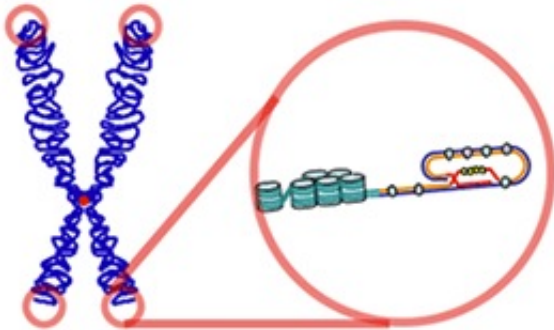


Fewer children mean longer life?

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New research at the University of Gothenburg, Sweden, confirms theoretical expectations about the correlation between reproduction and lifespan. The decisive factor is the telomeres, which are the protective caps at the end of chromosomes. Credit: University of Gothenburg

New research into ageing processes, based on modern genetic techniques, confirms theoretical expectations about the correlation between reproduction and lifespan. Studies of birds reveal that those that have offspring later in life and have fewer broods live longer. And the decisive factor is telomeres, shows research from The University of Gothenburg, Sweden.

Telomeres are the protective caps at the end of chromosomes. The length of telomeres influences how long an individual lives.

Telomeres start off at a certain length, become shorter each time a cell divides, decline as the years pass by until the telomeres can no longer

protect the chromosomes, and the cell dies. But the length of telomeres varies significantly among individuals of the same age. This is partly due to the length of the telomeres that has been inherited from the parents, and partly due to the amount of stress an individual is exposed to.

"This is important, not least for our own species, as we are all having to deal with increased stress," says Angela Pauliny, Researcher from the Department of Biological and Environmental Sciences at the University of Gothenburg.

Researchers have studied barnacle geese, which are long-lived birds, the oldest in the study being 22 years old. The results show that geese, compared to short-lived [bird species](#), have a better ability to preserve the length of their telomeres. The explanation is probably that species with a longer lifespan invest more in maintaining bodily functions than, for example, reproduction.

"There is a clear correlation between reproduction and ageing in the [animal world](#). Take elephants, which have a long [lifespan](#) but few offspring, while mice, for example, live for a short time but produce a lot of offspring each time they try," says Angela Pauliny.

The geese studied by researchers varied in age, from very young birds to extremely old ones. Each bird was measured twice, two years apart. One striking result was that the change in telomere length varied according to gender.

"The study revealed that telomeres were best-preserved in males. Among barnacle [geese](#), the telomeres thus shorten more quickly in females, which in birds is the sex with two different gender [chromosomes](#). Interestingly, it is the exactl opposite in humans," says Angela Pauliny.

More information: The journal *BMC Evolutionary Biology* has

classified the research article "Telomere dynamics in a long-lived bird, the barnacle goose" as "Highly Accessed".

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