

Bats live longer than any other mammal for their body size and are traditionally aged by morphological characteristics. The North American big brown bat (*Eptesicus fuscus*) and the little brown bat (*Myotis lucifugus*) can be classified into two broad age groups, juveniles (< 3 months of age) and adults (> 3 months of age), but there is no reliable noninvasive method to determine a bat's relative age. Like other long-lived animals, the length of the telomeric DNA is predicted to shorten as a function of increased age. DNA was extracted from wing punch samples—a relatively noninvasive collection method—and quantitative polymerase chain reaction (qPCR) was performed to determine the telomere length, by estimating relative telomere (T) to single copy gene (S) ratios, from samples taken from bats of known ages. The data obtained is being examined for a significant correlation between the T/S ratio and age. A specific calibration curve will be created for each species that can be used to estimate the relative age of a bat by its T/S ratio. The provided calibration curves will allow for an accurate noninvasive determination of relative bat age, for bats of either species, through DNA analysis of their T/S ratio.