# PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B

**BIOLOGICAL SCIENCES** 

## **Evolution of the primate ageing process**

A theme issue compiled and edited by Melissa Emery Thompson, Alexandra G. Rosati and Noah Snyder-Mackler

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## About this issue

The world's population is ageing rapidly, presenting an urgency to address the health problems of the aged. Critical insights on these problems can be gained by examining how the ageing process has been shaped over evolutionary time, and how it is influenced by different environments and lifestyles. In this issue, we feature research conducted on humans in small-scale societies and on our closest primate relatives to ask how bodies, minds, and behaviour age outside of the usual research settings. These contributions shed light on the complex relationship between ageing and disease and offer clues to the social and ecological predictors of successful ageing.

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Image credit: Ronan Donovan.

Front image A healthy, old male chimpanzee (*Pan troglodytes schweinfurthil*) living

in the wild in Kibale National Park. This individual has been the subject of research for over 30 years, contributing to insights about how humans' closest relatives age.

Introduction Insights from evolutionarily relevant models for human ageing Melissa Emery Thompson, Alexandra Rosati and Noah Snyder-Mackler

Skeletal ageing in Virunga mountain gorillas Christopher B Ruff et al.

Evaluating the impact of physical frailty during ageing in wild chimpanzees (Pan troglodytes schweinfurthii) Melissa Emery Thompson *et al.* 

Ageing and physical function in East African foragers and pastoralists M Katherine Sayre et al.

Healthy cardiovascular biomarkers across the lifespan in wild-born chimpanzees (Pan troglodytes) Megan F Cole et al.

Multi-system physiological dysregulation and ageing in a subsistence population Thomas S Kraft et al.

Age-associated epigenetic change in chimpanzees and humans Elaine E Guevara et al.

Rhesus macaques as a tractable physiological model of human ageing Kenneth L Chiou et al.

Demography, life-history trade-offs, and the gastrointestinal virome of wild chimpanzees Jacob D Negrey *et al.* 

Faecal parasites increase with age but not reproductive effort in wild female chimpanzees Sarah Renee Phillips *et al.* 

Costs of reproduction and ageing in the human female Grazyna Jasienska

Neuron loss associated with age but not Alzheimer's disease pathology in the chimpanzee brain Melissa K Edler *et al.* 

Differential ageing trajectories in motivation, inhibitory control and cognitive flexibility in Barbary macaques (Macaca sylvanus) Eva-Maria Rathke and Julia Fischer

Age-related decline in executive function as a hallmark of cognitive ageing in primates: an overview of cognitive and neurobiological studies Agnès Lacreuse *et al.* 

Shifting sociality during primate ageing Zarin P Machanda and Alexandra G Rosati

Social bonds, social status and survival in wild baboons: a tale of two sexes

Fernando A Campos, Francisco Villavicencio et al.