

“My family lived off the land and summer evening meals featured baked stuffed tomatoes, potato salad, corn on the cob, fresh shelled peas and homemade ice cream with strawberries from our garden. With no air conditioning in those days, the cool porch was the center of our universe after the scorching days.”

– David Mixner

Last month we learned how to tell the difference between robbing, swarming and orientation flights, appropriately (if not imaginatively) titled, “[Robbing, Swarming or Orientation Flights: How Can We Tell?](#)” A fourth bee behavior, bearding, sometimes gets associated with this confusing mix but, in my opinion, it clearly doesn’t belong in that group. Bearding is when large numbers of bees aggregate on the face and/or at the entrance of the hive, sometimes drooping down in a beard-like mass. Unlike the behaviors previously discussed, bearding isn’t usually accompanied by frenetic activity. The bees are just hanging out, seemingly minding their own business. Hmm.... What is that business?

In Piedmont NC, we’ll typically see bearding when we have well-populated colonies and it is summer. Summer is relevant for two reasons:

1. It is hot, both inside and outside the hive.
2. In the summer dearth, foragers are often unemployed and have nothing better to do than hang around waiting for conditions to change.

Lightly-informed beekeepers sometimes panic when they see bearding, assuming that it portends swarming. Perhaps this notion comes from the fact that during a swarming frenzy, it is common for bees to clump on the hive face and at the entrance while everybody frantically swirls around trying to figure out what comes next. But that doesn’t look like regular ol’ bearding, which is a calm, laid-back affair. Bees may perhaps swarm after we see them



Bees are clustered on the face of these hives on a hot summer day. What does it mean? What are they doing? Should we be concerned?

Photo: the author

bearding but if so, the bearding didn’t have anything to do with it. Note in particular that bearding typically occurs in the summer, which in our area is well past swarming season.

So why do honey bees beard? We’ve already alluded to two conditions that form the answer: heat and high population. In fact, the second (population) contributes to the first (heat). Honey bees generate a lot of heat just going about their normal business, as discussed in “[Honey Bee Colonies as a Superorganism](#)”, and the colony regulates the overall temperature of the brood nest as needed for the health and development of its young. One of several mechanisms they use to do this when the thermometer moves up into the red zone is to remove hot bodies from the nest.¹ This is exactly the same thing that Andy, Barney and Aunt Bea used to do on hot summer nights in Mayberry: they’d leave the closed-up house and sit out on the porch. Not only does removal of warm bodies prevent those bodies from heating the nest further, it transfers heat from inside to outside in a way similar to how a heat pump works.

So bearding is a normal process that demonstrates our bees have things well under control. But if seeing bearding bees still

¹ Stabentheiner, A., Kovac, H., Mandl, M. et al. “Coping with the cold and fighting the heat: thermal homeostasis of a superorganism, the honeybee

colony”, J Comp Physiol A 207, 337–351 (2021). <https://doi.org/10.1007/s00359-021-01464-8>



Old folks (the author's parents and in-laws) chill out on the front porch. Honey bees do the same thing, for basically the same reason. Instead of being a cause for concern, it is a sign of order and tranquility.
Photo: the author

distresses you, there is something you can do to reduce or even eliminate it, at least visually. The purpose of bearding is to remove hot bees from the nest, but they must have a place to go. A slatted rack placed beneath the lowest brood box and above the bottom board gives the bees lots of “hangout space” outside of the nest. See [“Slatted Racks”](#) for a full description. You can accomplish the same goal using a completely empty super or hive body, but a slatted rack eliminates the risk that the bees will fill the empty space with comb. There is no great imperative that a beekeeper uses this technique to reduce bearding (bearding doesn’t cause any real problem), but it is interesting to witness the result.

One last, important point: a Google search on “bee bearding” will spit out lots of references using “beard” as a noun, not a verb, and the beard is on people, not on hive boxes. That is a completely different topic. Such a bee beard is created for educational purposes or shock value (or both!) and demonstrates how honey bee swarms maintain a cohesive cluster centered around the queen. In the classic demonstration, a queen cage, containing a queen bee, is attached to a string, which is then tied around someone’s head so that the cage is suspended below their chin. Bees are then



Don't confuse normal bee bearding behavior with bee beards, as shown by these folks in a Canadian Bee Beard Competition.

Photo: BBC

<https://www.bbc.com/travel/article/20130713-in-canada-a-competition-for-the-best-bee-beard>

dumped on or near the volunteer. The bees locate the queen via her pheromone signal, and that “come here!” signal is amplified as the bees emit their own Nasonov pheromone. Very quickly the queen cage and the volunteer’s face/neck/body are covered by a huge clump of bees.

If you ask, “Who would come up with something like that?” the answer is Petro Prokopovych, a Ukrainian commercial beekeeper who promoted bees and beekeeping in the first half of the 1800s. Now you know.

There are tricks to doing this safely, such as putting cotton balls in the volunteer’s ears and nose and increasing the proportion of docile house bees in the swarm by moving the donor hive away from its original site for a day so that grumpy foragers aren’t included in the demonstration. Bee Informed Partnership² has some simple instructions that explain how they do it. I’m no expert in creating bee beards so don’t take my word for it, but if you create one, please send me a photo!

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² <https://beeinformed.org/2011/08/01/how-to-make-a-bee-beard/>