

Genetic testing proves Bene Israel community in India has Jewish roots

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A new study from Tel Aviv University, Cornell University and the Albert Einstein College of Medicine reveals genetic proof of the Jewish roots of the Bene Israel community in the western part of India. They have always considered themselves Jewish.

"Almost nothing is known about the Bene Israel community before the 18th century, when Cochin Jews and later Christian missionaries first came into contact with it," says first author Yedael Waldman of both TAU's Department of Molecular Microbiology and Cornell's Department of Biological Statistics and Computational Biology. "Beyond vague oral history and speculations, there has been no independent support for Bene Israel claims of Jewish ancestry, claims that have remained shrouded in legend."

"Human genetics now has the potential to not only improve human health but also help us understand [human history](#)," says Prof. Eran Halperin of TAU's Department of Molecular Microbiology and Biotechnology and TAU's Blavatnik School of Computer Sciences, who together with Prof. Alon Keinan of Cornell University's Department of Biological Statistics and Computational Biology advised Waldman. The research was published in *PLOS ONE* on March 24, 2016.

From folklore to science

According to their oral history, the Bene Israel people descended from

14 Jewish survivors of a shipwreck on India's Konkan shore. The exact timing of this event and the origin and identity of the Jewish visitors are unknown. Some date the event to around 2,000 years ago. Others estimate that it took place in 175 BCE. Still others believe their Jewish ancestors arrived as early as the 8th century BCE.

"In the last few decades, [genetic](#) information has become an important source for the study of human history," says Prof. Keinan, the study's senior author. "It has been applied several times to the study of Jewish populations across diasporas, providing evidence of a shared ancestry."

The research team, including members of Prof. Keinan's lab, Prof. Eitan Friedman of TAU's Sackler School of Medicine, and Prof. Gil Azmon and colleagues at Albert Einstein College of Medicine and the University of Haifa, based their study on data from the Jewish HapMap project, an international effort led by Prof. Harry Ostrer of Albert Einstein College of Medicine, to determine the genetic history of worldwide Jewish diasporas. They used sophisticated genetic tools to conduct comprehensive genome-wide analyses on the genetic markers of 18 Bene Israel individuals.

"We found that while Bene Israel individuals genetically resemble local Indian populations, they constitute a clearly separated and unique population in India," Waldman says.

How the community grew

"The results point to Bene Israel being an 'admixed' population, with both Jewish and Indian ancestry. The genetic contribution of each of these ancestral populations is substantial," adds study co-lead author Arjun Biddanda of Cornell.

The results even indicate when the Jewish and Indian ancestors of Bene

Israel "admixed": some 19-33 generations (approximately 650-1,050 years) ago.

"We believe that the first encounter involved Middle-Eastern Jews and was followed by a high rate of tribal intermarriage," says Waldman.

"This study provides a new example of how genetic analysis can be a valuable and powerful tool to advance our knowledge of human history."

More information: Yedael Y. Waldman et al, The Genetics of Bene Israel from India Reveals Both Substantial Jewish and Indian Ancestry, *PLOS ONE* (2016). [DOI: 10.1371/journal.pone.0152056](https://doi.org/10.1371/journal.pone.0152056)

Provided by Tel Aviv University

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