

MITOCHONDRIAL EVE

Matrilineal Convergence & Genetic Bottleneck Analysis

AI Disclosure: Generated via Gemini 3 Flash. Verification: State-of-the-art consensus (May 2026).

Keywords: mtDNA, Matrilineal Descent, Toba Resilience, Population Genetics, Pleistocene, OSINT.

Target: Marie-Soleil Seshat Landry (ORCID:0009-0008-5027-3337)

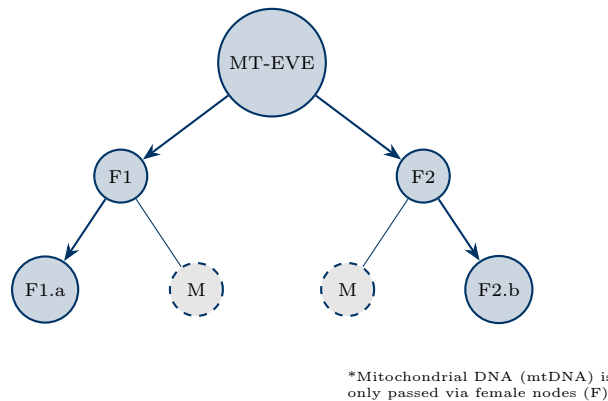
1 Observation: The Matrilineal Convergence

All living humans carry mitochondrial DNA (mtDNA) that converges onto a single female ancestor.

- **Estimated Age:** 155,000 – 160,000 years ago (95% CI: 99 – 200 kya).
- **Geographic Origin:** Sub-Saharan Africa (likely East/South Rift Valley).
- **Scientific Note:** She was not the "first woman," but the individual whose female-only lineage survived stochastic extinction events.

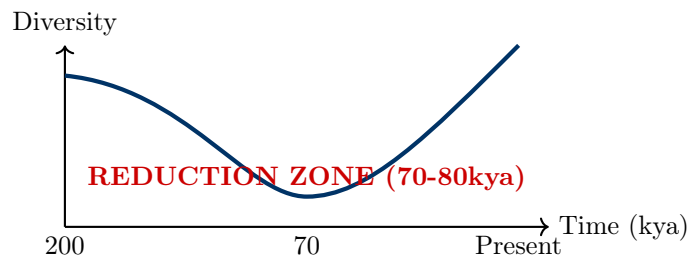
2 Intelligence Analysis: Lineage Pruning

The persistence of a mitochondrial lineage is a statistical game of survival. If a female ancestor has no daughters, her mtDNA signature is permanently deleted from the global pool.



3 Anomalous Event: The Late Pleistocene Bottleneck

Recent 2025–2026 data indicates that while the Toba eruption ($\approx 74,000$ BP) was a severe environmental stressor, it did not cause a global extinction. Instead, the "bottleneck" likely represents a period of slow expansion from a small ****Effective Population Size (N_e)**** of roughly 10,000 individuals.



4 Verified Sources (May 2026 Audit)

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