

Did you hear about the guy who never could tell his two horses apart? His problem was solved when one day he measured them and discovered that the white horse was two inches taller than the black horse.

-- Author unknown, but Noah probably told it to his kids on the Ark

Many beekeepers, both young and old, tell me that they can never find the queen in their hives. I suspect that part of the problem is that they may be looking for the wrong things. That is understandable: a quick search of the internet yielded wisdom on this topic that is too good not to share. WikiHow tells us, among other things, to:

- “use a magnifying glass to see if the stinger is barbed”
- “look for legs more splayed out than the legs of the other bees”

If you have been relying on the internet for your beekeeping education and so don't find those suggestions hilarious, this is a good time to read January 2016's [“Get Thee to a Bee School!”](#)

In my ongoing effort to shine light as a guide to beekeepers' journeys, I've come up with twelve genuine, beekeeper-tested tips for finding the queen. You may have tips of your own; I would like to hear them.

Tip 1: Do you need to see the queen?

Why are you opening the hive? If it is to assess whether there are plenty of stores, lots of brood and a laying queen, you don't actually need to see the queen to find your answer. If you see eggs then you know that the hive had a properly functioning queen within the past three days. Mission accomplished. You don't need to set eyes on her.

Can't see eggs? Look for very young larvae. Hint: bees don't feed eggs but they do feed larvae. A cell that has a milky white blotch of brood jelly in the bottom has a larva, even if it is too small for you to see it.

Sometimes we do want to visually confirm the presence of a queen. For example, when conducting a Varroa mite sugar shake



This queen is easy to spot. Note her “short” wings. This particular queen also helps with a solid-colored abdomen. The white dot indicates that she was born in 2016.

assessment, we want to be very careful not to include the queen in the shake jar. Or when making a swarm-prevention split, we want to make sure that we move the old mother queen to a new site. Or when the grandkids come to visit, we absolutely must be able to point out the regal lady of the hive. So yes, there are occasions when we want to find the queen, but most times we really don't need to.

Tip 2: Use a pair of extra-strong reading glasses when inspecting bees

I admit that I used to be a very bad queen-spotter. I would recruit my daughter, with her young eyes, to assist me with inspections. She could pick out the queen almost immediately, just as my Aunt Jessie could pluck four-leaf clovers from a field after just a quick glance.

I suspect a big part of my daughter's skill is due to good eyesight. Now I never inspect hives without using reading glasses that are a notch or two stronger than what I normally use.

Tip 3: Never try to figure out if what you are looking at is the queen

Another thing I learned early on is that when you find the queen, you will know it. She looks like the queen. So never waste time asking yourself or others “Is that the queen?” If you have to ask, the answer will always be “no.”



What happened to the dot? This is the same queen as in the previous picture but her thorax is obscured by worker bees. However she is still easy to identify by her “short” wings and, in this particular case, her solid-colored abdomen.

Tip 4: Don't look for the Big Bee

If your strategy for finding the queen is to look for the Big Bee, your eyes will gravitate toward every drone in the hive but not the queen. Drones look bigger than queens so “looking for bigger” is extremely inefficient; you'll have hundreds of false positives before you come across the Real McCoy.

Have trouble identifying drones? Drones look a lot like fat houseflies (sorry, it's true). They are big all over, with blunt abdomens. Their huge eyes are extremely distinctive: they nearly cover the entire top of their heads like big goggles.

Tip 5: Don't look for the dot

If your queens are marked, don't rely on the paint dot to find her. There are at least four good reasons for this:

- The top of the queen's thorax may be obscured by another bee
- The colony may have swarmed or superseded, so the queen is no longer marked
- The dot may have worn off
- Certain flowers leave a “Mohawk” stripe of pollen on the top of worker bees' thoraxes, causing many bees in the hive to appear to be painted

Furthermore, if you teach yourself to find the queen without regard to the dot then a marked queen will be even easier to spot.

Tip 6: The other bees know where the queen is

Once you remove the hive covers, look down between the frames before doing anything else. Are there frames with few bees on them? The queen isn't likely to be there. Begin your search elsewhere.

Does a frame contain nothing but wall-to-wall capped brood? The queen could, but isn't most likely to, be on this one either.

Does a frame have lots of very young larvae and eggs with more empty cells in which to lay? Hmm. Look at this frame carefully, and also the two frames on either side of it. This is prime queen territory.

As she walks across the face of a frame, the other bees can sometimes provide a visual clue as to where the queen is. The mass of workers may part as the queen pushes her way through them. If she is standing still, there may be a retinue of workers surrounding her like football players around the quarterback, touching and feeding her. Caveat: these worker behaviors can be fairly predictable in observation hives, such as the one at the Honey Bee Booth at the State Fair. However when a colony is smoked and frames are removed, the workers aren't in “normal mode” and don't necessarily perform on cue.

Tip 7: Look for the tired old housewife

A queen bee's job is to pop out eggs, up to a couple of thousand per day, all day every day her entire life. She normally moves across the frame like an old plow horse, more or less in straight lines looking for the next cell in which to lay. This movement is different than how workers move; they tend to change direction frequently, jittering across the face of the frame with no apparent agenda. Once you learn to recognize the plodding gait of a fat laying queen, she becomes easy to pick out.

Tip 8: Look for “short” wings

Tip 3 warns against looking for the Big Bee. However the queen's abdomen is much longer than that of a worker bee. Instead of looking for the Big Bee, look for wings that only span half of the abdomen. Workers' wings extend almost all of the way to the end of their abdomens; queen's wings only go about half way. This isn't because the wings are actually shorter – they are the same size as worker wings – but the visual perspective makes them look quite short.

Tip 9: Look for the bald spot

This tip is a dead giveaway. The top of the thorax in worker bees is very fuzzy. In comparison, the top of the thorax of queens is bald and shiny. Once you train yourself to notice the bald spot, it will jump out at you just as well as the most vibrant paint dot.

Tip 10: Look on the other side of the frame

Some queen bees can be notoriously shy. They seem to have an uncanny ability to know where we are looking (probably due to the fact that we hold the frame face in full light to get the best view). So after you methodically scan a frame face and have flipped it around to scan the other side, flip back to the first side and give it a second look before returning the frame to the hive. The queen may have been playing Hide-and-Seek with you, skirting from one side to the other to stay out of view. And don't forget to scan the tops, ends and bottoms of frames; she can be on them too.

Tip 11: Use your breath as a brush

If there are lots of bees in clumps or lots of nooks and crannies for bees to hide, blowing gently on them will cause them to “move along”



Can you find the unmarked queen in the photo above? Hint: Look for the bald spot, “short” wings and attentiveness of surrounding bees. Note that this particular queen has a striped abdomen, so that's not any help.

and may expose the queen.

Tip 12: “If at first you don’t succeed, try again. Then quit. No use being a darn fool about it.” -- W.C. Fields

If you’ve been looking for the queen for hours with no luck, stop it! Maybe she went down on the bottom board and is hiding in a crack. Maybe the light has gotten so dim that you’ll never find her. Maybe she’s not there, and all the looking in the world won’t change that. Close the hive up and try again another day with fresh eyes.

You can do it

Some queens are just easier to spot than others. Many of my queens have solid almond-colored abdomens, a stark contrast to the black-striped abdomens of the workers, but others have striped abdomens. Many go about their egg-laying business undeterred by the fact that I have pulled their frame out of the hive while others quickly scamper out of sight. Regardless of which type you have, make the effort to learn how to identify them. Over time, I’m sure you’ll come up with identification tips of your own!

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This is the same queen as in the previous picture. Even though she is partly covered, the bald spot and “short” wings still stand out.