

Genetic study shows Chinese mountain cat not an ancestor of domesticated housecats

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Genomic evidence reveals the Chinese mountain cat as a wildcat subspecies with introgression to local domestic cats on the Qinghai-Tibet Plateau. Credit: © Song Dazhao/CFCA

A team of researchers from China, Malaysia, the U.S. and Russia has found via genetic study that the Chinese mountain cat is not an ancestor of modern domesticated housecats. In their paper published in the

journal *Science Advances*, the researchers describe their genetic study of a wide variety of cats.

For several years, the taxonomic status of the Chinese [mountain](#) cat has remained controversial due to the limited amount of study to date. Some have wondered if the cats were a true species or a wildcat of some sort. Some have also suggested that they may have been one of the ancestors of modern housecats. In this new effort, the researchers undertook the largest genetic study of the Chinese mountain cat conducted to date and compared what they found with Asiatic wildcats and domestic housecats.

The researchers note that most of the samples taken of the Chinese mountain cat were secondhand—they searched the area where they live (on the Qinghai-Tibet Plateau) and found feces, skin tissue, dry pelts, blood and skeletons. They did the same for the Asiatic wild cats—samples from [domestic cats](#) were obtained from cheek swabs, [blood samples](#) or skin tissue. Data for African wildcats was already readily available. Each of the samples underwent DNA analysis in which genome sequences were generated. The team then compared the sequenced data of the four types of cats to see how they were related.



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The data showed that modern house cats evolved solely from African wildcats. It also showed that Chinese mountain cats are a wildcat subspecies—and that in [modern times](#), Chinese mountain cats have been mixing with Asiatic wildcats, possibly putting one or both subspecies in danger of losing some of their traits that help them survive in their individual environments. Prior research has shown this is not just a theory—European wildcat numbers have been falling as they have mixed with other species, lessening their ability to survive in the wild. Interestingly, the researchers were not able to find any evidence of

modern domestic cats breeding with Chinese mountain cats, despite large populations of them living in the Qinghai-Tibet Plateau.

More information: He Yu et al, Genomic evidence for the Chinese mountain cat as a wildcat conspecific (*Felis silvestris bieti*) and its introgression to domestic cats, *Science Advances* (2021). [DOI: 10.1126/sciadv.abg0221](https://doi.org/10.1126/sciadv.abg0221)

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