

# How the bat beats the lifespan rule

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From the elephant to the mayfly, biologists say there is a general rule about longevity: the bigger the animal, the longer it lives.

But an intriguing exception is the Brandt's bat (*Myotis brandtii*), a native of temperate areas of Europe and Asia.

The insect-munching mammal tips the scales at five to eight grams—less than two teaspoons of sugar—yet can live for more than 40 years, as long as a dolphin and more than a horse or a cow.

Eager to learn why, an international group of scientists sequenced the bat's [genetic code](#), highlighting a network of genes that could explain its exceptional lifespan.

They pinpointed genetic variants that, as expected, give the tiny creature its ability to navigate by sonar and to sense dim and ultraviolet light.

But they also came across "unique" variants that control cell sensitivity to two [growth hormones](#).

One mutation is linked in humans to a form of [dwarfism](#) and may be protective against diabetes and cancer, previous work has shown.

"Together with adaptations such as hibernation and low reproductive rate, (these) contribute to the exceptional lifespan of the Brandt's bat," the scientists suggest.

The Brandt's bat takes a long time to reach [sexual maturity](#) and produces a single pup at a time, which weighs about a seventh of the parent's body mass.

The study appears in the journal *Nature Communications*.

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