

# Study: Honeybees make ruthless relatives

## Many species of ants, wasps and bees conduct in cannibalism

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Bees can be ruthless relatives. Bumblebee queens eat their offspring's eggs, and honeybee workers make meals of their siblings' eggs.

But this ritual, gruesome by human standards, makes a [bee](#) family more productive.

Although worker bees are usually unable to mate, as females they can lay unfertilized eggs that emerge as males, if given the chance. The same applies to wasps and ants. But many [don't survive](#).

In all of these [cannibalistic](#) acts, each eater's goal is to reduce the number of its genetic competitors.

"The queen eats the workers' eggs because she is more related to her own offspring," said entomologist Tom Wenseleers of the Catholic University of Leuven, Belgium. "In the honeybee, the workers eat other workers' eggs because they are collectively more related to the queen's offspring."

Workers are prone to eating their siblings' eggs — an act scientists call "policing" — when their mother queen mates with multiple males. In these species, including the honeybee, most workers are half-sisters, and more related to their brothers (sons of the queen) than nephews (sons of other workers).

Half-sisters show no mercy, devouring their nephews.

In species with [promiscuous](#) queens, workers' sons are reared 100 times less than species with a single father, according to a new survey of more than 100 species of ants, bees and wasps conducted by Wenseleers and Francis Ratnieks at the University of Sheffield in the United Kingdom. The findings were published in the November issue of the journal *The American Naturalist*.

Both types of egg-eating support William Hamilton's 1964 relatedness theory: Closely related animals cooperate, while more distant relatives [behave nastily](#) toward one other.

"Close relatives are genetically more valuable, as they carry many copies of one's own genes," Wenseleers told *LiveScience*.

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Bumblebee queens eat their offspring's eggs, and honeybee workers eat their siblings' eggs. This cannibalistic behavior makes a bee family more productive.