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The Sumatran tiger is one of the most menaced subspecies in the wild
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About 50% of the Captive Tigers Are Purebred

Revealed by a new method determining tiger ancestry

A new research published in *Current Biology* comes to confirm the role zoos, farms and private collections could have in saving menaced species: it seems that up to 50% of the captive tigers could be "purebred" members of an endangered subspecies. This finding may boost the number of animals to be involved in breeding programs, in a bleak time for the wild animals. About 3,000 tigers are still live in the wild, as compared to over 100,000 individuals just 100 years ago, roaming from India to Siberia, Turkey and Caspian Sea. 3 out of 8 subspecies have become extinct (Java, Bali and Caspian tigers), and a fourth, the South China tiger, is extinct in the wild. Instead, the number of captive tigers is about 15,000 to 20,000. Just a small percentage of them are involved of conservation breeding programs. "The captive population of these wild animals has been justified based on the principle that they are the genetic representation of their natural counterparts. They can act as insurance against extinction in the wild," said lead researcher Shu-Jin Luo, geneticist at the National Cancer Institute in Frederick, Maryland. Many owners do not know their tigers' ancestry. The team led by Luo has come with a test assessing variations in 30 sites on the tiger chromosomes, originally detected in domestic cats. Tiger subspecies were found to have specific patterns of these genetic markers. When the team analyzed DNA samples coming from 104 captive tigers kept in 14 different countries, 49 appeared to clearly belong to a particular subspecies. "I think it is remarkable that they were able to find individuals from unmanaged populations that actually are purebreds of a given subspecies," said Michael Russello, a conservation geneticist at the University of British Columbia in Kelowna. It appeared there are more pure blood animals amongst unmanaged animals. 7 out of 50 tigers without any pedigree were assigned to a subspecies. "15 to 23% of tigers not part of conservation breeding programs are likely to be potentially useful for preserving genetic variation unique to endangered subspecies," said Luo. This translates through thousands of more tigers added to the breeding program. But the test can also be important for detecting mixed ancestry. 11 of the tigers believed to be purebreds were crossbreds, an important fact as these animals should be excluded from breeding programs. The team also detected at least 46 new genetic patterns in captive tigers, which are not encountered in wild animals. Some of these patterns appeared only in hybrid tigers. Others warn that breeding programs are useless as long as wild populations are now reduced to small patches of habitats, where often the prey is scarce. "We are not at that stage where we are looking to reintroduce tigers from captive populations. The main challenge we are facing now is providing good quality habitat," said Mahendra Shrestha, head of the Save the Tiger program based in Washington, D.C.