# Supplementary material X

We searched NCBI PubMed for key words associated with a subset of identified rodent-borne zoonoses. All searchers were conducted on 2025-07-04, we searched All Fields of PubMed records and made no restrictions of language or publication date. We did not screen returned citations for relevance.

Searches were standardised as follows:

Term 1: name of the disease in humans.

Term 2: name of the pathogens causing the disease in humans.

Term 3: rodent/rodentia to search for manuscripts including discussion of rodent hosts of these pathogens

To identify the total number of citations for each disease system we combined search term 1 and 2 to obtain unique records associated with research conducted on the disease system in humans or the causative pathogen. To identify the number of citations that explicitly include the rodent hosts of the pathogen and their link to human disease we combined the results of search terms 1 and 2 with an OR operator for search term 3. The returned number of citations is expected to include citations which did not explicitly study the rodent hosts of the disease system but will also include publications where their role is mentioned. The true number of citations that studied rodents is expected to be a subset of the citations returned but for the purposes of this visualisation was deemed sufficient.

We exported the “results by year” returned from the searches for subsequent processing in the R statistical programming language (R Core Team, 2023). Visualisations were produced using the ggplot2 package (Wickham, 2016).

For each disease system we conducted a review of the published literature to identify milestones in understanding of the disease system. We classified these as:

* “Oldest infection”/”First case description” - the first identified infection in humans
* “Pathogen” - the year that the causative pathogen was identified to species level
* “Clinical” - the year when an effective pharmaceutical agent was discovered
* “Transmission” - the year when partial or complete elucidation of the mechanism of transmission was identified
* “Host” – the year when rodents, or an individual rodent species, was identified as a host organism for the pathogen
* “Epidemiology” – recent case counts for the disease
* “Vaccine” – the year of development of a vaccine against the pathogen (n.b. may not be a human vaccine).

The specific terms for each disease system are reported below.

## Hantavirus

1. "Haemorrhagic fever with renal syndrome" OR "Hantavirus pulmonary syndrome"
2. "Hantaan virus" OR "Dobrova virus" OR "Seoul virus" OR "Saaremaa virus" OR "Amur virus" OR "Puumala virus" OR "Sin Nombre virus" OR "Monongahela virus" OR "New York virus" OR "Black Creek Canal virus" OR "Bayou virus" OR "Choclo virus" OR "Andes virus" OR "Bermejo virus" OR "Lechiguanas virus" OR "Maciel virus" OR "Oran virus" OR "Laguna Negra virus"
3. Rodent\*

Hantavirus\_pubmed\_2025-07-04 = 1 OR 2 = 3324

Hantavirus\_rodent\_pubmed\_2025-07-04 = (1 OR 2) AND 3 = 1116

## Lassa

1. "Lassa fever"
2. "Lassa mammarenavirus" OR "Mammarenavirus lassaense" OR "Lassa virus"
3. Rodent\*

Lassa\_pubmed\_2025-07-04 = 1 OR 2 = 2083

Lassa\_rodent\_pubmed\_2025-07-04 = (1 OR 2) AND 3 = 291

## Lyme

1. "Lyme disease" OR "Lyme borreliosis"
2. "Borrelia garinii" OR "Borrelia afzelii" OR "Borrelia burgdorferi"
3. Rodent\*

Lyme\_pubmed\_2025-07-04 = 1 OR 2 = 18516

Lyme\_rodent\_pubmed\_2024-12-12 = (1 OR 2) AND 3 = 682

## Mpox

1. “mpox” OR “monkeypox”
2. “monkeypox virus” OR “Orthopoxvirus monkeypox***”*** OR “MPV” OR “MPXV”
3. Rodent\*

mpox\_pubmed\_2025-07-04 = 1 OR 2 = 11104

mpox\_rodent\_pubmed\_2025-07-04 = (1 OR 2) AND 3 = 194

## Plague

1. "Plague"
2. "Yersinia pestis"
3. Rodent\*

Plague\_pubmed\_2025-07-04 = 1 OR 2 = 14713

Plague\_rodent\_pubmed\_2025-07-04 = (1 OR 2) AND 3 = 1152

## Western Tick Borne Encephalitis

1. “Western Tick Borne Encephalitis” OR “Tick-borne encephalitis” OR “Tick-borne meningoencephalitis”
2. “Tick Borne Encephalitis Virus” OR “TBEV” OR “Central European encephalitis virus” OR “West Siberian virus” OR “Russian Spring Summer encephalitis virus”
3. Rodent\*

WTBE\_pubmed\_2025-07-04 = 1 OR 2 = 5463

WTBE\_rodent\_pubmed\_2025-07-04 = (1 OR 2) AND 3 = 230

## Data availability

The results of the searches are available as .csv files. The review of milestones for each disease system are included in timelines\_data\_v6. All data and scripts to reproduce the figures are available in the following GitHub repository (https://github.com/DidDrog11/rodent\_borne\_zoonses\_fig)

## References

R Core Team (2023). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

H. Wickham. ggplot2: Elegant Graphics for Data Analysis. Springer-Verlag New York, 2016.