

Table S1. Detailed frequency data for Figs 2–6.[Click here to Download Table S1](#)**Table S2.** Statistical results of movement direction in visual contrast experiments. f_D , the frequency of moving towards the darker surface in each setup, excluding those overlapped with contrast edges. G-values are presented with d.f. and P -values in parentheses (*, $P < 0.05$; **, $P < 0.01$; ***, $P < 0.001$). See Fig. 4.

setup	N	von Mises distribution		f_D (%)	repeated G-test with William's correction		
		μ (95%CI)	κ (95%CI)		G_{total}	G_{pool}	$G_{heterogeneity}$
BW11	100	-0.06 (6.19, 6.25)	32.38 (20.4, 57.3)	57.1	35.8 (23 d.f., *)	2.0 (1 d.f., 0.158)	33.8 (22 d.f., 0.051)
BG11	188	0.01 (0.01, 0.02)	727.07 (563.47, 1046.45)	37.7	60.4 (38 d.f., *)	7.42 (1 d.f., **)	53.0 (37 d.f., *)
GW11	127	-0.03 (6.25, 6.27)	251.96 (200.78, 340.94)	75.7	72.2 (26 d.f., ***)	30.6 (1 d.f., ***)	41.6 (25 d.f., *)
BW19	100	-0.05 (6.22, 6.24)	265.08 (206.68, 372.66)	85.4	73.8 (20 d.f., ***)	49.1 (1 d.f., ***)	24.7 (19 d.f., 0.170)
BW91	95	0.05 (0.04, 0.07)	243.61 (191.89, 329.1)	19.8	57.5 (19 d.f., ***)	33.5 (1 d.f., ***)	24.0 (18 d.f., 0.155)

Table S3. Statistical results of movement direction in visual contrast experiments. f_D , the frequency of moving towards the darker surface in each setup, excluding those overlapped with contrast edges. G-values are presented with d.f. and P -values in parentheses (*, $P < 0.05$; **, $P < 0.01$; ***, $P < 0.001$). See Fig. 4.

setup	N	f_{stripe} (%)	repeated G-test with William's correction		
			G_{total}	G_{pool}	$G_{heterogeneity}$
BW91	95	82	43.48 (9 d.f., **)	20.08 (1 d.f., ***)	23.4 (18 d.f., 0.18)
BW19	100	76	86.49 (20 d.f., ***)	61.04 (1 d.f., ***)	25.45 (19 d.f., 0.15)

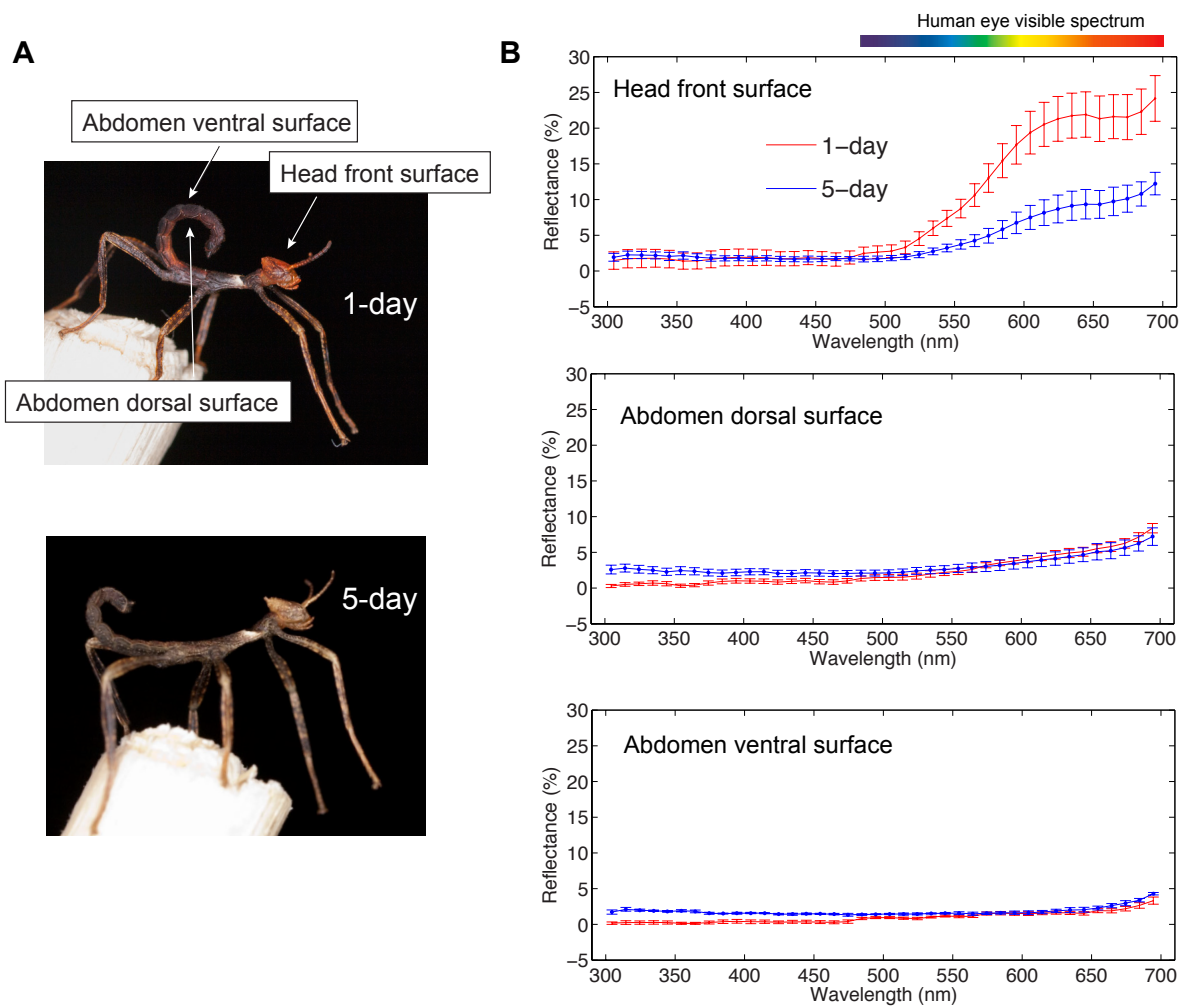


Fig. S1. Ontogenetic loss of ant-mimicry coloration in first instar *E. tiaratum*. (A) Comparison of coloration between a 1-day-old nymph and a 5-day-old nymph. Arrows denote three sampled spots. (B) Comparison of spectral reflectance profiles of three sampled spots between insects of two ages ($N = 5$ individuals per age group), showing the ontogenetic loss of red coloration on head. Spectral reflectance was measured using a spectrophotometer (USB2000, Ocean Optics, Dunedin, FL, USA) with a deuterium-halogen light source (AIS Model MIMI DTA, Analytical Instrument Systems, Flemington, NJ, USA) calibrated with a diffuse white standard (Labsphere Inc., NH, USA). Values are means \pm S.D.

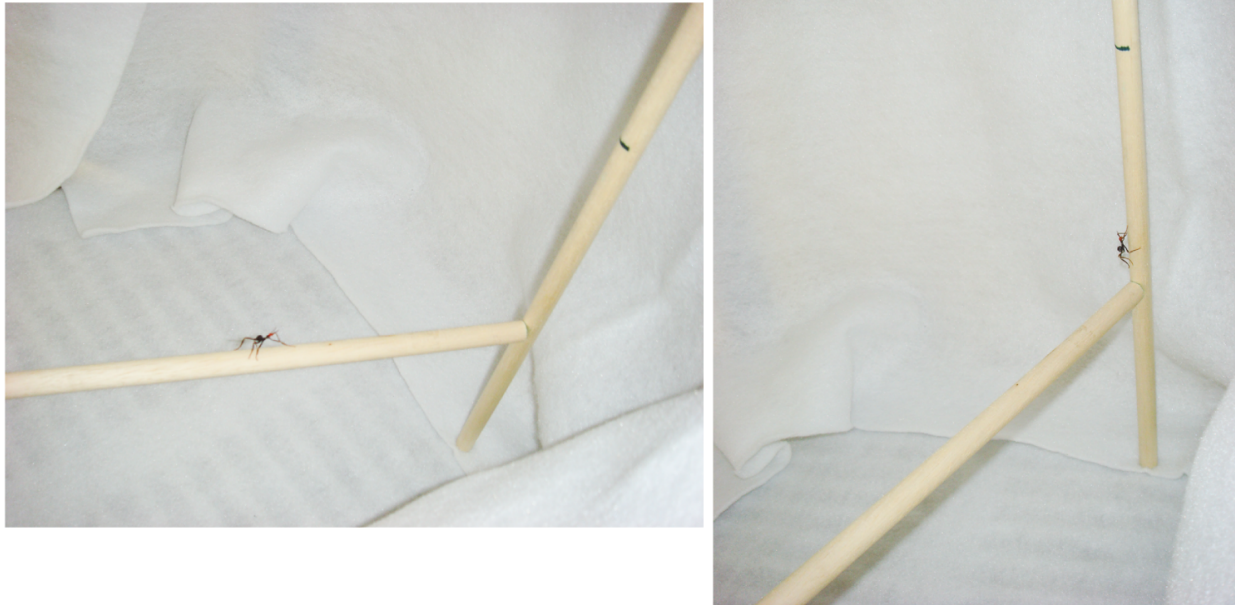


Fig. S2. Inner view of the experimental setup for recording gravitactic behaviors.

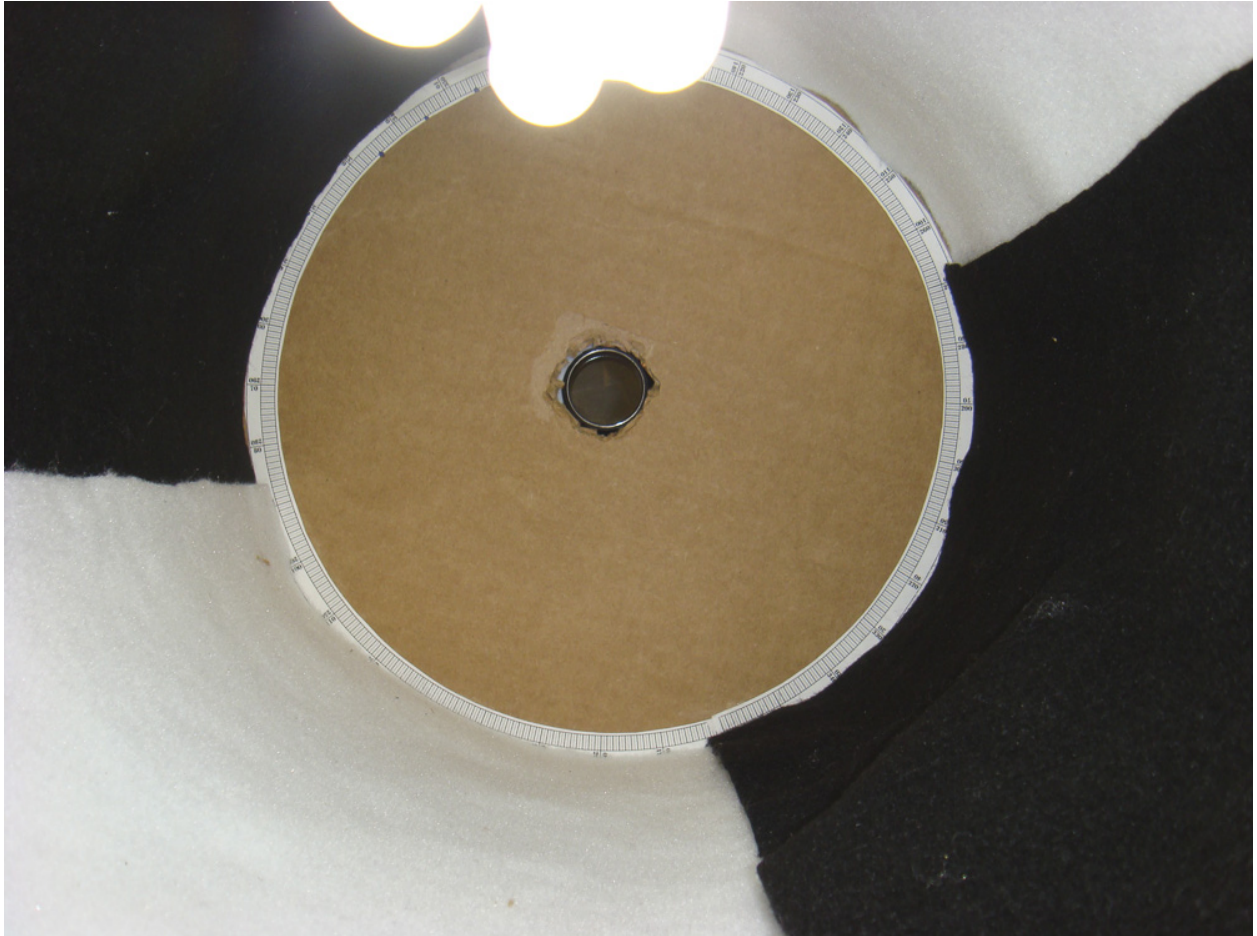


Fig. S3. Inner view of the experimental arena for recording tactic response to visual contrasts.