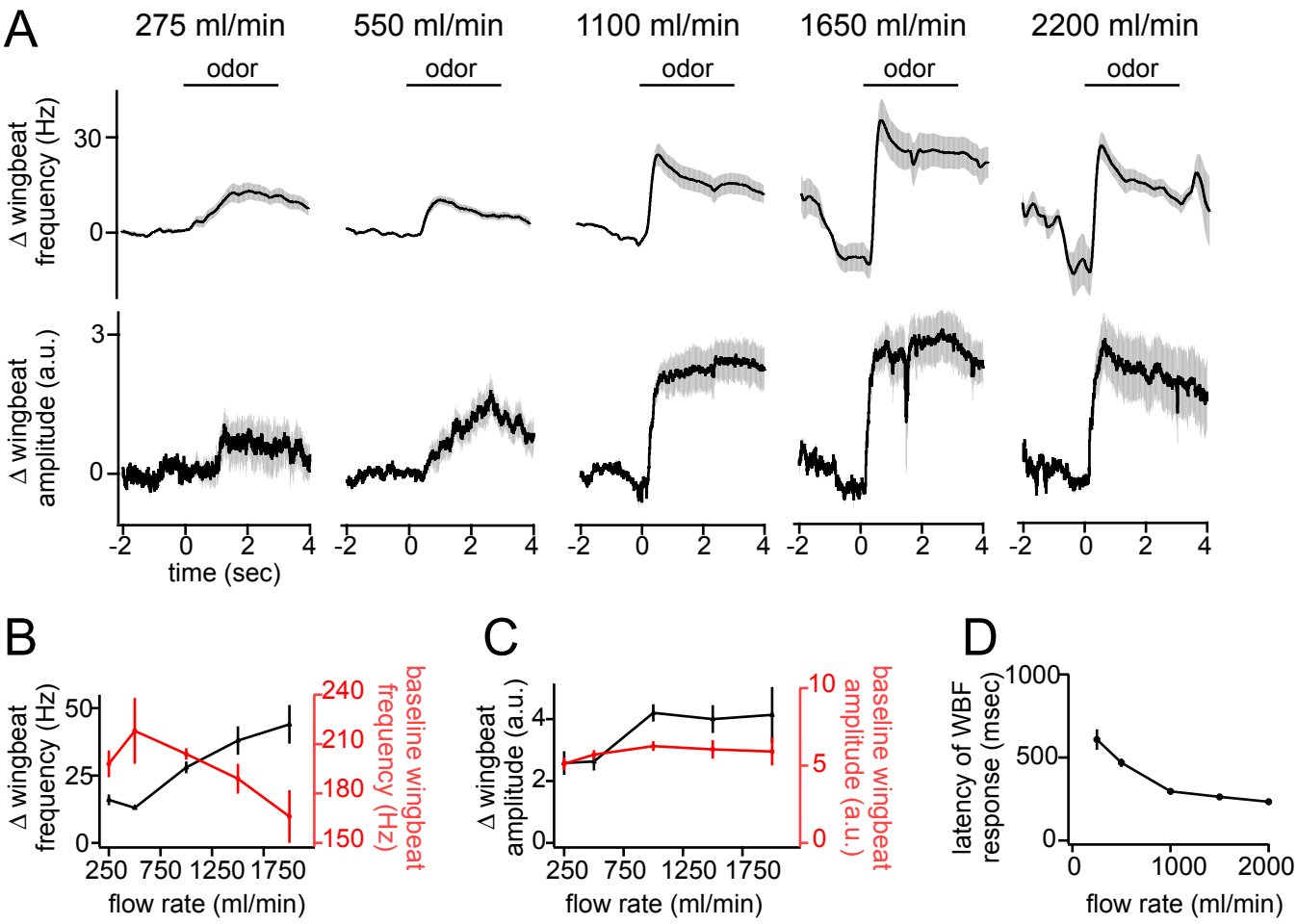

Supplementary Figure 6: Effect of flow rate on the odor-evoked flight surge.

(A) Higher flow rates (corresponding to higher air speeds) produce larger odor-evoked changes in WBF and WBA. Also note that within each trial at high flow rates, the fly's baseline (pre-odor) flight force decreases steadily after the air flow is turned on at *t* = - 4 sec. (The dip in WBF/WBA halfway through the odor pulse was a consistent finding at 1650 ml/min, but the reason for this is not clear.)
(B) Increasing flow rate increases ΔWBF but decreases baseline (pre-odor) WBF.
(C) Increasing flow rate increases odor-evoked ΔWBA, but has little effect on baseline WBA.
(D) The latency of the WBF response is strongly influenced by the flow rate.

Odor is mango (undiluted), flies are wild strain. All values are mean ± SEM, averaged across flies.

High flow rates are useful in olfaction experiments because they produce good trial-to-trial consistency in the dynamics of the odor stimulus. However, these results suggest that an intermediate flow rate (~1100 ml/min) is optimal for these experiments. At this flow rate, baseline WBF and WBA are relatively steady, yet odor-evoked flight modulations are also crisp.