# Plague in the WHO European Region

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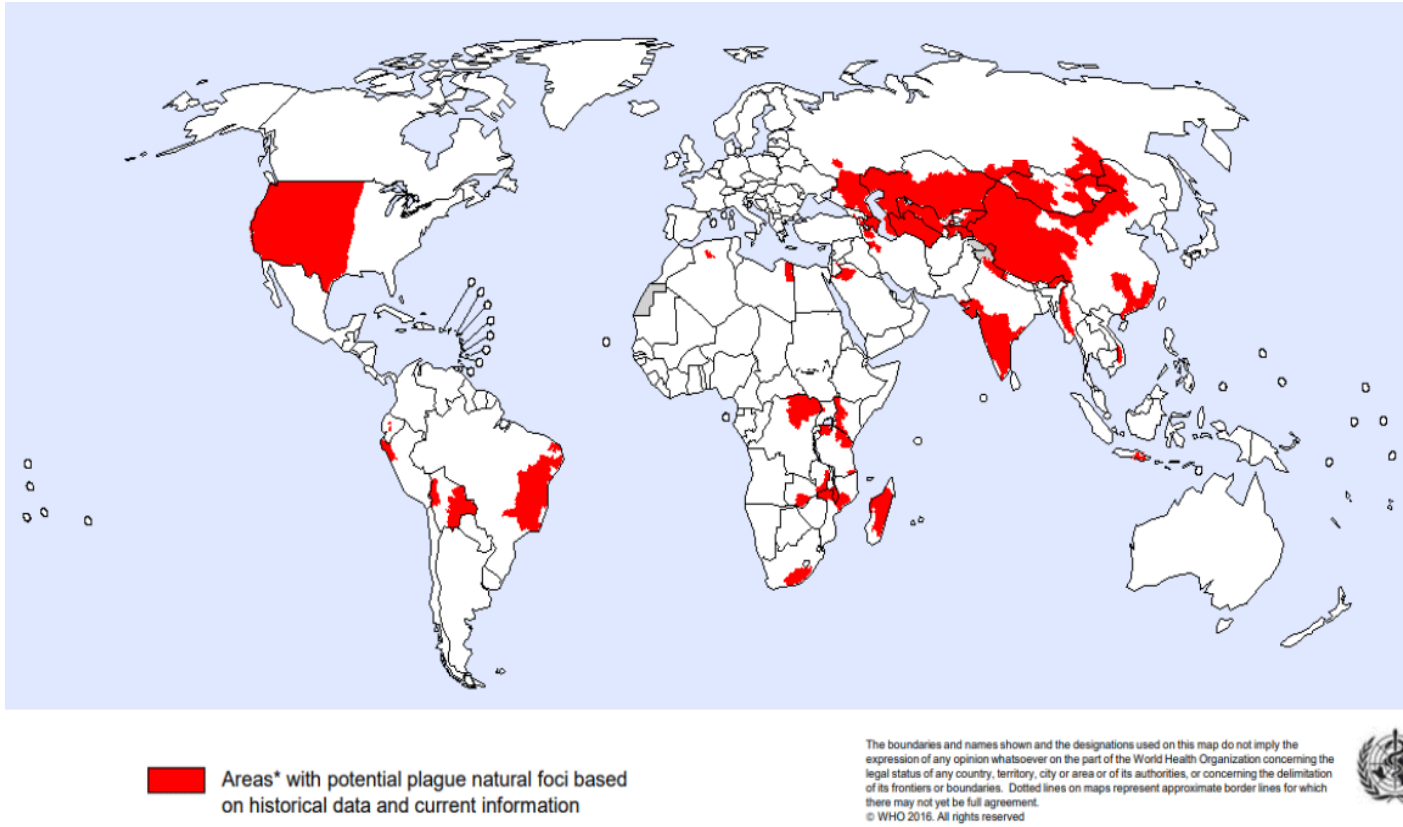
World Health Organization
European Region

# Recent epidemiology of *Yersinia pestis* in Europe

HEALTH EMERGENCIES programme

**Indicator-based surveillance – annual WHO Joint Reporting Form**

- Only one verified case reported to WHO since 2006 across 53 Member States of WHO European region


https://www.who.int/news-room/fact-sheets/detail/plague

# Current epidemiology of *Yersinia pestis* in Europe

HEALTH EMERGENCIES programme

**Indicator-based surveillance (annual JRF)**

- Only two cases reported since 2006 across 53 Member States of WHO European region

**Event-based surveillance since 2000**

- Bubonic plague case(s): KAZ (2003), TKM (2004), KGZ (2013)
- Pneumonic plague – no alerts

# Current situation with *Yersinia pestis* in WHO European Region

HEALTH EMERGENCIES programme

Disease still exists naturally in parts of Kyrgyzstan, Kazakhstan and Russia

**1. Kazakhstan 2003**

- Single case in 2003
- Published article: 1990 to 2002, 19 human plague cases and 2 bacteria-carriers cases were registered in natural plague foci
- Out of 19 patients (14 men; and 5 women), 13 recovered, 6 died.
- Live attenuated Y. pestis EV vaccine available for human and is applied as a basic preventive measure in plague natural foci.
- 11 people were infected through flea bites.

*Alim Aikimbajev et al. Plague in Kazakhstan at the present time. Przegl Epidemiol 2003;57(4):593-8.*

2**. Kyrgyzstan**

- In 2013, 1 case of bubonic plague was registered in the Issyk-Kul region - died.
- No human cases have been registered since
- Survey for enzootic foci in 2022/23 amongst marmots (ground squirrels) demonstrates ongoing animal rese

# Research into origins of Black Death in Europe, second pandemic, 14th century

HEALTH EMERGENCIES programme

Research team from the University of Stirling in Scotland and Max Planck Institute and University of Tubingen, Germany;

Origins of Black Death, more than 600 years after resulted in tens of millions deaths in Europe, Asia and north Africa;

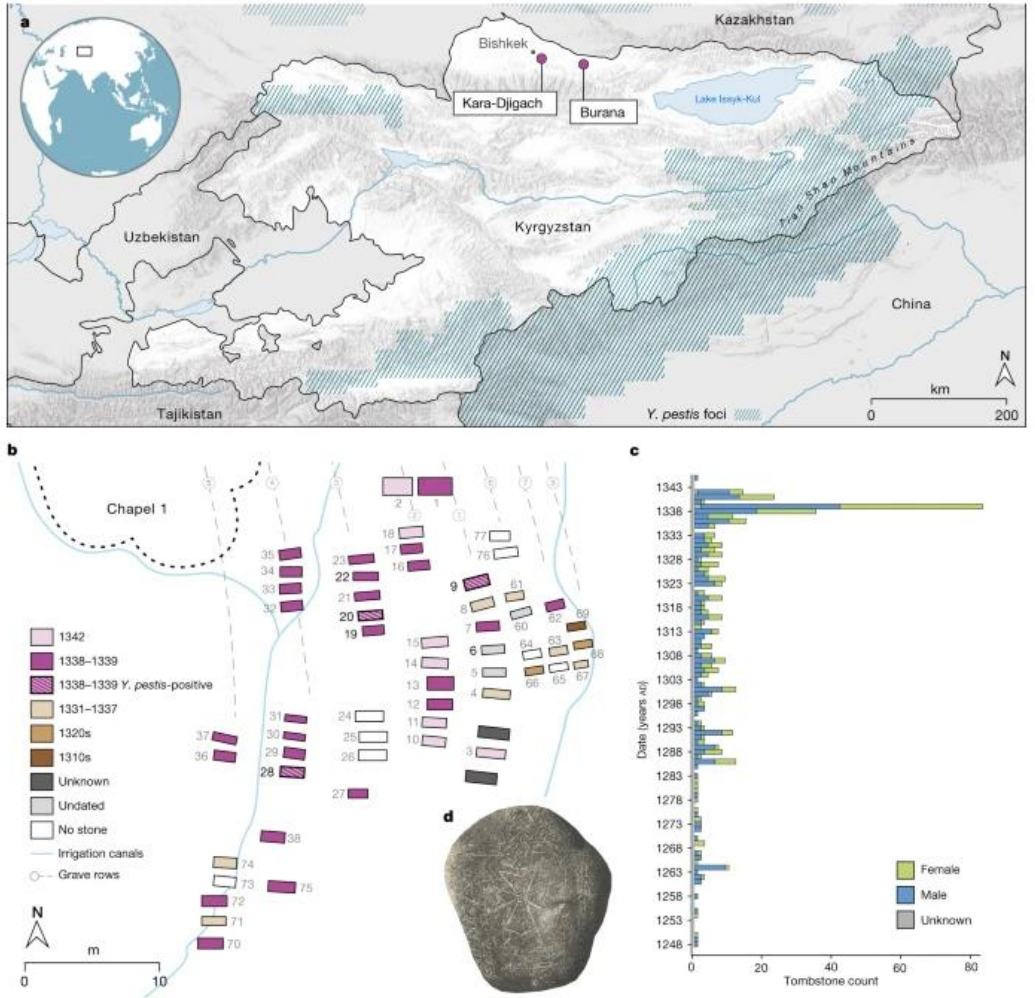
Sudden surge in deaths in the late 1330s at two cemeteries near Lake Issyk-Kul in the north of **modern-day Kyrgyzstan.**

Among 467 tombstones dated 1248 and 1345 - an increase in deaths, with 118 stones dated 1338 or 1339. Inscriptions on some mentioned the cause of death as "mawtānā", the Syriac language term for "pestilence

Genetic material obtained from the teeth of seven individuals who were buried at the cemeteries. Three contained DNA from *Yersinia pestis*

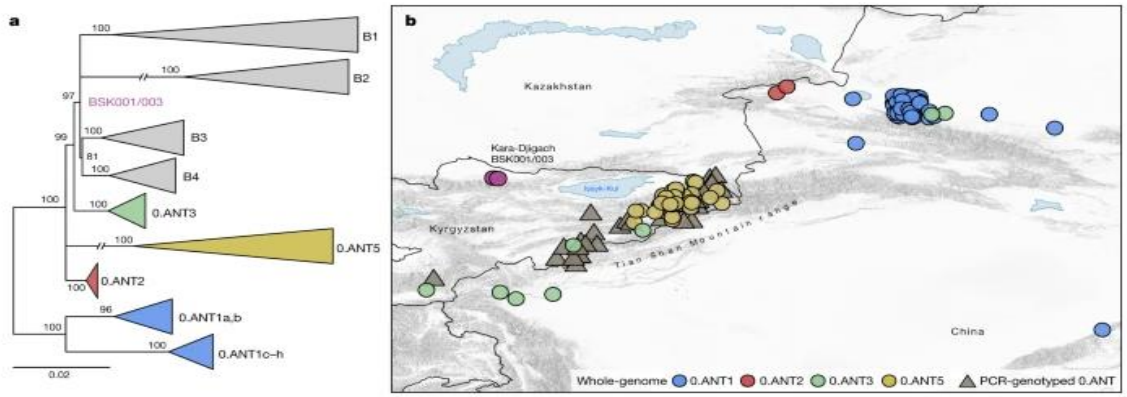
Most extant strains have been isolated from marmots and their ectoparasites known to be the primary *Y. pestis* reservoirs in these areas

**Fig. 1: Description of the investigated fourteenth-century Chüy Valley archaeological sites.**




**a**, Locations of the Kara-Djigach and Burana archaeological sites in modern-day Kyrgyzstan. Regions encompassing *Y. pestis* foci at present are highlighted in blue (as in refs. [18,19]). The map was created

**Fig. 4: Geographical isolation locations of modern 0.ANT lineages.**




https://www.nature.com/articles/s41586-022-04800-3ium that causes bubonic plague.

https://www.theguardian.com/society/2022/jun/15/mystery-black-death-origins-solved-plague-pandemic

# Acknowledgements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