Flowers shape themselves to guide their pollinators to the pollen

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Why do flowers specialize on different pollinators? For example, both bats and hummingbirds pollinate plants in tropical forests; why adapt to just one instead of using both? Biologists often assume that tradeoffs contribute to such specialization (the jack of all pollinators is master of none), yet surprisingly little evidence exists in support of this idea.

Nathan Muchhala from the University of Miami explored pollinator specialization through experiments with bats, hummingbirds, and artificial flowers in cloudforests of Ecuador.

In a study published in the April issue of the *American Naturalist*, he reports that the fit between flower and pollinator is key: bats pollinate wide flowers better, while hummingbirds transfer more pollen between narrow flowers. Videotaping demonstrated that a poor fit fails to correctly guide the pollinator while feeding. This tradeoff in adapting to bats vs. hummingbirds is strong enough to favor specialization on one or the other.

Nathan says, "While all leaves tend to look similar, flowers come in a spectacular variety of shapes and colors. This study suggests tradeoffs in adapting to different pollinators may have played an important role in the evolution of such diversity."

Source: University of Chicago