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Elephants never forget their fright of the humble bee

James Randerson, science correspondent
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Link to this video

It might seem like the epitome of a David versus Goliath mismatch — up to 12 tonnes of heavily armoured mammal flesh versus a few hundred milligrams of irritating insect.

But despite their thick skin and size advantage, elephants turn tail and flee at the sound of a swarm of bees, according to research carried out on the Kenyan savannah.

The scientists who discovered the elephant reaction say it could be exploited to keep the animals from raiding farmers' crops.

To find out whether the elephants shy away from bees, Oxford University researcher Lucy King set up experiments in which she played recordings of African bee swarms to 18 elephant families. She was careful to put speakers well away from her own vehicle so the elephants would not associate the sounds with people.

"It's hard to put it into words how dramatic this reaction is," said Ms King. "As soon as the bee sound played they would stop immediately what they were doing and turn directly to the speaker.

"The young ones would immediately bunch up to their mums in a defensive format. Normally one of the elephants would trigger a retreat and the whole herd would either run or walk fast after them."

Ms King compared the reaction to bee sounds with the elephants' response to white noise. She reports today in *Current Biology* that only one family had not moved after hearing the bees, compared with eight that heard the white noise. The response to the bees was quicker too. Half of the families had moved within 10 seconds.

She said elephants could be stung around their eyes or even up their trunks, and that a swarm of bees could kill a calf because its skin was not thick enough to stop their stings. So the animals probably learned through painful experience to avoid the buzzing sound.

Farmers, she said, could use that to protect their crops from elephant raids, although they would most likely need real bees' nests rather than recordings because the animals would probably rumble the bluff.

Ms King said her findings did not add weight to the notion that elephants are scared of other small animals such as mice. "There's no evidence whatsoever for that," she said.

