

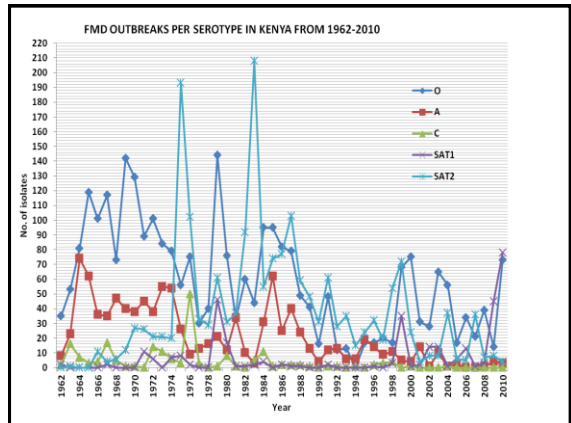


CONCLUSIONS

- ✗ FMD viruses are circulating among buffaloes in Kenyan National parks
- ✗ Multiple serotypes are in circulation (SAT1, SAT2 and probably serotype O)
- ✗ Overall, SAT serotypes are more prevalent

BACKGROUND

- FMD is endemic in Kenya.
- First diagnosed 1932
- Currently; O, A, SAT1 & SAT2; (Type C last isolated in 2004)
- FMD well-studied in Cattle but not wildlife
- Kenya has very large wildlife reserves – interaction between livestock and wildlife
- Diverse livestock production systems – e.g. free range and pastoralist



OBJECTIVES OF THIS STUDY

1. To determine the presence of FMDV in selected buffalo populations in Kenya
2. To investigate the serotypes of FMDV in these buffalo populations

SAMPLING SITES

•Focus on NP:
 ✓ Meru/Lewa (N=5331),
 ✓ Mara (N=4649)
 ✓ Tsavo (N=7402)

Sample types:
 • Probang
 • Serum

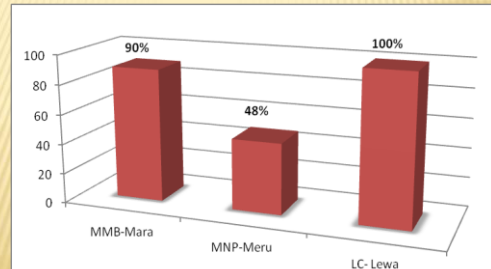
Probang cups

LABORATORY TESTS

- **68 buffalos** from 3 national parks (NP):
 - Maasai-Mara (**39**), Meru (**23**) and Lewa (**6**)
- **Serology:**
 - Prio-CHECK® FMDV NS ELISA
 - Serotyping: LPBE, VNT
- **Probang samples: rRT-PCR**
 - positive samples (Ct<32): BHK cell cultures
 - antigen detection ELISA

RESULTS

NSP ELISA: 53/68 (78%) positive:



LPBE

Overall positive:

- ✘ O (9/68)
- ✘ A (2/68)
- ✘ C (14/68)
- ✘ SAT1 (36/68)
- ✘ SAT2 (44/68)
- ✘ SAT3 assays on-going

	Mara (n=39)	Meru (n=23)	Lewa (n=6)
O	6	0	3
A	1	0	1
C	12	0	2
SAT1	32	0	4
SAT2	30	9	5

VNT

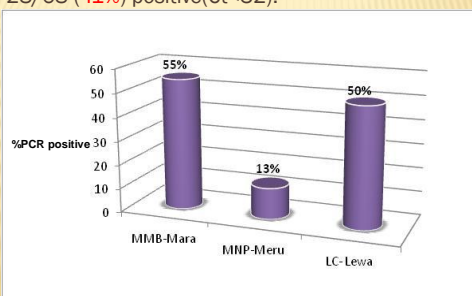
Overall positive:

- ✘ O (18/68)
- ✘ SAT1 (23/68)
- ✘ SAT2 (47/68)
- ✘ No positive results for A and C

	Mara (n=39)	Meru (n=23)	Lewa (n=6)
O	9	8	1
SAT1	18	4	0
SAT2	35	11	2

rRT-PCR

- 28/68 (41%) positive (Ct<32).



DISCUSSION

- ✘ LPBE: antibodies against SAT 1/2 most prevalent followed by O - consistent with previous studies in East Africa (Ayebazibwe et al., 2010, Anderson et al.1979)
- ✘ VNT confirmed presence of antibodies against O, SAT 1 and SAT 2 - but not A and C
- ✘ The RT-PCR positive probangs show presence of FMDV in buffalo - may pose a threat to other animals (Vosloo et al.2002).
- ✘ Further virological assays and molecular analysis are on-going.

CONCLUSIONS

- ✘ FMD viruses are circulating among buffaloes in Kenyan National parks
- ✘ Multiple serotypes are in circulation (SAT1, SAT2 and probably serotype O)
- ✘ Overall, SAT serotypes are more prevalent

RECOMMENDATIONS

- ✘ Further studies to establish the role of buffalo in the epidemiology of Non-SAT serotypes
- ✘ Further virological tests to ascertain serotypes, strains and genetic relationships (**on-going**)
- ✘ More sampling to enrich the data
- ✘ Continuous and consistent research in wildlife

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THANK YOU FOR YOUR ATTENTION

