ADDITIONAL FILE 1: ALTERNATIVE FORMULATIONS FOR DAILY PROBABILITY OF SURVIVAL AS A FUNCTION OF TEMPERATURE

In this paper, we used the Martens equation [1] for daily probability of survival as a function of temperature, $p(T)$. However the equation we developed can substitute any other formulation for $p(T)$. Here, we consider two other equations that have recently been developed using new survival data [2], which we will refer to as Bayoh-Ermert [3] and Bayoh-Mordecai [4]. The three survival curves are shown in Figure S1.1.

![Figure S1.1: Daily probability of survival, p(T).](image)

Figure S1.1 shows the daily probability of survival as a function of temperature and relative humidity, $p(T,RH)$, using the three different equations for $p(T)$ and adjusted for relative humidity using the method presented in this paper using parameters RH$_S$=42% and RH$_C$=5%. In the temperature range observed in Banizoumbou and Zindarou (20-35°C), the three $p(T)$ curves give similar survival probabilities, so there is little difference in the calculated $p(T,RH)$. The Bayoh-Ermert equation leads to higher survival during the wet season, but the effects of relative humidity remain largely unchanged.
Figure S1.2: Daily probability of survival as a function of temperature and relative humidity, $p(T, RH)$ using three different formulations for $p(T)$.

References

