

PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

Identifying the Black Plague

ArticleInfo		
ArticleID	:	3825
ArticleDOI	:	10.1186/gb-spotlight-20001109-01
ArticleCitationID	:	spotlight-20001109-01
ArticleSequenceNumber	:	262
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2000-11-09 OnlineDate : 2000-11-09
ArticleCopyright	:	BioMed Central Ltd2000
ArticleGrants	:	
ArticleContext	:	130591111

In just four years in the mid-fourteenth century, the medieval pandemic of 'Black Death' killed 17-28 million Europeans, or 30-40% of the total population. Further resurgences later in the century eliminated 90% of the households around Montpellier in southern France. It is in this region that Raoult et al. went searching for the causative agent of the Black Death. Although this agent has been **presumed** to be *Yersinia pestis*, the pattern of the disease's spread has led others to **suggest** alternative agents. In the November 7 **Proceedings of the National Academy of Sciences**, Raoult *et al.* use 'suicide' PCR to amplify DNA remnants of *Yersinia pestis* from tooth pulp, thus providing evidence that *Yersinia* was the agent of Black Death (*Proc Natl Acad Sci USA* 2000, **97**:12800-12803). The teeth came from a grave that is dated to the time of the pandemic, and termed a 'catastrophe' grave because it contains multiple skeletons that lack shrouds. As such it is likely to have been used for Black Death victims. Dental pulp is a **source** of DNA free from natural contamination, and the absence of positive controls and use of new primers for each reaction lowers the chances of false positives. Attempts to amplify DNA from other infectious agents from the same samples were not successful.

References

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2. The black death past and present. 2. Some historical problems.
3. *Proceedings of the National Academy of Sciences*, [<http://www.pnas.org/>]
4. Detection of 400-year-old *Yersinia pestis* DNA in human dental pulp: an approach to the diagnosis of ancient septicemia.