

# Early spring means more bat girls

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There must be something in the warm breeze. A study on bats by a University of Calgary researcher suggests that bats produce twice as many female babies as male ones in years when spring comes early.

The earlier in the spring the births occur, the more likely the females are to survive and then reproduce a year later, as one-year olds, compared to later-born pups, according to Dr. Robert Barclay's research published in *PLoS ONE*.

"The early-born females are able to reproduce as one year olds, whereas male pups can't," explains Barclay, professor in the Department of Biological Sciences at the University of Calgary.

"Thus, natural selection has favoured internal mechanisms that result in a skewed sex ratio because mothers that produce a daughter leave more [offspring](#) in the next generation than mothers who produce a son."

The length of the growing season has an impact on the ratio of female to male offspring and the time available for female pups to reach [sexual maturity](#), the study found. This suggests that not only does sex-ratio vary seasonally and among years, but it also likely varies geographically due to differences in season length.

Barclay analyzed long-term data on the variation in offspring sex-ratio of the big [brown bat](#), *Eptesicus fuscus*, a common North-American species that consumes insects.

"In this species, more eggs are fertilized than eventually result in babies, so there is some mechanism by which a female embryo is preferentially kept and male [embryos](#) are resorbed early in pregnancy," says Barclay. But, he adds, the biochemistry behind the skewed sex ratio is unknown.

"Some other mammals and some birds have the ability to adjust the [sex ratio](#) of their offspring," says Barclay. "Even human-baby ratios vary—there is a study showing that billionaires produce more sons than daughters, for example."

This is the first long-term study on sex ratios in bats, says Barclay and it "suggests some pretty interesting physiology."

Provided by University of Calgary

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