

BODY REMAINS OF GREGOR JOHANN MENDEL, FOUNDER OF GENETICS. RESULTS OF ANTHROPOGENETIC RESEARCH – FROM FIELD TO WHOLE GENOME

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Objective: To commemorate the 200th anniversary of the birth of Gregor Johann Mendel (July 20, 1822 – January 6, 1884), anthropogenetic research was conducted in 2022 on the skeletal remains of the founder of genetics and abbot of the Augustinian Monastery in Brno.

Subjects and methods: This field research was preceded by an examination of items from Mendel's estate at the Augustinian Abbey on Mendel Square in Brno. The necessary permits for conducting field research at the crypt of the Augustinian Order were secured.

The excavation of Mendel's tomb at the Central Cemetery in Brno took place from June 14 to June 30, 2021. Strict anti-contamination measures were implemented to ensure that samples could be collected immediately from the discovered bones for genetic analysis.

During field research, skeletal remains of five monks were discovered and recovered, including a coffin containing the remains of Gregor Johann Mendel. These remains were then transferred to the Laboratory of Biological and Molecular Anthropology at Masaryk University, where they were identified and subjected to anthropological and genetic analysis. Notably, Mendel's body was found to be partially mummified; remnants of brain tissue, parts of saponified fat tissue from the abdomen, and fingernails were also present.

Conclusions: GJM's skeletal remains were identified through archaeological and anthropological analysis, as well as by isolating mitochondrial DNA from both the skeleton and a hair found in his book at the abbey. His mitochondrial haplogroup was determined to be H1C1. Sequencing of his nuclear genome revealed 99.1% of the sequence, providing information about his genetic variants associated with his physical traits and predispositions to certain diseases. For example, the analysis of his nuclear genome identified that he had blood type 0, was Rh-positive, was not lactase-deficient, and had a Y-chromosome haplogroup classified as R1a. In terms of physical characteristics, he had blue eyes, brown hair, and fair skin, along with a tendency towards baldness. More characteristics will be presented in the poster.

Keywords: Gregor Johann Mendel; Physical anthropology; Palaeogenetics.