



# Mpox in the Global South



**AFRANUM**

Modules de formation numérique AFRAVIH

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## **A Deep Dive into Mpox: Examining the Situation in Southern Nations**

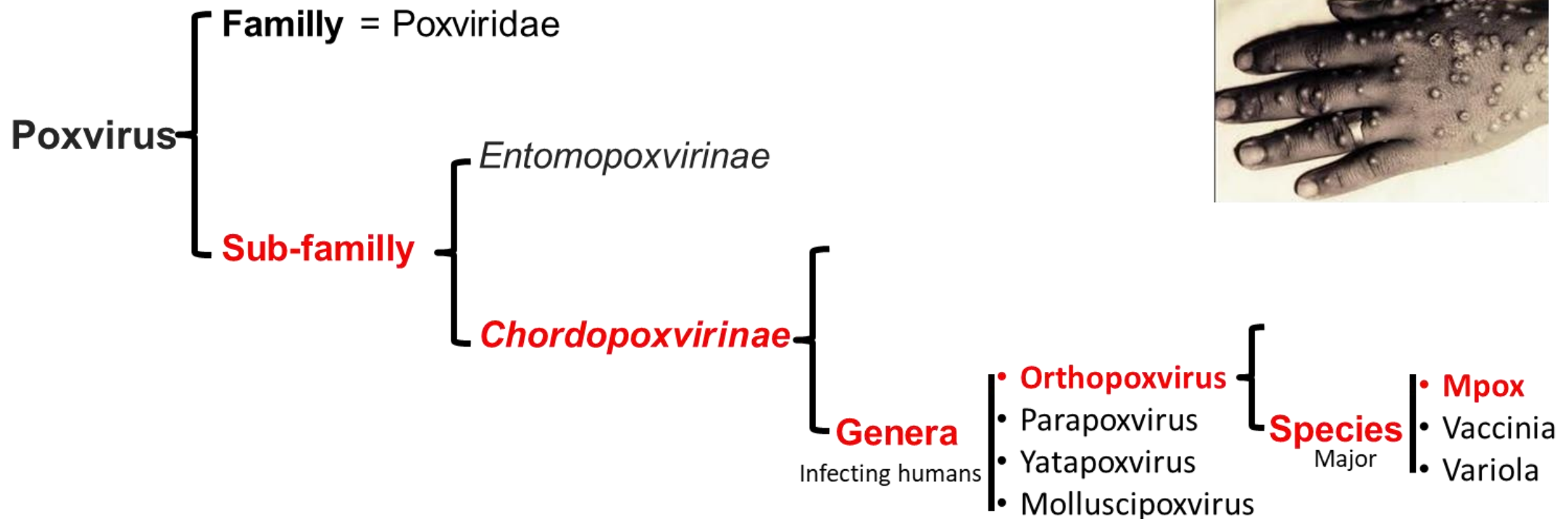
- Examples of the DRC
- Examples of Cameroon

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## **Mpox in the south: take home message**

- Can mpox be eliminated in southern countries?
- Will we eliminate the disease or epidemics?

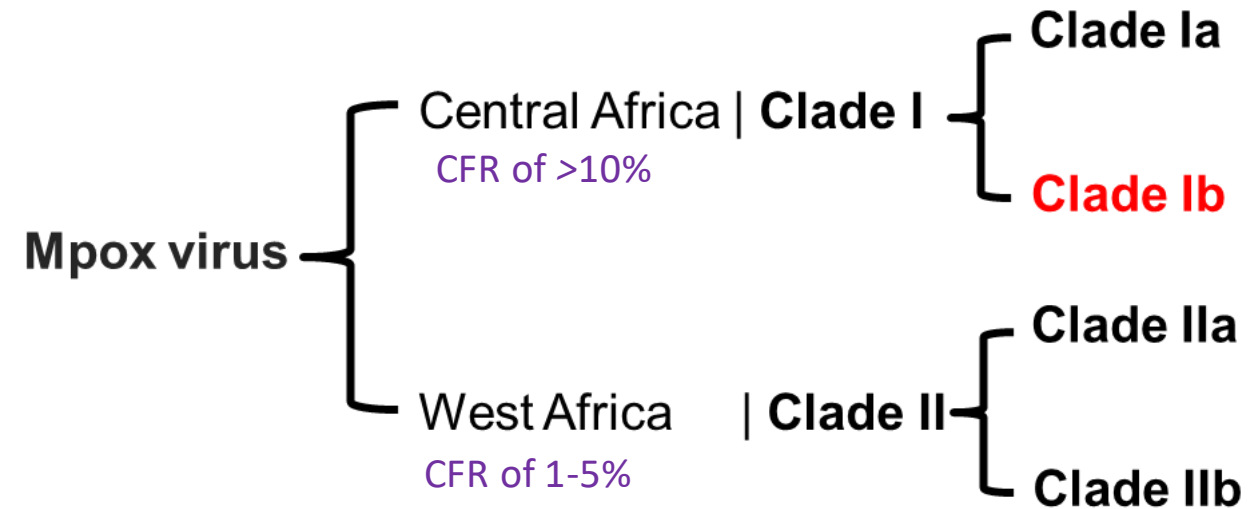
- Mpox (monkeypox) is a zoonotic viral illness caused by the mpox virus, a species of the genus Orthopoxvirus.
- Poxviruses cause a disease characterized by generalized or localized skin lesions.



# MPOX VIRUS

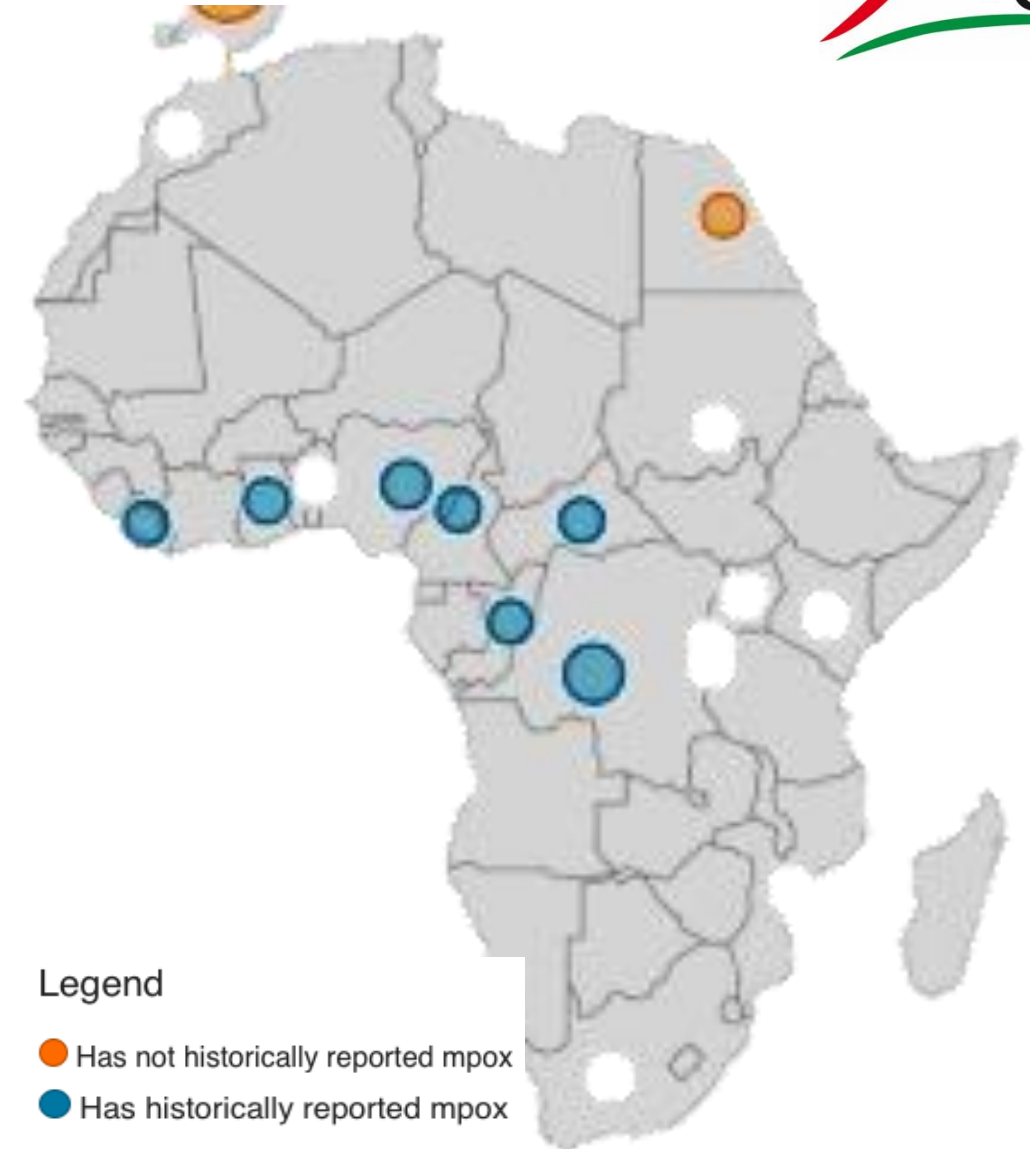


- Mpox virus (MPXV)
- Genome: 200 kb dsDNA virus
- First discovered in 1958, 1970
- Transmission:
  - Zoonotic virus which can spread from animals
  - Person-to-person also occurs
- Endemic to Western and Central Africa
- Two genetic clades
  - Clade I: Central Africa (Ia) & East Africa (Ib)
  - Clade II: West Africa (IIa) & Globally (IIb)



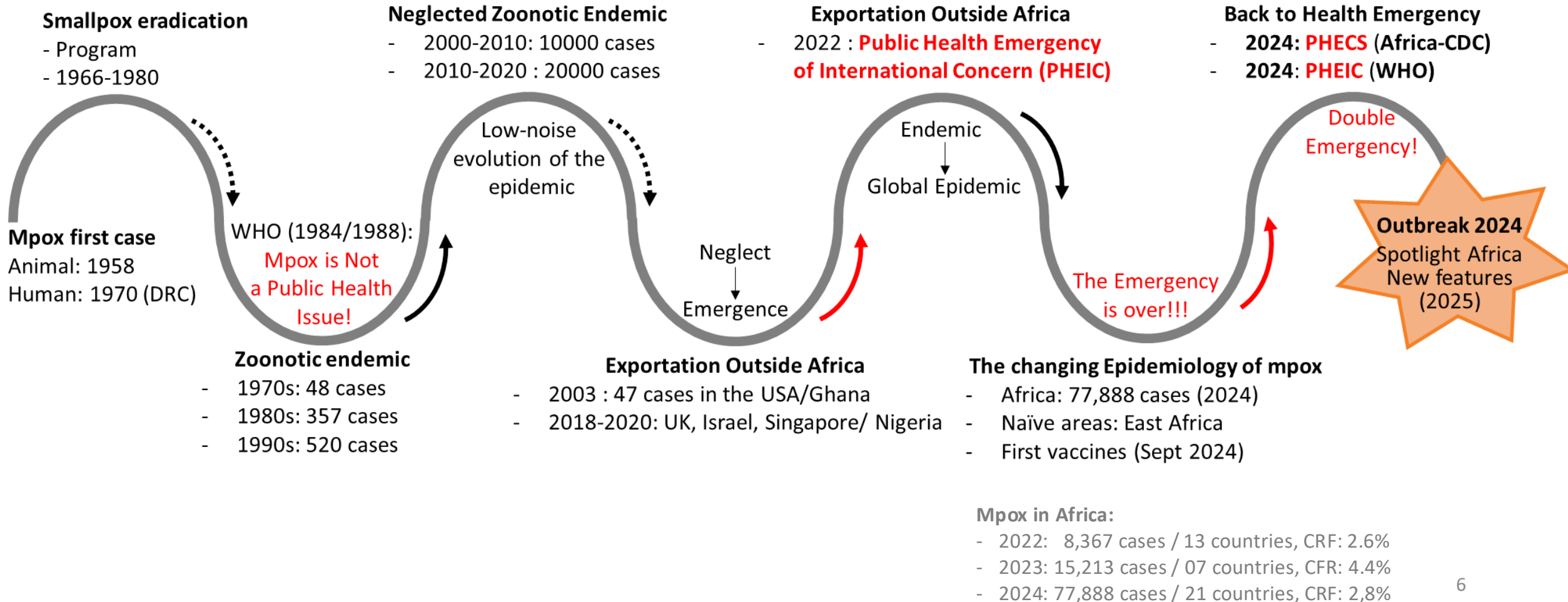
# MPOX SITUATION IN THE SOUTH

- **Outbreak and Spread:** Since January 2024, increase in mpox cases across Africa.
  - A specific variant, clade Ib, spreading in eastern DRC and neighboring countries
  - Cases: 78,888 suspected; 116,767 confirmed; 1,321 deaths (CRF\*: 1.8 %)
- **Transmission:**
  - Close physical contact
  - Often sexual contact, among young adults
- **Affected Countries (21):**
  - **Endemic (11):** Benin , Cameroon, CAR\*, DRC\* , Gabon, Côte d'Ivoire, Liberia, Nigeria, Congo, Sierra Leone, South Sudan
  - **Recently Affected (10):** Burundi, Kenya, Rwanda, Uganda, Zambia, Zimbabwe, Algeria, Mozambique, South Africa, Morocco, Guinea



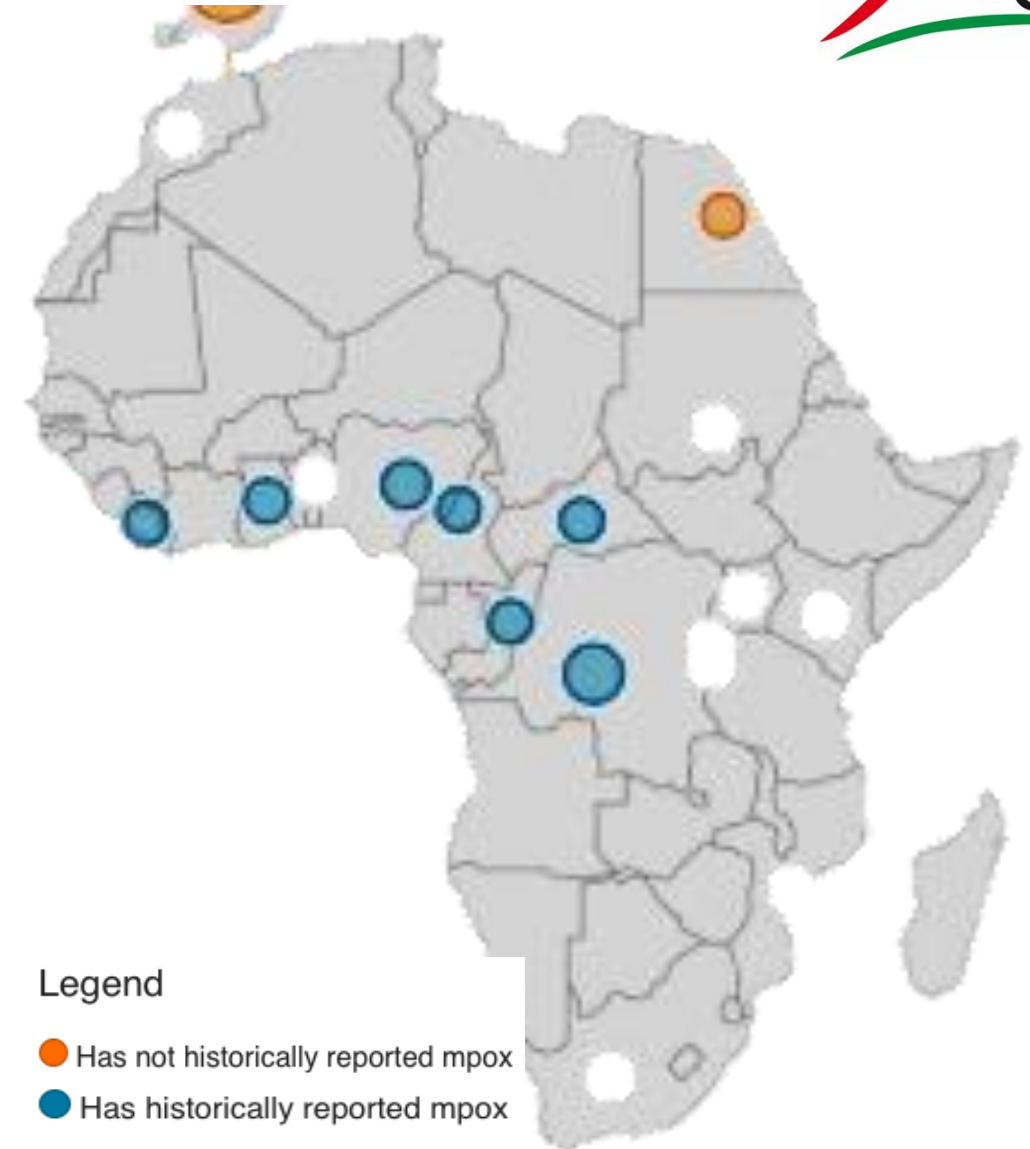
# MPOX SITUATION IN THE SOUTH

## Wave roadmap of mpox infection in the South



## Challenges

- **Clade Ib Variant:**
  - Emergence and spread,
  - Potential for wider transmission across age groups, particularly young children
- **Impact on vulnerable populations :**
  - Children and adolescents: under 5+; (eg. Burundi), simultaneous occurrence of measles, high malnutrition rates in the region
  - Pregnant women and immuno-compromized persons
- **Limited Capacity:** to face the mpox emergency in some African countries (Readiness assessments by WHO)
  - Limited diagnosis and care (supportive)
  - No vaccines available
  - Stigmatization: hamper prevention efforts and encourage infected people not to seek care





## The Disease Dresses Up In New Garments

- **New name:** Mpox
- **New clades:** I & II
- **New subclades:** Ib & IIb
- **New features:** Outside Africa, East Africa
- **New Targets:** Men-Sex-Men, sexual networks
- **New care/prevention means:** Vaccination

## Impacts of the PHECS and PHEIC

- **Epidemiological surveillance:** Countries are setting up surveillance systems to detect and monitor cases
- **Improved diagnostic:** decentralization
- **Capacity building:** clinical trials vaccines, therapeutics
- **Rapid interventions:** local teams
- **Available vaccine:** Vaccination is an important preventive tool, but access remains limited in many countries in the South. 05 countries vaccinating (300,000 doses received, 50,000 administered)
- **Increased awareness:** Information and awareness-raising campaigns conducted to inform the public about modes of transmission and prevention measures.
- **International Collaboration** : WHO, Africa-CDC working with affected countries to strengthen surveillance, diagnosis and treatment capacities.<sup>8</sup>



# A SOUTHERN PERSPECTIVE: DRC

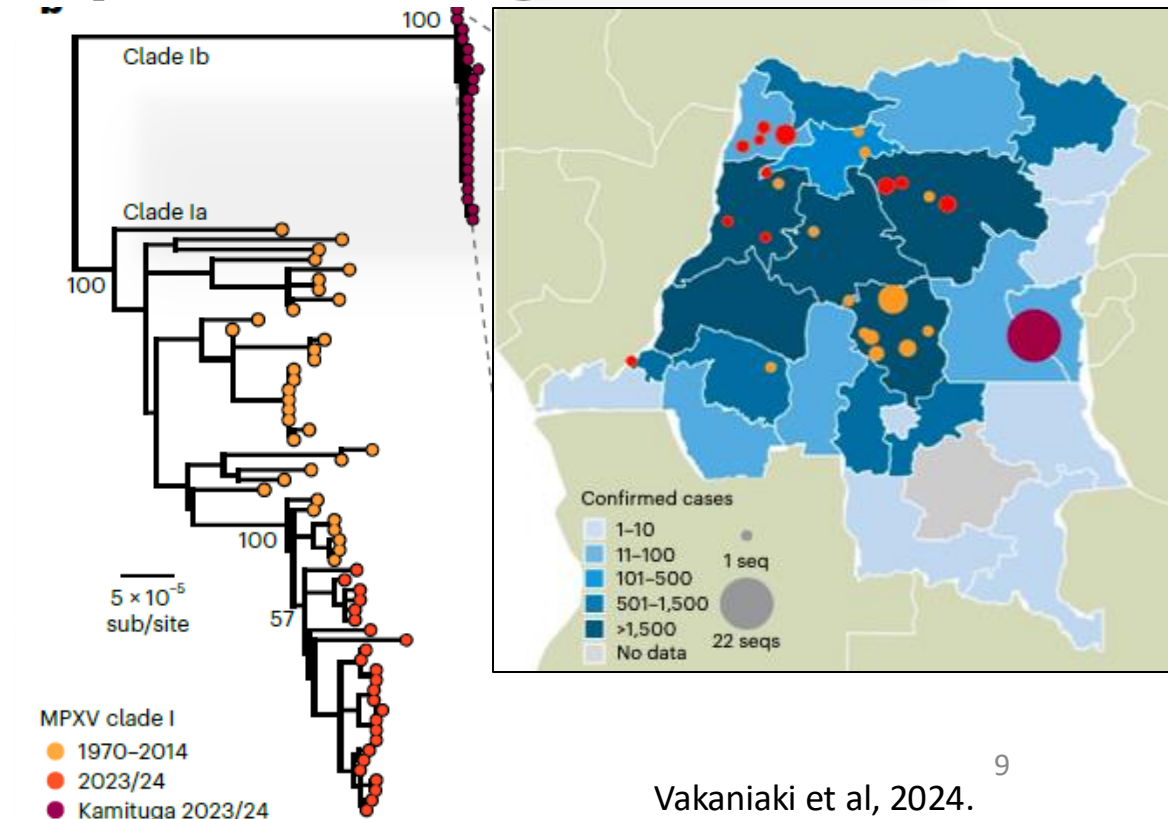
- **Epicenter of the Outbreak:** 90% of cases
- **Endemic but Worsening:** Mpox present for decades, but significantly worsened in recent years (Dec 2022)
- **Sharp Increase in Cases:** cases double/tripled **3,000**(2021)→**5,600**(2022)→**14,000**(2023)→**40,000**(2024) and further deteriorated in 2024 (9,376/40,816 cases, 1,100 deaths, CFR 2.7%)
- **Geographic Spread:** all 26 provinces of the DRC affected
- **New Variant:** A new variant of clade I mpox virus has been identified in South Kivu (signs of adaptation to H2H transmission)
- **Challenges in Response:** numerous challenges, including limited resources for laboratory analysis, surveillance, isolation, and community awareness
- **International Concern:** PHEIC and PHECS

nature medicine

Brief Communication

<https://doi.org/10.1038/s41591-024-03130-3>

## Sustained human outbreak of a new MPXV clade I lineage in eastern Democratic Republic of the Congo



# A SOUTHERN PERSPECTIVE: DRC

- **High Fatality Rate:** ~2,0%
- **Vulnerable Populations:** children and immuno compromised persons
- **Strain on Healthcare System:** already fragile

**Efforts are being made by the DRC government and international organizations to control the outbreak, but the situation remains critical**

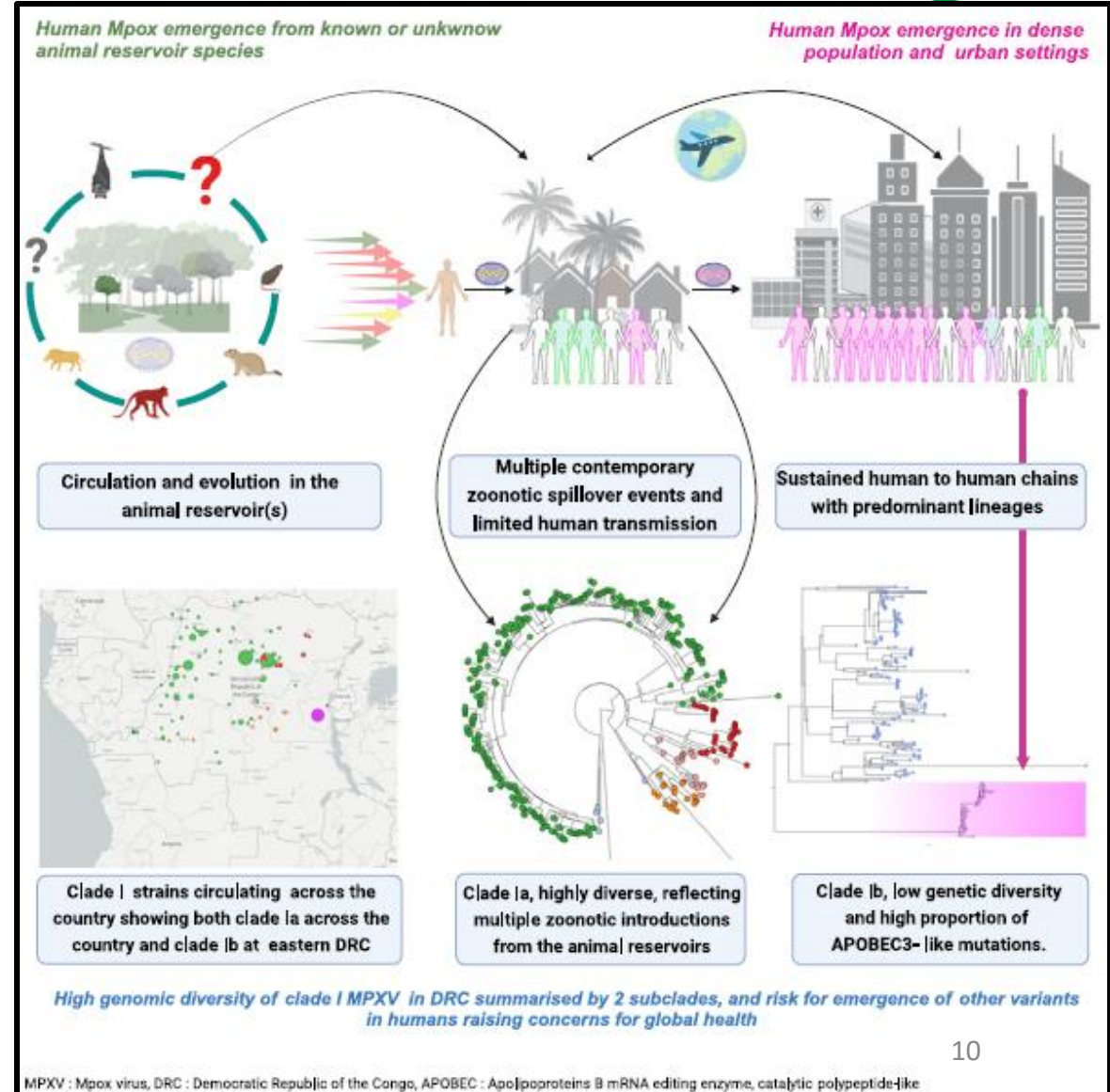
**Cell** Kinganda-Lusamaki et al, 2024.

Article

**Clade I mpox virus genomic diversity in the Democratic Republic of the Congo, 2018–2024: Predominance of zoonotic transmission**

RAPID COMMUNICATION Wawina-Bokalanga et al, 2024.

**Co-circulation of monkeypox virus subclades Ia and Ib in Kinshasa Province, Democratic Republic of the Congo, July to August 2024**



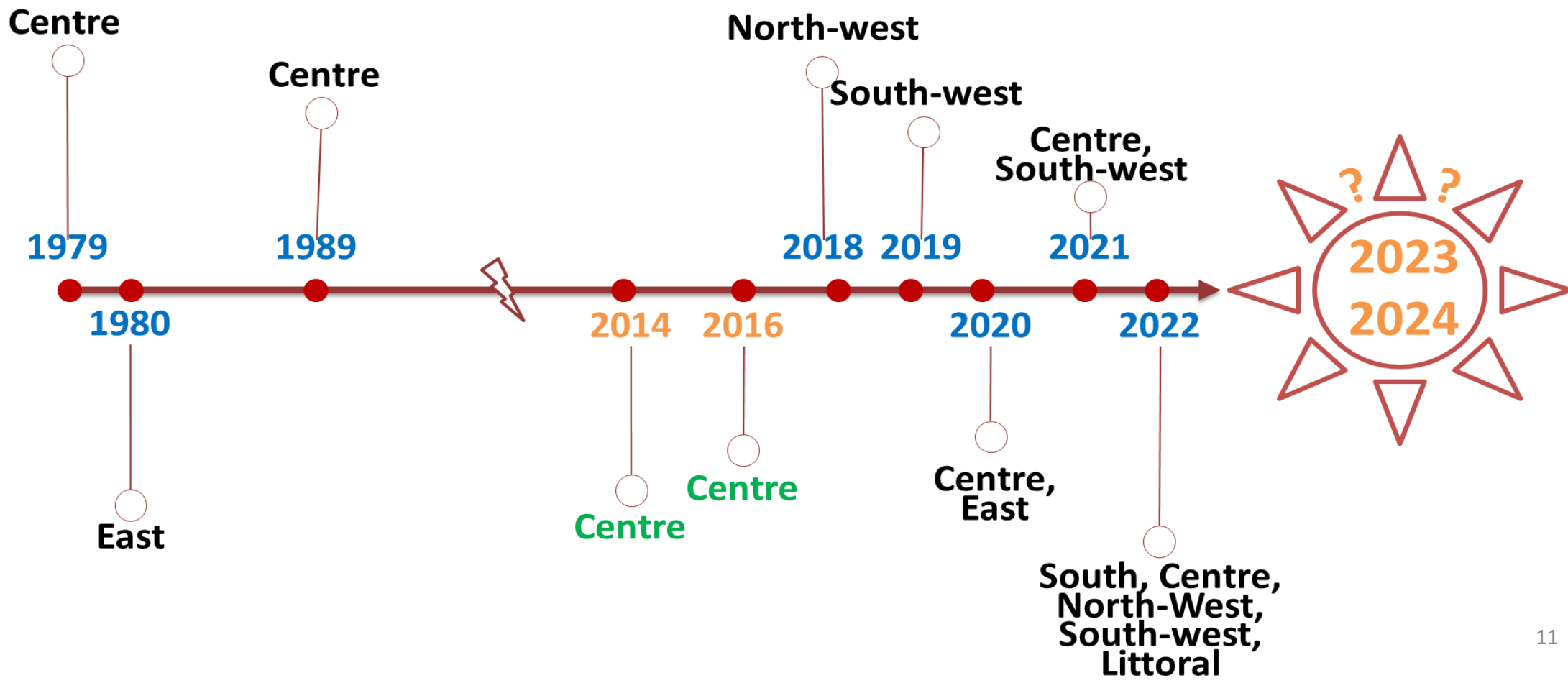
# A SOUTHERN PERSPECTIVE: CAMEROON

SYNOPSIS

EMERGING  
INFECTIOUS DISEASES

## Concurrent Clade I and Clade II Monkeypox Virus Circulation, Cameroon, 1979–2022

Delia D. Djuicy, Serge A. Sadeuh-Mba,<sup>†</sup> Chanceline N. Bilounga, Martial G. Yonga, Jules B. Tchatchueng-Mbougua, Gael D. Essima, Linda Esso, Inès M.E. Nguidjol, Steve F. Metomb, Cornelius Chebo, Samuel M. Agwe, Placide A. Ankone, Firmin N.N. Ngonla, Hans M. Mossi, Alain G.M. Etoundi, Sara I. Eyangoh, Mirdad Kazanji, Richard Njouom

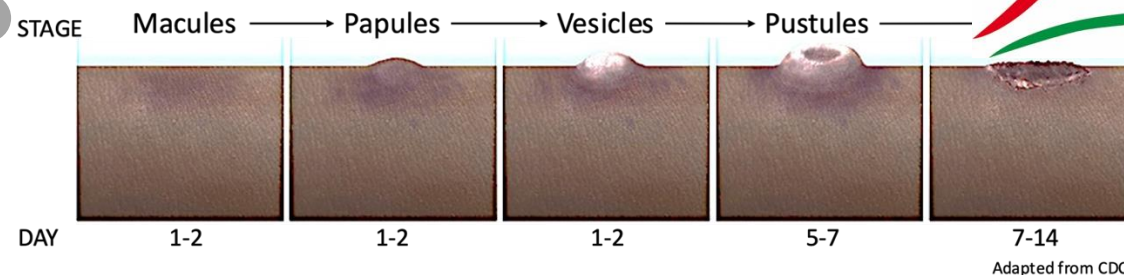
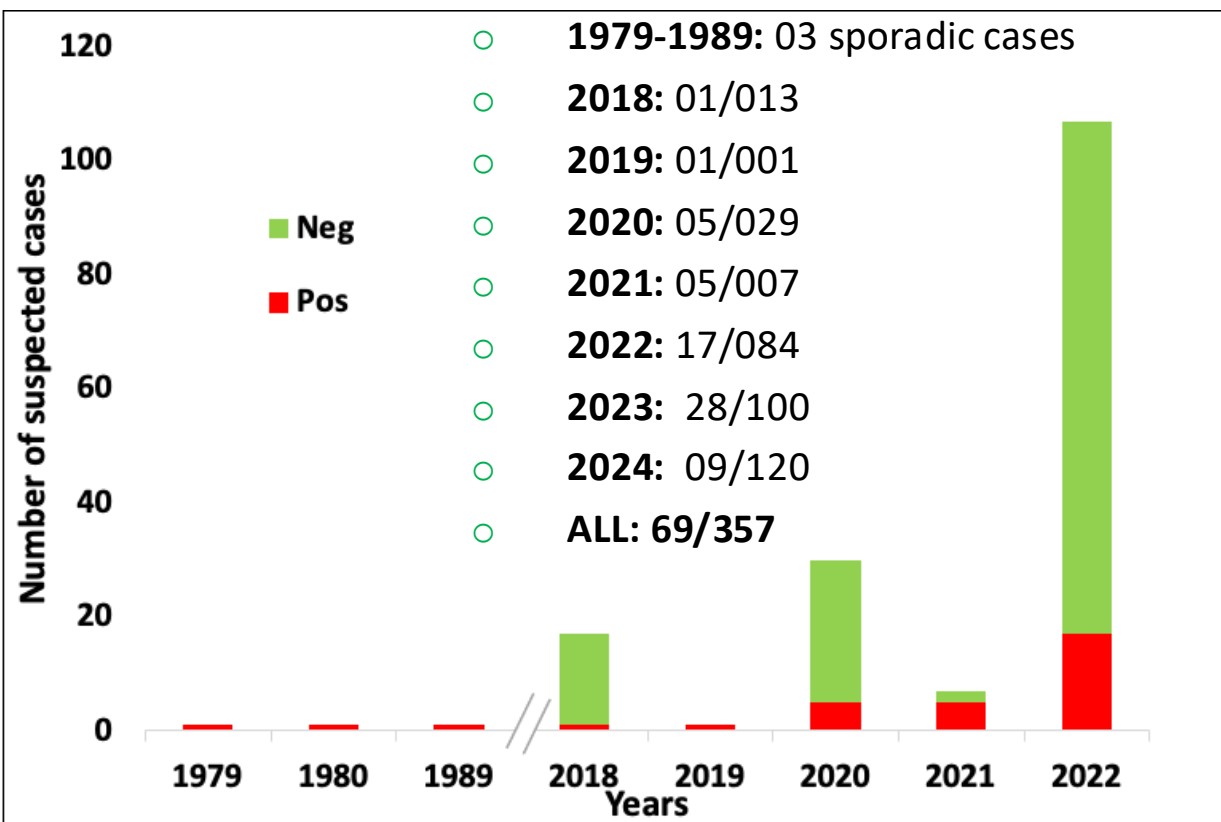




# A SOUTHERN PERSPECTIVE: CAMEROON

## Mpox in Cameroon: 1979-2024

- 04 human cases documented in Cameroon before 2022
- A 30-year gap in human cases reporting
- 02 chimpanzees epizootics



# A SOUTHERN PERSPECTIVE: CAMEROON

## Mpox genotyping RT-PCR

- Number of cases = 137
- Mpox Pos: 32
- Mpox Neg: 105
- Clade I: 12
- Clade II: 18

*Unique case of both Mpox Clade I & II co-circulation in a country*

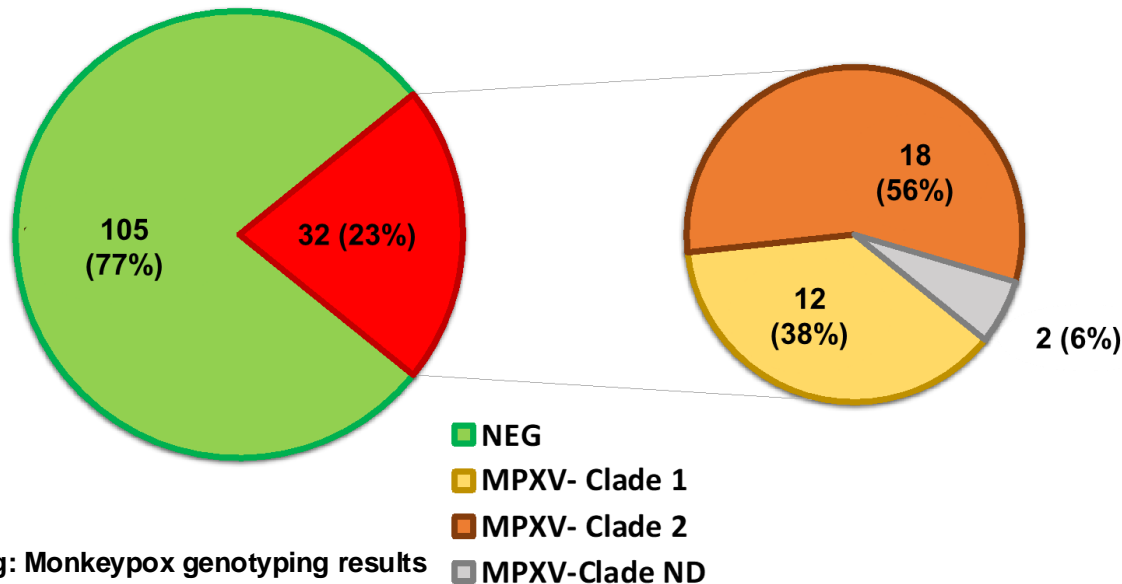


Fig: Monkeypox genotyping results

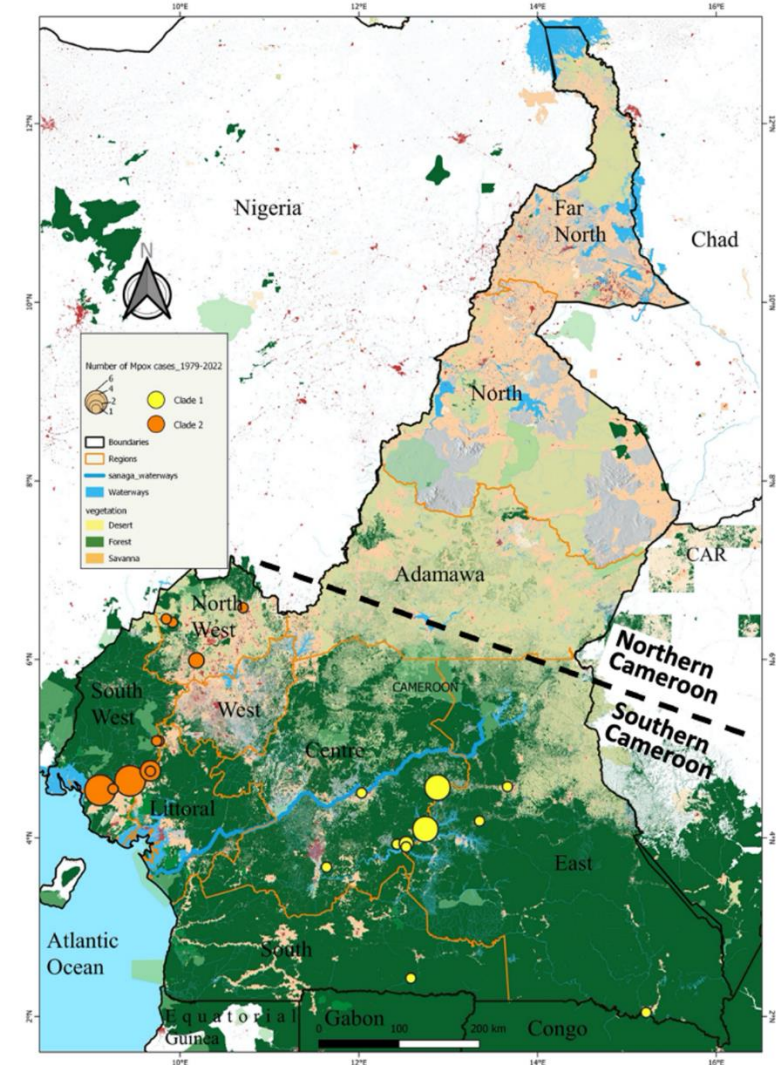
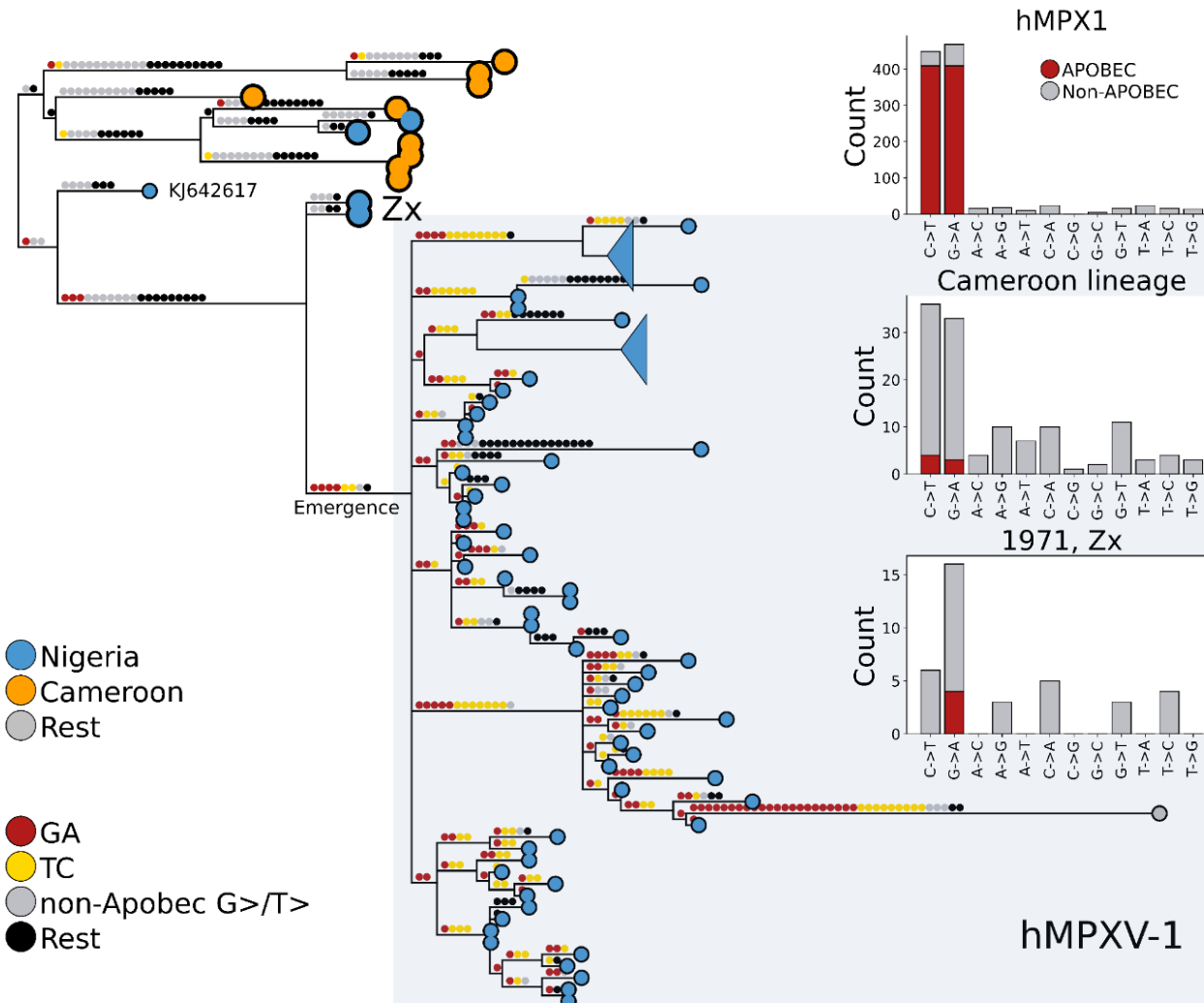


Fig: Geographic distribution of monkeypox confirmed cases and specific clades in Cameroon between 1979 and 2022.

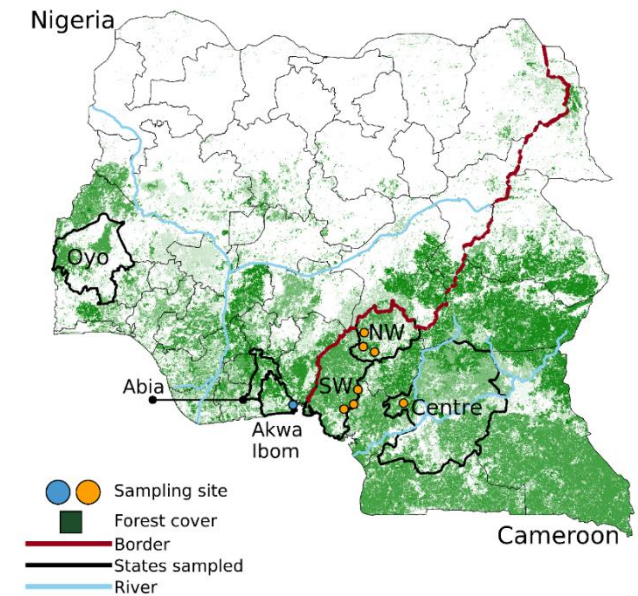


# A SOUTHERN PERSPECTIVE: CAMEROON

## Mpox Genomic Data: Clade II

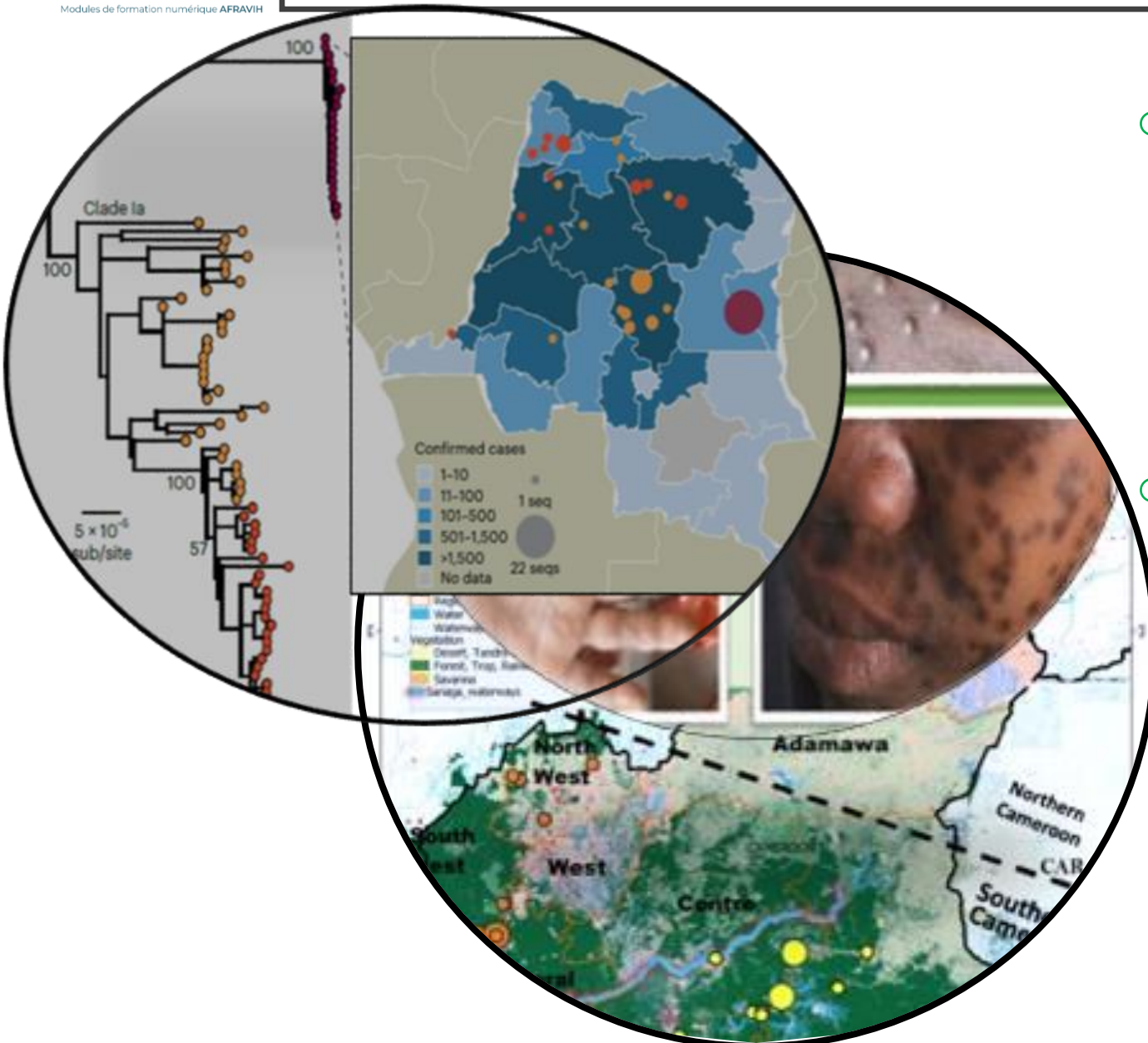


## Mpox outbreak in North-west and South-west regions and southern Nigeria



**Ongoing mpox cases in Cameroon are driven by zoonotic transmission of newly identified Clade IIb.1**

# MPOX IN THE SOUTH: TAKE HOME MESSAGE



- **Will we eliminate the disease or epidemics?**
  - The animal reservoir remain unknown
  - Target first the outbreaks
- **Can mpox be eliminated in southern countries?**
  - Global health
  - One Health
  - Coordinated action
  - Local initiatives
  - Investment of the North



