

# Identification of effective bacteriophages for mastitis prevention in goats

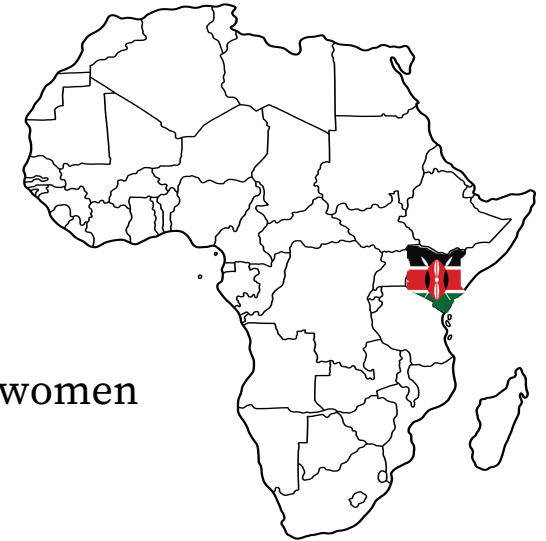
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# Kenya, goat farming and phages



## 1 Most abundant livestock

- 28 millions goats
- 297 millions liters of milk/year

## 2 Household management

- > 2 millions households, managed by women
- Referred as **mobile bank**

## 3 Health threat

- Mastitis caused by *Staphylococcus* sp
- Impact on production and economy

## 4 What we propose

- **Lytic bacteriophages** to prevent mastitis infections



# Phage screening

- Host range of 14 staphylococcal phages from Ulaval collection over 93 *Staphylococcus* strains
  - Bacterial lysis on agar plates or not?
  - If yes, Efficiency of plating (Khan Mirzaei & Nilsson, 2015)

# RESULTS

- Siphoviruses have very narrow host range on tested strains
- Podoviruses (P68, 44AHDJ), large host range on *S. aureus* strains
- Myophages, mostly Kayvirus (RuSa1, K, 812, Stab21) and Silviavirus (Remus) have the largest host range, both on *S. aureus* and non-*aureus* strains.
- RuSa1, K, 812 and Stab21 produced new virions on non-pathogenic strains *S. xylosum* and *S. carnosus*.

## Conclusion

- RuSa1, K, 812 and Stab21, best candidates
- Future research exploring these phages in combination therapies

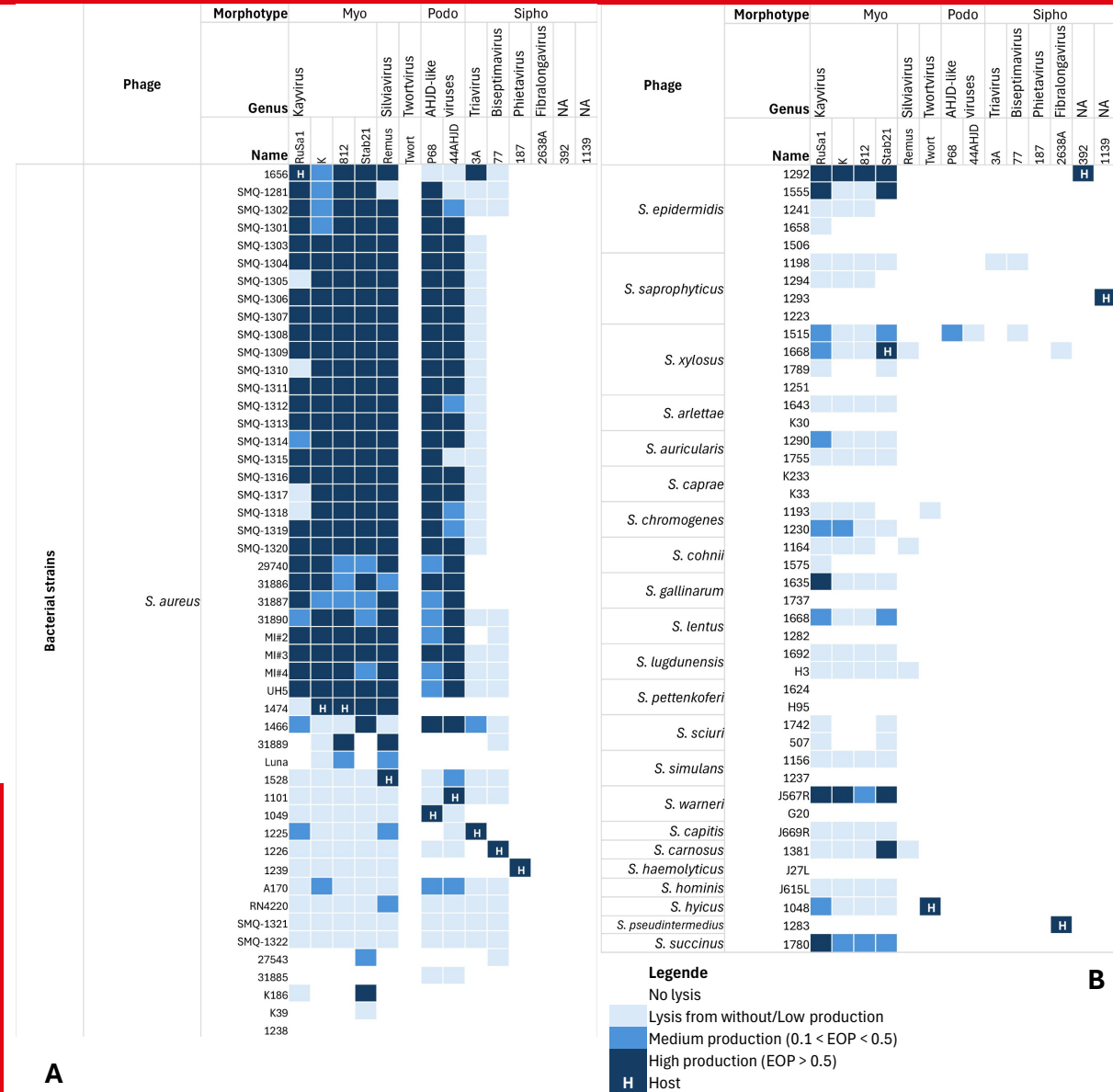


Fig: Host range of 14 phages over *Staphylococcus aureus* (A) and non-*aureus* strains (B)

Funding



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*Thank you!*