

## Robbing Management in Honey Bees

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ARTICLE ID: 69

### Abstract

The term "robbing" is used to describe honey bees that attack another hive and steal the honey that has been stored there. The robber bees open the sealed cells, load the honey into their honey stomachs, and fly back to their hives. To access the stores, they will fight the local bees, which could result in the death of numerous bees. Simply put, robbing is the act of bees taking honey from another hive. When a stronger colony robs a weaker colony or neighboring hive due to a lack of food during the dearth period.

### Why does the Robbing occur?

Honey bees are compulsive herders. They will collect nectar or honey from any source they can find, and that includes a poorly guarded or weak hive. The chances are higher when there is lack of nectar resources.

Robbing occurs in honey bee colony during day time, usually during dearth period. The population of honeybees in various colonies grow, when there is limited flora around leading the colonies with high bee populations. The young forager bees, limited available nectar and pollen resources in the honey bee foraging range, went in search of more nectar and pollen resources. Old forager bees become attracted to weak colony from which they can steal nectar and pollen, honey resources. In case of weak colonies, they have fewer guard bees protecting their hive entrance which results in robbing of their hives. Lack of food stores in a hive results from complete honey extraction at the end of the honey flow season. The syrup left in a feeder during the day. Cracks and crevices in a hive and emanating honey smell. Different honey bee species together in apiary exaggerates the problem of robbing in honey bee colonies.

### Honey bee orientation flight vs Robbing

In orientation flight or often called "Play flights" the bees involved are rather calm. They are simply flying around the hive and hovering near the entrance.

However, bee robbing behaviour is very different. Robbing is aggressive action where the beekeepers see multiple bees fighting at the hive entrance.

### **Robbing in different honey bee species?**

Among the different *Apis* species, the most common for apiaries, impact of human manipulation in bees. All bee species create nests with concentrated resources that are attract to inter specifics. *Apis mellifera* colonies are robbed by *Apis florea* spp. and surprisingly, given the generally smaller sizes of *Apis florea* colonies and workers can overcome *Apis mellifera*. *Apis mellifera* colonies are robbed by *Apis cerena* a cavity nesting spp. with *Apis mellifera* possessing the competitive advantage.

Similarly, *Apis dorsata* open nesting bee spp. can rob *A. cerena* and *A. koshevnikovi* (both cavity nesters) have been observed landing on *A. dorsata* nests to rob them .

### **Recognition of bee robbing ?**

Sometimes a weak colony will suddenly die. But, the next day, there is no bees around the hives. The honey frames been clean, bees lie dead on ground.

### **Signs of Robbing:-**

- ✓ Robber bees trying to enter a colony with many workers flying around the hive
- ✓ Fighting honeybees roll and tumble sometimes on the landing board, sometimes in the air.
- ✓ Dead honeybees lie on the ground in front of hive and entrance.
- ✓ Robbing honeybees are often accompanied by wasps that are attracted to the dead bees as well as the honey.
- ✓ Robbing honeybees never carry pollen on hind legs.
- ✓ Pieces of wax comb may appear on the landing board as the robbers rip open new cells.
- ✓ The honey bees in the fray may appear shiny and black. This appearance is created when the bees lose their hair while fighting.<sup>23</sup>
- ✓ Robbing continues until the honey store in the colony being robbed is exhausted.



**Robbing sign**

Source-<https://carolinahoneybees.com/honey-bee-robbing-behavior>

#### **Management of Robbing:-**

- Move weaker colonies to another location.
- Fix the problem that made the hives weak in the first place; requeen, feed or equalize as needed.
- Ensure that all colonies in the apiary are strong.
- Make sure each colony has an emergency honey stock by leaving some honey at the end of the honey flow period stop harvesting when 20-25% of the honey remains
- At the time of harvesting of honey, do not drop honey in the colonies, clean it up immediately with a wet cloth.
- *Apis cerana* and *Apis mellifera* colonies should be kept in different apiaries to minimize robbing .
- Seal any cracks and crevices in the hives.
- When robbing is start, entrance get will narrow.
- This is the first line of defense when it comes to stopping robber bees. We can use some leaves or blades of grass and stuff them in the entrance. It allows air in, and the bees can push it out later when things calm down.

**The idea is to keep as many of the intruders out.**



- Application of vicks vapo rub: - applying vicks vapo rub allows masking the scent of the hive and serves to confuse the robbing bees. Natives don't suffer this confusion, so they can still make their way into the hive.
- Wrapping a wet towel around hive :- it confuses the robbing bees, keeps the hive cool, and locals can still find their way into hive.
- Limited hive inspection during dearth period:- opening up the hive releases all sorts of scents into the air , including the enticing aroma of honey. Keep the time that the hive is open to absolute minimum.
- Use of robbing screen: - this is used to confuse the robber bees. Bees rely more on scent rather than sight to go about their business. When sweet smell beckons the robbers, they follow it to the entrance of the hive, but they don't really have the smarts to figure out how to get around the screen placed in front of the hive. The inhabitants know their way around so they figure their way in and out of the hive. The foreigners get stuck trying to get through this force- field, and that gives the guards at the entrances the upper hand since the "secret" passageways on the side slow robbers down.
- We may also decide to cut losses and seal up a beehive immediately you see it being robbed. The robber bees in the hive will be dealt with by resident bees. Once locked, the beehive must be sealed for some time so that robber bees cannot gain access into the beehive. They will soon forget the location of the hive and move on to other food sources. A hardware cloth or screen that cannot let bees through should suffice. Keep the beehive closed for several days until robber honeybees give up.
- Spreading strong-smelling compounds on the beehive that is being robbed is done by some beekeepers to confuse robber bees. You may explore this method of stopping robber bees in your apiary. The strong smells of camphor, eucalyptus oil and menthol mask the smell of the beehive. Vicks Vaporub is especially suited for this use.
- Remove any excess supers or honey that the bees in a colony are unable to protect.
- When feeding colonies, always keep external feeder surfaces free of syrup and clean up any syrup spills.



## References

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