Yellow Fever, a public health concern but neglected disease in South America. An historical review and update of wild hosts

Universitat Autònoma de Barcelona

FACULTAT DE VETERINÀRIA

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Max Adrià Verdeny

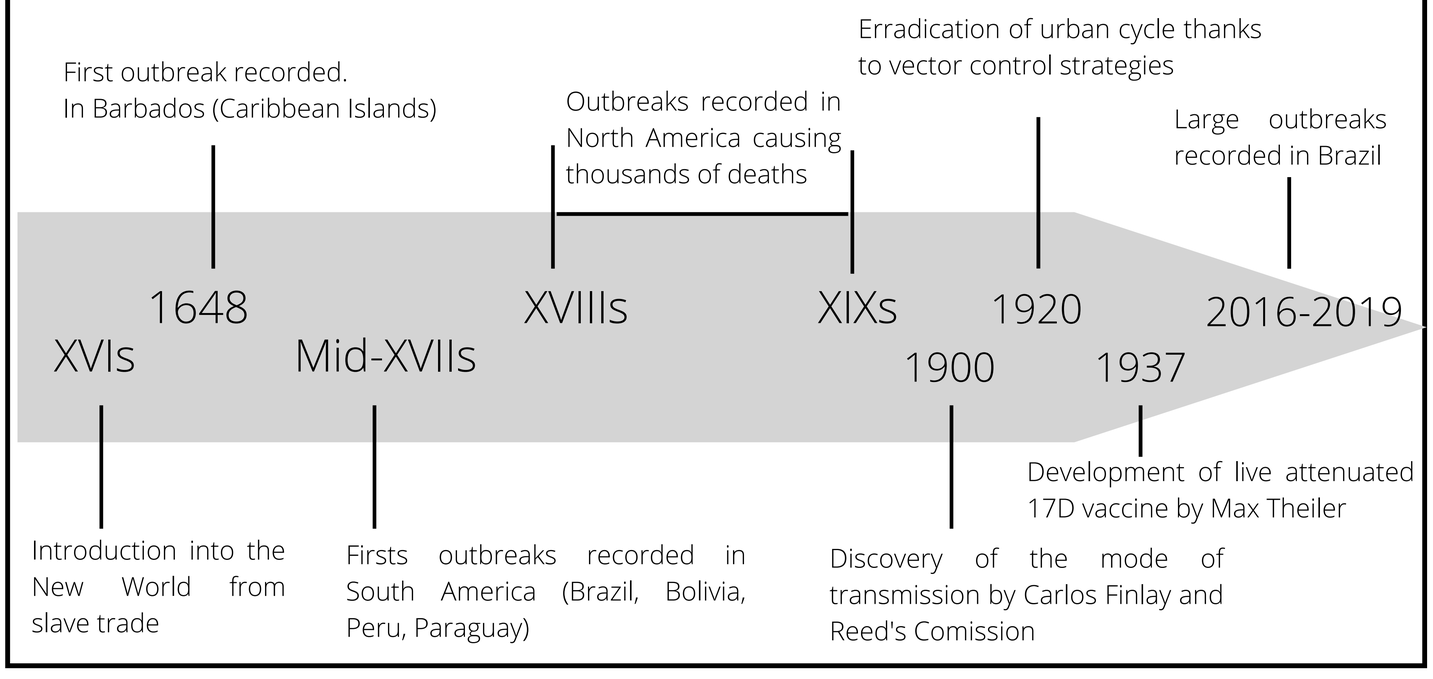
OBJECTIVES

The aim of the present study was to determine the status of Yellow Fever in South America in relation to the wild reservoir of the disease:

1- To conduct a bibliographic review on the historical course of the disease in South America and its implications for public health.

2- To study the geographical distribution of the reported cases of YF in wild hosts from 1995 to 2021 in South America.

HISTORICAL COURSE



TRANSMISSION OF YELLOW FEVER VIRUS

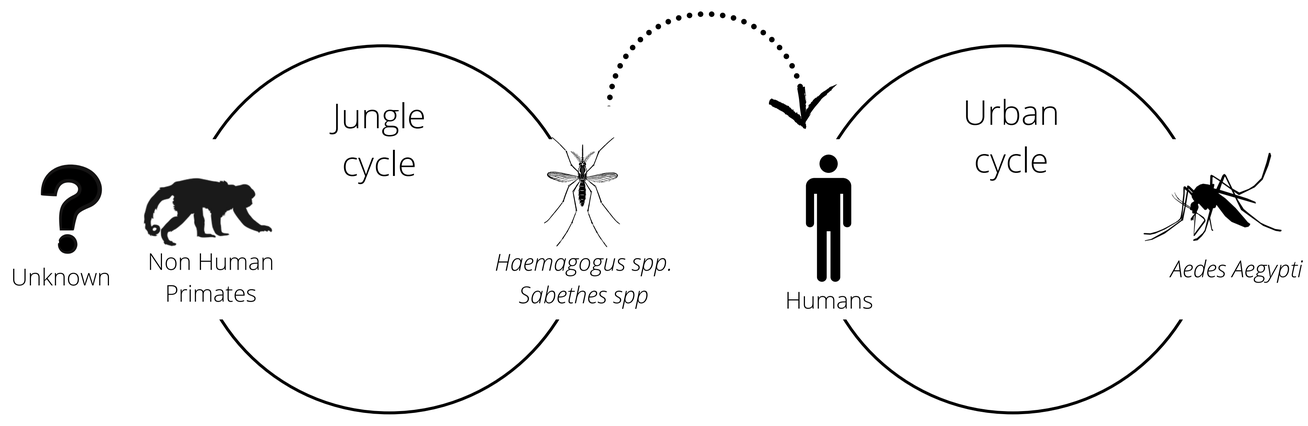


Figure 2. Detailed scheme on the Yellow Fever Virus Life Cycle in South America. Own elaboration based on CDC (2019).

GEOGRAPHICAL RANGE

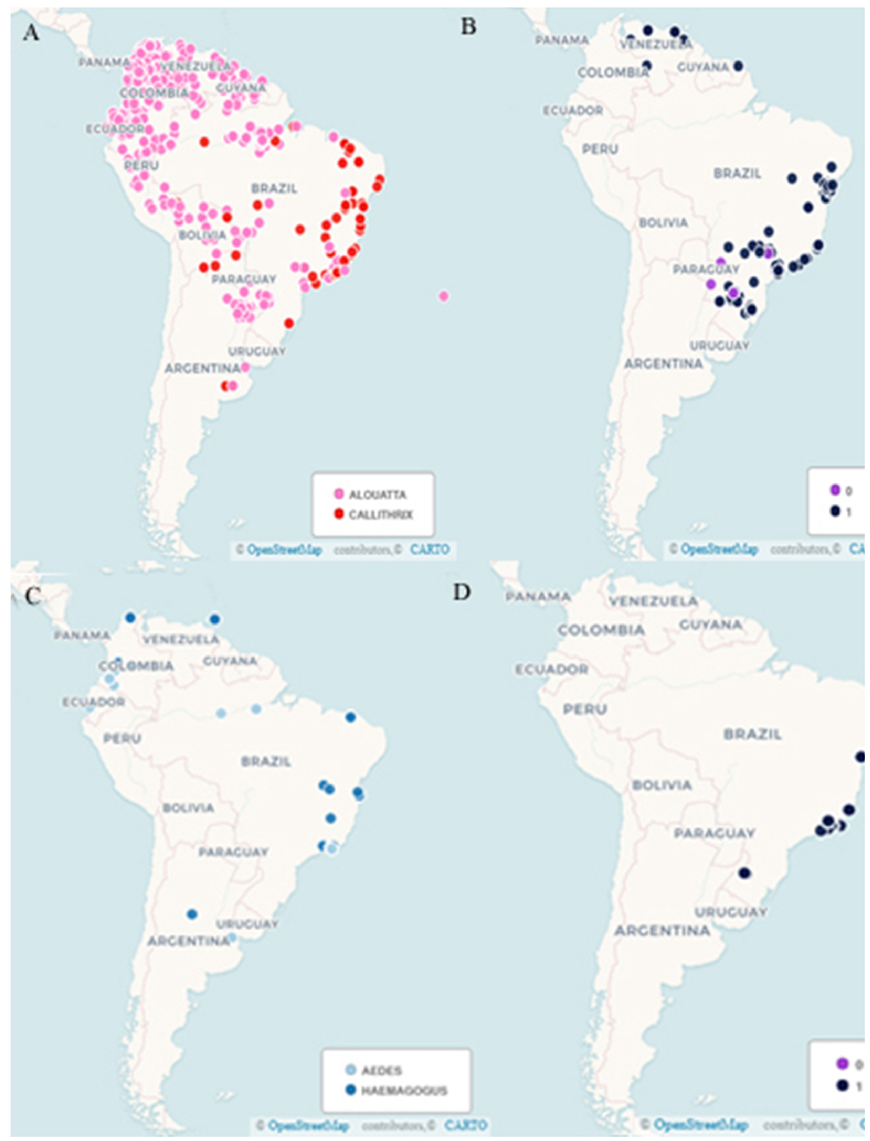


Figure 1. Distribution of main wild hosts and vectors for Yellow Fever: A) Geographical distribution of the genera Alouatta and Callithrix; B) Positive (1) and negative (0) cases of Yellow Fever in the genera Alouatta and Callithrix; C) Geographical distribution of the genera Aedes and Haemagogus; and D) Positive (1) and negative (0) cases of Yellow Fever in the genera Aedes and Haemagogus. Sources: Data from and bibliographic review (1995-2021) and represented by Carto© (2022).

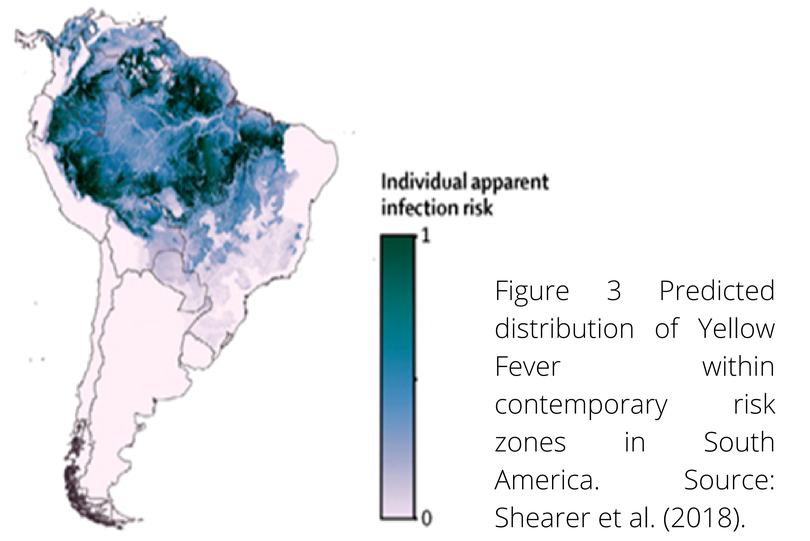


Figure 3 Predicted distribution of Yellow Fever within contemporary risk zones in South America. Source: Shearer et al. (2018).

CONCLUSIONS

- The territorial range of transmission risks considers the Amazon as a high-risk zone, and coincides with the presence of the two most reported wild hosts, Alouatta and Callithrix.
- Our generated maps indicate a clear under-sampling of wild hosts for the detection of YF in South America. This should undoubtedly be remedied by improving surveillance programs for this disease, including known and potential wild hosts.