

Field Notes – Solstice Time
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FLOWERS AND FRIENDS

It took me a long time to get interested in insects: they're small, they don't sit still for inspection, they're hard to photograph, and of course, some are stingers and biters of humans, carriers of disease, destroyers of crops, etc. Growing up on a farm, I developed an aversion to flies that I have never gotten over. But as a lover of flowers both wild and cultivated, I can't ignore the pollinators that are their friends and partners, or take them for granted, either.

For the past few years, I've been taking pictures of the flowers I see on my walks as well as in my gardens, and my general rule is that if I have a choice between a photo with a pollinator in it and one without, I prefer the one with. My eyes are not sharp, and my camera is just an iPhone, so there's a whole world of small, fast-moving insects I can't see. But I am paying attention, as much as I can, to the larger bees, butterflies, moths, wasps, beetles, and flies. Starting this late, I'm never going to become an entomologist, but I'm learning what I can by looking a little more closely at the visitors to the flowers.

BEES: In March, April, and May, there were very few pollinators to be seen on the flowers I was photographing. I know they must have been there—mostly small, zippy bees like Mining Bees—but I was never present at the right time to see them. I remember noticing a queen bumblebee cruising low through the Dutchman's Breeches in mid-April. She was probably scouting for a nest site, a place to lay her eggs.

Then, suddenly, at the beginning of June, I started noticing large bumblebees in my garden—on the big-root geraniums, the baptisia, the opening rhododendrons. Not many—maybe just 4 or 5 a day, here and there.



Queen Bumblebees (*Bombus impatiens*), June 1, on Big-root Geranium (*Geranium macrorrhizum*) and Blue False Indigo (*Baptisia australis*).

How did I know these were bumblebees?

- (1) They are big

- (2) They are hairy both above and below the “waist”
- (3) They have long antennae
- (4) Their heads are small relative to their thoraxes.
- (5) They have pollen baskets (corbiculae) on their rear legs. These are depressions surrounded by a thick fringe of long hairs that serve as grocery bags do for us: they hold large amounts of food in one place for transport from the “store” to the “house.” The bees moisten the pollen they collect on their bodies with nectar and use their middle legs pack them into the baskets to take them back to their underground nests.

The photos above don’t show the pollen baskets clearly, because they were taken in the morning when the bees had just started foraging. A little later in the day, you can see bees with full corbiculae:



Bumblebees on Red Clover (*Trifolium pratense*) and Foxglove (*Digitalis purpurea*). The bright orange patches on their hind legs are the “pollen baskets” filled with orange pollen.

Bumblebees are generalists—they haven’t evolved to interact with just one genus or species of plants. But they do have their favorites: flowers with bright colors and long corollas. (They have long tongues, and like to match their tongue length to flower depth.)

A few days after I saw the large Bumblebees foraging, I realized that I was seeing small versions of them—almost exactly half the size of the big ones. I’d see 3–5 smaller bees for every large one on a given plant. I learned that these are the first brood of daughters from the eggs laid earlier in the spring. They are workers, now mature enough to be out and about collecting pollen and nectar, and taking it home in their pollen baskets to help their mother raise more young worker bees, continuously, through the summer. After a few days, I noticed only the daughters foraging, the queens being occupied full-time underground now.

It suddenly dawned on me that the bumblebees I see in my yard the first week of June are not random visitors: they are residents. There are only a handful of queens. Their daughters emerge in the morning from their underground nest-homes looking for food. They don’t waste energy flying long distances: when they find a source of pollen and nectar that they like, they move systematically from flower to flower on a single plant for quite a while before moving to the next plant. They work from dawn to dusk as long as it’s not actively raining or too windy. At the end of the day, they go home to the same nest they emerged from at dawn.

For the first week of June, the bees are countable. I go out day after day hoping to get good portraits of them, and see only 12–15 bees in the whole yard, all bumblebees. I’m noticing which plants they prefer—definitely the rhododendrons, catmint, baptisia, geraniums, and foxglove. Then the Ninebark (*Physocarpus*) ‘Summer Wine’ shrub

bursts into bloom on June 8, and suddenly, the pollinators on that shrub are uncountable. There are hundreds of middle-sized insects, maybe thousands of tiny ones. There are bees of all sizes, wasps, beetles, sphinx moths, butterflies . . . and flies of all sizes. Where have they come from? The butterflies may have flown in from someplace else, lured by the mild fragrance of the Ninebark nectar; but the bees are all ground-dwelling species. They are residents, and have been quietly doing their work without my noticing them until the Ninebark gala opened.

The smallish bees are (I think) various species of Mining Bees. Like the Bumblebees, they have pollen baskets on their hind legs. There are at least 20 of these on each of our four Ninebark bushes. But I see no honeybees in this crowd. We all know that honeybee populations are down.



A Mining Bee on the Ninebark.

Here's something I have learned only in the past couple of years: a lot of the pollinators that look like bees are not bees. The insect on the Ninebark in the photo below looks almost exactly like a bumblebee, but check out the antennae: they're short and stubby. Look for pollen baskets: there are none. It's a bee mimic—a hoverfly. It rubs its forelegs together in that unmistakably fly-y way, like a miser looking at gold. Are bee mimics good pollinators? According to what I read, they're not efficient, but they manage to spread some pollen while sipping nectar. And they eat aphids and other pests. Gotta give 'em credit!



Looks like a bee . . . but it's a hoverfly. Check out the tiny antennae.

Who else is enjoying the Ninebark?



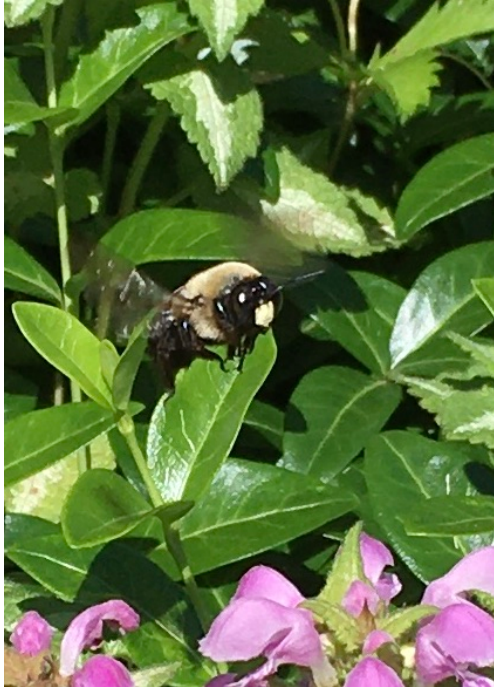
Clearwing Sphinx Moth (*Hemaris thysbe*), June 8

Finally, on June 12, I see my first honeybees – all on White Clover. I feel a sense of relief that they still exist in local untended meadows, but also some pain that there are so few. It seems to me that if there were a hive nearby, there would be more bees in the clover. Are these feral honeybees, living in a hole in a tree, rather than a man-made hive?



Honeybees on White Clover, June 12

The next day, I got a good photo of a male Carpenter Bee—not the first in the yard, but the first I photographed clearly. These look very much like queen Bumblebees (just a little bigger), but their heads are wider and they have shiny black abdomens. The males have a distinctive white face patch. They are busy for fewer hours a day than the Bumblebees – I see them in the middle of the day, when it's warmest.



Male Carpenter Bee (*Xylocopa virginica*) in a mixed patch of *Lamium* and *Vinca*, June 13

By June 15, the number of bumblebees in the yard has roughly doubled. I'm tired of counting them, but I estimate there are 35–40. This doesn't seem like a very large number!

I am delighted to see one visiting the freshly opened spirea and collecting pink pollen in its baskets!



A Bumblebee on *Spirea* with pink pollen in its corbiculae, our yard, June 16

June 17. I counted 35 bumblebees after dinner on: catmint, foxglove, lamium, salvia.

This was just before the explosion of flowers on the silky dogwood shrubs in our yard. There are so many of these shrubs, and they bloom for such a long time, I feel reassured that the bumblebees in our little yard community will be well-fed for at least the next couple of weeks. The population should keep growing through this season. There will be many other garden plants to please them, including thyme, lavender, Russian sage, hyssop, beebalm, and coneflowers, until the native goldenrods and asters begin to bloom. I will be keeping an eye on them.



Bumblebee on Silky Dogwood, June 20

Of course, I look for pollinators on the native wildflowers on my walks, too!



Bumblebee on a freshly opened Common Mullein blossom, June 16



Bumblebee on freshly opened Common Milkweed, June 20

To make a prairie it takes a clover and one bee,
One clover, and a bee,
And revery.
The revery alone will do,
If bees are few.
—Emily Dickinson



A Solstice Prairie: Bee foraging on White Clover, June 20, 2020

Bees are now fewer than they used to be. I remember being unable to step into a June meadow without almost stepping on a bee when I was a child. The buzz was as loud as the sound of electric wires over a power line is now. Now I listen and am barely able to pick up a sound. I look, and I find a few bees.

The collapse of the honey bee population in the early 2000s shocked us all. I noticed that our garden vegetables were getting pollinated anyway, and learned that this was due to other, native pollinator species, such as the bumblebees and mining bees (and many others). Surprise! It turns out that the native bees are already responsible for a great deal of pollination in our gardens. This was reassuring, and I thought, “Whew, we’ll be all right without honeybees, after all.”

But an important study published in Germany in 2016 found that the abundance of *all* flying insects in German nature reserves had decreased by 75% in just 27 years. Other studies in countries all over the world followed, and it is now clear that all sorts of insects are in decline, not just honeybees. In fact, some 25% of bumblebee species have disappeared or declined in the United States in the past 10 years. According to the real entomologists and conservationists,* the answer is simple: more abundant plant life, more connected plant communities. Simply by growing pollinator-friendly plants in our gardens, we can all make a difference.

I am well aware that my knowledge about pollinators is very, very, very, very limited. But paying attention to the ones that live in my own yard, I’m realizing that our gardens are their gardens, too, and I will try to keep the garden party lively by subtracting grass and making sure there is always something in bloom for the pollinators as well as for us.

*Books that I consult on a regular basis:

Heather Holm. *Bees: An Identification and Native Plant Forage Guide*. Pollination Press, 2017.

Doug Tallamy. *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants*. Timber Press, 2009.

The Xerces Society. *Attracting Native Pollinators: Protecting North American’s Bees and Butterflies*. Storey Publishing, 2011.

Everything I find online by these authors and the Xerxes Society is great, too.