**Electronic supplementary material**

Paper titled: “***Simultaneous Measurements of Three-Dimensional Trajectories and Wingbeat Frequencies of Birds in the Field***”

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Figure S1: Box plots of wingbeat frequency averaged over flapping modes after excluding rooks (that is, birds with mean wingbeat frequency<4 Hz). For each flock, we selected birds that are flying in low density regions defined by *N3m* < mean(*N3m*)-std(*N3m*), and that are flying in high density regions defined as *N3m* > mean(*N3m*) + std(*N3m*).