

Anonymous. ... but the cheetah's future is rosier. New Scientist [9.4.1987]. 9-4-1987.

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Abstract: The discovery that East African cheetahs are genetically more diverse than the South African form, indicate that the cheetahs suffered a population crash about 10'000 years ago and offers hope that careful programmes might improve the gene pool in the South African subspecies.

... but the cheetah's future is rosier

THE SURVIVAL of African cheetahs in the wild is threatened by a population crash that happened 10 000 years ago. So say researchers who have been studying the genetic variation of free-ranging East African cheetahs, *Acinonyx jubatis raineyi*. They found that the gene pool is extremely small, and the population highly inbred, and they date the reduction in variation to the Pleistocene epoch.

Stephen O'Brien and colleagues at the National Institute of Cancer in Bethesda, Maryland, and Richard Leakey of the National Museums of Kenya looked for genetic variation by analysing isozymes (*Proceedings of the National Academy of Sciences USA*, vol 84, p 508). Isozymes are different forms of an enzyme arising from different forms (alleles) of the gene that codes for the enzyme. Allelic variation within a species is a measure of genetic variation, or polymorphism.

Only two of the 49 alleles the researchers looked at were polymorphic, giving an index of variation of 0.14. This compares with 0.26 for lions, tigers and leopards.

Although this variation is small, it is larger than that of captive South African cheetahs, *Acinonyx jubatis jubatis*, which have an index of 0.0004 (*New Scientist*, 16 May 1985, p 21). A comparison of the polymorphisms in the two subspecies led the researchers to conclude that the cheetahs suffered a population crash about 10 000 years ago. After the cheetahs became geographically separated, the South African subspecies lost yet more of its variation. This process may have been speeded in the past century by overhunting and destruction of the cheetah's habitat.

The discovery that the East African cheetah is genetically more diverse than the South African form, offers hope that careful breeding programmes might improve the gene pool in the South African subspecies. Unfortunately, neither form is very fertile and low fecundity is probably a feature of cheetah biology. Loss of habitat could be the factor that sees off the cheetah. Without space to expand, the population might never reach the numbers required for healthy outbreeding. □

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