

*“Should I stay or should I go now?
Should I stay or should I go now?
If I go, there will be trouble
And if I stay it will be double
So come on and let me know”*

— *The Clash*

I often get requests this time of year to help a beekeeper with an end-of-season check-up. Many times, they'll say, “My hive was doing great a couple of weeks ago, I just want you to tell me what you think.” When we go out to the bee yard, I'll remove the hive cover and peer down between the frames. I'll call out, “Hello???” only to be greeted by an echo. Nobody is home.

This is not uncommon. Many beekeepers start out fine with their new adventure, only to find one day that “my bees all left.” Novices attribute this to absconding, an event where the entire colony packs up and leaves in search of greener pastures. In truth, most if not all of these cases are due to the colony collapsing and dying, not relocating. This is typically due to the diseases associated with Varroa mites. The catastrophic collapse can happen very quickly and in the classic case, it happens to the very best, strongest colonies – those are the ones with the most Varroa mites if treatment is neglected or ineffective. Late July and on into August and September is when I see this most. There will not be piles of dead bees left behind, only empty comb. Often the last remaining holdouts will scatter to hives in the surrounding area, a phenomenon described in October 2018's [“Have You Been Bombed?”](#)

What is absconding?

This doesn't mean that honey bees cannot abscond. In fact, there are two general types of absconding: “prepared” and “simple”, as described by H. R. Hepburn.¹



This hive has very few bees. The few that are there may be robbers, not residents. Where did the bees go? Are they on a sunny beach somewhere, enjoying the good life?

Prepared absconding

Prepared absconding is, as the name implies, a well-developed event that a colony prepares for. Hepburn says that reasons for it include “chronic disturbance/predation, declining nest quality, and sustained resource depletion.” In these circumstances, the colony anticipates and prepares for the abandonment of their hive by reducing brood production and consuming all of the available resources. Once most or all of the existing pupae emerge, the entire colony migrates to a new area. (Any remaining larvae and eggs are consumed to recycle their protein.)

This type of migration is common for tropical honey bees that live in ecosystems such that when seasonal foraging success tapers off in one area and/or predation greatly increases, they can move large distances down the road to find a new source of pollen and nectar. Mark Winston tells us that “Absconding swarms may travel as far as 160 km [100 miles] or more before constructing a new nest, migrating through areas of poor resources until they discover a better area with abundant but

¹ H. R. Hepburn, “Absconding, migration and swarming in honeybees: An ecological and evolutionary perspective”, in Vladilen E. Kipyatkov, ed., *Life Cycles in Social Insects: Behaviour, Ecology*

and Evolution, St. Petersburg University Press, 2006, pp 121-135.
http://entomology.bio.spbu.ru/personal/kipyatkov/pdf/publ/life_cycles-2006.pdf#page=134

localized floral resources, such as Eucalyptus plantations in Africa.”²

However, it is extremely important to realize that this behavior is rarely if ever found in temperate honey bees such as our European honey bees. Their genetic blueprint requires them to store up large quantities of food and ride out dearths instead of abandoning their nests and moving. The reason is simple: if honey bees in France were to abandon their nests as the winter dearth approaches and set out for new food sources in Germany, what would they find there? The same circumstances that they were leaving! Even if they were to find new resources, there wouldn't be time to recreate the comb and stores that are needed before winter sets in. So instead, our bees evolved to store up and ride out seasonal hardships. But tropical bees, such as African Honey Bees (as in *Apis mellifera scutellata*, the ones we have in parts of the US) aren't from areas subject to winter's deadline so they commonly abscond and migrate. Their genetics were formed in conditions where the effect of the seasons don't apply equally to all resources in all areas, making migration an excellent strategy. This predisposition to migrate is one of the factors that allowed them to rather quickly make their way from Brazil to Texas.

Simple absconding

According to Hepburn, “Simple absconding ... is the reaction to disaster.” Examples could include abandoning the hive due to fire or bear attack. In our area, colonies that are literally overrun with Small Hive Beetles have been known to abscond. African Honey Bees such as *Apis mellifera scutellata* have a reputation for absconding if they are disturbed too much (e.g. inspected too often) ... and the definition of “too much” is up to them, not the beekeeper.

Simple absconding is not common for European honey bees for three reasons. First, they rarely encounter conditions that merit the

label of “disaster”. Second, they are extremely reluctant to abandon brood; that's why adding a frame of open brood to a newly-hived swarm is a great way to get them to “stay put”. Third, their entire genetic disposition is to build up for the coming hard times; in the vast majority of cases, leaving the established home is a death sentence. (This is true even for reproductive swarms – few of them survive through to the following spring.)

A common absconding-like behavior

A type of absconding-like behavior that isn't discussed by Hepburn is one that is, unfortunately, quite common: absconding packages. A new beekeeper pays between \$125 and \$150 for a box of bugs, puts them in the apicultural version of the Taj Mahal and feeds them the finest sugar syrup that money can buy. The next day, the beekeeper goes to check on his tiny herd of livestock and discovers that they have all literally flown the coop. The beekeeper utters a pitiful cry and reflects that it would have been easier and quicker to have simply flushed that money down the toilet.

Technically, this isn't really absconding because the colony isn't abandoning its nest. It doesn't yet have a nest. The colony is simply shifting the location of its swarm from one place to another, based on... who knows?

Consider this: the brand-new colony has traveled in a small box from South Georgia to North Carolina. Now they have been dumped into a larger box, but it isn't “home” either. Why should they stay? The box we've provided is the right size with all the modern conveniences, so staying is certainly a good option for them. But the big wide world has lots of options, not the least of which is what Jack London described as “the call of the wild”³. We are lucky that usually the package does in fact hunker down and make the best of where we've put them, but we cannot demand that they do so.

² Mark L. Winston, *The Biology of the Honey Bee*, Harvard University Press, Cambridge MA, 1987, p. 220.

³ Jack London, *The Call of the Wild*, New York: The Macmillan Company, 1903.

There are lots of “great ideas” for encouraging packages to remain in the place where we want them to stay but there is no good reason for most of them to work. You’ll hear, “make sure you feed them” but think about it: when a natural swarm is looking for a nest site, is the proximity to food a consideration? No, it isn’t. (We should definitely feed packages so they’ll have the metabolic fuel to make wax and create comb, but the bees don’t give a location extra points for having food onsite.)

The same goes for advice to spray the foundation with some magic elixir. A pleasant smell isn’t on the colony’s house-hunting list either. Smell may attract scouts to an empty box but once the colony is in it, they produce plenty of their own “here’s home” smell.

The only somewhat reliable trick that I am aware of is to put open brood in the hive, for the reason already mentioned – European honey bees are very reluctant to abandon brood.

What isn’t absconding?

Just so our terminology is perfectly clear, absconding is when a honey bee colony completely abandons its nest. There are behaviors that people confuse with absconding that aren’t:

1. Reproductive swarming: Half or more of the colony leaves with the old mother-queen. See April 2019’s [“Swarm Season is Here”](#) for details.
2. Colony death: Just because nobody is home, it doesn’t mean that the colony has happily relocated to a sunny beach in the Caribbean. Bees are fastidious creatures and remove their dead from the hive if they are able. Also, when possible, sickly bees fly away from the colony to die. Colonies that dwindle and die won’t have piles of dead bees. For more information on how to play “CSI: Bee Hive” and determine what actually was the cause of the colony’s demise, see Dr Meghan Milbrath’s excellent article,

[“Why Did My Bees Die?”](#) at

Beeinformed.org. Especially check to see if there are white patches of Varroa mite poop stuck to the top of the brood cells, as shown in Dr Milbrath’s photos. (With good light coming over your shoulder, hold the frame with the bottom bar toward you and look across the comb so the tops of the cells are visible. The poop is white and granular, very distinctive once you learn to recognize it.)

3. Mite bombs: Facing death from Varroa mites and their viruses, colony cohesion collapses and the remaining bees scatter to find sanctuary in surrounding colonies. They don’t relocate as a unit – it is “every woman for herself.” This isn’t technically absconding because the colony doesn’t leave; there is no longer a functioning colony. It is just individual bees trying to survive elsewhere. See October 2018’s [“Have You Been Bombed?”](#) and December 2019’s [“Honey Bee Colonies as a Superorganism”](#) for more information.

As beekeepers, our challenge is not only to do what we can to keep our bees healthy and productive, it also is to correctly evaluate the situation when things don’t work out that way. If we assume that all is well when it isn’t, we cannot improve our keep-‘em-alive skills. Let’s start with fessing up to the most likely cause of the situation when we find that our boxes are empty. Then we can try to address the real issues without fantasizing about our bees living happily in a new home at the beach!

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