



Monkeypox *Virüs Yapısı*

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Tarihçe

- **1958** - Danimarka
 - Laboratuvar maymunlarındaki enfeksiyonlar
 - *Macaca cynomolgus* – *Klad I*
- Malezya ve Singapur

- **1964** – Rotterdam Hayvanat Bahçesi
- USA

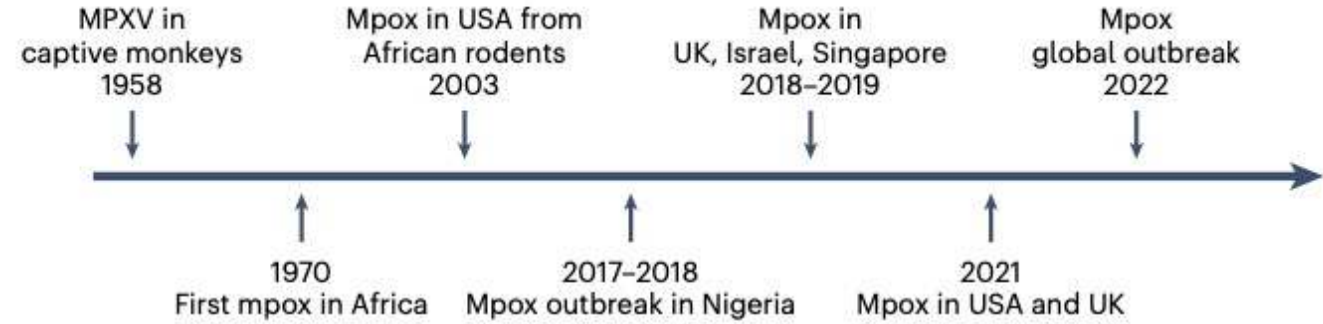


Preben von Magnus
(1912-1973)



Fig. 1.
Pox-disease. Cynomolgus monkey: Acute stage. Typical pustules.

Tarihçe



- **1970** – Demokratik Kongo Cumhuriyeti (DKC)

- İlk vaka - 9 aylık çocuk – *Klad II*

(Ladnyj, I. D., et al. A human infection caused by monkeypox virus in Basankusu Territory, Democratic Republic of the Congo. Bull. World Health Organ. 1972; 46, 593-597)

- **1970-1971** Liberia, Sierra Leone , Nijerya

- 6 vaka

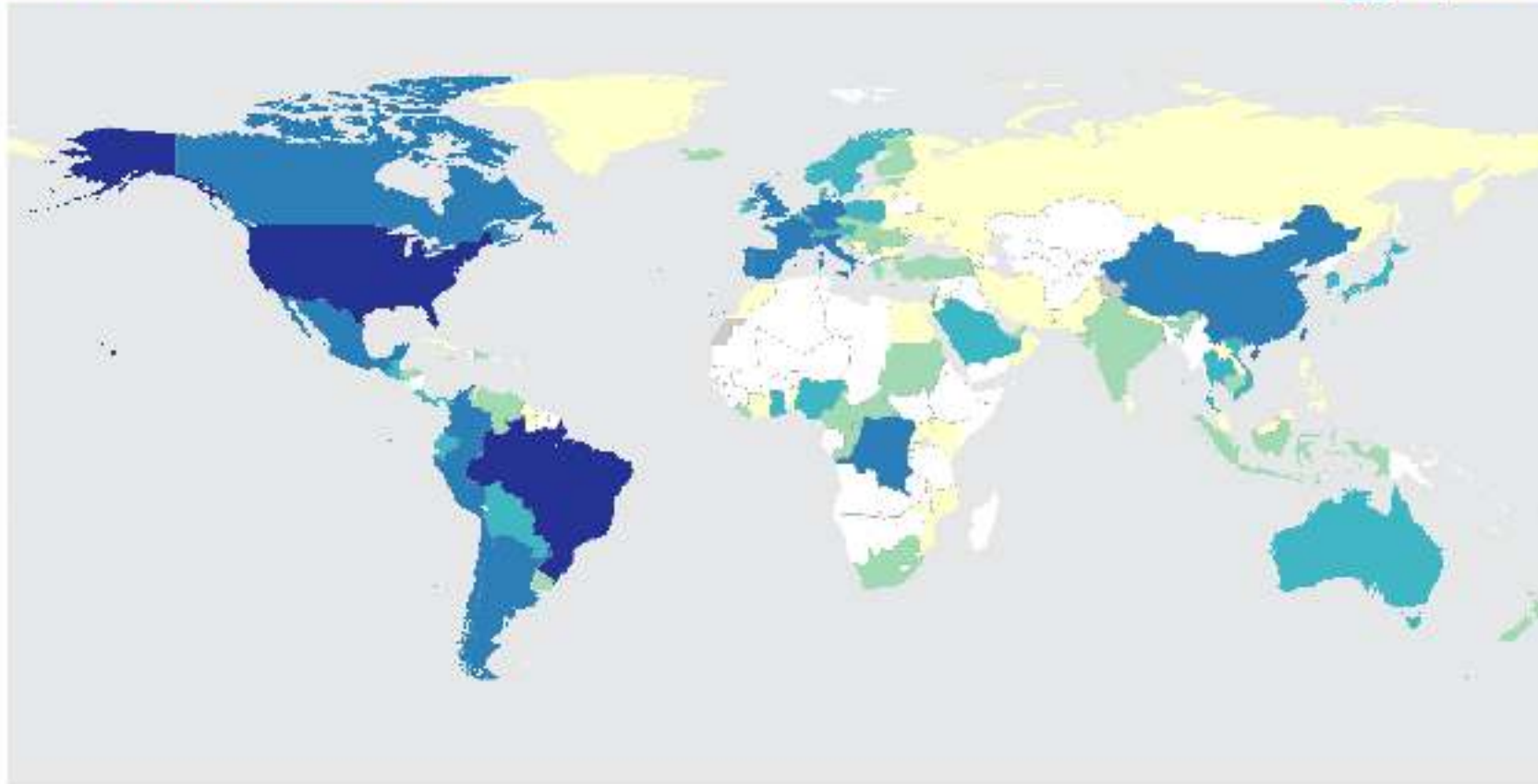
(Lourie, B., et al. Human infection with monkeypox virus: laboratory investigation of six cases in West Africa. Bull. World Health Organ. 1972; 46, 633-639)



Uluslararası Önem Arz Eden Halk Sağlığı Acil Durumu

Total mpox cases

from 1 Jan 2022, as of 31 Jul 2024



Confirmed cases

- 0
- 1-9
- 10-99
- 100-999
- 1000-9999
- 10000+

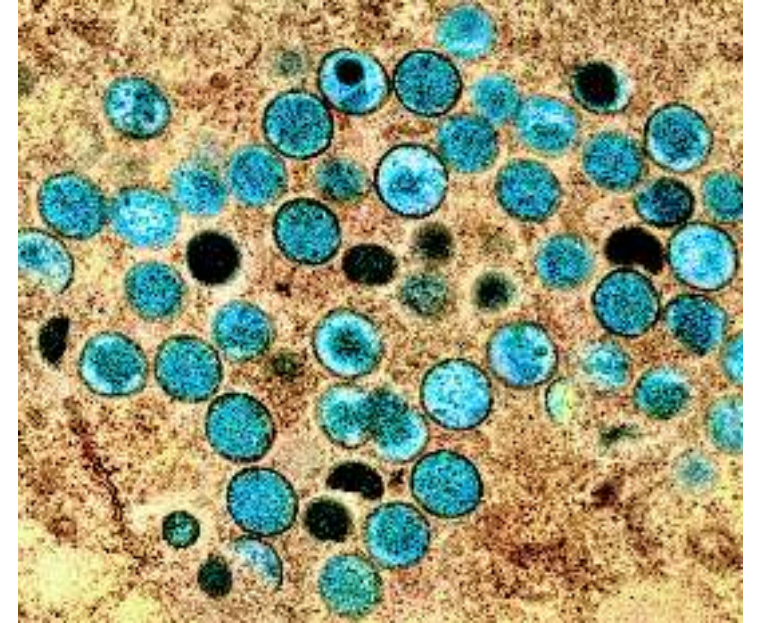
- Not applicable
- No data

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Data Source: WHO Weekly Epidemiol. and Health Situation Rep. (2024)
Data updated: 31 Jul 2024
Data for the 10000+ category is based on the WHO Weekly Epidemiol. and Health Situation Rep. (2024)

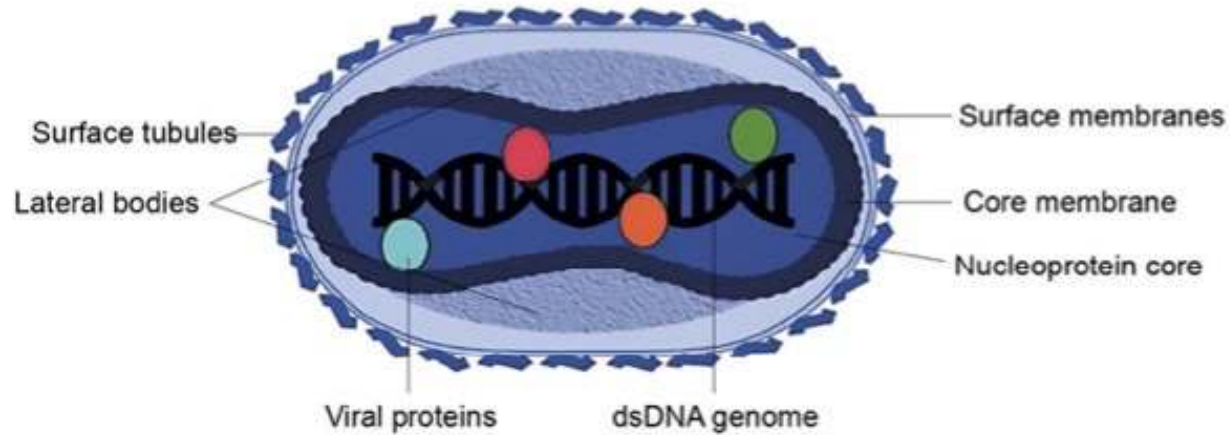
Orthopoxvirus monkeypox (MPXV)

- *Poxviridae* ailesi, *Chordopoxvirinae* alt ailesi
- Lineer, çift iplikli DNA virüsü
- Zoonotik



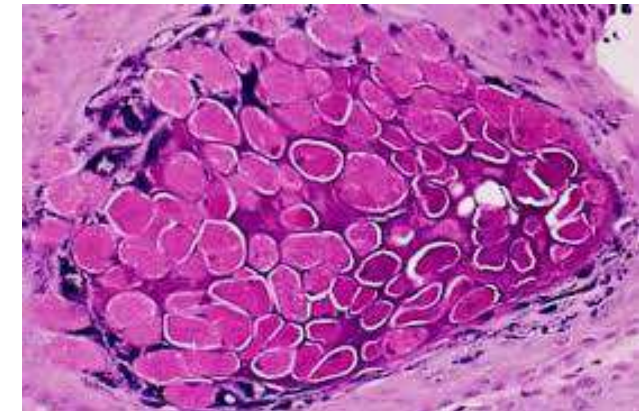
Morfolojik Yapı

- 200-250 nm
- Dumbbell-shaped nükleoprotein



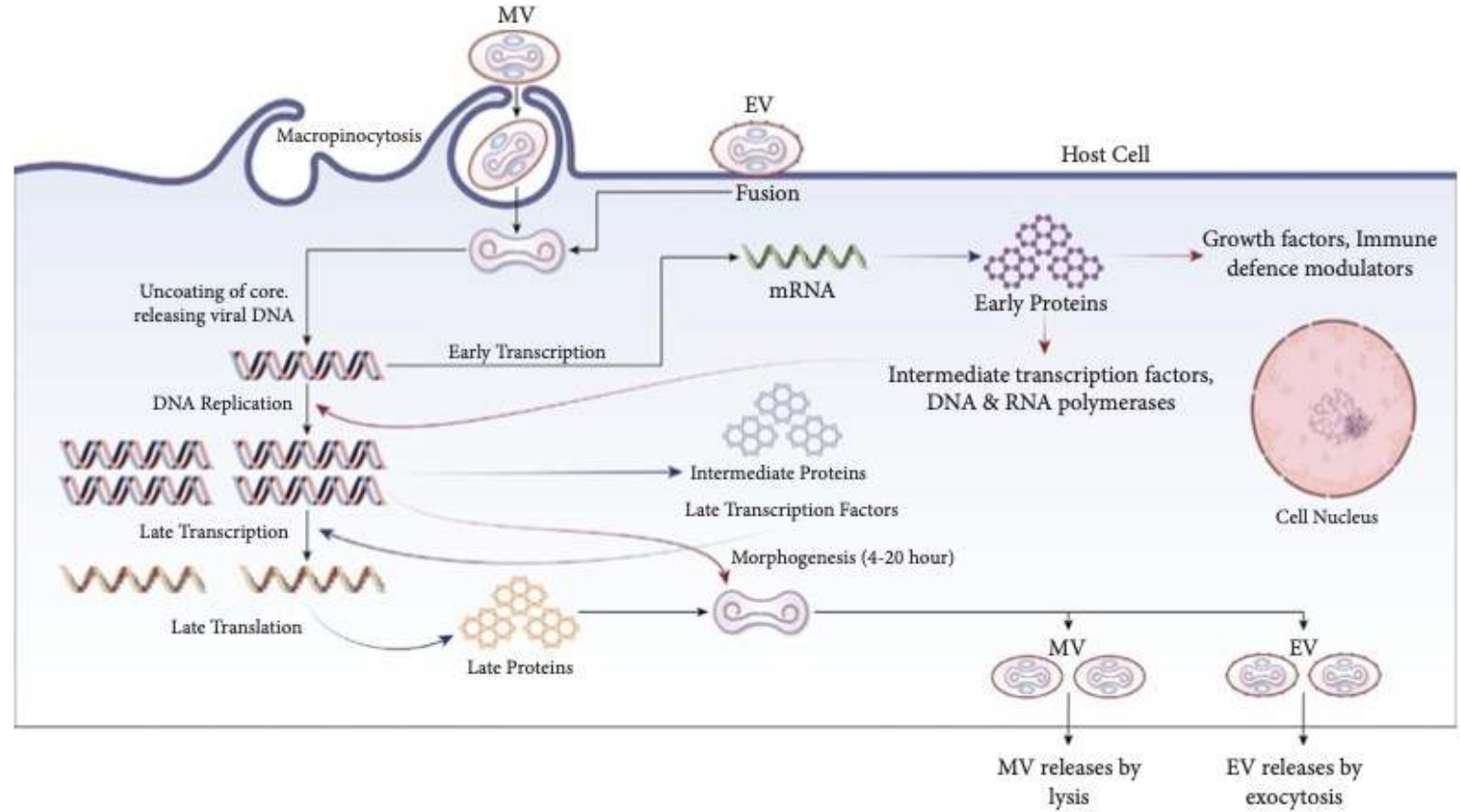
Ejaz M, et al. Human monkeypox: An updated appraisal on epidemiology, evolution, pathogenesis, clinical manifestations, and treatment strategies. *J Basic Microbiol.* 2024;64(2):e2300455.

Guarnieri cisimcikleri



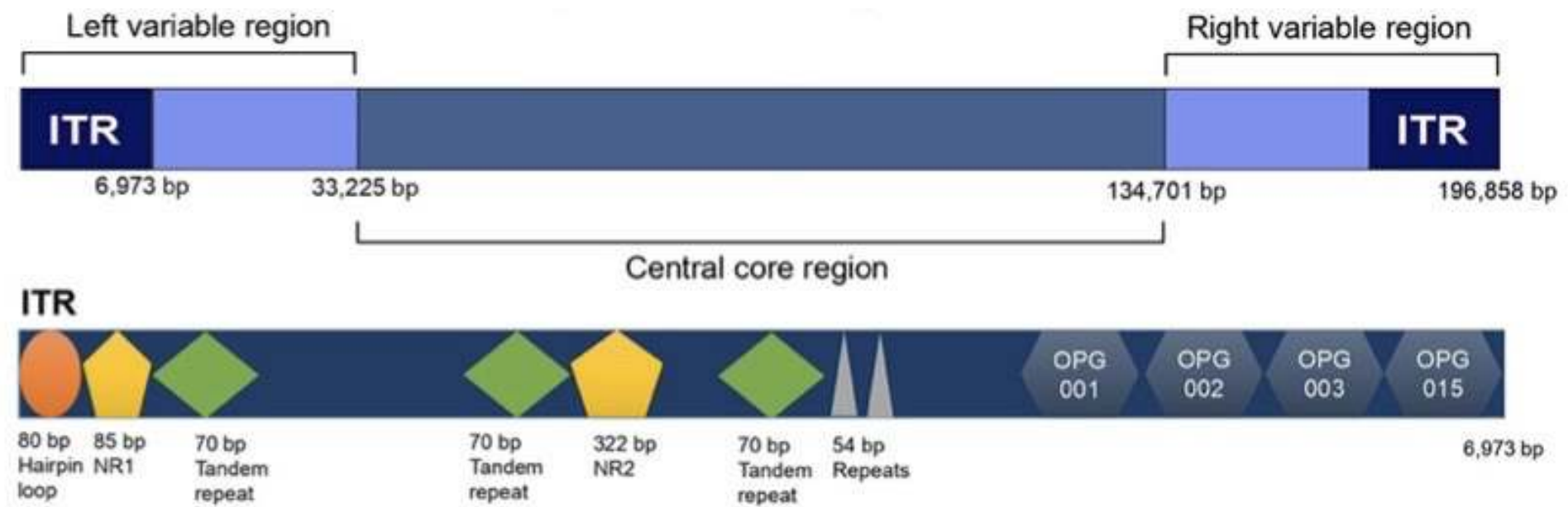
Hücre İçi Yaşam Döngüsü

- 2 farklı form;
- **İntrasellüler matür virion (MV)** – enfeksiyonu başlatma
- **Ekstrasellüler zarflı virion (EV)** – immün yanıtta kaçış ve konakçı türleri arasında yayılım



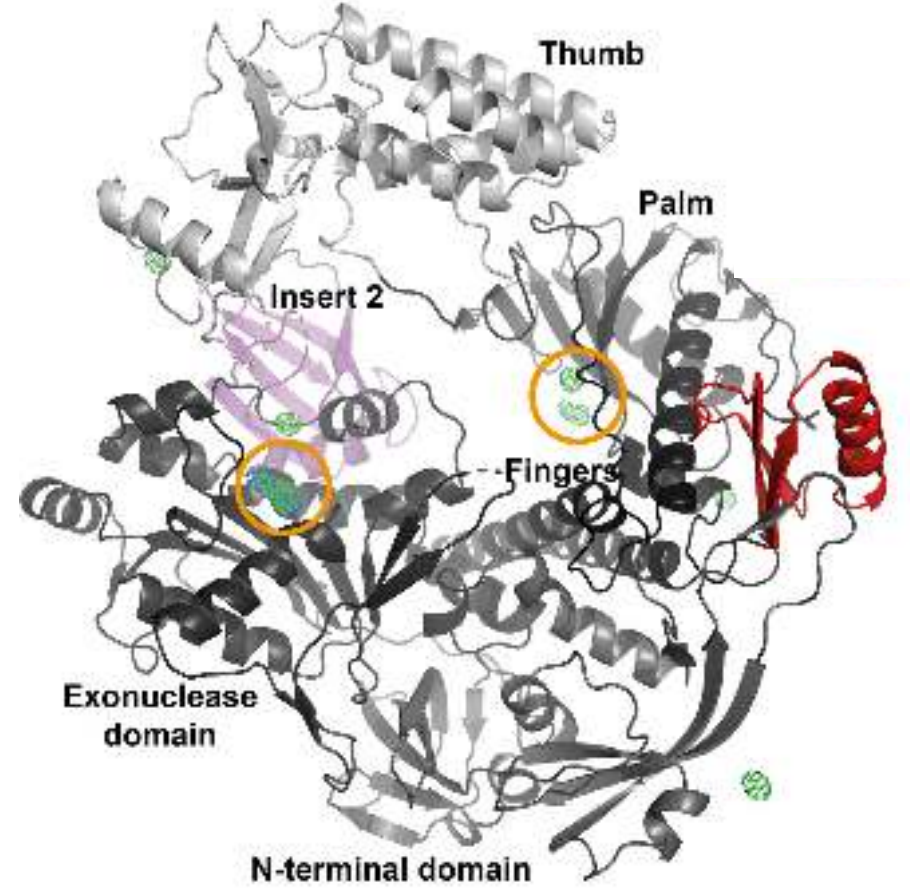
Genom Yapısı

- ~ 200 kb



DNA polimeraz

- Proofreading ekzonükleaz aktivitesi
- Düşük mutasyon oranı
- 2×10^{-6} nükleotid değişimi/bölge/yıl



MPXV Kladları

	Klad I	Klad IIa	Klad IIb
Görüldüğü bölge	Orta Afrika (DKC başta olmak üzere)	Batı Afrika (Ivory Coast, Liberya, Sierra Leone, Gana, Kamerun)	Batı Afrika (Nijerya)
Global salgın	-	2003	2018-2023
Hayvan rezervuarı	Çok sayıda	Çok sayıda	Çok sayıda
Veziküler lezyonlar	Evet	Evet	Evet
Mortalite	% 10	Düşük	% 3.6
Aşı (Jynneos ve ACAM2000)	Evet	Evet	Evet
Terapötik (Tecoviramat, brincidofovir ve cidofovir)	Evet	Evet	Evet



% 99 benzerlik

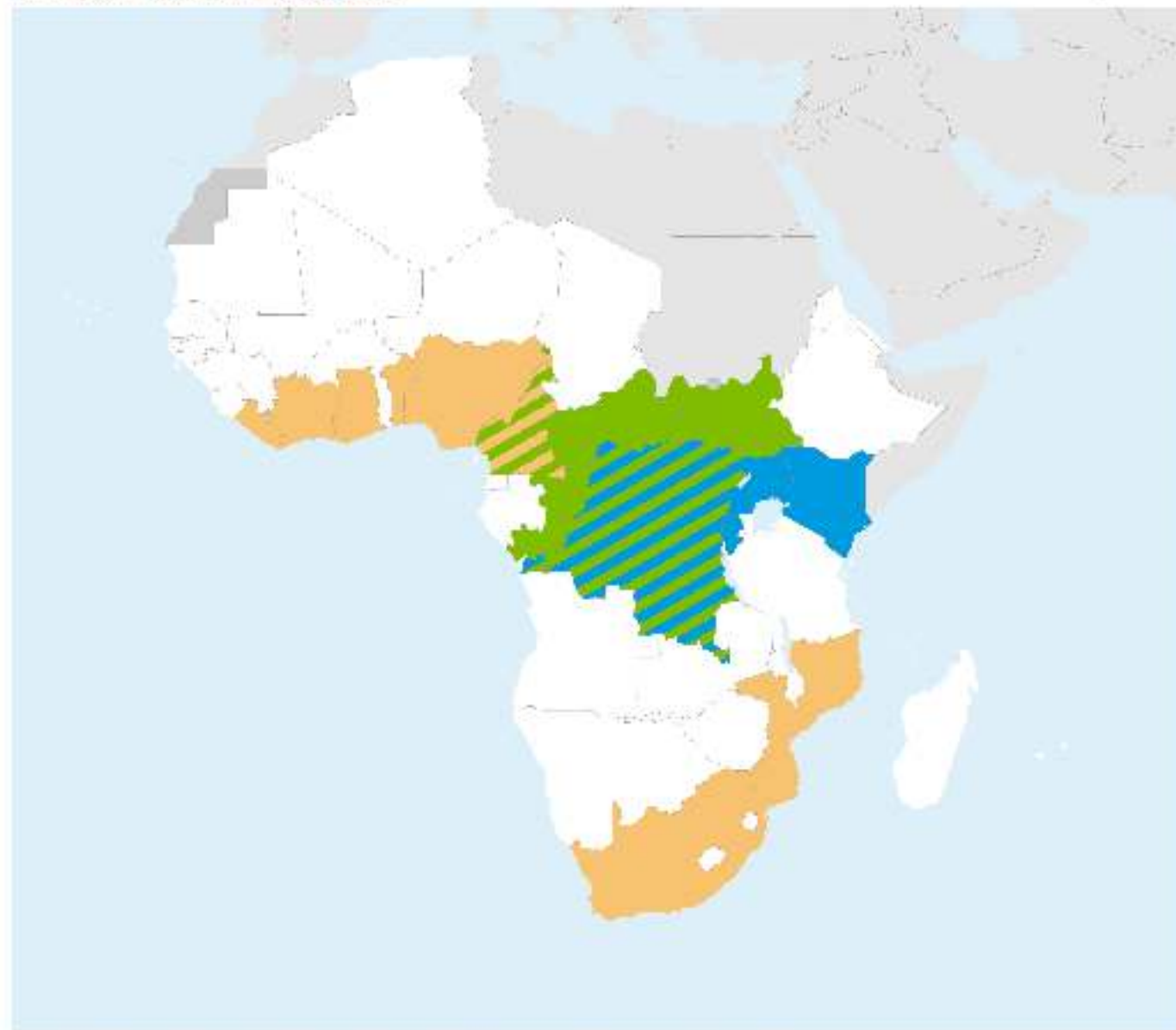
MPXV Kladları ve Soyları





MPXV clades detected, African Region

from 1 Jan 2022, as of 18 Aug 2024



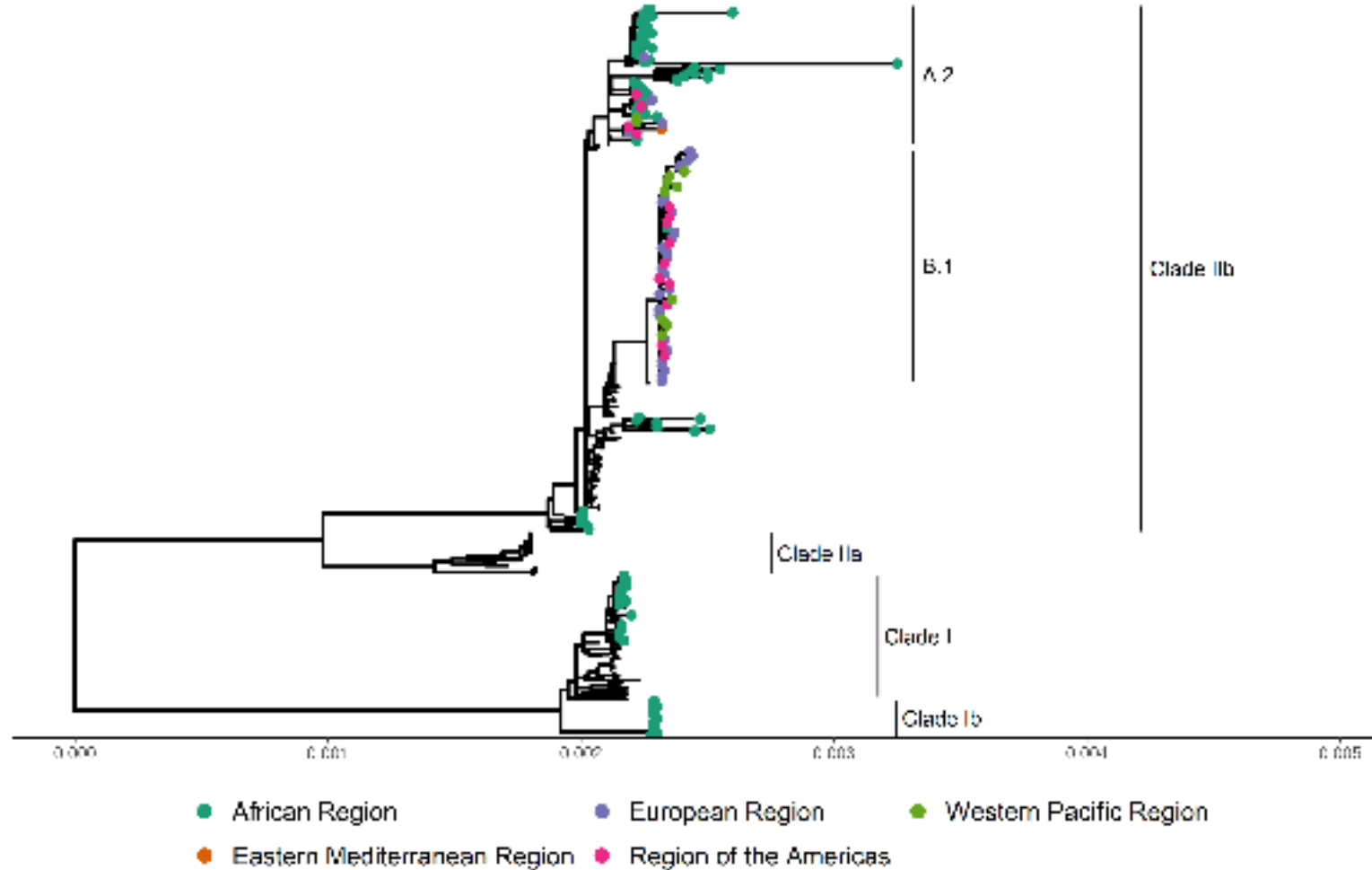
- MPXV clades detected**
- Clade Ia
 - Clade II
 - Clade III
 - Clades Ia and II
 - Clades Ia and III
 - No boxes reported
 - Not applicable

The designations are purely for the presentation of the material in the public domain and do not imply the endorsement of any specific clade or the WHO or any other organization. The WHO is not responsible for the use of the information presented in this document for any purpose other than that for which it was originally intended.

MPXV Klade IIb Soyları

- GISAID ve Nextstrain
- 5 soy
 - A
 - A.1
 - A.2
 - A.3
 - **B.1**

B.1 lineage reduced in scale for clarity
Data as of 01 Aug 2021





Teşekkürler...



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