

Africans in the Americas: A Problem?

A Cool Objective Assessment of the
Killer Bee Problem

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*Killer Bees- The Africanized
Honey Bee in the Americas*
Mark L Winston
Harvard University Press,
Cambridge, Massachusetts, 1992.
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In the last issue of *Resonance*, you read about the honeybee dance language and how the construction of a robot bee helped clear some of the uncertainties regarding the efficacy of the dance language. Perhaps, in a future issue of *Resonance*, we will feature the honey bee as a member of an exemplary animal society.

There is an undeniable negative side to honey bees for, not only do they yield honey, they also sting! Looked at dispassionately from the point of view of an evolutionary biologist, the sting of the bee is a marvel of nature. What about the less dispassionate point of view of the victim? Bee stings are mildly painful and one or two occasional stings do no great harm unless you are hypersensitive, which is a rather rare condition. Bee keepers receive hundreds of stings and are apparently none the worse for it.

What about the *killer bee*? Many readers may have heard that a killer bee is spreading across

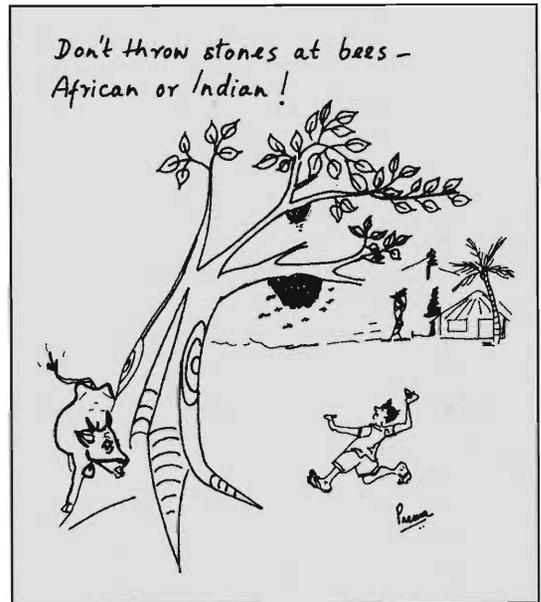
Winston writes : "Merely walking toward the colonies elicited a massive response on the part of the bees, so that the situation was out of control before we smoked and opened our first colony".

South America and has now arrived in North America, killing hundreds of people and cattle and destroying local apiculture on its way. I once saw a rather stupid movie called *The Swarm* in which giant killer bees invaded the United States and destroyed anything coming their way including nuclear missiles! There has been so much media hype on the killer bee that it is high time we had a cool, objective assessment of the killer bee problem. Mark Winston has done just that in the book under review.

There are many virtues of this book. First it does not hesitate to tell the truth. Killer bees or *Africanized* bees as Winston prefers to call them, are real. They have been spreading across South and Central America at a speed of 300 to 500 kilometres a year, reaching densities of 6 colonies per square kilometre. It is estimated that today there are at least one trillion (that's 10^{12} !) Africanized bees, making up 50 to 200 million colonies in Latin America. Nor does Winston suppress their ferociousness. Let me quote him. "Merely walking toward the colonies elicited a massive

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response on the part of the bees, so that the situation was out of control before we smoked and opened our first colony. Bees were everywhere, stinging through our layered clothing and banging into our veils and helmets with such ferocity that we could barely hear each other. It was a hot, humid day, and the combination of sweat, noise, and stings forced us to retreat after examining only a few colonies. The bees followed us all the way back to the car, and we had to keep our equipment on until we were far out of their stinging range. As we drove off, we could see the farmers swatting at the bees and two of their cows were being stung; we had to stop and move the animals farther away to safety.” Writing even more candidly about the situation in the United States, Winston writes “Our response to the Africanized bee entered a new phase on 15 October 1990, when a colony of the bees was found ... near ... Texas ... The first stinging incident occurred ... in May 1991 ... the southeast corner of Texas is under quarantine ... the governor ... approved an emergency appropriation of \$187,000, ... to assist bee keepers.” An equally important virtue of this book is the extraordinary clarity with which Winston is able to relate the ecology and behaviour of the Africanized bee to its success as a killer bee. Of course I will not reveal all the details but the net result is that the Africanized bee is very successful as a wild or feral bee and makes a poor candidate for managed bee keeping. Yet another virtue of this book is the large number of realistic strategies suggested for coping with the Africanized bees. To learn about these, read the book!



How did the problem of the killer bee begin in the first place? Honey bees are not native to the Americas; the European bee *Apis mellifera* had been introduced there for bee keeping but is not good for this purpose in tropical regions. The Brazilian government therefore asked one of their geneticists, Warwick Kerr, to import and breed bees better suited to that country. As Winston says, “for stock he (Warwick Kerr) naturally looked to Africa, the original habitat of tropical honey bees ... The Kerr group knew that the African bees had a reputation for being highly aggressive, but reasoned that they could cross African with European bees to produce a hybrid with

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the gentle European characteristics, but the supposedly high honey production, of the African bees.” Unfortunately some of the imported African queens escaped and some were deliberately distributed to bee keepers before proper breeding and testing. As luck would have it, the natural crossing of African bees with the local Brazilian bees did not yield the mild but industrious hybrids that Kerr had expected. It is said that a particularly beautiful woman once proposed marriage to Bernard Shaw with the tempting words “imagine, our children with my beauty and your brains!”. Shaw is said to have replied, “yes my dear, but what if they have my beauty and your brains?” Something similar probably happened in the case of the African-European hybrid honeybees.

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Mark Winston is eminently qualified to write about the Africanized bees. I quote just enough to whet your appetite. He writes : “In the fall of

1975 I arrived at the University of Kansas to pursue a doctorate in entomology ... My supervisor ... had just received a federal grant to study ... the Africanized honey bee ... The first team in French Guiana consisted of myself, Gard Otis, David Roubik, their wives and children, and of course our leader, Chip Taylor - who periodically came down with fresh T-shirts, mail, equipment, and lots of advice and enthusiasm.”

The Africanized honey bee is unlikely ever to be a problem in India. Why then do I recommend Winston’s book to students in India? Because this book is not about narrow solutions to a narrow problem. It is a model on how to deal rationally with a biological enemy and a superb illustration of how biological and ecological research can truly contribute to management of a pest. Above all the book brings out vividly Winston’s love for biology: “When all the action programmes, controversies, and dilemmas caused by the Africanized bees have receded into the past, we will be left with a natural history paradigm that can only contribute to our appreciation of the biological world.”

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Papin's description of his pressure cooker (1681) ... A New Digester or Engine for Softening Bones, containing the Description of its Make and Use of these Particulars, Viz. Cookery, Voyages at Sea, Confectionary, Making of Drinks, Chymistry and Dyeing, with an account of the Price a good big Engine will cost and of the Profit it will afford.