

# Facts About Bees and Africanized Bees

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## What is a Honey Bee?

- Honey bees are not native to the North America
- Honey bees currently pollinate about 90 agricultural crops (accounting for 80% of the pollination in the US): ~ \$10 billion pollination business, \$150 million honey industry
- Bees forage over large expanses of area: 8,000-25,000 acres
- US honey bees originated in Europe (European honey bees = EHB) and were brought to the US to pollinate insect-pollinated crops originating in Old World countries
- EHB (*Apis mellifera mellifera*) were also imported in the 1660-1700s to make candles used by emerging churches
- Honey bees are not likely to sting when foraging for nectar and pollen in the back yard
- Honey bees are not likely to sting when swarming (looking for a new home)
- Honey bees are most docile when carrying out their daily chores
- Honey bees are most likely to sting when their home (the hive) is threatened or they are accidentally crushed
- Honey bees swarm (move in large numbers to establish new hives) in spring and fall and are most likely to be aggressive in those seasons.
- Honey bees sting to protect their hive but each bee can sting only once, and then it dies
- Stings are usually not serious unless there are an large number of them or you are systemically allergic to the venom

## What is an Africanized Honey Bee?

- In 1957, honey bees (*Apis mellifera scutellata*) were imported from Africa to Brazil
- African bees escaped and became feral (wild)
- As feral African bees mated with EHBs they produced a hybrid called an “Africanized honey bee” (AHB)
- AHBs look like European bees to the eye
- They are, on average, slightly smaller than EHBs, but can only be separated by molecular techniques or morphometric computer analysis
- Since 1990, only 8 fatalities in the US have been caused by honey bees, as compared to 78 killed by dogs. The chances of being killed by honey bees are less than the chances of being hit by lightning
- Africanized honey bees are less fussy in their choice of nesting sites: building nests in the ground, in tree cavities, in the walls of a home, and where ever they find a small hole through which to enter
- Africanized honey bees will “abscond” (leave a location when conditions are not suitable) more often than European honey bees
- The impulse to sting in AHBs is 10 times greater than that of European honey bees, and attacks last longer and involve more bees
- AHBs have been known to follow victims as much as a 1/4 of a mile from the hive whereas EHBs will pursue only about 50 yards
- AHB venom is same chemical found in EHBs
- AHB have been moving north from South America at a rate of 100-300 miles per year
- Once disturbed AHBs may remain aggressive for as long as 24 hours
- The “killer bee” reputation of AHBs is highly exaggerated, AHB do not hunt for people to attack and they do not attack unless they feel threatened

## **What Causes an AHB Stinging Incident?**

- Load noise
- Vibrations of equipment, lawn mowers, moving vehicles etc., even up to 100 feet or more from a hive
- Pedestrian activity up to 50 feet from the hive: the hive does not have to be touched to provoke AHBs
- Animal breath attracts bees to the face. Animals (e.g. horses) that cannot breath through their mouths are vulnerable to suffocation if stings cause swelling of the nasal passages
- Smaller pets and small children are more impacted. On average, 8-10 stings per pound of body weight can be lethal. (for example, an 80 pound child might not survive 800 stings; a 200 pound adult might not survive 2000 stings). 100 stings is considered to be potentially life threatening. Some individuals are very sensitive to bee venom, and in this case, even one or a few stings can be life threatening (see below).
- AHBs are attracted to hair, dark colors, new mown grass, citrus-scented candles and perfume

## **How to Prevent a Stinging Incident**

- Bees need two basic things to colonize your property: water and a place to build a hive. Prevent access to these where possible
- Repair dripping leaks in and around the yard and in irrigation systems
- Be alert for the presence of colonizing bees around the home
- Listen for bees in walls and abandoned building before approaching
- Patrol yards periodically to look for signs of bee colonies. Colonies can set up residence in as little as 24-48 hours
- Prevent bees from colonizing the yard or home: fill cracks in the house, remove refuse (bees can establish in discarded cans), discard used tires, plug holes in open pipes and swing sets, move abandoned vehicles, check stock tanks and irrigation pump housings
- Properly cover chimney openings
- Place screens over drains, attic vents, irrigation control boxes etc.
- Close and lock doors to sheds and out buildings
- Education is central to the issue. South Americans have lived with AHB for decades with a minimum of impact. Teach children and others respect for, and avoidance of, honeybees

## **Who is Most Vulnerable?**

- Those that are allergic to bee stings. Only about ~1% of the population has a systemic allergy to bee stings. Symptoms: within 20 minutes the tongue or throat swell, hives may develop, dizziness may occur and there may be difficulty breathing or loss of consciousness.
- Pets which are tied so they cannot exit the area

## **What To Do When a Stinging Incident Occurs**

**Remember that “ACE” is the best action (*Alert, Cover, Exit*)**

- *Alert* = Warn others in the area to flee
- *Cover* = cover your head; pull a shirt over your face. Stings to the head and neck are more dangerous than those to the body
- *Exit* the area. Get into a car or a house immediately. If bees follow, tolerating those stings is preferable to trying to swat bees away from an open doorway.
- Stingers are left in the skin by the bees after an attack and continue to deliver venom (for up to 10 min.) due to attached pulsating muscles of the stinger. When the situation has stabilized, remove the stingers as quickly as possible by scraping, do not remove with forceps
- Above all, stay calm. Fear can cause accidents if bees get in cars or clothing.
- If you observe a serious stinging incident call 911.
- Bee attacks can disorient and if you attempt to aid an attack victim protect yourself first then shout them toward you and lead them to safety
- If a pet is involved seek veterinary attention for your pet
- If you are seriously stung seek medical attention
- If you are allergic, carry a bee sting kit prescribed by your personal physician

### **What not to do**

- Don't tie or pen animals near bee hives as they will have nowhere to go if stung
- Do not try to remove bee hives yourself if you find them. Fire departments, bee keepers and pest management operators are best equipped to remove bee colonies
- Do not try to fog or spray colonies with insect bombs or sprays
- Do not swat at bees. Swatting bees causes the release of an alarm signal and only increases the intensity of an attack by stimulating other bees to attack
- Do not count on insect repellents sprayed on the skin to deter bees
- Do not provoke bees by spraying the hive with a garden hose
- Don't place certain veterinary salves and creams on your pet. Some are made with bees wax and can increase the severity of AHB attacks to pets and livestock. Check with your vet before using salves and creams.
- Don't use meat tenderizer on bee-sting wounds, as this could lead to a secondary infection
- Do not hike with your dog off-leash, if the dog encounters a hive and provoke the bees it may bring the attackers back to you

For identification of honey bees: Samples (50 bees or more) can be collected and sent to the Texas Honey Bee Identification Lab at Texas A&M. The service is free and forms are available on the Extension Service website (<http://lubbock.tamu.edu/ahb>)