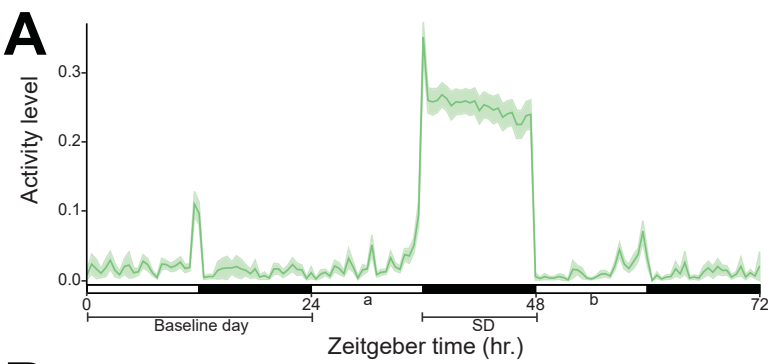
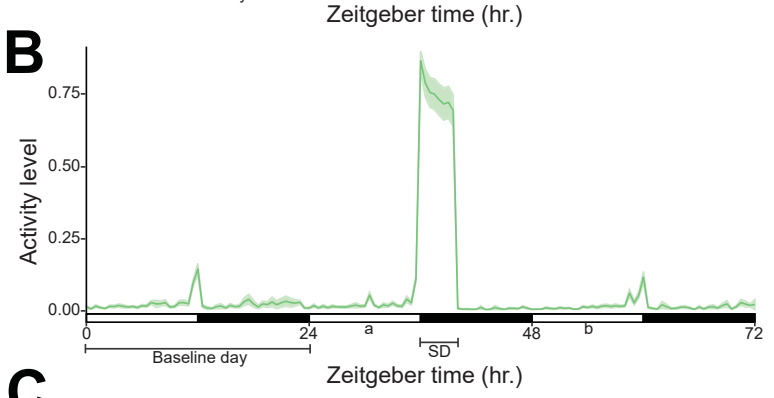
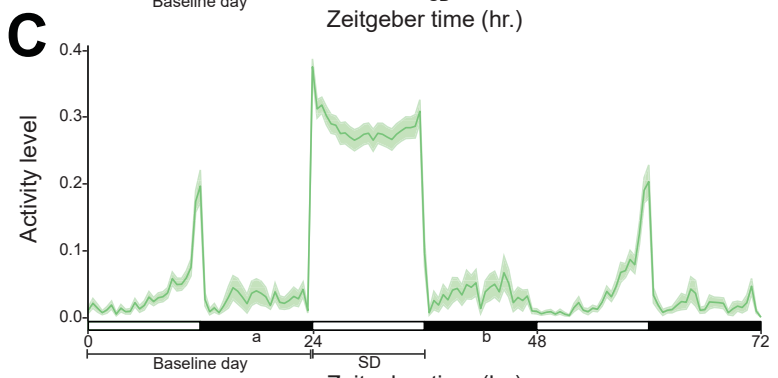
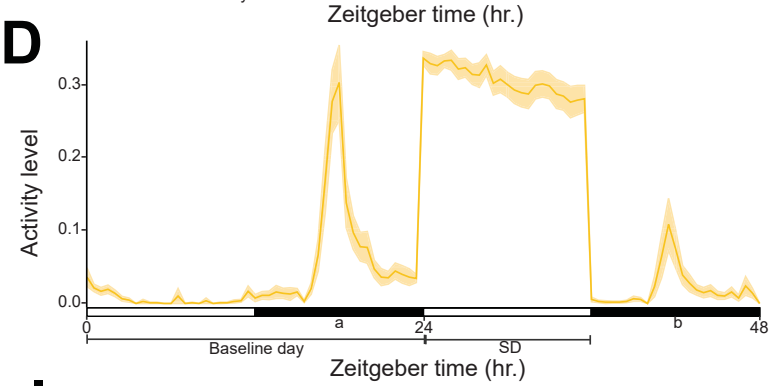
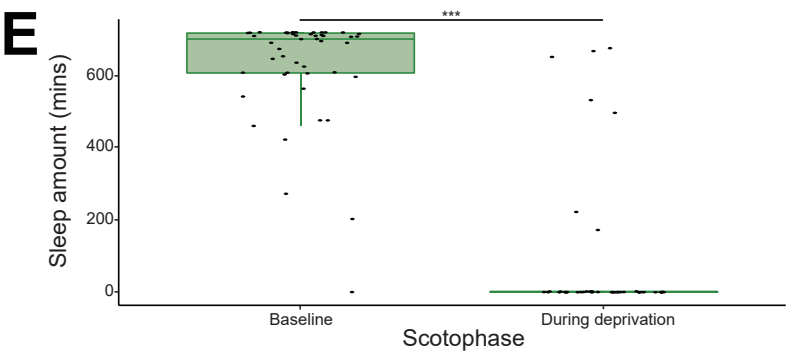
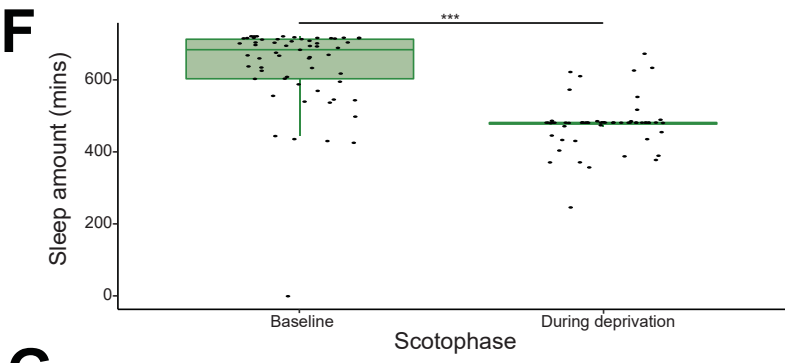


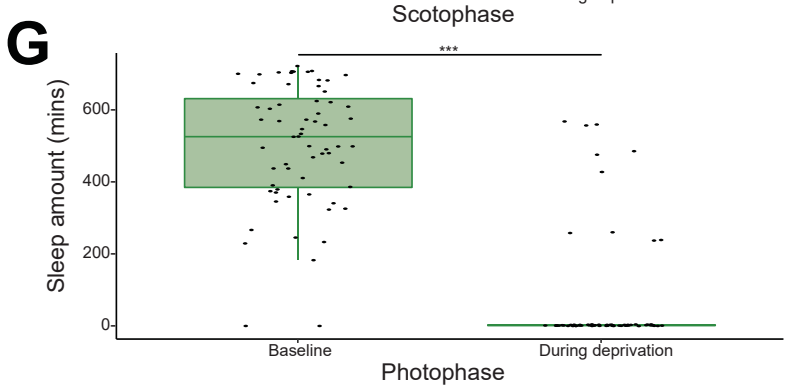


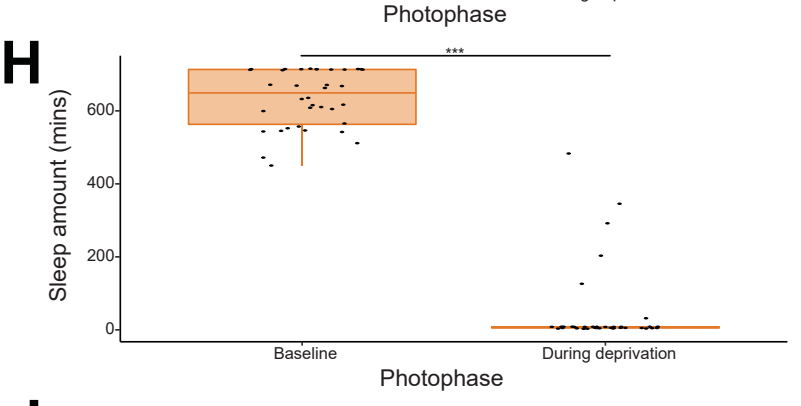


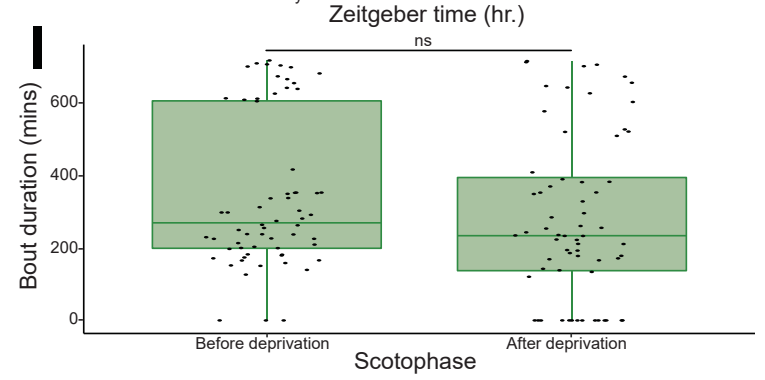












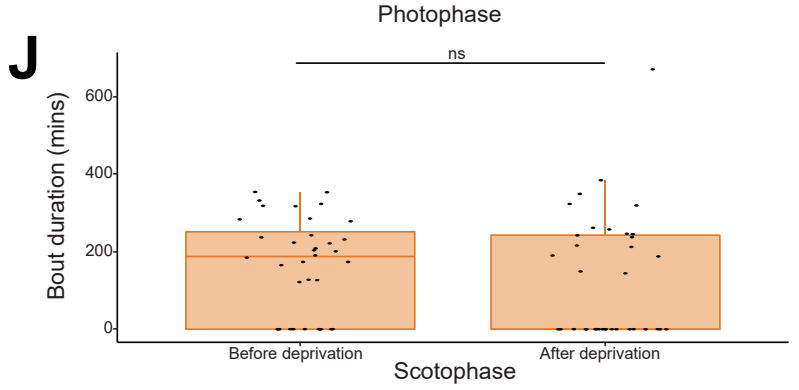
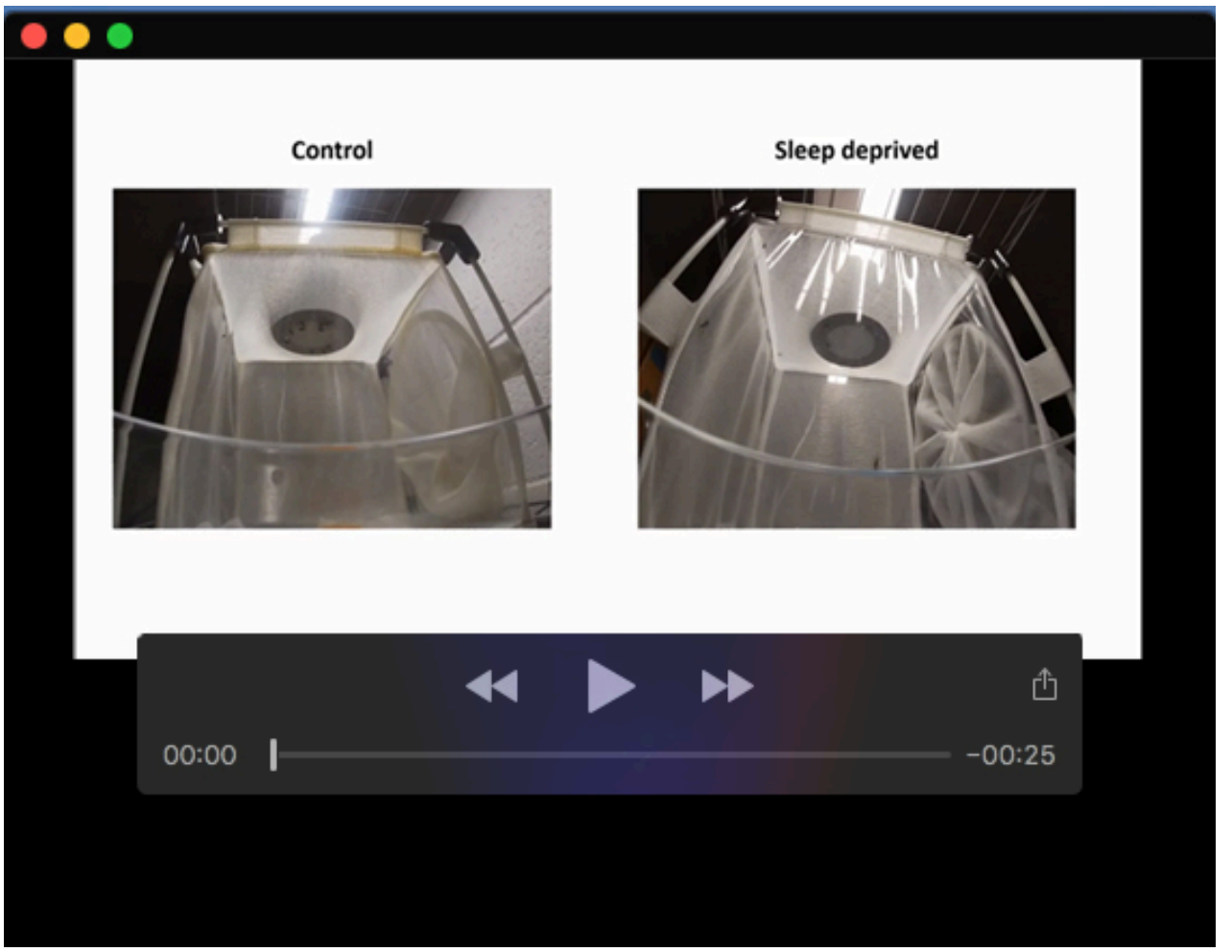


Fig. S1. Experimental design and activity profile of (A) 12hr nighttime sleep deprivation experiment in *Aedes aegypti* (n = 48), (B) 4hr nighttime sleep deprivation experiment in *Aedes aegypti* (n = 59), (C) 12hr daytime sleep deprivation experiment in *Aedes aegypti* (n = 64) and (D) 12hr daytime sleep deprivation experiment in *Anopheles stephensi* (n = 36). The y axis represents the mean beam crosses in an activity monitor made by all the mosquitoes, and the x axis represents the Zeitgeber time. The solid lines and the shaded areas show population means and their 95% bootstrap confidence interval, respectively. White and black horizontal bars represent the photophase and scotophase, respectively. 'a' denotes the phase before sleep deprivation and 'b" denotes the phase after sleep deprivation. Comparison of sleep amounts between baseline and during sleep deprivation in (E) 12hr nighttime sleep deprivation experiment in *Aedes aegypti* (n = 48), (F) 4hr nighttime sleep deprivation experiment in *Aedes aegypti* (n = 59), (G) 12hr daytime sleep deprivation experiment in *Aedes aegypti* (n = 64) and (H) 12hr daytime sleep deprivation experiment in *Anopheles stephensi* (n = 36). Comparison of average bout durations before and after sleep deprivation in (I) 12hr daytime sleep deprivation experiment in *Aedes aegypti* (n = 64, individuals with zero values were included) and (J) 12hr daytime sleep deprivation experiment in *Anopheles stephensi* (n = 36, individuals with zero values were included). Test of significant difference between groups was carried out using wilcoxon signed rank test (ns = not significant, *** = $p < 0.001$).



Movie 1. Sleep deprivation suppresses host landing in *Aedes aegypti*. Comparison of *Aedes aegypti* mosquitoes that landed on an artificial host between the control and sleep-deprived groups, 4 hours post-sleep deprivation in a laboratory context.

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