Genetics of the PanAf project: chimpanzee diversity from fecal samples

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The Pan African Programme: The Cultured Chimpanzee (PanAf) is a large-scale research project that aims to understand and collect systematic ecological, social, demographic and behavioral data across the entire geographic range of extant chimpanzees (*Pan troglodytes*). Previous published data (Prado-Martinez 2013; deManuel) 2016) determined that genetic information is a good predictor of geographic origin in Eastern and Central chimpanzees.

OBJECTIVES

We aim to increase local geographic resolution with geo-referenced





samples to:

- Discover new diversity and local adaptation \bullet
- Characterize demographic parameters •
- Describe migration patters between communities •
- Build a precise geographic and genetic variation map •

NON-INVASIVE SAMPLES



No physical harm No animal disturbance Known GPS coordinates

Low sample quality Low proportions of eDNA

Higher DNA degradation

RESULTS

TARGET ENRICHMENT



Endogenous DNA (eDNA) distribution per site

Chr21 PCA of all subspecies

Chr21 PCA western chimpanzees



traced to a specific geographical location. For the first time in western chimpanzees we observe a correlation between genetics and geography that can be applied to genotype

Prado-Martinez, J. et al. Great ape genetic diversity and population history. Nature 499, 471-475 (2013).

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