

Additional file 1: Supplementary Tables

Table S1. Backward selection of the logistic regression of prevalence. The most insignificant terms were dropped until minimum AIC had been reached.

Dropped variable	AIC	df	Residual deviance	X^2	p
None (initial model)	214.71	179	186.71	-	-
<i>age x condition</i>	212.71	180	186.71	4.96*10 ⁻⁰⁶	0.9982
<i>sex x age</i>	210.77	181	186.77	0.064221	0.7999
<i>sex x condition</i>	209.15	182	187.15	0.38227	0.5364
<i>age</i>	208.10	183	188.10	0.94743	0.3304
<i>date x condition</i>	207.68	184	189.68	1.5781	0.209

Table S2. Backward selection of the parasitemia statistical model. Most insignificant terms were dropped from the count- or false-zero model (respectively μ and π) until minimum AIC had been reached.

Dropped variable	AICc	df	Loglikelihood	X^2	p
None (Initial model)	537.03	29	-234.89	-	-
<i>date x condition</i> from π	534.30	28	-233.84	0.1065	0.7442
<i>length</i> from π	531.57	27	-233.88	0.0621	0.8032
<i>length</i> from μ	528.91	26	-233.92	0.0983	0.7539
<i>date² x year</i> from μ	525.51	24	-234.93	2.0146	0.3652
<i>date</i> from π	523.02	23	-235.02	0.1717	0.6786
<i>sex x condition</i> from π	521.15	22	-235.39	0.7532	0.3855
<i>sex</i> from π	519.86	21	-236.04	1.2984	0.2545
<i>sex x condition</i> from μ	519.68	20	-237.23	2.3795	0.1229
<i>sex</i> from μ	518.07	19	-237.69	0.9173	0.3382
<i>year</i> from μ	514.29	17	-238.28	1.1749	0.5557
<i>year x date</i> from π	511.39	15	-239.25	1.9413	0.3788
<i>date²</i> from π	509.52	14	-239.50	0.5067	0.4766
<i>age x condition</i> from π	509.01	13	-240.42	1.8424	0.1747
<i>condition</i> from π	506.81	12	-240.48	0.1124	0.7374
<i>age</i> from π	506.23	11	-241.34	1.7196	0.1897

Table S3. Stability of the backwards selection procedure, by using subsets of the prevalence data set. Variables retained in the model after backward selection are indicated by ‘P’ or ‘N’ depending on whether the estimate was positive or negative respectively. ‘-’ indicates the absence of this variable in the considered model. Subsets with lowest AIC are in bold.

Subset	AIC	Year	Day	Year:day	Sex	Age	Condition	Length	Sex:age	Sex:condition	Condition:age	Condition:day
All	207.7	N	N	P	N	-	N	N	-	-	-	-
1 st 1/2	114.9	-	P	-	-	-	N	-	-	-	-	-
2nd 1/2	94.16	N	N	P	-	-	N	-	-	-	-	N
1st 1/3	64.56	-	P	-	-	-	N	-	-	-	-	N
2 nd 1/3	76.14	N	N	P	-	P	-	-	-	-	-	-
3 rd 1/3	68.85	N	N	P	-	-	N	-	-	-	-	-