analysis identified non-contiguous elevated segments; these cases were not consistent with our assumption of a single *Zugunruhe* period in a given season. We excluded five of these bimodal cases and retained a subset of data derived from the others when they matched expected patterns. Sometimes, the analysis detected no change in nocturnal activity during a given period; in these cases activity was typically quite low overall, in line with birds that did not engage in *Zugunruhe* at all (supplementary Figure 1D). Rarely, no changepoints were identified but the level of activity was consistently high. These cases generally corresponded to periods for which our data only covered a subset of a migration season, or potentially to aberrant individuals. Because we could not accurately determine these birds' *Zugunruhe* status, we excluded them from the analysis if mean activity was above a threshold, defined as the 95th percentile of mean nocturnal activity from summer and winter neutral periods. In this way, we assigned non-*Zugunruhe* status only to periods for which nocturnal activity levels were consistent with those during summer and winter non-migration periods; the < 2% of analysed migration periods that did not pass this criterion were excluded.

Factors Affecting Occurrence of Zugunruhe: We combined all years after the first because sample size declined greatly after the first year, and because we expected any transition to be most pronounced from the first, naïve year to subsequent migratory seasons with at least one completed migratory journey. We then combined automated stepwise removal of non-important terms by AIC ("stepAIC" function in the MASS package, Venables and Ripley 2002) and manual elimination of non-significant terms not removed in the preceding step. We tested pairwise inter-population differences in the proportion of periods with *Zugunruhe* during spring and autumn, and we corrected for multiple comparisons using the joint distribution of the *z* statistics ("single-step" option in "adjusted" function, package *multcomp*, Hothorn et al. 2008).