Supporting Information

Paaijmans et al. 10.1073/pnas.0903423106

Fig. S1. Relationship between temperature and the development rate of *Plasmodium falciparum*. The function as proposed by Brière et al. (1) is fitted to a set of empirical data (see Methods for references) and the well-established Detinova equation (2) over a defined temperature range. \( R^2 = 0.924. \)

Fig. S2. Measured and modeled air temperature ($T_a$) at (A) a lowland site and (B) a highland site in western Kenya (see Methods for more information).
Fig. S3. (A and B) Duration of the extrinsic incubation period (days, right hand bar) of Plasmodium falciparum parasites across a range of mean temperatures (12–28°C) and diurnal temperature ranges (0–16°C). (C and D) The relative change in $R_0$ (%) right hand bar) across a range of mean temperatures (18–28°C) and diurnal temperature ranges (0–16°C), comparing $R_0$ estimates derived from EIP estimates shown in (A) and (B), respectively, with EIP estimates predicted by Detinova’s equation (1). Models are run with a 10:14 (A and C) or 14:10 (B and D) day:night cycle.

Fig. S4. (A) Duration of the extrinsic incubation period (days, right hand bar) of *Plasmodium falciparum* parasites across a range of mean temperatures (12–28°C) and diurnal temperature ranges (0–16°C) as estimated with the thermal dynamic model proposed by Ikemoto (1). This model assumes lower minimum and higher maximum threshold temperatures for parasite development. (B) The relative change in $R_0$ (% , right hand bar) across a range of mean temperatures (18–28°C) and diurnal temperature ranges (0–16°C), comparing $R_0$ estimates derived from EIP estimates shown in (A) with EIP estimates predicted by Detinova’s equation (2). Models are run with 12:12 day:night cycle.