

Field Notes – Third Week of July
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INFLECTIONS AND REFLECTIONS



Deep green shade on the floodplain of the Hop River, July 16

Just as the coldest part of winter lags behind the shortest day by about a month, the warmest part of summer follows the summer solstice by a month. And here we are, in the brazier of late July, the time of the highest mean temperatures of the year. Meteorological midsummer.

AN INFLECTION POINT FOR TREES AND SHRUBS

Last week, the Basswood bloomed, the apotheosis of the steady increase in floral mass that began in April. This week, there's a change in the season. I feel it, as I seek the shade of large trees on my walks, and I see it in the development of plants everywhere I go. There are more species of shrubs and vines in green fruit than there are in fresh flower. This is just a sample:



Fox Grape (*Vitis lambrusca*)



Nannyberry (*Viburnum lentago*)



Speckled Alder (*Alnus incana*)



Huckleberries (*Gaylussacia baccata*)



Beaked Hazelnut (*Corylus cornuta*)



American hazelnut (*Corylus americana*)



Carrion Flower (*Smilax herbacea*)



Winterberry (*Ilex verticillata*)

I believe that every native tree species I see in Andover has flowered by now. Almost all the native shrubs have begun setting fruit. By the time I finish writing these notes, the Summersweet (*Clethra alnifolia*) will have begun blooming—the next-to-last native shrub that I expect to see in fresh bloom this year.

The fruits and nuts that are now green will ripen in their own sweet time throughout the rest of the summer, providing a continuous supply of food for birds and mammals that need to start fattening up for migration and hibernation.

AN INFLECTION POINT FOR THE BUMBLEBEES

On July 15, just as the Basswood flowers were going to fruit (the fruit set on the two trees I was watching looks quite decent, I think, evidence of sufficient pollinator activity), I noticed a few dead and dying bumblebees on the Zinnias in the garden. Just a few, but I felt that something was changing. I also noticed a change in the “hum frequency” in the bumblebees in the large patches of thyme that we use as a groundcover in the gardens. Until this point, I’d been seeing medium- and small-sized bumbles moving systematically, slowly, through the thyme, humming very quietly. The next day (July 16), the pace accelerated: the majority were moving noticeably faster from flower to flower, and thus generating more sound. Buzz, buzz, buzz! They sounded impatient, as though they just couldn’t work fast enough. Then I noticed that many had no pollen in their corbiculae.

Today (July 18), I see about the usual numbers of bumblebees around the yard. They’re all moving manically, greedily sucking nectar as fast as they can. Not one of them is collecting pollen in her corbiculae. Clearly, they’ve been released from their job of the past month: packing up pollen and nectar for the nourishment of the reigning queen and her larvae. (In fact, it must have been the job of bagging groceries and lugging them around from flower to flower that made them move slowly all that time.) I suddenly realize that the change in the bees’ behavior must mean that their queen has expired. The colony (I think of it as just one, though it may be several) has reached its full size at the high point of meteorological summer. There will be no more new workers. The queen has laid the eggs for the male and female bees that will produce the next generation, and they have been nurtured by the workers to the point of independence. Soon, the mating game will begin.



Thyme (*Thymus serpyllum*) in bloom along garden paths. A bumblebee feasting on thyme flowers.

Each bee is now free to explore the world and eat, drink, and be merry. The worker bees that were the last to emerge from the nest might be able to enjoy life until frost, not having exhausted themselves in hard labor. The males will be seeking females to mate with—and, to keep the gene pool mixed, will travel as much as several miles to establish individual “mating grounds,” which they then patrol, trying to entice females. Mated females will be seeking to fatten themselves for a long hibernation underground. When the season is over, the mated queens will be the only survivors.

So now I understand much more than I did the first week of June, when I watched the first worker bumbles emerging and getting to work on the Rhododendrons, Catmint, etc. I understand that there were few bees, and a few flowers satisfied their needs. As the colony grew, day by day, more and more garden flowers were coming into bloom. The native shrubs we use in our borders provided huge stores of pollen and nectar, and the bees found them. They stayed as close to the nest as possible to be efficient.

The colony reached its maximum size, the queen produced males and gynes, and she stopped laying eggs. Now the bees are no longer beating a path back to the nest site. The shrubs have mostly finished their flowering. The next stage for the plants and the bees coincides: the blooming of the perennials that create pathways in the sun wherever they are not mowed; the movement of male and female bumblebees along new pathways to their mating fields and hibernation sites.

This is an Aha! moment for me. I have read plenty of literature about the importance of “pollinator pathways,” but I haven’t had a clear sense of any of “our” bees leaving the yard so far, or any “neighbor” bees drifting in from across the street or over the side hedges (though the butterflies do both). Now they’re all setting out on journeys to find mates, and they will need to follow “pathways” from one food source to the next. Got it!

I saw the first Early Goldenrod this week – the signature bloom of the pollinator pathways. More on the pathway plants next time.



Early goldenrod (*Solidago juncea*), July 15, Route 6