



Movie 1. *Pleurobranchaea californica* one-trial prey avoidance learning. A small (60 g) *P. californica* orients to and attacks a Spanish shawl (*Flabellina iodinea*). The resulting mouthful of stinging orange cerata causes rapid expulsion of the Spanish shawl from the buccal cavity and cyclic rejection movements of the radula while the pleurobranch executes a stereotypic avoidance turn and locomotes away at top speed. *Flabellina iodinea*'s flamenco dance of swimming escape does not carry it far in the absence of water currents in the aquarium. Thirty minutes later the two are reintroduced. This time *P. californica*'s response to the odor of the Spanish shawl is one of clear avoidance, a learned response that is selective to the odor and strongly evident at 48 h after a previous experience (see main text).