"I know everything happens for a reason. But sometimes I wish I knew what that reason was."

– Unknown

The warm months are a time of frenetic activity in the bee world. Three activities that get lots of attention and are frequently confused with each other are robbing, swarming and orientation flights. At one level, they appear similar: there is energetic activity around the entrance with lots of bees in the air. But beyond that, each is distinct and easily identified once we know what to look for.

Robbing

Robbing is when one colony decides that theft is more productive than foraging. "Robbin' the Hood" explains the biology and psychology behind robbing, with some tips on how to prevent it. It is during the summer dearth that we most often see one colony fighting another to steal its honey, and during the early spring or fall that robbers empty dead-out colonies.

A colony actively under a robbing attack will have a large number of bees hovering within a few feet of the entrance. Watch carefully: the bees will not fly directly into the entrance as Home Bees often do. They may land on the front face or landing board of the hive and walk toward the entrance. Robbers will often be on the sides of the hive and below the cover looking for another way to break in. There will be bees tussling with each other as guards try to repel robbers and robbers fight for their lives. This fighting will be on the grass in front of the hive as well as at the entrance. Stand close to the entrance and the bees may engage you in the fighting.

After the battle has gone on for a while, the defending colony may run out of guards and essentially throw in the towel. When that happens, there will no longer be much fighting. Instead, a steady stream of incoming and outgoing bees may make things appear that everything is back to normal. But observe those bees carefully and you'll see that none of the incoming bees are carrying pollen. Robbers don't bring food to the party. Also, many of the

These colonies are embroiled in a full-out robbing event. How can we authoritatively tell that from a still photograph? We can't without more information. Photo: University of Florida/HBREL

robbers may appear shiny – after many scuffles, their hair can be worn off by combat.

Another sure indication that the war has been lost is seeing flecks of wax on the bottom board or, if the hive has a screened bottom, on the ground underneath it. The wax is from the cell cappings that the robbers have roughly ripped off to access get at the honey. When conducting a post-mortem, rough-edged cell walls are a sign that the comb has been robbed out.

When a colony is actively being robbed, stand behind it, facing forward, and watch the stream of bees as they come and go. They are coming from their home and returning straight to it. Watching their flight path, you may learn that the bully colony is the next one down the row in your own bee yard.

A final distinguishing characteristic of robbing in comparison to swarming and orientation flights is that a full-on robbing assault can last for a very long time: hours or even days. How long it lasts depends on how long the defending colony can hold out or how long the attacking colony maintains interest.

Swarming

Of the three look-alike activities, swarming is by far the most intense. "Swarm Season is Here!" describes the lengthy and complex process that honey bees use to replicate a colony. The frantic part begins with a mad rush of bees from inside to outside the hive, filling

the air in a broad column that I've seen extend ten or more feet in front of the hive and perhaps twenty to thirty feet high. This crazy tornado of bees swirls around for no more than five or ten minutes before finding something (often a tree branch) to settle on, forming a large ball of bees. The ball will stay there between thirty minutes and three days before permanently taking off for parts unknown.

If you want an ecstatic experience that a Normal Person is never going to encounter, stand still in the center of a swirling swarm column. Spread your arms and feel the excitement. The bees won't even know you are there – they are focused on something far more important – allowing you to witness up close a life-creating process that has been going on for millions of years. It is indescribable.

A characteristic of a swarm is its noise. My daughter Rachel came to me one day and said, "Dad, something is wrong with the air conditioner. It sounds like it is broken!" I went outside to the end of the house where my hives were located and the sound was incredible. Think of a normal hive hum times a thousand. When the sound starts to subside, you'll know that the cluster is settling. Even when grouped into a ball, a swarm usually makes a loud enough noise to be able to locate them by ear.

Another distinctive characteristic is the time that swarms occur. At my place, they leave the hive between 10:00 a.m. and 2:00 p.m. on a nice sunny day, without exception.

Orientation flights

When you park your car at the airport, do you turn as you walk away to get a good visual image of where the car is located in relation to the landmarks around the parking lot? Honey bees do the same thing as part of their flight training. Young bees will exit the hive, then fly around a bit to get accustomed to the landmarks that allow them to recognize home when flying at fifteen miles an hour. Studies[1] have shown that bees will spend about six minutes on each test flight, and will complete between one and 18 of them before becoming a forager. They'll begin doing this between three and 14 days after eclosing from their cell.

Flight School takes place at the same time of day for all of the young bees in a particular colony. At my place, sessions typically occur between 3:00 p.m. and 4:30 p.m. on nice sunny days and only last 30 to 45 minutes, ending somewhat abruptly. The most interesting trainees are the ones who walk to the edge of the entrance, turn to face the hive, then jump backwards into the air. They hover several feet in front of the entrance, bobbing up and down as they learn its visual characteristics. After mastering the basics, orientating bees will then fly farther afield to get a more panoramic view of where home is.

The loud hum and increased activity can resemble robbing but the bees' temperament couldn't be more different. There is no fighting or stinging. These are happy bees, enjoying the warmth and sun by trying out their wings. If only we could join them!

No need for confusion

Hopefully this description of robbing, swarming and orientation flights will enable beekeepers to recognize what type of frenzy they are witnessing at the hive entrance. Key distinguishing factors are the extent and duration of the ruckus, temperament of the bees and the time of day.

Spending time observing our colonies allows us to learn to read them and use that information for better management. We don't have to guess what the bees are doing – they'll tell us if we let them.

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Note: All previous articles are archived at https://baileybeesupply.com/educational_resources/

[1] Summarized in Clarence Collison, "A Closer Look: Orientation Flights and Scouting Behavior", *Bee Culture Magazine*, 22 November 2016, https://www.beeculture.com/a-closer-look-5/