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### ***American Journal of Human Genetics***

Between 1526 and 1875, approximately seven million Africans were uprooted from their homelands and reduced to slavery in South America. Though historical archives shed some light on the origins of the African-descendant communities existing today, it is still difficult to determine their ancestral roots. Researchers have therefore conducted genomic studies to reconstruct the past of African-descendant populations living in Colombia, Brazil, French Guiana, and Suriname. They analyzed over 4.3 million genetic markers in 230 people from South America and West Africa.

The Noir Marron communities are direct descendant of enslaved Africans who escaped captivity and established independent settlements that are still present in certain regions of French Guiana and Suriname. By comparing the Noir Marron genomes to that of Africans living today in various regions of Sub-Saharan Africa, the researchers found 98% of African ancestral origin in these communities. The Noir Marron have thus maintained their African heritage since their communities formed about four centuries ago. On the other hand, genomes of African-descendants from Colombia and Brazil reveal much greater admixture (about 25% of non-African ancestral origin). Furthermore, these groups have a predominant European paternal admixture, and their genetic diversity reflects the arrival of European colonists in some regions of South America.

Through their work, the researchers were also able to identify strong genetic ties between African-descendants from South America and populations from specific African regions. They found that the Noir Marron and African Colombians have genetic affinities close to African populations of Ghana, Benin, and western Nigeria. In contrast, the African-Brazilian genomes seem closest to the genetic diversity observed in populations from Angola, and these results are supported by historical sources.



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In addition to expanding underrepresented data sets for African populations, these new findings trace the recent genetic history of African-descendant populations and shed new light on a dark chapter in human history: the transatlantic slave trade. The researchers hope to pursue their work by studying other populations throughout the Americas and Africa, and thereby better understand the history of enslaved Africans in greater detail.

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Elmina Castle (Ghana), slaves gathering place before the big departure (UNESCO World Heritage 1979) © Cesar Fortes-Lima 2014

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<sup>(1)</sup> Other French research teams that participated in this study:

- Virologie laboratory (CNRS/Institut Pasteur)
- Anthropologie bio-culturelle, droit, éthique et santé laboratory (CNRS/Université Aix Marseille/EFS Alpes Méditerranée)
- Mère et enfant face aux infections tropicales laboratory (IRD/Université Paris Descartes)

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