The Roman siege of Masada lasted just a few weeks, not several years, say archaeologists

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Masada National Park. Credit: Omer Ze'evi-Berger.

Researchers from the Sonia & Marco Nadler Institute of Archaeology at Tel Aviv University have used a range of modern technologies, including drones, remote sensing, and 3D digital modeling, to generate the first

objective, quantified analysis of the Roman siege system at Masada. Findings indicate that, contrary to the widespread myth, the Roman army's siege of Masada in 73 CE lasted no more than a few weeks.

The study was conducted by the Neustadter expedition from TAU's Sonia & Marco Nadler Institute of Archaeology, headed by Dr. Guy Stiebel, together with Dr. Hai Ashkenazi (today Head of Geoinformatics at the Israel Antiquities Authority), and Ph.D. candidates Boaz Gross (from Tel Aviv University and the Israeli Institute of Archaeology) and Omer Ze'evi-Berger (today at the University of Bonn). The study is part of the expedition's extensive mission, implementing advanced tools and posing fresh questions, to attempt a new understanding of what really happened at Masada.

The paper is published in the *Journal of Roman Archaeology.*

Dr. Stiebel explains, "In 2017 my expedition renewed, on behalf of TAU's Sonia & Marco Nadler Institute of Archaeology, excavations at Masada—a world-famous site explored extensively since the early 19th century and throughout the 20th century. Our expedition sets forward several new questions and implements many novel research tools that were not available to previous generations of archaeologists. In this way we intend to obtain fresh insights into what actually happened there before, during, and after the Great Jewish Revolt.

"As part of this extensive project, we devote much scholarly attention to the site's surroundings. We use drones, remote sensing, and aerial photography to collect accurate high-resolution data from Masada and its environs, with special emphasis on three aspects: the water systems, the trails leading to and from the palatial fortress, and the Roman siege system.

"The collected information is used to build 3D digital models that

provide us with a clear and precise image of the relevant terrain. In the current study we focused on the siege system, which—thanks to the remote location and desert climate—is the best-preserved Roman siege system in the world."

He adds, "For many years, the prevailing theory that became a modern myth asserted that the Roman siege of Masada was a grueling three-year affair. In recent decades, researchers have begun to challenge this notion, for various reasons. In this first-of-its kind study, we examined the issue with modern technologies enabling precise objective measurements."

Tower 10 and the wall abutting it. Credit: The Neustadter Masada Expedition (Taken from the Journal of Roman Archaeology)

The researchers used drones carrying remote sensors that provided precise, high-resolution measurements of the height, width, and length of all features of the siege system. This data was used to build an accurate 3D digital model, enabling exact calculation of the structures' volume and how long it took to build them.

Dr. Ashkenazi continues, "Reliable estimates are available of the quantity of earth and stones a Roman soldier was able to move in one day. We also know that approximately 6,000–8,000 soldiers participated in the siege of Masada. Thus, we were able to objectively calculate how long it took them to build the entire siege system—eight camps and a stone wall surrounding most of the site. We found that construction took merely about two weeks.

"Based on the ancient historical testimony, it is clear that once the assault ramp was completed, the Romans launched a brutal attack, ultimately capturing the fortress within a few weeks at the most. This leads us to the conclusion that the entire siege of Masada lasted no more than several weeks."

Dr. Stiebel says, "The narrative of Masada, the Great Jewish Revolt, the siege, and the tragic end as related by Flavius Josephus, have all become part of Israeli DNA and the Zionist ethos, and are well known around the world. The duration of the siege is a major element in this narrative, suggesting that the glorious Roman army found it very difficult to take the fortress and crush its defenders. For many years it was assumed that the siege took three long years, but in recent decades researchers have begun to challenge this unfounded belief.

"In our first-of-its-kind study we used objective measurements and advanced technologies to clarify this issue with the first data-driven scientific answer. Based on our findings, we argue that the Roman siege of Masada took a few weeks at the most. As empires throughout history

have done, the Romans came, saw, and conquered, quickly and brutally quelling the uprising in this remote location.

"Our conclusion, however, detracts nothing from the importance of this historical event, and many baffling questions remain to be investigated. For example, why did the Romans put so much effort into seizing this remote and seemingly unimportant fortress?

"To answer this and many other intriguing questions, we have initiated a vast, innovative project in and around Masada—collecting data and analyzing it thoroughly in the labs of TAU's Sonia & Marco Nadler Institute of Archaeology, in collaboration with other researchers, to ultimately shed new light on the old enigma: What really happened at Masada?"

More information: Hai Ashkenazi et al, The Roman siege system of Masada: a 3D computerized analysis of a conflict landscape, *Journal of Roman Archaeology* (2024). DOI: 10.1017/S1047759424000084

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