Differences Between European and African Honey Bees[1]

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African honey bees and European honey bees are the same species (*Apis mellifera*), but the two are classified as different sub-species. European honey bees were first introduced to the Americas in the 1500s by European explorers. For centuries, European honey bees have been selected by beekeepers for their robust honey production and storage behavior, their reduced regular swarming (colony splitting) tendencies, and their gentleness. The African honey bee (*Apis mellifera scutellata*) was brought to Brazil in the 1950s in an effort to increase honey production. However, the African colonies swarmed accidentally and established new colonies that thrived in Brazil's native environment. Since then, African bees have spread throughout South America, Central America, and into the United States. The African honey bee is considerably more defensive than its European cousin. Consequently, it is important to understand key differences between the defensive African bee and the docile European honey bee. The term "Africanized" generally is applied to any progeny resulting from matings between European and African bees. The acronym "AHB" is now a commonly used, practical identification term.

Hive Defense and Stinging

Unlike wasps and hornets, honey bees can only sting once, and will die shortly afterward. Stinging is often a last resort in hive defense.

The venom of the African honey bee is no more potent than that of the European honey bee. For a fatality to occur from venom toxicity, it normally would take about 10 stings per pound of body weight, from either an African or a European honey bee. The main difference between the European and African honey bee is the defense response: an African honey bee colony, if disturbed, will send more guard bees to sting, and will pursue for a longer distance and stay agitated for a longer period of time, than will a European honey bee colony.

European Honey Bee	African Honey Bee
May send out 10–20 guard bees in response to disturbances up to 20 feet away (Figure 1)	May send out several hundred guard bees in response to disturbances up to 120 feet away (Figure 2)
Once agitated, will usually become calm within 10–15 minutes	Once agitated, may remain defensive for hours or until the sun sets
Disturbing a colony may result in 10–20 stings	Disturbing a colony may result in 100–1000 stings

Swarming and Absconding

Swarming is a natural occurrence when the colony gets too large and resources are abundant. The colony rears a new queen and the hive splits. Absconding occurs when resources are scarce or there is a threat to the hive. The entire colony will abandon the hive for a new location. For more information about swarming, see *Frequently Asked*

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Questions about the African Bee in Florida (http://edis.ifas.ufl.edu/IN738).

European Honey Bee	African Honey Bee
Swarm 1 or 2 times per year	Can swarm 10 or more times a year
Swarms are larger and need larger volume in which to nest	Swarms contain fewer individuals, and therefore a much smaller nest cavity is needed (Figure 3)
Rarely abscond (or completely abandon nest) from nesting location	Abscond often and relocate to more suitable nesting locations

Figure 1. European honey bees typically only send out 10-20 guard bees when disturbed.
Credits: Ian McGuire

Figure 2. An Africanized bee colony will send out hundreds of guard bees when disturbed.
Credits: Ian McGuire

Selection of Nesting Site

Because African honey bees swarm more often, fewer individuals are involved in each swarm, meaning they do not require a large cavity to build a nest and are often discovered in water meter boxes (Figure 4) and other man-made cavities. European honey bees need a larger-volume nesting site, and tend to nest in hollowed tree cavities (Figure 5).

European Honey Bee	African Honey Bee
Nests in large cavities, around 10 gallons in size	Nests in smaller cavities, 1 to 5 gallons in size
Typically nest in dry, aboveground cavities	Will nest in underground cavities
Nests in protected locations, rarely exposing the nest (Figure 5)	Will nest in exposed locations, (e.g., hanging from a tree branch) (Figure 6)
Due to larger colony size, nests are often easier to detect	Due to smaller colony size, nests often go undetected until disturbed

Figure 3. A swarm of African honey bees.
Credits: W. H. Kern, Jr., UF/IFAS

Figure 4. A water meter box where a previous African honey bee colony had been nesting.
Credits: UF/IFAS Honey Bee Research and Extension Laboratory

Figure 5. A large hollow tree cavity suitable for a European honey bee nest.
Credits: UF/IFAS Honey Bee Research and Extension Laboratory

Figure 6. Exposed two-month-old African honey bee colony on tree branches.
Credits: W. H. Kern, Jr., UF/IFAS

Additional Resources

Bee Proofing for Florida Citizens, EDIS, UF/IFAS Extension http://edis.ifas.ufl.edu/IN74. Instructs homeowners and property owners in the specifics of bee-proofing and its importance.

Frequently Asked Questions about the African Honey Bee in Florida, EDIS, UF/IFAS Extension http://edis.ifas.ufl.edu/IN738. Addresses questions frequently asked about the African bee in Florida.

What to do About African Honey Bees: A Consumer Guide, EDIS, UF/IFAS Extension http://edis.ifas.ufl.edu/IN739. Offers recommendations and precautions to Florida's general public about the African honey bee.

African Honey Bee, Africanized Honey Bee, Killer Bee, Lepeletier (Insecta: Hymenoptera: Apidae), EDIS, UF/IFAS Extension http://edis.ifas.ufl.edu/in790. Offers information regarding the life cycle and impact of Africanized Honey Bees.

Keeping Africanized Honey Bees Out of Wildlife Nest Boxes, EDIS, UF/IFAS Extension http://edis.ifas.ufl.edu/in682. Methodologies to keep Africanized Honey Bees from colonizing wildlife nest boxes.

African Honey Bee: What You Need to Know, EDIS, UF/IFAS Extension http://edis.ifas.ufl.edu/mg113. This is an overview of the Africanized Honey Bee. The document includes information about the effect the bees have had on beekeepers and civilian populations along with information about how to bee-proof residences.

AFBEE Program www.AFBEE.com. The African Honey Bee Extension and Education Program was established by the Florida Department of Agriculture and Consumer Services and the University of Florida, and serves to educate all Floridians about the presence of African bees in Florida. The AFBEE Program website is a clearing house of information on African bees. Visitors can find fact sheets, presentations, videos, and educational documents.

Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Bureau of Plant and Apiary Inspection, African Honey Bee Page http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Pests-Diseases/Africanized-Honey-Bee. FDACS website provides links to videos, fact sheets, press releases, and more. It also includes a list of trained professionals available for bee removal or eradication.