

*“Things are not always as they seem; the first appearance deceives many.”*

— *Phaedrus*

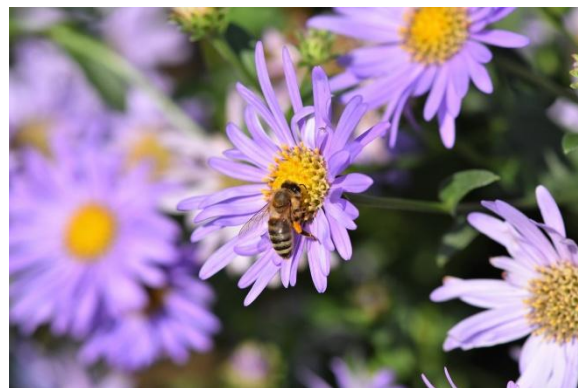
What do honey bees eat? Every beginner beekeeper knows that they only eat pollen and nectar from flowering plants. Every beekeeper who has done a little more studying knows that they also eat “honeydew” excreted by aphids and, when conditions warrant, their colony’s own eggs and brood. Yuck. Pleasant thoughts only, please! Let’s focus on pollen and nectar!

Our studious beekeeper also knows that bees, on a given flight, generally specialize in collecting either nectar or pollen, not both at once. They also know that some flowering plants only supply honey bees with nectar, some only with pollen and some with both. Oak trees, for example, provide lots of pollen but no nectar. Corn is another example of a pollen-only plant (its pollen is low in protein and isn’t very good bee food, but bees often collect it anyway).

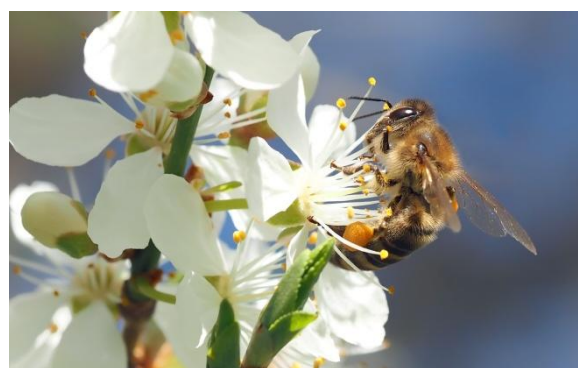
In contrast, sourwood is an example of a plant that produces copious nectar but relatively little pollen. This illustrates why the popular notion that pollen grains in honey can be used to identify and quantify the nectar sources that went into it isn’t particularly reliable, or at least it isn’t very accurate with regard to proportions. If a honey has half of its pollen grains coming from a particular plant, that does not, by any means, indicate that half of the nectar came from that plant.

However we do know that plants produce nectar to bribe insects, as well as other creatures, to enter their flowers and therefore transfer pollen from one flower to another. So pollen and nectar are associated with each other in a big-picture sense, even if that association isn’t easily quantifiable. So if we see a particular type of pollen in a foraging honey bee’s corbicula, we know that plant’s flowers are “open for business.”

But which pollen comes from which plant? There are academic resources on-line that show electron microscopy images of pollen grains so



Look carefully at the pollen in the bee’s corbicula in the photo above. It obviously comes from aster, since the bee is working asters on this foraging trip.



This bee is working cherry blossoms. Note the color of the pollen. It looks similar to the previous aster pollen. How can we tell the difference? Asters do not bloom at the same time as cherry trees! So we should not have any reason to confuse these two.

that we can get a pretty good idea of the most likely identity of the pollen our bees are bringing in. But just between you and me, I’m not going to go to all that effort to get scholarly-level precision. We can make a reasonable guess if we know the plants that are blooming in our area at a given time and know those plants’ pollen colors.

The trick is that flower color typically doesn’t have any relation to pollen color. Did you know that white poison ivy flowers produce red pollen? And red maple flowers yield khaki/putty-colored pollen. Yellow dandelions’ pollen is a rich orange color. How can we know which pollen comes from which plant?

The best way is to pull up a chair in the garden and watch bees work the flowers. Honey bees have what is called “flower



I don't often see red maple blossoms up close, but as a beekeeper I love to see the reddish sheen they give the tops of tall maple trees on my property. However the pollen isn't red -- it is a putty color, as seen here. Hopefully your colonies have loaded up on it in January and February! Photo: Geneva Green

fidelity", meaning that on any given foraging trip a bee will only forage on one type of flower. In other words, if squash and cucumbers are both blooming in the garden, a bee that is currently foraging on squash flowers will only have squash pollen in its corbiculi and one that is foraging on cucumbers will only have cucumber pollen.

To get more hints, visit the Wikipedia article [List of Pollen Sources](#). It has a chart, arranged by plant type and season, with many common pollen-producing plants. For each, the pollen color is both described and illustrated (for example, **yellow**). Notations include when the plant blooms; whether it is cultivated, feral or ornamental; and its value as a honey bee pollen source.

Two obvious but underappreciated clues as to what nectar plants your bees are foraging on are the color and taste of the honey. I once was given a jar of light-colored, fruity-tasting honey that was labeled "tulip poplar"; it wasn't! Tulip poplar honey must be a rich amber color and it must taste like tulip poplar honey. Otherwise it isn't from tulip poplars. Claiming that it is when it isn't is either ignorance or fraud. Likewise, sourwood honey commands a premium price and, to no one's surprise, is often falsely labeled.

What if we aren't sure what the nectar



Dandelion is one of many spring pollens with a rich orange color.

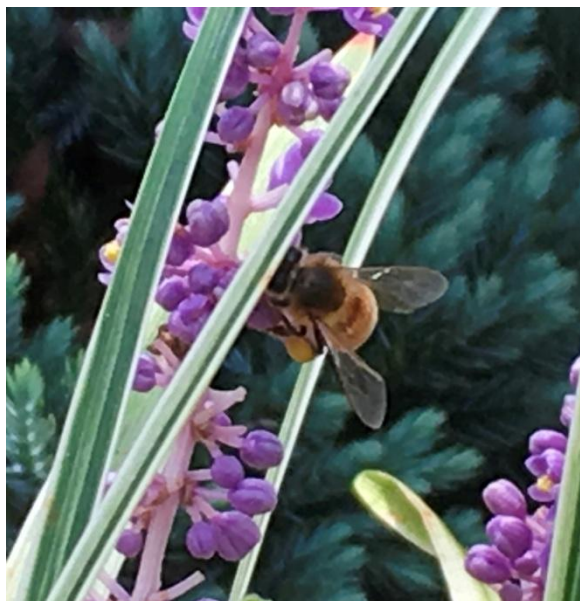


What plant are these returning foragers working for pollen? Hint: this photo was taken on January 8th. The greenish putty color and the time of year means this is red maple pollen. Photo: Mark Powers

source is? No problem: that's what the phrase "wildflower" is for. It simply means either "this nectar came from a mix of flowers" or "I have no idea where the nectar came from".

Customers often specifically request "wildflower honey", perhaps because the blend of nectar sources in your area creates a delightful taste treat. So don't shy from the "wildflower" label if it is appropriate. But more importantly, never defraud customers with a varietal attribution that is more wishful thinking than reality. As a group, we beekeepers work hard to push the message, "buy local from a trusted beekeeper"; please don't destroy that image for everyone by using shady labeling!

What are your bees visiting? Where does your honey come from? We don't have to



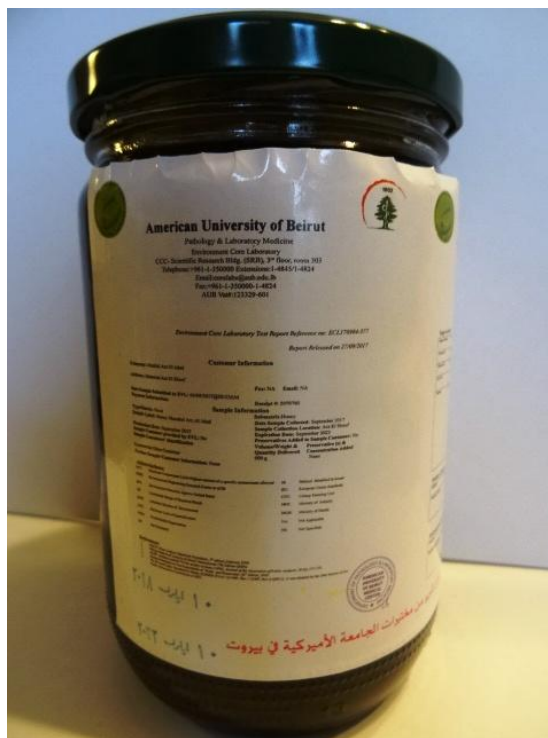
This bee working mondo grass flowers shows us that purple flowers don't mean that the pollen is purple.  
Photo: Louise Rascoe

guess: we can know! Take a walk around your neighborhood, watch bees on flowers and observe the pollen they are bringing home. To learn taste and color, make an effort to sample a variety of honeys from reliable sources. Doing so is not only educational, it is delicious!

*Many thanks to Geneva Green, Louise Rascoe, John Rintoul and Mark Powers for sharing the bees-on-flowers photographs that are included in this article.*

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This honey, part of my diverse personal collection, is made by bees that collected honeydew from aphids living on the famous Cedars of Lebanon, the same trees that Solomon used to build the Temple in Jerusalem. It is nearly black and has a strong, distinctive taste. It isn't sourwood or tulip poplar honey! Would you be able to tell the difference?