evening, respectively.

Treatment of Moult and Missing Data: Earlier observations (Helm 2003) indicated that juvenile stonechats show nocturnal restlessness at early ages, even before postjuvenile moult, when they are unlikely to commence actual migration. However, young birds can initiate migration during late stages of body moult (Jenni and Winkler 1994). Accordingly, we attributed early post-fledging nocturnal activity to behavioural development and excluded all data prior to the start of postjuvenile moult from our analysis (affecting 176 birds). We did allow for overlap of *Zugunruhe* with advanced moult stages, shown by approximately half of measured birds (Figure 2). In 22 cases, no information on moult was available, and we left these data unmodified. Our dataset contained a small amount of missing activity data for some birds, generally consisting of periods of a few days, but occasionally several weeks. Because our changepoint-based time series analysis could not handle missing data, we addressed this either by splitting up time series at large gaps (> 7 days missing) or by filling in small gaps with the average value of the two weeks flanking the gap (≤ 7 days missing).

Defining Spring and Autumn Migration Periods: To be maximally inclusive, we used data from all birds throughout the full annual cycle to identify elevated activity periods (i.e. those representing *Zugunruhe*). As migration occurs twice per year, we subdivided the annual cycle into two halves to quantify spring and autumn migration periods separately for each year. We defined spring/autumn cut-off dates separately for each population because of inherent population-level differences in migration timing. For each group, we first calculated the daily mean nocturnal activity level throughout the year. Then, we identified the two 60-day periods between the vernal and autumnal equinoxes with the lowest mean nocturnal activity, corresponding to summer and winter, respectively. The midpoints of these 60-day periods—