

Background Information on Africanized Honeybees

Arkansas Department of Agriculture

In order to understand Africanized Honeybees (AHB), it is important to have some understanding of Honeybees in general.

Honeybees live in a very sophisticated, social structure. They are not aggressive but have variable degrees of defensiveness – they protect their “families and homes”.

How they got here:

Honeybees were not native in either the north or south American continents but were brought to both continents by European colonists as valuable assets for the products they produce. The European Honeybees (EFB) brought to the northern continent were well adapted on arrival due to similar climates and flora in Europe and North America. Conversely, the European bees never really adapted to the more tropical conditions of South America.

In the 1950's, researchers in Brazil came to the conclusion that importing bees from South Africa to interbreed with the bees already present in Brazil would help them to take better advantage of the resources there. This has been proven to be true, in South America beekeepers who've adapted to the behaviors of the AHB have created a booming industry out of what had been very marginal before the introduction.

Both bees European and African bees are *Apis mellifera* but there are differences in sub-species. It was known that the South African bee had tendencies to be more defensive due to the number and variety of predators. To the unaided eye, there are no differences. Individual stings are also virtually the same but Africanized honeybees react in greater numbers. This can result in a greater number of stings.

The introduction of a new sub-species was to be done under controlled conditions while studies were being conducted. Unfortunately a yard keeper released the bees not knowing why they were confined.

Quite rapidly the genetics of the African Honeybees spread into the European stock and therefore became known as “Africanized”. The term “killer bee” was actually due to a mistranslation of a misunderstanding. It was originally thought that the bees assassinated the European queens. The Portuguese word for “assassin” is the same as the word for “killer”. But this misunderstanding and the mistranslation that followed stuck because Hollywood and the press found it to be a good “seller”. This is unfortunate on many levels. It blurs the facts while creating exaggerated fears.

Since the introduction of the African bees to Brazil, the cross with the European bees has been very successful. The resulting Africanized Honeybees have spread in all directions mostly due to their swarming and mixing with the already present European bees. Many of the traits, including their defensiveness, are genetically dominant and don't seem to dilute. While they were in South and Central America they moved an average of 200 to 300 miles per year toward warmer climates. At the same time, they moved much slower toward the south and into higher elevations.

This rate of movement was observed for many years until, in 1990, when they reached Texas. Due to droughts and parasites their spread seemed to slow considerably. Also it was noticed that they tended to stick to paths where water and forage was most readily available. It took nearly a decade for them to be established in the vast majority of Texas counties. A few years after

entering Texas, they entered New Mexico and Arizona and later yet, they entered California and Nevada. In 2004 they were found in Oklahoma and during that year were found in several counties in that state. This year they've been found in several more Oklahoma counties and in June of 2005 were found in a county bordering Arkansas.

Honeybees are Extremely Beneficial

Honeybees are extremely beneficial insects and must be protected. In the U.S., approximately \$225 million of honey and other products from the bees are produced annually. While that's a significant amount, it's less than 1/50 of the value of the crops made possible because of the pollination done by the honeybees. According to studies done by Cornell University for USDA, the US agricultural product is increased by \$14.2 billion every year due to the work of the bees. Nearly one third of the food we eat is made possible by the pollination the bees do while they're collecting nectar and pollen from the flowers.

This doesn't even take into account the added beauty and life the bees add to our flora and fauna.

What to do Around Bees

Bees have a tendency to protect themselves and their homes. For that reason people should respect their space by not approaching where they're nesting. Any harassment of a bee nest can create a stinging situation. Trying to kill a colony of bees by spraying an insecticide can be both ineffective and dangerous. There are few circumstances when bees should be killed. Remember, most honeybees are good to have around.

If bees are flying around you, don't swat at them or try to kill them. Swatting at bees can appear that you are an aggressor. Squashing a bee can also put out an alarm odor that can attract more bees to the defense. The best thing to do is to rapidly walk away. If several bees are stinging you, you should run to safety. Protect your eyes, head and neck while getting to a safe place. Safety would be into a house or vehicle where you can be protected until the incident is over. Hiding under water is not a good idea.

If you get stung remove the stinger by scraping it with a stiff card or the back of a knife. Don't grab the stinger to pull it out, as you'll be putting more venom into your body.

How to get a Sample for Testing?

Don't! If you suspect that some bees in your area may be Africanized, call the Arkansas Department of Agriculture. The number is 501-225-1598.