

**Table S1:** Earlier reported associations of microsatellite alleles with low body condition and bovine tuberculosis (BTB) infection risk indicative of linkage to male-deleterious alleles

Direct associations with low body condition and BTB	
Neg. corr. between sexes in body-condition-dependent allele freq. difference (sexual antagonism)	KNP: $P = 0.0024$ , Fig. 3 [1]
Largest sex. antagonistic body-condition-dependent difference in heterozygosity for the three most frequent alleles per locus	KNP: $P = 0.027$ , Fig. 4 [1]
Low body condition most frequent among homozygotes for the most frequent allele per locus	KNP: $P < 0.033$ , Fig. 2 [1]
Genetic associations with body condition and BTB mainly among animals born after multi-year wet periods (epigenetic effects)	KNP: $P = 0.010$ , Table 1 [2]; HiP: $P = 0.068$ , Table 4 [3]
Indirect associations with low body condition and BTB: signatures of selection	
Allele freq. clines between northern KNP (high body condition and BTB present) and southern KNP (low body condition and BTB absent): pos. selection in KNP	KNP: $P = 0.00044$ , Fig. 5 [1]
Corr. between KNP-HiP allele freq. difference and strength of sexual antagonism: neg. selection in HiP	HiP: $P = 0.00032$ , Fig. 2-3 [3]
Indirect associations with low body condition: correlations with multi-year pre-conception rainfall (proxy for parental body condition)	
Corr. between microsatellite diversity per year-cohort (KNP: heterozygosity, HiP: allele freq.) and multi-year pre-conception rainfall	KNP: $P = 0.0015$ , Fig. S5 [1]; HiP: $P = 0.00018$ , Fig. 4 [3]

HiP: Hluhluwe-iMfolozi Park, KNP: Kruger National Park.

**Table S1** cont.:

Other associations with pre-conception rainfall related to the sex-ratio meiotic gene-drive system: sex ratio and Y-chromosomal haplotypes	
Female- and male-biased sex ratio among dry- and wet-season conceptions, respectively	KNP: $P = 0.025$ , Table 1, Fig. 2 [4]
Pos. corr. between sex ratio per year-cohort and multi-year pre-conception rainfall (female-biased after dry years)	KNP: $P = 0.041$ , Fig. 4 [4]; HiP: $P = 0.0026$ , Fig. 6 [3]
Y-haplotypes associated with dry or wet season conceptions	KNP: $P = 0.00089$ , Fig. 1 [4]
Y-haplotype frequencies per year-cohort associated with dry or wet multi-year pre-conception periods	KNP: $P < 0.0001$ , Fig. 4 [4]; HiP: $P = 0.043$ ; Fig. 5 [3]

HiP: Hluhluwe-iMfolozi Park, KNP: Kruger National Park.

## References

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2. van Hooft P, Dougherty ER, Getz WM, Greyling BJ, Zwaan BJ, Bastos ADS. Genetic responsiveness of African buffalo to environmental stressors: a role for epigenetics in balancing autosomal and sex chromosome interactions? *PLoS ONE*. 2018;13(2):e0191481.
3. van Hooft P, Getz WM, Greyling BJ, Bastos ADS. A natural gene drive system influences bovine tuberculosis susceptibility in African buffalo: possible implications for disease management. *PLoS ONE*. 2019;14(9):e0221168.
4. van Hooft P, Prins HHT, Getz WM, Jolles AE, van Wieren SE, Greyling BJ, et al. Rainfall-driven sex-ratio genes in African buffalo suggested by correlations between Y-chromosomal haplotype frequencies and foetal sex ratio. *BMC Evol Biol*. 2010;10:10.1186/471-2148-10-106. doi: 10.1186/1471-2148-10-106. PubMed PMID: MEDLINE:20416038.