

# The Justinianic plague: evidence from the dated Greek epitaphs of Byzantine Palestine and Arabia

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The Justinianic plague, the first historically attested pandemic of bubonic plague, has recently made headlines with the publication of the genomic analysis of the bacterium responsible for its outbreak.<sup>1</sup> Though its primary contribution is to the field of epidemiology, this study is a welcome addition to the growing body of research on the first plague pandemic, for which the literary evidence is still the main source of information.<sup>2</sup> A number of attempts have been made to find non-literary evidence for this plague in order to substantiate the literary evidence and gain insight into areas for which the literary sources are insufficient, and the present study joins those by analyzing the corpus of dated Greek epitaphs of the 4th through 7th c. A.D. from the Byzantine provinces of *Palaestina Prima*, *Palaestina Secunda*, *Palaestina Tertia* (or *Salutaris*),<sup>3</sup> and *Arabia*. The findings appear to confirm the traditional dating of the outbreak of plague to 541, and may even suggest that this first wave was particularly virulent; they are less informative about the succession of later waves.

The Justinianic plague first erupted under Justinian I in the summer of 541 in the Egyptian port of Pelusium and quickly spread east to Gaza and west to Alexandria.<sup>4</sup> By the spring of 542 it had reached Constantinople while infecting all the lands bordering on the Mediterranean Sea — Syria, Anatolia, Greece, N Africa, Italy, Gaul, Iberia. It eventually spread as far east as Persia and as far north as the British Isles. The plague subsided probably around 544, but it was not gone, for it continued to recur in waves every 6 to 20 years, before finally disappearing in the mid-8th c.<sup>5</sup>

On the basis of symptoms described in the literary sources, specifically the characteristic “buboes” — painful swellings of the lymph nodes on the groin, armpit, and neck —, the disease has been identified as bubonic plague. Early strides in the field of microbiology at the end of the 19th c. led to the identification of the pathogen responsible for bubonic plague as *Yersinia pestis*, named after its discoverer, Alexandre Yersin. Yersin found that the chief vector of the bacterium was the flea, *Xenopsylla cheopis*, whose preferred hosts, in

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1 D. M. Wagner *et al.*, “*Yersinia pestis* and the plague of Justinian 541-543 AD: a genomic analysis,” *The Lancet Infectious Diseases* 14.4 (2014) 319-26 (doi 10.1016/S1473-3099(13)70323-2). The analysis was based on ancient DNA derived from the teeth of two plague victims buried in the Aschheim-Bajuwarenring cemetery in Bavaria. The study showed that the strains of *Y. pestis* involved in the Justinianic plague are distinct from those responsible for both the second (Black Death, 14th-17th c.) and third (19th-20th c.) pandemics, and that they are either extinct or unsampled in contemporary wild rodent populations.

2 For an excellent introduction to the Justinianic plague, see L. K. Little (ed.), *Plague and the end of antiquity: the pandemic of 541-750* (New York 2007), based on a conference held at the American Academy in Rome in December 2001.

3 These areas will henceforth be referred to collectively as “Palestine”.

4 Both Africa (P. Sarris, “Bubonic plague in Byzantium: the evidence of non-literary sources,” in Little [supra n.2] 120-23) and China (G. Morelli *et al.*, *Yersinia pestis* genome sequencing identifies patterns of global phylogenetic diversity,” *Nature Genetics* 42 [2010] 1140-43 [doi 10.1038/ng.705]) have been posited as the source of the disease.

5 L. K. Little, “Life and afterlife of the first plague pandemic,” in id. (supra n.2) with references cited.