GENETICS

The Americas' genomic mosaic

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Although the Americas were practically isolated from the rest of the world until 500 years ago, people living here today display great genomic diversity, with not only Native American ancestry, but also a considerable proportion of European and African ancestry. We can learn a lot about the history of the people in the Americas by evaluating continental ancestries.

A new study by Linda Ongaro and colleagues uses recent methods based on haplotype similarities to explore the ancestral mosaic of American populations. The study yields a very complex picture, with many results dovetailing with what we know about historic events.

An interesting series of analyses reveals multiple admixture events—events that mark the mixing of genomes from different populations—with characteristic spatiotemporal dynamics. For example, for the European sources, it's the Iberian cluster that showed the earliest admixture times, while the Gambia–Senegal cluster is the African cluster with the earliest admixture event.

Investigating sex-biased admixture dynamics revealed that American females contributed more to the modern populations than American males, while European males affected the genome more than American females.

The analysis paints a picture of dynamic variations in gene flow, beyond the effects of colonization and the Atlantic slave trade. Achieving a fine-grained image of genetic ancestry will contribute to the development of epidemiological, translational and medical studies.

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