



Supplementary Figure 3. The duration of gaps during degraded song (following infusions of muscimol) were more similar to the duration of gaps between syllables within normal song (PBS) than the duration of gaps between calls. For the four birds that produced degraded songs after infusions of relatively high doses of muscimol, we compared the distribution of gaps within bouts of degraded song to those during bouts of normal song and bouts of calling. (a) Example from one bird. Top histogram depicts the duration of inter-call intervals (<500 ms); the middle histogram depicts the duration of inter-syllable intervals within normal song (<500 ms); and the bottom histogram depicts the duration of inter-syllable intervals within degraded song following muscimol infusion into HVC (<500 ms). The distribution of gaps within degraded song was more similar to the distribution of gaps within normal song than of gaps within bouts of calling. (b) The K-L divergence was used to quantify the discrepancy between the distributions of gap durations, with the distribution of gaps for degraded song used as the “parent distribution”. For each data set of degraded song ($n=4$ from 3 birds), the K-L divergence was greater between degraded songs and calls than between degraded song and normal song. Correspondingly, the K-L divergence between degraded song and normal song was significantly smaller (1.16 ± 0.48) than that between degraded song and calls (2.22 ± 0.63 ; $F_{1,3}=32.2$, $p=0.0108$), supporting the notion that degraded song was indeed song and not a bout of calls.