

S3 Fig. Detection of recent bottleneck or expansion events in the parasite population. The distribution of the number of alleles and *He* has been obtained simulating the coalescence of the microsatellite sequences under three mutational models: IAM, TPM and SMM. The Wilcoxon sign-rank test was used to determine whether a population exhibits a significant number of loci with *He* excess or deficiency (Refs. 1,2). The black cells denote that the parasite population has suffered a recent bottleneck and/or expansion (*He* excess and/or deficit; $p < 0.05$) while the white cells denote non-significant evidence. The models were run in BOTTLENECK using 10,000 replications using all 10 microsatellites and later in a partitioned analysis (imperfect and perfect MS analysed separately). The two-Phase model was evaluated using all 10 MS by fractionating the proportion of SMM in TPM by 5, 15, 50, 70 and 95% and a variance of 30. A5 was not included due to small sample size (A5: n=4 haplotypes). Partitioned analysis was run considering 70%SSM in TPM with variance=30 and for 10,000 replicates. Overall results are presented on the smallest table.

BOTTLENECK simulations run under different parameters

Area	Mutational model	<i>He</i>	for TPM (%SSM)					Partitioned analysis	
			5	15	50	70	95	Imp.	Perf.
A1 (n=120)	IAM	def.							
		exc.							
	TPM	def.							
		exc.							
	SMM	def.							
		exc.							
A2 (n=32)	IAM	def.							
		exc.							
	TPM	def.							
		exc.							
	SMM	def.							
		exc.							
A3 (n=20)	IAM	def.							
		exc.							
	TPM	def.							
		exc.							
	SMM	def.							
		exc.							
A4 (n=76)	IAM	def.							
		exc.							
	TPM	def.							
		exc.							
	SMM	def.							
		exc.							

IAM: Infinite allele model; TPM: Two-phase model; SMM: Stepwise mutational model.
exc.= Significant *He* excess; *def.*= Significant *He* deficiency

Partitioned BOTTLENECK analysis: *Imp.*= MS with imperfect and/or interrupted repeats. *Perf.*= Ms with perfect repeats

Overall BOTTLENECK simulation results

	A1	A2	A3	A4
IAM	<i>exc.</i>	<i>exc.</i>	<i>exc.</i>	-
TPM	-	<i>exc.</i>	<i>exc.</i>	<i>def.*</i>
SMM	<i>def.</i>	-	-	<i>def.</i>

*Sig. *He* deficiency present only when proportion of SSM was increased to 95% in TPM

Refs.

- (1) Cornuet JM, Luikart G (1996) Description and power analysis of two tests for detecting recent population bottlenecks from allele frequency data. *Genetics* 144: 2001-2014.
- (2) Piry S, Luikart G, Cornuet J-M: BOTTLENECK: A Computer Program for Detecting Recent Reductions in the Effective Population Size Using Allele Frequency Data. 1999.