



This file photo shows a grey-headed Flying-fox (*Pteropus poliocephalus*), a native Australian bat, stretching its leathery wings as it flies high over Sydney's Botanical Gardens. — AFP photos



In this photograph a chiropterologist holds a greater mouse-eared bat in his hand in Noyal-Muzillac.

Could bats hold the secret to healthy ageing?

In the fictional links he drew between immortal vampires and bats, Dracula creator Bram Stoker may have had one thing right. "Maybe it's all in the blood," says Emma Teeling, a geneticist studying the exceptional longevity of bats in the hope of discovering benefits for humans. The University College Dublin researcher works with the charity Bretagne Vivante to study bats living in rural churches and schools in Brittany, western France. "We're taking a little bit of blood, but rather than us being the vampires to the bats we're making them give us their secrets," she says. Those secrets are tantalising. Bats not only live longer than other animals of their size, they also stay healthy longer and can harbour pathogens like Ebola or coronaviruses without getting sick. Teeling, who outlined her research to AFP in an interview reproduced here in edited form, focuses on long-lived Greater Mouse-eared bats. The aim is to discover the key to longer, healthier lives for people. "I firmly believe it lies in studying bats," she says.

What's so special about bats?

Typically in nature there is a pattern-nearly a law-that small things live very fast and die young as a consequence of a really fast metabolism. Bats are unique, they are some of the smallest of all mammals, yet they can



live for an extraordinarily long time. They seem to have evolved mechanisms to slow down the ageing process. It's not eternal youth-everything dies and ageing has to catch up with you, but the rate of ageing is much slower in bats, their health span is much longer. Think of a centenarian who is really healthy until the last few weeks of their life. That's what we want and it's what the bats have.

How do you extract their secret?

Nobody knew what was happening to bats as they age. The only way you age a bat is to look at the bones in their fingers, if the joints are not yet fused, that bat is still a baby, once they're fused it is an adult. But since 2010 Bretagne Vivante has put a little microchip like you would a dog or a cat, it's called a pit tag, under the skin of these bats when they are babies. Every year we come back to these roosts where the females give birth and we catch the entire colony, we take a little bit of wing, a little bit of blood, and we go back to my lab in Ireland and we look at



In this photograph a chiropterologist measures a greater mouse-eared bat in Noyal-Muzillac.

what has changed as they age, tracking a few biomarkers of ageing.

What are you looking for?

We look at these things called telomeres: on the end of every one of your chromosomes in your cells you have these protective caps-like the bumper on a car — and

This file photo shows a Malayan flying fox hanging on a branch in an enclosure at the Singapore Zoo in Singapore.