



Africanized Honey Bee

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Background

During the summer of 1985, newspaper, television, and radio media announced the "imminent" arrival of a new pest, dubbed the "killer bee". As a result, our county extension offices received many inquiries about bees and numerous bee samples which were sent in for identification. At the time, there was virtually no chance of these bees being found in Utah, but news reports at the time might have lead many Utah residents to believe otherwise, or at least to become overly concerned.

This fact sheet was developed to inform interested persons of the true facts regarding Africanized honey bees, without the overdramatization and distortion that sometimes creeps into news media reports. At the time of this revision (May 2000) it has become much more likely that Africanized honey bees will soon be found in areas of southern Utah.

Races of Honey Bees

The term "killer bee" is often used by the media or the public in reference to the Africanized honey bee, which is a race of the honey bee that is familiar to all of us. The natural range of the honey bee, *Apis mellifera*, is from northern Europe to the southern tip of Africa and eastward into western Asia. Across this range, the races differ little in appearance or structure but do differ significantly in behavior.

Over the years, the relatively gentle European races were taken to other continents for use by beekeepers. The honey bees in both North and South America originated from European sources with the Italian race the most favored by commercial beekeepers. This is the most common race found in Utah.

A race of African bees was introduced into Brazil in 1956 in an effort to breed a bee that would produce more honey in the tropics. Swarms escaped and multiplied, and dispersed through South American and into Central America. From there, swarms spread naturally into Mexico and then into the United States by 1990.

Spread and Distribution in West

An Africanized honey bee swarm was first confirmed in the United States at Hidalgo, Texas in 1990. The first confirmed attack in the United States occurred in 1991 at Brownsville,

Texas. The first fatality attributed to Africanized honey bees in the United States occurred in 1993, also in Texas.

The current distribution and occurrence of Africanized honey bees in the western United States includes areas in Arizona, New Mexico, Nevada, and California. Recent confirmed attacks by Africanized honey bees in Mesquite, Nevada (October 1999) and Las Vegas, Nevada (February and March 2000) make it likely the bee will be found in areas of Utah soon. The latest surveys show the bee has been confirmed to be present in all Arizona counties bordering Utah. However, as of late 1999, no Africanized honey bees had been confirmed in Utah through surveys conducted by the Utah Department of Agriculture. These surveys have been conducted each year since 1995.

Behavior

Africanized honey bees are highly defensive, stinging much more readily than the European types. They are more sensitive to disturbances and will pursue intruders for a longer time and for distances up to a quarter-mile. Compared to European bees, three to four times as many Africanized bees will react to an intruder or disturbance.

Africanized honey bees can be aroused to attack by disturbances caused by lawn mowers, weed eaters, tractors, power tools, or other sources that create loud sound or vibrations. People unknowingly approaching a nest too closely may be attacked without any other provocation.

Besides their stinging tendencies, Africanized honey bees have several other traits that make them undesirable to beekeepers. They often swarm, absconding with the whole colony. They will rob other colonies, spreading diseases and parasites. They can interbreed with European varieties, transmitting these undesirable traits.

Africanized honey bees spend more effort on colony reproduction, while European bees spend more effort on the collection and storage of food. If Africanized traits were to dominate European traits in this country, the major effect might be reduced pollination of fruit, vegetable, seed, and fiber crops.

Because the different bee races are not readily distinguishable, some time may lapse before the beekeeper suspects that Africanized honey bee is present. Identification is very difficult because the Africanized race looks very much like the European races. Structural and morphological differences are a matter of degrees and not of kind. Beekeepers who capture wild colonies are advised to requeen as soon as possible after the new colonies are established.

Extension agents and beekeepers are encouraged to report any suspicious finds to the Utah Department of Agriculture. However, one should avoid identifying defensive bees as being Africanized honey bees until professional examination of specimens has confirmed this to be the case.

Venom and Stings

Since Africanized honey bees sting more readily and pursue intruders longer and farther, they inevitably inflict far more stings (10 times more on average) than their European counterparts. This is main reason that Africanized honey bees are so dangerous, not a more toxic venom as is sometimes mistakenly believed. The venom is the same as that found in other honey bees, and in fact each Africanized honey bee contains only about 70% of the amount of venom found in a European honey bee.

The fact is that any honey bee can be a "killer bee". More deaths are caused by stinging members of the Hymenoptera (bees, wasps, hornets, and ants) than by any other insect or arthropod group. The estimates of the lethal number of bee stings vary widely depending on the source. These estimates range from 300 to 1500 stings in non-allergic healthy adults. Far fewer stings can cause death by anaphylactic shock in allergic individuals. Children and the elderly can generally tolerate fewer stings. In actual sting incidents by Africanized honey bees, deaths have occurred with as few as 40 stings (an 82-year-old Texas man). On the other hand, a 77-year-old Las Vegas, Nevada woman recently received over 500 stings and survived.

If you are stung by Africanized (or even European) bees more than 15 times or are suffering symptoms other than localized pain and swelling, you should seek medical attention immediately. Don't hesitate to call 9-1-1 if that is your only option or you feel you may become incapacitated. Symptoms of allergic reactions to bee stings include swelling of the tongue or throat, hives, dizziness, breathing difficulty, and unconsciousness. Onset of such symptoms will generally occur within twenty minutes following the attack.

Safety Information

Awareness of bees and their potential nesting sites will lessen your chances of being stung. Knowing what to do when bees attack will lessen your chances of being seriously injured by bees.

Africanized honey bees are not particularly choosy about their nest sites. Possible locations where their nests may be found include abandoned or seldom used vehicles, empty containers, holes in the ground, fences, old tires, trees, or cavities or holes in structures. Measures to reduce suitable nesting sites for bees include caulking cracks and crevices in structures, filling structural cavities with steel wool and sealing them, removing debris piles (including empty containers and tires), and covering holes leading to underground cavities (such as water boxes).

Attacking bees are attracted to dark colors and to hair. Measures to avoid attracting bees when in the yard, hiking, etc. include wearing light-colored clothing (including a hat) and avoidance of the use of floral or citrus aftershaves, perfumes, or other lotions. Avoid wearing wool clothing in areas where bees are active. Carrying a mosquito net that fits over the head can help prevent facial and head stings if you are attacked.

If you live in an area where Africanized honey bees may be present, being aware of bees is the first line of safety. Bees flying at your face or buzzing around the top of your head are often a sign of imminent attack. In this case try to move quietly away. If you are stung by one bee, more bees will likely sting (they release a chemical called an alarm pheromone when stinging). Therefore, if you are stung even once, the best solution is to run away as fast

as possible. Bees fly fast, but a healthy adult can outrun them. Do not flail or swipe at any bees that might chase you as this will only agitate them more. Do not try to escape by jumping into water; the bees will wait around until you resurface. Escape to the nearest enclosed shelter you can find, such as a vehicle, tent, house, or other structure.

Additional Information

Additional information about Africanized honey bees and the Utah Africanized Honey Bee Survey can be obtained from the Utah Department of Agriculture and Food web site:
www.ag.state.ut.us

Numerous other references can be found by using one of the web search engines and the key words "Africanized honey bee". However, you should consider the source of information you review, as there is probably much misinformation available on this subject as well.

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