

Elephants' fear of angry bees could help to protect them

At a time when encroaching human development in former wildlife areas has compressed African elephants into ever smaller home ranges and increased levels of human-elephant conflict, a study in the October 9th issue of *Current Biology* suggests that strategically placed beehives might offer a low-tech elephant deterrent and conservation measure.

The researchers found that a significant majority of African elephants fled immediately after hearing the sound of bees, providing "strong support" for the idea that bees, and perhaps even their buzz alone, might keep elephants at bay. By contrast, the elephants ignored a control recording of natural white-noise, the authors reported.

"We weren't surprised that they responded to the threatening sound of disturbed bees, as elephants are intelligent animals that are intimately aware of their surroundings, but we were surprised at how quickly they responded to the sounds by running away," said Lucy King of the University of Oxford. "Almost half of our study herds started to move away within 10 seconds of the bee playback." King is also affiliated with Save the Elephants, a Kenya-based organization that aims to secure a future for elephants.

Earlier studies had suggested that elephants prefer to steer clear of bees. For instance, one report showed that elephant damage to acacia trees hosting occupied or empty beehives was significantly less than in trees without hives, the researchers said. In Zimbabwe, scientists have also seen elephants forging new trails in an effort to avoid beehives.

In the new study, the researchers tested the response of several well-known elephant families in Kenya to the digitally recorded buzz of disturbed African bees. Sixteen of the 17 families tested left their resting places under trees within 80 s of hearing the bee sound, the researchers reported, and half responded within just 10 seconds. Among elephants hearing the control sound, none had moved after 10 s, and only four families had moved after 80 s. By the end of the 4 min sound playback of bee buzz, only one elephant family had failed to move, whereas eight families hearing the control sound had not moved.

This behavioral discovery suggests that bees might very well be a valuable addition to the toolbox of elephant deterrents used by farmers and conservation managers across Kenya, King said. She added that such innovative approaches are sorely needed "to avoid extreme solutions such as shooting problem animals."

She cautioned that the use of beehives to shoo elephants away might prove to have limited application and that more research is needed if we are to understand its effectiveness. "But if we could use bees to reduce elephant crop raiding and tree destruction while at the same time enhancing local income through the sale of honey, this could be a significant and valuable step towards sustainable human-elephant coexistence."

Source: Cell Press

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