



**Figure S1.** Percentage of left-sided (left column) and right-sided (blue column) attacks for each adult *P. microlepis* (modified from Takeuchi et al. 2012). Each fish attacked more than five times in one hour. Grey columns indicate failed attempts at scale-eating. Numbers at the bottoms of the columns indicate the number of attacks by each fish. Asymmetric mouth morphology, lefty (L) or righty (R), is denoted for each fish. P-values are from a binomial test. \*  $P < 0.05$ ; \*\*  $P < 0.01$ ; \*\*\*  $P < 0.001$ .



**Movie 1.** Predation behaviour of *Genyochromis mento*. The scene is at normal speed.