



**Fig. S1. Mean vector circular plots for all individuals.** Saccades occur primarily during pectoral fin abduction. In each of the 12 individuals, the mean vector  $R$  (black bar) points in the direction around which the saccades are concentrated ( $N=12$ ); the length of  $R$  represents the degree of concentration of saccades on a scale of 0 to 1. The bold arc along each plot's circumference is the 95% confidence interval around the mean-vector direction. Time begins arbitrarily at fin adduction at (1,0) and moves counterclockwise, as shown by the small arrow. Fish diagrams illustrate approximate fin positions. ABD, abduction; ADD, adduction; REF, refractory phase.

**Table S1.** Results of circular statistics for each of the 12 individuals and across individuals (grand mean).

fish	<i>N</i>	<i>R</i>	<i>P</i>
<i>individual means</i>			
1	12	0.596	0.011 *
2	12	0.406	0.139 NS
3	12	0.793	< 0.001 ***
4	12	0.659	0.003 **
5	12	0.815	< 0.001 ***
6	12	0.830	< 0.001 ***
7	12	0.794	< 0.001 ***
8	12	0.645	0.005 **
9	12	0.786	< 0.001 ***
10	12	0.594	0.012 *
11	12	0.701	0.001 **
12	12	0.732	< 0.001 ***
<i>grand mean</i>			
all	12	1.000	< 0.001 ***
*, $P < 0.05$ ; **, $P < 0.01$ ; ***, $P < 0.001$			