

## Invasive Species Information Packets

### Killer Bees

#### ARTICLE 1



**Killer Bees are slightly smaller than the European honey bee, but only an expert can tell them apart**

Africanized Honey Bees (AHB) -- also called Africanized bees or killer bees -- are descendants of southern African bees imported in 1956 by Brazilian scientists attempting to breed a honey bee better adapted to the South American tropics.

When some of these bees escaped quarantine in 1957, they began breeding with local Brazilian [honey bees](#), quickly multiplying and extended their range throughout South and Central America at a rate greater than 200 miles per year. In the past decade, AHB began invading North America.

Africanized bees acquired the name killer bees because they will viciously attack people and animals who unwittingly stray into their territory, often resulting in serious injury or death.

It is not necessary to disturb the hive itself to initiate an AHB attack. In fact, Africanized bees have been known to respond viciously to mundane occurrences, including noises or even vibrations from vehicles, equipment and pedestrians.

Though their venom is no more potent than native honey bees, Africanized bees attack in far greater numbers and pursue perceived enemies for greater distances. Once disturbed, colonies may remain agitated for 24 hours, attacking people and animals within a range of a quarter mile from the hive.

#### **Bee Invasion?**

Africanized bees proliferate because they are less discriminating in their choice of nests than native bees, utilizing a variety of natural and man-made objects, including hollow trees, walls, porches, sheds, attics, utility boxes, garbage containers and abandoned vehicles. They also tend to swarm more often than other honey bees.

The first swarm of Africanized bees was detected in the U.S. in October, 1990 when they were captured in a baited trap at the border town of Hidalgo, Texas. AHB colonies were first reported in Arizona and New Mexico in 1993 and in California in October, 1994. Within a year, more than 8,000 square miles of Imperial, Riverside and northeastern San Diego counties were declared officially colonized by [Africanized Bees](#).

To date, more than 100 counties in Texas, 6 in New Mexico, 14 in Arizona, 1 in Nevada, and 3 counties in California have reported [Africanized honey bees](#). AHB continue the northward expansion of their territories by swarming, the process by which [bee colonies](#) replicate.

In May of 1991, Jesus Diaz became the first person to be attacked by AHB in the U.S. while mowing a lawn in the border city of Brownsville, Texas. Diaz suffered 18 stings and was treated at a local hospital.

On July 15, 1993, 82-year-old Lino Lopez became the first person to die in the U.S. from Africanized honey bee stings. He was stung more than 40 times while trying to remove a colony from a wall in an abandoned building on his ranch near Harlingen, Texas.

Arizona's first human fatality from Africanized Bees occurred in October, 1993 when 88-year-old Apache Junction woman disturbed a large Africanized honey bee colony in an abandoned building on her property and was stung numerous times.

Although such fatalities are alarming, Africanized Bees probably present the greatest danger in the U.S. to American beekeeping and American agriculture in general. AHBs often enter European colonies to mingle and mate with them. Such mating results in more hybrid bees having African genes and tendencies dominating over European ones. An entire colony may suddenly take on aggressive and short-tempered behavior.

#### **ARTICLE 2**

In 1957, a beekeeper in São Paulo, Brazil, accidentally released 26 Tanzanian queen bees who went on to launch an agricultural calamity, a horror-movie franchise and a whole new level of melissophobia. The queens mated with native European honeybees to create so-called killer bees, or Africanized bees — an especially aggressive species. Africanized honeybee swarms have been known to stage coups where they invade European honey hives, kill the European queen and install their own leader. The bees first infiltrated the U.S. in 1990 and have since spread to the southern parts of many states, including California, Nevada, Utah, Arizona, New Mexico, Texas, Oklahoma, Louisiana, Arkansas and Florida. Though movies such as the 1974 film *Killer Bees* have succeeded in instilling fear, the bees' venom is no more toxic than that of the European honeybee. They are, however, known to

sting many more times, with some victims receiving more than 1,000 stings. In addition to being a threat to humans, they are also relatively lousy at producing honey — making them a threat to agriculture as well.

## ARTICLE 3

### **Name of Species**

The Invading Killer Bees

### **Where It Came From**

Though they look like regular honey bees, African bees behave very differently. Originally imported into Brazil in the 1950s to try to increase honey production, many African bee queens escaped and mixed with local honey bee populations.

### **Where It Invaded**

They spread northward up to 200 miles a year reaching the United States in the 1990s.

### **Its Effect**

They were an unwelcome arrival. African bees are much more aggressive than honey bees and will react to a smaller disturbance with violent attacks. They have been known to chase people more than a quarter mile away from their nest. Hundreds of people have died from African bee attacks. All honey bees can sting and should be avoided, but African bees are especially sensitive to being bothered. Be careful out there!

### **Solutions**

People have tried to solve the problem of these spreading dangerous bees by replacing the queen with the calmer European bee queen.

## ARTICLE 4

### **Africanized Honeybees (AHB)**

*Africanized Honeybee Scientific Name: Apismelliferascutellata*

### **All about the Africanized Honeybee**

Like something out of a comic book, the [Africanized honeybee](#) is actually the result of a failed experiment in Brazil in the 1920s. Hoping to breed a honeybee which could be acclimatized to Brazil, the African honeybee was brought there and then accidentally released into the wild. When the African honeybees bred with European honeybees something akin to Frankenstein's monster resulted. Now colloquially referred to as "killer bees," Africanized honeybees are considered an invasive species, occasionally even taking over other colonies of Honeybees.

Africanized Honey Bees

### **How are Africanized honeybees identified?**

If a [colony of bees](#) is suspected to be the Africanized honeybee species, it should be taken to a lab for professional inspection. There are characteristic traits that may be helpful in initial identification, however. The most distinguishable feature of the Africanized honeybee, as opposed to European species of honeybee, is its shorter wings. Wings shorter than 9mm are suspected to be Africanized honeybees. In other respects, the Africanized honeybee resembles other honeybees: 3/8 to 1/2 inch long, brownish in color with black stripes, four clear wings attached to the middle of the body, and two large, bulbous compound eyes. Queen bees have a much longer thorax than workers and drones, a curved stinger, and no pollen baskets or functional wax glands. Drones are the largest bees in the hive and lack a stinger, pollen baskets, and wax glands.

### **Where does the Africanized honeybee live, and what does it eat?**

Since the introduction of the AHB in the 1920s, they have spread from Brazil and northern Argentina and have made their way to Central America, Trinidad, Mexico, and southern states in the U.S. including Arizona, Nevada, Texas, southwest Arkansas, New Mexico, and California. Thought to have been brought in to ports on cargo ships, the AHB has also been reported in Florida, Louisiana, and Georgia. As the AHB prefers a tropical climate, it is thought to be the biggest threat in the U.S. in the southern states.

Like other honeybees, the AHB lives in a colony inside a beehive. Bee colonies are most active in the spring, and host three kinds of adult bees: the Queen (one), workers (thousands), and drones (several hundred). Each bee has a specific task to complete, and as a colony produce a functioning, efficient hive. Worker bees are responsible for nest building, food collection, and brood rearing. The Queen is the sole reproducer and drones act as the Queen's mates during reproduction.

The inside of a beehive consists of tightly packed hexagonal cells made of beeswax (a honeycomb). Bees use the honeycomb to store honey and pollen and to house the eggs, larvae, and pupae. Honeybees will normally use rock cavities, hollow trees and caves as nesting sites. They may also build hives in sheltered parts of houses (between the roof and exterior walls) and other manmade structures.

The diet of the AHB is pollen and nectar from a variety of flowers, which is what they use to make honey. Honeybees are therefore attracted to gardens and fields with a variety of flowering plants. The honeybees will collect sugar, fruit juices, and other sweet substances from flowers.

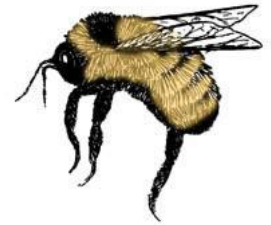
### **The Africanized Honeybee's Circle of Life**

About a week after emerging from her cell, the Queen Bee will go in search of mates. She will mate with 7-15 drones in flight then return to the hive within 48 hours and lay her fertilized eggs. If unable to mate for some time (due to unfavorable weather, etc), she will lay unfertilized eggs (drones). Worker bees then work to care for the larvae that hatch from the eggs in about three days.

### **Africanized Honeybees and Humans**

Contrary to popular belief, the sting of the Africanized Honeybees is no different than a normal honeybee, and does not possess any lethal properties. It is the nature of the AHB's attack that is dangerous to humans and animals. Highly defensive and easily agitated, the AHB will respond to a perceived threat instantly with considerable force. The typical European honeybee's reaction

may be delayed as long as 30 seconds. The Africanized honeybee stations as many as 2000 soldier bees to protect its colony, and if threatened have been known to pursue the invader for ¼ mile. Not only are Africanized honeybees more likely to attack than typical honeybees, they attack in much larger numbers and are relentless in their efforts. Africanized honeybees will respond to a perceived threat ten times faster and deliver ten times as many stings as other strains of the honeybee. The AHB has been attributed to 1-2 human deaths per year, but whether or not these cases are connected to an allergy to the bee stings is not always known. The AHB sting is venomous, but severity depends on age and health of the victim and whether or not the victim is allergic to bee venom.



#### Africanized Honeybee Swarm

##### **Treating the Sting of the Africanized Honeybees**

Although these bees go by the common nickname “killer bees,” in reality their sting does not cause death unless the victim is allergic to bee venom. There are some instances when a medical professional should be contacted immediately if stung by the Africanized honeybee. Contact a medical professional immediately if:

- you have more than 12 stings
- you are allergic to bee stings
- symptoms last more than two days
- you experience symptoms like burning, itching, body swelling, rash, shock, unconsciousness, difficulty breathing, or nausea (these symptoms may signal an allergic reaction to the bee sting)

Stingers should be removed right away, but do not squeeze the sting when you take it out – this could cause more venom to be injected into the skin. Treat the sting(s) with ice and pain medication.

##### **Professional Africanized Honeybees Control**

Although Africanized honeybees are an aggressive strain of honeybee, population control of this species should still be done with prudence. Because this species, as with other honeybees, is currently threatened by the “colony collapse disorder,” this excellent honeybee is at risk. If a hive is on your property it should be removed immediately, but control of the Africanized honeybee should be done by a professional.

1. **Be certain you’re dealing with the Africanized honeybee:** A professional will positively identify the bee species as the Africanized strain, then work on locating and removing the hive.
2. **Location and Removal of Hive:** The beekeeper or other professional will locate the hive in or around your structure then smoke out the bees until the hive is clear. The hive is then bagged and thrown away. Smoking the bees will allow the bees to get out safely and find another location to nest.
3. **Insecticide:** If relocation of the bee colony proves difficult, insecticides may be used to eradicate the colony. There is always a possibility that the colony will resettle, so many professionals will apply a dust, liquid, or aerosol insecticide to catch any of the remaining population left behind. Killer Bees Swarming In Tree

##### **DIY and Green Solutions for Africanized Honeybee Control**

While the AHB is an aggressive species and considered a danger to humans, there are some things that can be done to help prevent your home from being invaded by this species. Keep in mind that if you or someone near you is allergic to bee venom, this task should certainly be left to the professionals. Always wear proper attire when dealing with hive removal: long sleeves and pants, a veil, and gloves will help protect you from any possible stings.

1. **Locate the Beehive, Kill the Bees, and Remove the Hive:** Check your house for places the hive may be situated: try birdhouses, pots, chimneys, inside walls, or eaves of buildings. Any open structure the bees can get in and out easily but is still somewhat shielded is a likely place for nesting. Use of insecticides should be done in winter or spring when the colony is smaller. Spray the hive with insecticides (Sevin works well for bees) inside and out. Re-application may be necessary if the population doesn’t decrease. Once the hive is empty, remove it carefully, put it in a garbage bag, and throw it away. Look for natural or organic insecticides if you’re worried about chemicals near kids or pets. A green pest control company will remove the hive using no dangerous compounds.
2. **Clean and Seal up!** Clean the beehive area thoroughly with soapy water then seal all entry points to your home with caulking. Consider installing screens on vents and rain spouts.

Although somewhat sensationalized, the Africanized honeybee is considered a threat to humans and animals. Attacking in much larger numbers and inducing many times more stings than the regular honeybee, the AHB is a pest that should be eradicated from dwellings inhabited by humans and animals. Do-it-Yourself methods should only be employed if you have experience dealing with beehives, otherwise control is best left to professionals (especially if you have an allergy to bee venom).