

# 'Bee-Ware'

By Alan R. Cowen, M.A., EMT-P  
Deputy Chief, Los Angeles City Fire  
Department

The term "Killer Bees" raises the blood pressure of most people, yet the "Killer Bees" are a name sought after by the press to hype the media interest in this subject. The media has successfully caused the impression of the Africanized Honey Bees to be highly dangerous, extremely venomous, and lurking in everyone's yard ready to descend upon them for the kill.

The facts must be reviewed. The Africanized Honey Bee looks like any garden variety bee. It acts like a honey bee, and its venom is no different; it is no more venomous than that of a honey bee. A honey bee can sting only once, and then it dies. Such is with the Africanized Honey Bee.

## Behavior

The Africanized Honey Bee (AHB) resembles the domestic European Honey Bee, but are slightly smaller; however, this is not perceptible to the human eye. They migrate at a rate of 200-300 miles per year.

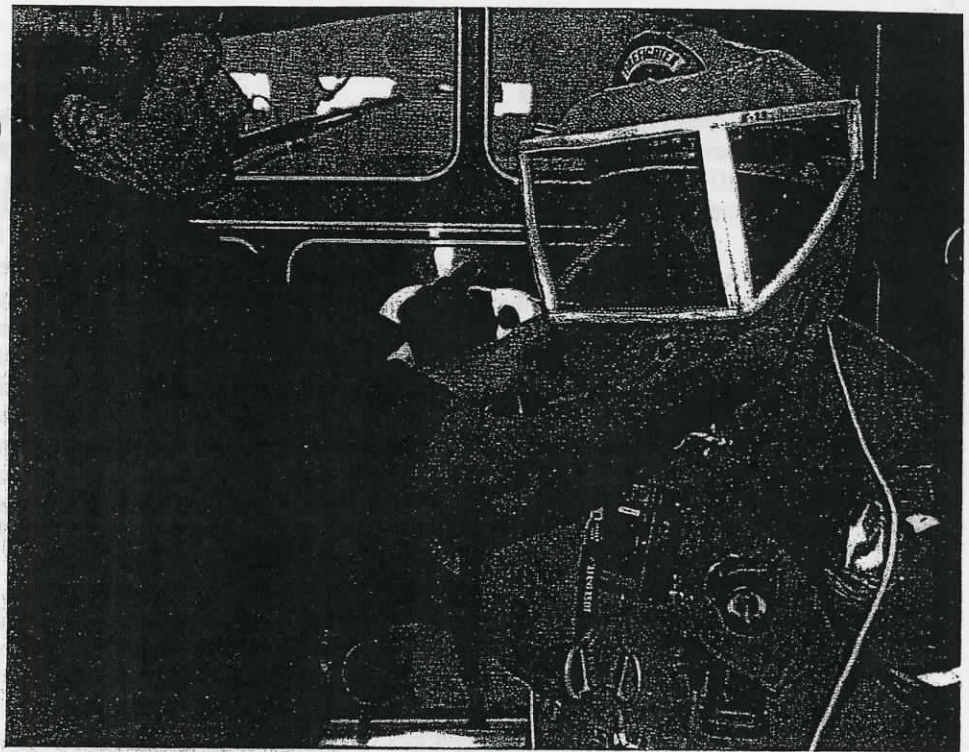
The AHB is much more aggressive than the European Honey Bee, and as such persons will probably receive far more stingers which will increase envenomation. AHB colonies are sensitive to the slightest disturbance in noise or vibration: (i.e. weed whacker, mower, motorized bicycle, etc.) If agitated, they will immediately attack people or animals, however large. It would not be unusual to attack people and chase them for 1/4 to 1/2 mile, only to continue attacking for several hours. Flinging objects at the AHB will tend to further upset them, making a bad situation far worse. Africanized Honey Bees away from the hive are unlikely to sting unless disturbed.

## History

European Domesticated Honey Bees were first brought to America in the 1600's

### About the author...

Deputy Fire Chief Alan R. Cowen is the Commander of the Fire Department's Bureau of Human Resources. He is the former Chief Paramedic and Commander of the Bureau of Emergency Medical Services. Chief Cowen is a 29-year veteran of the fire service, and a licensed paramedic for 22 years. He has earned a B.A., M.A. and Doctorate degrees.



Members of Fire Station 29 prepare for bee emergency response (L-R): Engineer George Clock and Firefighter Rod Fuentes.

by settlers and introduced into California in the 1800's.

In 1956, Warwick Kerr, a geneticist imported 54 African Queen Bees (*Apis Mellifera Scutellatus*) from South Africa and Tanzania to Brazil to breed with more docile European Honey Bees, in order to develop a more heat-tolerant strain of Honey Bees. The following is a chronology of the proliferation of the AHB:

- 1957 Twenty-six swarms of Hybrid African and European Honey Bees called AHB's are mistakenly released from an outdoor apiary laboratory near Rio Oro, Sao Paulo, Brazil.
- 1967 Discovered in Paraguay and Bolivia.
- 1968 Discovered in Argentina and Uruguay.
- 1970 Swarms cross the Amazon River.
- 1971 Discovered in Peru
- 1974 Discovered in French Guiana
- 1975 Discovered in Suriname
- 1976 Discovered in Venezuela and Guyana
- 1980 Discovered in Colombia and Trinidad
- 1982 Discovered in Panama
- 1983 Discovered in Costa Rica
- 1984 Discovered in Nicaragua
- 1985 Discovered in Honduras and for the first time in California, aboard ship inbound from Venezuela. The swarm had found temporary housing among oil drilling equipment. The swarm was destroyed by a worker.
- 1986 Discovered in Guatemala and Chiapas, Mexico.

- 1987 Discovered in Ecuador, and parts of Mexico, including Oaxaca, and Tabasco.

- 1990 Discovered in Hidalgo, Texas. One elderly man expires of AHB stings, when he attempts to eradicate a swarm within a wall with a blowtorch.

- 1991 Swarms discovered in Brownsville, Texas and several other surrounding locations. On December 10, 1991, an incident involving AHB's resulted in three individuals attacked and a small dog killed.

- 1992 AHB discovered in San Antonio, East Texas and West Texas. In September, AHB confirmed in Matagora County, South of Houston, and Crane County, 80 miles from New Mexico. More than 1,000 people have died from AHB stings in South America, Central America and Mexico.

- 1993 A swarm of AHB's found on wire spools in a truck in Mexicali, Mexico reportedly from Brazil. The swarm was destroyed. The AHB's are discovered in Arizona. Specifically, Phoenix and Yuma close to the California border. Additional swarms are located south of Douglas and south of Nogales, Arizona.

- 1994 October 24, 1994, a swarm is confirmed at Chuckawalla Valley State Prison near Blythe, in Riverside County, California. Inmate Firefighters destroyed them. In July, a freighter entering L.A. Harbor from Guatemala notified officials that a colony of bees were on board. The bees were eradicated, and were identified as the infamous AHB. The AHB have taken up house keeping in over 20 countries on two continents. Millions live in Texas and perhaps a billion in Mexico.

- 1995 March, swarm discovered on top of a "No Trespassing" sign at a school in the

Imperial County of Heber. They were identified and confirmed as the notorious AHB. Heber is 10 miles north of the U.S. Mexican border, approximately 6 miles south of El Centro.

• **1996** April, the State Department of Food and Agriculture confirmed that a nest of AHB was discovered on the north shore of the Salton Sea in Riverside County. The bees took up residence at the Mecca Beach campground at the bottom of a water pipe. This was the second swarm found along the north shore of the Salton Sea.

### Africanized Honey Bee Beat

Since 1994, six swarms have been found in Riverside County and 16 swarms in Imperial County, thus a total in the State of California has reached 22. While migration in Texas and Arizona has been prompted, California has been retarded; this may be due to the amount of flora in certain geographical areas. In all likelihood, the AHB's are dwelling in highly rural regions where few people live resulting in very few swarms or hive being reported as food and water resources are minimal in very dry areas, the bees will swarm and move in a westerly direction. It is anticipated that later this year continued migration will occur.

Currently, AHB's are about 100 miles from Los Angeles County with Riverside and Imperial County being the primary locations. The Agricultural Commissioner in conjunction with the Fire Department and Mosquito Control continue to prepare for the AHB's. Public awareness programs and training for fire and police departments are ongoing in order to prepare.

### Personal Experiences

According to C. R. (Charlie) Duncan, President of the Los Angeles County Beekeeper's Association, one of the ugliest attacks by the AHB occurred in Costa Rica in 1986, when a University of Miami graduate student while on a field trip, disturbed a bee colony located in a crack outside a cave. 8,000 stings later, the student died.

Charlie Duncan enthralled firefighters in Los Angeles in 1994, when he was a guest speaker at the California State Firefighters' Association, Emergency Medical Services Committee's Annual Seminar at Northridge Hospital.

As part of a group of 40 beekeepers who traveled to Brazil to study the bees, some members told Charlie they were not afraid of the nasty bees, thus refused to don protective veils or gloves.

Upon discovering several bee colonies in some distant trees, the group approached within several hundred yards or half of a city block. Charlie pulled his camera out of his pocket, but dropped it. In the time it took to bend over and pick it up the agitated AHB's hit their target. So many bees attacked that the men and their camera were covered with bees and they needed to use their hands as windshield wipers in order to clear a field of vision.

As Charlie explained "the man who said, 'I will not wear a veil' I carried over to the truck with his head underneath my arms, trying to cover up his face." "He'd been stung on the face many more times than a man should be." "The man who wouldn't wear gloves, we couldn't get gloves on his hands because of hundreds of bees." And that night sitting around the camp fire, we had a totally different group of people, some of them said, I'll sell the damned operation, I'll sell everything I've got, I'll not put up with this."

### Stinging Facts and Pointers

Hardly a child has not marveled at the common Honey Bee. This author recalls as a child touching and playing with them in the summertime, without being stung, or as they gathered nectar from flowers. Honeybees pollinate crops in excess of 40 billion yearly.

Interestingly, rarely do Honey Bees use their stingers, for it means certain death for them. Sadly, the term "Killer Bee" has given these animals a bad rap. Serious misconceptions exist about the AHB; on the other hand a good, healthy respect will go a long way, and could save your life.

Generally speaking, stinging resulting in deaths have been to animals, not people. Stinging to animals and people occur when either enter into the turf of the bee colony.

Swarm stinging, while very rare, can be terminal. If you find yourself a victim of an attack with hundreds, or thousands of bees after you, calmly but with great haste attempt to make a retreat. Run in a straight line until the bees stop chasing you; it pays

to be physically fit as this could be more than 1/2 a mile.

Pull your shirt up to cover your head and face to prevent eye area stings, which if in the face area can increase your emotional reaction and disorient you; bees will attack the eyes, nose and mouth. Get inside a house, car or other safe area. A few bees that do sting you will die, the object being to prevent multiple massive stinging.

If safe areas are not available, run into brush and began a running zig-zag in an attempt to confuse the bees.

If an attack traps you without adequate cover, use blankets, clothing or anything else available to assist you.

Keep in mind, that AHB venom is the same as that of the domestic European Honeybee. The single sting of an AHB is no different from any other bee. It is the massive attack of hundreds or thousands, or tens of thousands that can result in thousands of stings. Attacks of this nature can kill pigs, hogs, dogs, and even horses.

AHB's can take over a hive in a few weeks, overwhelming the docile European variety into an aggressive, hostile and angry bee. As a result, beekeeping has been banned in many Texas cities like Corpus Christi.

The actual stinger barb is not unlike a fish hook and once within the skin remains in the tissue after the bee pulls away; it doesn't come out easily. The stinger continues to pulsate for up to one minute, causing an injection of venom while at the same time producing an odor that attracts other bees.

A swarm is a large group of bees seeking a nesting site. Sometimes resembling a flying cloud; it is said that it can blot out the sun momentarily. Often they can be seen in a tree hanging in a pendulous fashion, or from the beam of a roof.

A swarm does not include young bees or food and as such has no reason to be defensive or hostile in nature.

Once bees establish a colony, it is wise not to disturb it. The presence of wax could mean a colony has been established, and bees will protect stored food and their young with a vengeance against anything or anyone.

If by chance you inadvertently disturb a colony of bees, they may pursue you. Most people can outrun bees as they are slow flyers; unfortunately, the mere thought of an angry cloud of bees chasing you can physically and emotionally drain you in an instant.

### Stinger Points

A bee soon dies after stinging; however, the stinger remains in the skin. Some simple tips not to forget are:

- Do not pull the stinger out as this usually will squeeze the venom sac and inject

Some of the differences between European Honey Bees and Africanized Honey Bees are as follows:

	European Honey Bee	Africanized Honey Bee
Swarming frequency	1 year	5-6 years
Hives	1-4 Sq. Mile	64-250 Sq. Mile
Size of stinging bee group	6-12 bees	100-200 bees
Sting frequency during an attack	10 stings 30 seconds	25 stings 30 seconds
Reaction time to sting	10 seconds	6 seconds

additional venom into the skin.

- Stingers should be scraped out of the skin with fingernail, matchbook, knife blade or other sharp edged object.

Bee sting reactions can be non-allergic or life-threatening. Nearly everyone has been stung by a honey bee and has experienced the typical burning pain which is intense and diminishes soon thereafter. Edema and erythema surrounding the sting are common and while quite annoying, generally fulfill the bee's desire—immediately cease the disturbance of the bee or its hive and put a screaming halt to further intrusion.

Reactions to bee stings can be as follows:

#### **Non-allergic reactions**

- Pain, burning or itching
- Erythema around the site
- Edema and tenderness

#### **Large local reactions**

- Angioedema around sting site extending 10cm or more and increasing in size for 24 to 72 hours; may last a week or more

#### **Non-life threatening allergic reactions**

- Urticaria anywhere on the skin
- Angioedema in other areas from the sting site
- Pruritis of the skin
- Rhinitis and/or conjunctivitis
- Gastrointestinal discomfort
- Weakness
- Minor respiratory impairment

#### **Life-threatening allergic reactions**

- Respiratory distress                      Shock
- Hypotension                                Coma
- Laryngeal edema

#### **Emergency Medical Treatment**

Treatment for Africanized Honey Bee stings is no different than from any other bee sting. However, first responders should be located in a safe zone if possible prior to initiating treatment.

Basic field treatment includes monitoring airway, breathing and circulation, as well as keeping the patient calm and considering advanced life support if necessary.

#### **Basic Treatment**

- Airway
- Oxygen
- IV, Large Bore
- Monitoring during transport.
- Transport

#### **Allergic Reaction Treatment**

- Airway
- Oxygen
- Monitor
- Large bore IV
- Consider subcutaneous Epinephrine, IV or IM Benadryl

#### **Anaphylactic Shock Treatment**

- Basic or advance airway

- Oxygen
- Large bore IV
- Monitor
- Consider IV, Epinephrine, fluid challenge, Dopamine

#### **L.A. City Fire Department Response**

In 1993, the Fire Department's Bureau of Emergency Medical Services orchestrated a plan of action for anticipated bee emergencies; a training bulletin was sent out to all 104 fire stations describing the AHB, their behavior and personnel safety considerations. In addition, controlling measures were reviewed as well as emergency medical treatment.

After attending a meeting of the Los Angeles County Beekeepers' Association, and being privileged to meet president C.R. (Charlie) Duncan, as well as member Howard Westly, the Department became aware of a short video entitled "Controlling Honey Bee Emergencies." The video delineates standard operating procedures and guidelines for fire departments, and was developed by the A.I. Root Company in conjunction with the Erhart, Ohio Volunteer Fire Department. An outstanding video, it became the basis for learning how to control Honey Bees in emergency situations.

One major point in the video and stressed by L.A. County Beekeeper experts like Charlie Duncan and Howard Westly is the need for bee veils to be donned by firefighters and paramedics when approaching bees. Copies of the video were sent to all work locations to become part of the Department's video library, and bee veils (hoods) were purchased for all field personnel.

Bee veils provide additional personal protection for Fire Department members relative to potential hazards of the AHB's. The bee hoods (nets) were issued to all field personnel with the following description for proper donning sequence that should be followed:

- Hood must be worn over the firefighting helmet.
- Place hood over helmet with widest section of the hood to the front. Place drawstrings to the rear.
- Bring strings to the front (under each arm) and thread the ends of the strings through the plastic ring on the front of the hood. Strings should be threaded through the ring from different directions.
- Pull strings through ring to secure a tight fit against the body.
- Tie tightly to maintain a bee-tight closure.

It is the responsibility of the on-scene incident commander to determine when bee hoods are to be utilized for protection of Fire Department personnel.

# THE FIRE BELLES

Presidents:  
Marie Wakefield  
Midge Waller

by Linda Fickett

**H**appy New Year to one and all! The Fire Belles ended 1996 with a fabulous Christmas party at the Alpine Village in Torrance. The glamorously dressed Belles and guests dined on excellent German cuisine and danced their little hearts out. It was a super party and thanks to all of the organizers. In fact, a great big thanks to all the hard work put in by the Fire Belles and friends for charity.

The Fire Belles are looking forward to an exciting year. We hope everyone will join us in the various activities and fund raising events planned for 1997. One of the more lively affairs promises to be the "Fire Belles Showboat and Casino." It will be on Sunday, April 20, at the Radisson Los Angeles Harbor Hotel in San Pedro. The afternoon will feature Las Vegas style blackjack, roulette and crap table gaming. There will also be food, music and drawings for prizes. The Fire Belles invite each station to participate by sponsoring a table from \$100 to \$200. For information call Melanie Barber at (619) 295-5244 or Phyllis Dwight at (310) 833-5720. More specific information on tickets and cost will follow in next month's *Grapevine* issue.

The next board meeting is on Thursday the 9th at the home of Midge Waller. Please call her if you are not able to attend. The January general meeting is on Thursday the 16th at the Muller House, San Pedro.

A gentle reminder to send in your \$5.00 membership dues to Phyllis Dwight if you have not already done so. Memberships are open to wives, widows and daughters of L.A. City Firefighters.

Note: The video entitled "Controlling Honey Bee Emergencies" as well as Bee Veils (hoods) may be purchased from the A.I. Root Company, 623 West Liberty Street, P.O. Box 706, Medina, Ohio 44258, telephone number (800) 289-7668. Mr. Kim Flottum, Publications Manager, was extremely helpful in assisting our Department in its preparation for the arrival of the AHB's.

**BEE CAREFUL OUT THERE!!**

—ARC