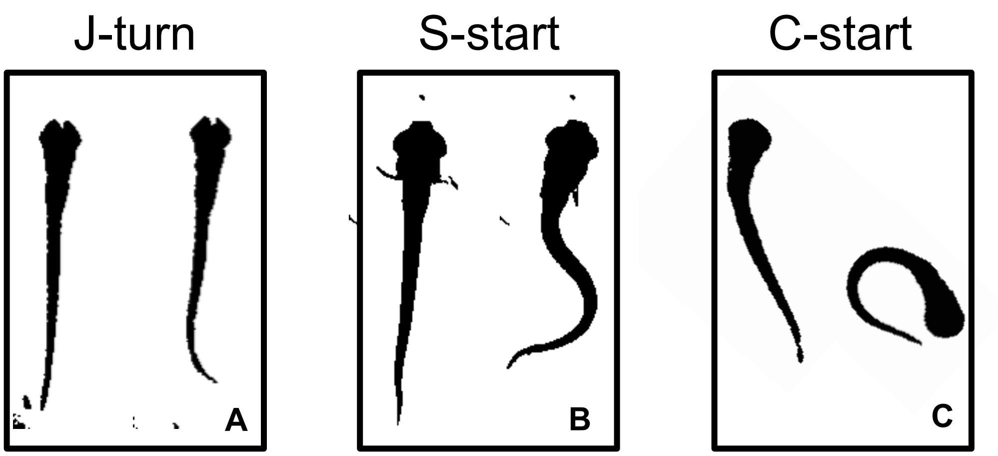

Fig. S1. Examples of postures in larval zebrafish associated with a J-turn (A), a predatory S-start (B) and an escape C-start (C). (A) Zebrafish larva at 7 days post-fertilization (dpf, 1st feeding at 5 dpf) approaching a *Paramecium* prey (left, *t*=0.140 s) and the same larva during a J-turn (right, *t*=0.217 s), which serves to slightly reorient the larva toward its prey. (B) Zebrafish at 5 dpf setting up for an S-start (left, *t*=-0.008 s) and in the S-start posture (right, *t*=-0.003 s), both prior to mouth opening (*t*=0) and strike. (C) Zebrafish at 7 dpf swimming (left, *t*=0.012 s) and in the C-bend (right, *t*=0.022 s) prior to the fast-start escape (*t*~0.026 s). Images were modified from examples in McClenahan et al. (2012) for (A) and (C), and Voesenek et al. (2018) for (B).

References

McClenahan, P., Troup, M. and Scott, E. K. (2012). Fin-tail coordination during escape and predatory behavior in larval zebrafish. *PloS One* **7**, e32295.

Voesenek, C. J., Muijres, F. T. and van Leeuwen, J. L. (2018). Biomechanics of swimming in developing larval fish. *Journal of Experimental Biology* **221**, jeb149583.

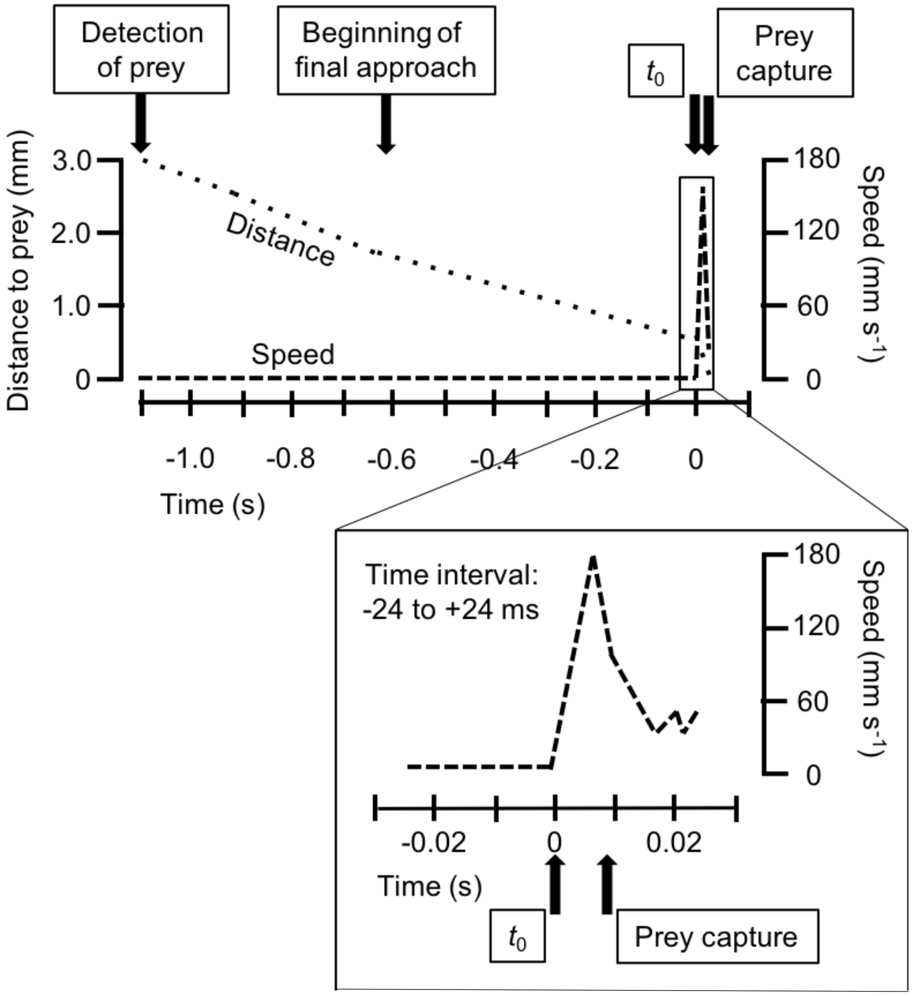

Fig. S2. Schematic diagram of the clownfish larva–copepod interaction starting at detection of prey and continuing through the strike phase, based on Robinson et al. (2019). Times shown for prey detection, the beginning of the final approach phase, t_0, and capture based on observations of an actual predator–prey interaction (Fig. 4 in Robinson et al. 2019) and defined in the Materials and Methods of the current paper. Both distance to prey and swimming speeds of the larval fish are shown as dashed (speed) and dotted (distance) lines. The lower box is an expanded view of the interval analyzed in the current study (-24 to 24 ms) to characterize the strike posture as a function of larval age and copepod stage.

Reference

Robinson, H. E., Strickler, J. R., Henderson, M. J., Hartline, D. K. and Lenz, P. H. (2019). Predation strategies of larval fish capturing evasive copepod prey. *Marine Ecology Progress Series*. in press.

Table S1. Statistical model results.

Results from beta regression and multiple linear regression (MLR) models. Beta regression models were created with the “betareg” function in the *betareg* package in *R*, and MLR models were created with the “lm” function in the standard *stats* package of *R*. Model predictors: *preycat* = categorical variable of the developmental stage of copepod prey (nauplius, copepodite, adult), *dph* = fish’s age in days-post-hatch, *preycat:dph* = interaction between preycat and dph, *dph cat* = categorical variable of the age-class of fish (E=early (1-4 dph), M=mid (5-9 dph), L=late (11-14 dph)), and *dist* = distance between the leading edge of the fish’s mouth and the copepod rostrum at t_0. Significant p-values ($P < 0.05$) are indicated in **bold**.

Model estimates:
Beta regression: The beta regression uses a logit link, so interpretation of its coefficients is the same as for a log-linear regression. For example, an increase in “X” (continuous predictor) by 1 unit is associated with a multiplicative change of $e^{\text{X Estimate}}$ in the response Y, after accounting for other predictors in the model. For categorical predictors, the comparison is indicated in the “Model predictors” column as “X_1 vs X_2”. For instance, late-stage fish larvae that target adult copepods (“A”) have a CVF value that is $e^{0.625}$ (=1.87) times that of late-stage larvae that target copepodites (“C”). Greater CVF values indicate lesser curvature (CVF = 1 is a straight/unbent fish).
Multiple linear regression: Because Y (peak strike speed) is logged, an increase of one unit in X (continuous predictor) is associated with a change in the median of Y by a factor of $e^{\text{X Estimate}}$, after accounting for other predictors in the model.

MODEL: Response variable – Dataset, *n*	Model predictors	Estimate	SE	*z* value	*p* value
BETA REGRESSION: Chord length-to-fish length ratio (CVF, ratio) – All fish, *n*=37	Intercept	-0.073	0.175	-0.414	0.679
	preycat, N vs C	0.120	0.289	0.417	0.677
	preycat, A vs C	**-1.176**	**0.550**	**-2.139**	**0.032**
	preycat, A vs N	**-1.297**	**0.570**	**-2.276**	**0.023**
	dph	0.029	0.022	1.291	0.197
	preycat:dph, N vs C	0.004	0.045	0.095	0.924
	preycat:dph, A vs C	**0.154**	**0.056**	**2.744**	**0.006**
	preycat:dph, A vs N	**0.150**	**0.065**	**2.310**	**0.021**
	Log-likelihood: 38.56 on 7 df; Pseudo R-squared: 0.424				
BETA REGRESSION: Chord length-to-fish length ratio (CVF, ratio) – Late-stage fish only, *n*=12	Intercept	-3.350	1.768	-1.894	0.058
	preycat, A vs C	**0.625**	**0.213**	**2.931**	**0.003**
	dph	**0.305**	**0.153**	**1.987**	**0.047**
	Log-likelihood: 13.6 on 4 df; Pseudo R-squared: 0.627				
MULTIPLE LINEAR REGRESSION: Log(peak strike speed) (mm s^{-1}) – All fish, *n*=37	**Intercept**	**4.560**	**0.117**	**38.85**	**<0.001**
	dist	**0.494**	**0.125**	**3.935**	**<0.001**
	dph cat, M vs E	-0.037	0.102	-0.364	0.718
	dph cat, L vs E	0.077	0.117	0.653	0.518
	preycat, C vs N	**0.304**	**0.104**	**2.915**	**0.006**
	preycat, A vs N	**0.292**	**0.129**	**2.255**	**0.031**
	preycat, A vs C	-0.012	0.102	-0.114	0.91
	Residual SE: 0.241 on 24 df; Adjusted R-squared: 0.539; $F_{5,32}$ = 9.65; p<0.001				

Journal of Experimental Biology • Supplementary information

Movie 1. Representative examples of *A. ocellaris* clownfish larvae striking at *B. similis* copepods. Clownfish are identified as early-stage (1-4 days post-hatch, dph), mid-stage (6-9 dph), or late-stage (11-14 dph). Copepods are identified as a nauplius (NIII-NIV stages), copepodite (CII-CIII stages), or adult (CVI stage). Video is slowed down to one-tenth speed (50 frames per second, fps) and a scale bar is present in the bottom left of each clip.