Bats

Bats are the only mammals capable of powered flight. About 20% of all mammal species are bats. Although they exist on every continent except Antarctica, bats are particularly abundant in the tropics. Many bats eat insects, but others eat fruit or nectar or fish or small mammals or even just blood.

Until recently, little was known about bat longevity. Even today, most of our knowledge about how long bats live was acquired accidentally. From what we do know, bats are by far the longest-lived mammals for their body size. Even short-lived species can survive 5-6 years under natural conditions. The longest-lived species that we know of is Brandt's bat (*Myotis brandti*), which has lived as long as 41 years in the wild. To survive in the wild is infinitely more challenging than surviving in a warm, cozy laboratory with all food and water provided. Brandt's bats must maintain for decades their high frequency hearing to continue to hunt successfully (they use echolocation to find their prey), they must maintain enough agility and endurance to fly 100-150 km per night and catch insects every few seconds, and they require an exquisite spatial memory to find their way back to their roosts.

How do they do it? We are just beginning to glimpse some answers. Two bat species are now having their entire genomes sequenced. These genome sequences will provide us with new molecular tools with which to investigate bats' exceptional longevity.