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A GENETIC PORTRAIT OF THE CHIMPANZEE: UNDERSTANDING THE POPULATION STRUCTURE

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Controversy remains about the chimpanzee population structure, in spite of the effort put into learning more about this genetically poorly understood species. The unsolved population structure has made it impossible to establish ex situ conservation programs for each subspecies. The scientific basis for future management and conservation programs needs to rely on thorough genetic analyses, conducted on chimpanzee individuals throughout the species range in Africa. These analyses will elucidate the chimpanzee population structure, enabling us to develop a genetic method to differentiate between subspecies. By extending previous studies we have developed new methods for genetic analysis and identified new genetic markers, which alongside already known markers will be studied in chimpanzees representing all four currently recognized subspecies. Our results will fully describe the genetic differences between populations of chimpanzees. This will provide answers to key questions about the population structure of chimpanzees including: What characterizes the different subspecies? When did they become separate subspecies? What factors shaped their evolution? Is there gene flow between the subspecies? Answers to these questions will help us develop a genetic tool for assigning ex situ chimpanzee individuals to their population of origin. This tool will also be used to understand how chimpanzees in a population are related to one another.

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