

## Bee Buzz Scares off African Elephants

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for [National Geographic News](#)

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Recordings of angry bees are enough to send even big, tough [African elephants](#) scrambling, a new study says.

Strategically placed beehives—either recorded or real—may even prevent elephants from raiding farmers' crops.

As some elephant populations in Africa grow larger and more land is cleared for agriculture, [elephants are clashing with humans](#). A few have even trampled farmers.

In return, some farmers have killed problem elephants, and support for elephant conservation measures is waning.

"I've seen some devastating things," said study lead author Lucy King, a zoologist with the Nairobi, Kenya-based nonprofit Save the Elephants.

King, also a doctoral student at the University of Oxford, is working with farmers in the Laikipia district of [Kenya](#) to develop strategies for keeping elephants away. In that area, maize, beans, and squash are among the most common crops lost to elephants. (See a [Kenya map](#).)

The idea of scaring elephants with bees comes from earlier observations by King's colleagues Fritz Vollrath and Iain Douglas-Hamilton, founder of Save the Elephants. They determined in 2002 that elephants will avoid acacia trees with beehives.

### Tender Spots

For the new study, King wanted to see if African honeybees might deter elephants from eating crops. But before she asked farmers to go to the trouble of setting up hives, she sought direct evidence that bees would scare elephants away.

King found a wild hive inside the hollow of a tree in northern Kenya and set up a minidisc recorder outside. Then, wearing a protective bee suit, she tossed a stone in. "The hive just exploded," she said. King and her assistant hid in a car while waiting for the bees to subside.

Next, King tracked down elephant families in Samburu National Reserve in northern Kenya. In multiple trials, she hid a wireless speaker in a fake tree trunk near each group of elephants, then drove away.

From a distance, King triggered the pre-recorded sound of angry bees while recording the elephants with a video camera.

Half the elephant groups departed within ten seconds. King conducted 17 trials with separate elephant families, and only one family ignored the warning.

"All the young ones would immediately run to their mums and sort of huddle under them," she said.

Bees can't sting through thick adult elephant skin, but the insects do find a few vulnerable spots. They are attracted to the elephants' watery eyes and will "go up the trunk, which must be awful," King said.

When King played the sound of a roaring waterfall instead of furious bees to many of the same elephant families, the animals were undisturbed. Even after four minutes, most of the groups stayed put, she and her colleagues reported this week in the journal *Current Biology*.

### Temporary Scare?

A bee solution may not be long-lasting, however.

Buzzing bees might scare away elephants the first few times. But after hearing the sound without getting stung, the intelligent animals might become complacent.

That's a dilemma when using any device designed to shoo wildlife, said Adrian Treves of the University of Wisconsin, who was not involved in the study.

Treves has used sounds and lights to keep bears and wolves from preying on livestock in the western United States.

King now is studying whether the elephants will continue to avoid the sounds after hearing them several times. She hasn't tested enough groups yet to know.

### **New Investment**

Her initial results were promising enough to begin trials with farmers. King has begun placing recorders directly in the fields to see if elephants are frightened away.

Yet the farmers she works with cannot afford the sound equipment.

Even if players could be donated, it might not work—few farmers have electricity to charge the recorders.

Although real hives will require extra effort to maintain, King thinks that they might be more useful. Honey from real beehives maintained by farmers could provide a second income stream, she said. (Related news: ["Killer Bee" Touted as Economic Lifesaver in S. Africa](#) [November 4, 2002].)

The concept echoes another elephant-control initiative in Zimbabwe and other countries: [planting chilies to keep elephants away](#). That's because elephants don't like capsaicin, the chemical in chilies that makes them hot.

A few rows of the pungent fruit planted around valuable crops creates a buffer zone through which the elephants are reluctant to pass.

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