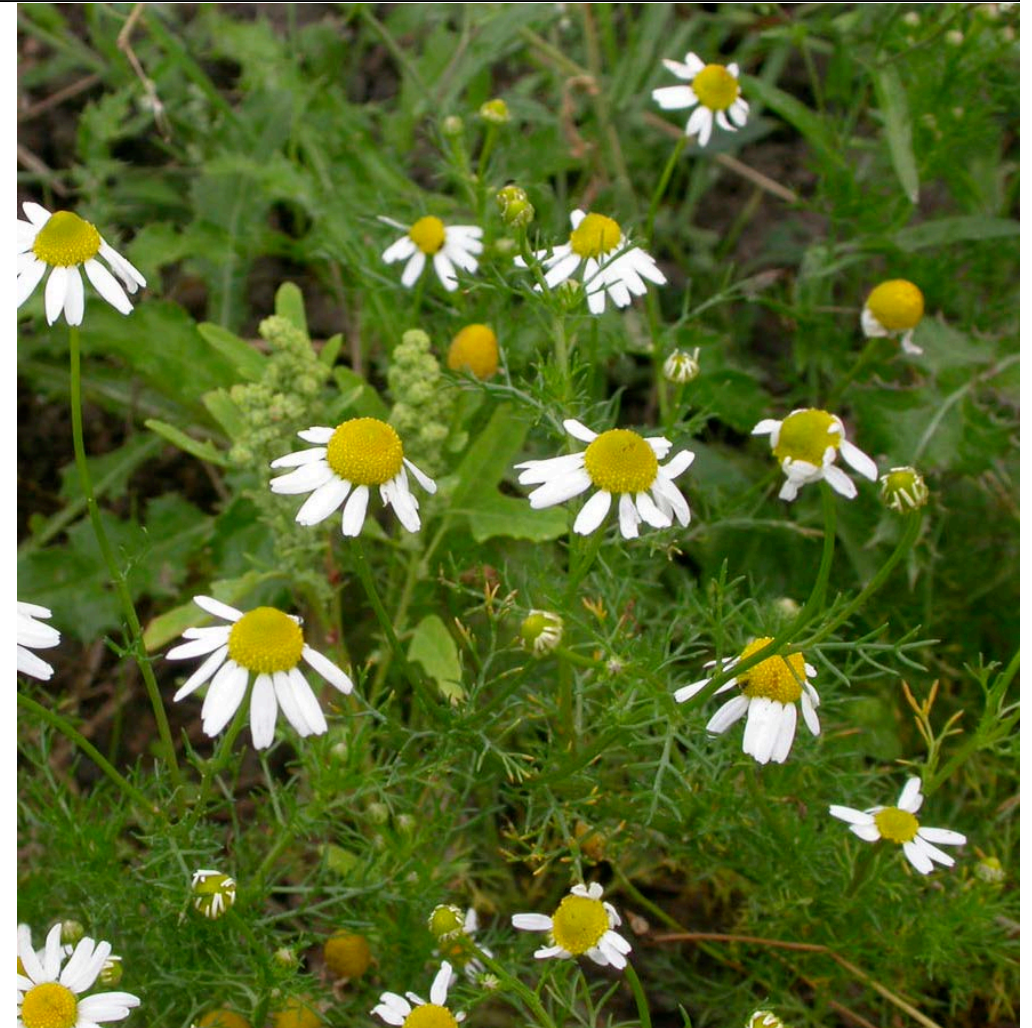
Matricaria chamomilla, Asteraceae

Chamomile



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That's right, Chamomile. Our familiar favorite chill time tea is a non-native herbaceous annual with a daisy-like flower and finely divided alternate leaves. This species is not very common in the northern part of the state, and occasionally occurs along the roadsides in the southern end. Its flower head is slightly smaller than the ox-eye daisy (*Leucanthemum vulgare*), another common roadside species, but the fragrance of its flowers is distinct. DIY: Harvest and dry the flower heads and make your own tea. Caution: before you do this, or consume any wild edible plants, ensure the correct identification - run it through a key and get confirmation. Always be aware of the conditions of your site. No one wants to drink tea collected from a superfund site.



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Melilotus alba, Fabaceae White Sweet Clover

Melilotus officinalis, Fabaceae Yellow Sweet Clover

There are two species of *Melilotus* likely observed from the roadway beginning in May, one with white flowers (*M. alba*) and one with yellow flowers (*M. officinalis*). *Melilotus* is important in an agricultural context and is planted to amend soil, as fodder for livestock, and forage for commercial honey bees (USDA 2018). Unfortunately, *Melilotus* are problematic non-native invasive species that invade open upland communities. Even worse, it has been reported to respond positively to fire (Wilhelm and Rericha 2017), a common management strategy of systems that it invades (i.e. prairies).

Many medicinal properties have been ascribed to *Melilotus* spp. and nutritional studies have shown exceptionally high antioxidant activity and free radical scavenging effects [FYI: Free radicals contribute to >100 human maladies. Antioxidants “scavenge” free radicals, this is why we are encouraged to consume antioxidants rich foods (Pourmorad et al. 2006)]. Before you go out and forage a bunch of sweet clover for an antioxidant boost, know that this species is also an efficient accumulator of hydrocarbons (<http://www.steviefamulari.net/phytoremediation>) and if you are not discriminating, you could potentially give yourself a dose of toxic hydrocarbons – which would be bad. Hydrocarbons are toxic compounds that enter the ecosystem via anthropogenic inputs and have far reaching impacts across ecological and climatic scales. However, in the context of cleaning up toxic waste with phytoremediation, *Melilotus* may be appropriate.



By Scott Namestnik



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Oxalis sp., Oxalidaceae Woodsorrel



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You are likely to encounter two species of *Oxalis* from the roadway, *O. stricta* and *O. dillenii*. They appear as low growing herbs with clover-like leaves and yellow flowers. I got into the habit of snacking on the fruits of *Oxalis* for a quick pick-me-up during field work because I enjoy the intense, tangy/sour flavor burst. I didn't realize then that I was actually getting a Vitamin C dose! Recent studies exploring the nutritive potential of wild food plants found that *O. stricta* ranked highest in vitamin C (52.48 ± 5.57 mg 100^{-1} g) of the 17 species examined, and has substantial antioxidant activity (Shad et al. 2013). *Oxalis* spp. are used throughout the world for food and numerous folk remedies. Members of *Oxalis* are an important food crop of indigenous groups in the Andean Mountains; these varieties produce large edible tubers.



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Pastinaca sativa, Apiaceae

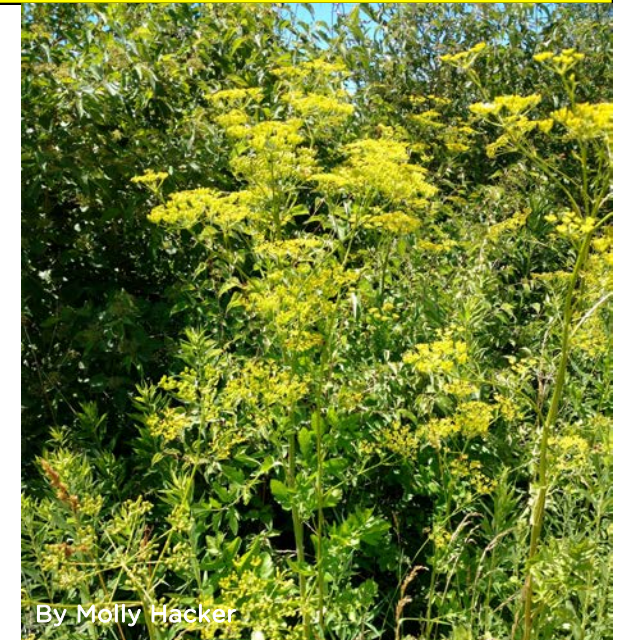
Wild Parsnip



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The blooms of this species appear as bright yellow flashes of a tall herb from the roadway. The flowers are arranged in an umbel and leaves are alternate and compound (divided into leaflets), and leaflet blade margins are toothed and usually lobed.

While it's roots are edible (cultivated varieties of parsnips are subspecies of this wild species) the vegetative parts of the plant are phytophototoxic, meaning contact with the plant upon exposure to UV rays will result in skin irritation (phytophotodermatitis). The reaction has been described as being similar to a severe sunburn - soreness, red patches and blistering. *Pastinaca sativa* produces furanocoumarins within the foliage, a compound believed to be an anti-herbivory mechanism which causes the skin irritation in humans (Averill and Di'Tommaso 2007).



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Saponaria officinalis, Caryophyllaceae

Bouncing Bet

This common non-native herbaceous perennial blooms in various shades of pink and whites. Although it is rather weedy, it has at least one redeeming quality: it's flowers can be used as soap in a pinch. Crush the flowers and lather with a bit of water. This soapiness is derived from saponins, compounds that offer a suite of useful properties, including antimicrobial and medicinal value and as flavor (Vincken et al. 2006).



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Securigera varia, Fabaceae

Crown Vetch



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This species is a low and sprawling perennial herb displaying the typical Fabaceous (bean family) morphology: compound alternate leaves and papilionaceous flowers (bi-laterally symmetric arrangement of three petal types: standard, keel, wings).

While this species does have a certain amount of aesthetic appeal, it is an aggressive non-native invasive species that poses a serious threat to regional natural areas. Introduced from Europe, this species is common along the roadway as it was once planted extensively to prevent erosion. It is still commonly planted for erosion control, even though it is known to actually facilitate erosion (Wilhelm and Rericha 2017).



By Scott Namestnik



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Trifolium spp., Fabaceae

White Clover, Red Clover, Alsike Clover



By Scott Namestnik

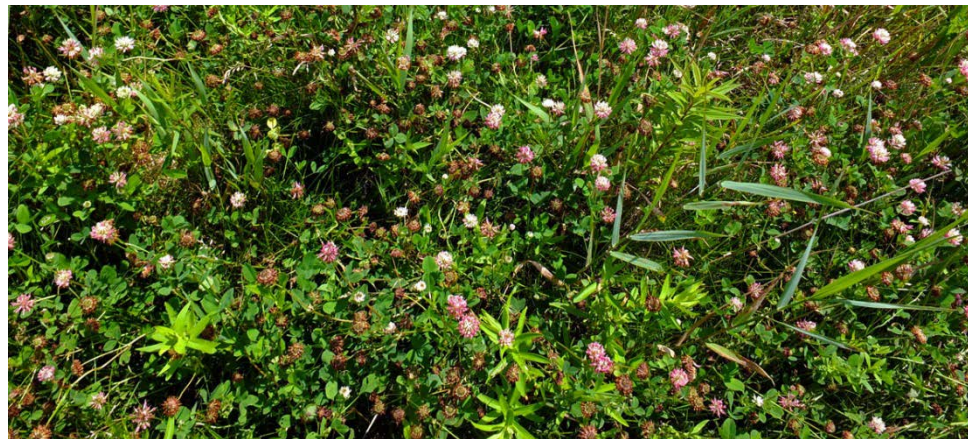
Along the roadway, you are likely to see at least three species of *Trifolium*: a white one (*T. repens*), a pink one (*T. pratense*), and one with a graduation of white to pink, which is likely alsike clover (*T. hybridum*). This genus has reported medicinal value, for example, the coumarins present in this group can lower blood pressure and decrease blood clotting (Foster and Duke 1990). Of the 11 species reported in the state, only one species is native, *Trifolium reflexum* (Kartesz 2015), also known as *Trifolium reflexum* var. *glabellum*. It is extremely rare due to its strict habitat requirements and is associated with mesic woodlands (Wilhelm and Rericha 2017). Google it – it's stunning, and let us know if you ever see it!



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Rhus typhina, Anacardiaceae

Staghorn Sumac

The distinguishing features of this native shrub are its compound, alternate leaf arrangement and the rusty-red colored horn-like structure. These structures are actually the infructescence (group of fruits). At this time of year, these structures may appear as a graduation of green to rusty red - this is the development of the green inflorescence (group of flowers) into the infructescence.

From the roadway, *R. typhina* can look much like *R. glabra* (smooth sumac) and *R. copallina* (shining or winged sumac), which share similar distribution and habitat. *Rhus glabra* is distinguished in that the twigs are glabrous (without hairs) and it has serrate (toothed) leaflet margins. *Rhus copallina* has a “winged” rachis (main axis of the leaf) and is a bit shorter than the others.

You may have heard that the infructescence makes a nice lemonade substitute. I made it once, most memorable were the insects, and I didn't drink much. I've heard it described as tasting like “dirt water” and “ok, pretty tart, but we added tons of sugar.” To make your very own *Rhus typhina*-ade: steep infructescences with water, filter out the insects and fuzzies, and add tons of sugar.



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