

The older you get, the harder you seek: The mating secrets of Africa's bull elephants

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Archimedes in Samburu National Reserve. Credit: Jane Wynyard / Save the Elephants

Males of many species slow down in their pursuit of females as they age. Not so with elephants. A new study published today reveals that bull elephants increase the energy they put into reproduction as they get older.

The new research conducted by the University of Oxford, Save the Elephants and Colorado State University, compared the movements of

male African [savannah](#) elephants while they were in *musth*, a periodic state of intensive testosterone-fueled sexual activity, and when they were not. The results reveal that, as they age, male elephants move more in musth and move less out of musth. The combination of these two diverging factors meant that, despite having similar speeds and range sizes between states at age 20, by age 50 males were traveling twice as fast in 3.5 times larger area in musth compared to non-musth.

The investigation, led by Dr. Lucy Taylor at the University of Oxford's Department of Zoology, used a combination of visual observations and GPS tracking data from 25 male elephants aged between 20-52 years old. The data was collected in the Samburu and Buffalo Springs National Reserve, Northern Kenya, as part of Save the Elephants' long-term monitoring project between 2000 and 2018.

Male African savannah elephants continue to increase in body mass throughout their lives, which means that older male elephants often reach twice the size of both females and young males.

Iain Douglas-Hamilton, Founder of Save the Elephants and Senior Research Associate at the University of Oxford's Department of Zoology, said: "Older bulls are not only larger and more energetic in mating than younger bulls but female elephants tend to prefer them, perhaps because their size demonstrates their survival skills over many years and seasons."

The new results suggest that male elephants are capitalizing on their increase in size by spending more effort searching for females as they get older.

Given that older male elephants tend to be both the target of trophy hunting and poaching, man-made interference could disrupt the age structure, which could bring on musth prematurely and lead to changes

in the reproductive dynamics of elephants.

Dr. Taylor said: "Investigating how elephant reproductive tactics vary with age is crucial to our understanding of the behavioral ecology of the African savannah elephant and, ultimately, the driving forces shaping the evolution of their life history. The fact that mature male elephants make such dramatic changes in their movement patterns when they are in musth also means that we can now use GPS tracking data alone to detect musth."

The ability to detect musth remotely can be used to study male reproductive behavior in difficult conditions across Africa, and to identify and protect important corridors for genetic transmission between different elephant populations in human-dominated landscapes.

Key findings from the study include:

- Unlike other species, male African elephants increase the energy they put into reproduction as they get older
- Male elephants move faster and further in musth as they age.
- 50-year old males moved 50% faster and twice as far when in musth compared to those of 35 years old. Compared to 20-year olds, who have yet to come into full musth, the 50 year olds move twice as fast and over three times as far.
- Simultaneously, the elephants move less when in non-musth as they get older.
- The change of behaviour as older elephants go into musth is so clear that it can be detected remotely just by using their movement patterns, rather than having to observe the [elephants](#) directly.

The male elephant behavior study is published online in the *Journal of Animal Ecology*.

More information: Lucy A. Taylor et al. Movement reveals reproductive tactics in male elephants, *Journal of Animal Ecology* (2019). [DOI: 10.1111/1365-2656.13035](https://doi.org/10.1111/1365-2656.13035)

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