

Ancient DNA sheds light on the origins of the Biblical Philistines

July 3 2019



Excavation of the Philistine Cemetery at Ashkelon. Credit: Melissa Aja, Leon Levy Expedition to Ashkelon

An international team led by scientists from the Max Planck Institute for the Science of Human History and the Leon Levy Expedition have

retrieved and analyzed genome-wide data from people who lived during the Bronze and Iron Ages (~3,600 to 2,800 years ago) in the ancient port city of Ashkelon, one of the core Philistine cities during the Iron Age. The team found that a European-derived ancestry was introduced in Ashkelon around the time of the Philistines' estimated arrival, suggesting that ancestors of the Philistines migrated across the Mediterranean, reaching Ashkelon by the early Iron Age. This European genetic component was subsequently diluted by the local Levantine gene pool over the succeeding centuries, suggesting intensive admixture between local and foreign populations. These genetic results, published in *Science Advances*, are a critical step toward understanding the long-disputed origins of the Philistines.

The Philistines are famous for their appearance in the Hebrew Bible as the arch-enemies of the Israelites. However, the [ancient texts](#) tell little about the Philistine origins other than a later memory that the Philistines came from Caphtor (a Bronze Age name for Crete; Amos 9:7). More than a century ago, Egyptologists proposed that a group called the Peleset in texts of the late 12th century BCE were the same as the Biblical Philistines. The Egyptians claimed that the Peleset traveled from the "the islands," attacking what is today Cyprus and the Turkish and Syrian coasts, finally attempting to invade Egypt.

These hieroglyphic inscriptions were the first indication that the search for the origins of the Philistines should be focused in the late second millennium BCE. From 1985 to 2016, the Leon Levy Expedition to Ashkelon, a project of the Harvard Semitic Museum, took up the search for the origin of the Philistines at Ashkelon, one of the five Philistine cities according to the Hebrew Bible. Led by its founder, the late Lawrence E. Stager, and then by Daniel M. Master, an author of the study and director of the Leon Levy Expedition to Ashkelon, the team found substantial changes in ways of life during the 12th century BCE, which they connected to the arrival of the Philistines. Many scholars,

however, argued that these cultural changes were merely the result of trade or a local imitation of foreign styles, and not the result of a substantial movement of people.

This new study represents the culmination of more than 30 years of archaeological work and of [genetic research](#) using state-of-the-art technologies, concluding that the advent of the Philistines in the southern Levant involved a movement of people from the west during the Bronze to Iron Age transition.



Excavation of the Philistine Cemetery at Ashkelon Credit: Melissa Aja. Leon Levy Expedition to Ashkelon

Genetic discontinuity between the Bronze and Iron Age people of

Ashkelon

The researchers successfully recovered genomic data from the remains of 10 individuals who lived in Ashkelon during the Bronze and Iron Age. This data allowed the team to compare the DNA of the Bronze and Iron Age people of Ashkelon to determine how they were related. The researchers found that individuals across all time periods derived most of their ancestry from the local Levantine gene pool, but that individuals who lived in early Iron Age Ashkelon had a European derived ancestral component that was not present in their Bronze Age predecessors.



Photograph of infant burial at the Philistine Cemetery at Ashkelon. Credit: Ilan Sztulman, Leon Levy Expedition to Ashkelon

"This genetic distinction is due to European-related gene flow introduced in Ashkelon during either the end of the Bronze Age or the beginning of the Iron Age. This timing is in accord with estimates of the Philistines arrival to the coast of the Levant, based on archaeological and textual records," explains Michal Feldman of the Max Planck Institute for the Science of Human History, leading author of the study. "While our modeling suggests a southern European gene pool as a plausible source, future sampling could identify more precisely the populations introducing the European-related component to Ashkelon."

Transient impact of the "European related" gene flow

In analyzing later Iron Age individuals from Ashkelon, the researchers found that the European-related component could no longer be traced. "Within no more than two centuries, this genetic footprint introduced during the early Iron Age is no longer detectable and seems to be diluted by a local Levantine-related gene pool," states Choongwon Jeong of the Max Planck Institute of the Science of Human History, one of the corresponding authors of the study.

"While, according to ancient texts, the people of Ashkelon in the first millennium BCE remained 'Philistines' to their neighbors, the distinctiveness of their genetic makeup was no longer clear, perhaps due to intermarriage with Levantine groups around them," notes Master.

"This data begins to fill a temporal gap in the genetic map of the

southern Levant," explains Johannes Krause of the Max Planck Institute for the Science of Human History, senior author of the study. "At the same time, by the zoomed-in comparative analysis of the Ashkelon genetic time transect, we find that the unique cultural features in the early Iron Age are mirrored by a distinct genetic composition of the early Iron Age people."

More information: M. Feldman et al., "Ancient DNA sheds light on the genetic origins of early Iron Age Philistines," *Science Advances* (2019). advances.sciencemag.org/content/5/7/eaax0061

Provided by Max Planck Society

Citation: Ancient DNA sheds light on the origins of the Biblical Philistines (2019, July 3)
retrieved 8 May 2024 from <https://phys.org/news/2019-07-ancient-dna-biblical-philistines.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.