**Electronic Appendix E**. Summary of all meta-analysis results. Entries in part A are the estimated variance components for random effects and coefficients for fixed-effects from separate models that contained a single covariate each (with 95% HPD intervals in parentheses). Entries in part B are the sample sizes contributing to each model (number of observations/number of studies). Predator type was arranged into a two-by-two factorial design. Coefficients for cue concentration are multiplied times 1000, and those for predator density, initial stage, and final stage are multiplied by 100. Values of the random effects and the overall mean effect size were estimated from a model that included only the intercept in the fixed part. Significance of the phylogenetic variance, among-study variance, and the fixed covariates, was evaluated by comparing deviance between models with and without the term of interest. Significance is highlighted in bold type and indicated as follows: \* *P* < 0.05; \*\* P < 0.01; \*\*\* P < 0.001. Models were fitted using a Markov chain Monte Carlo method implemented in package MCMCglmm in R 3.2.1 (Hadfield, 2010; R Core Team, 2015). Settings were 250,000 iterations, burn-in of 10,000, and thinning of 40. These values were determined by increasing iterations and thinning until the “potential variance inflation factor” of the estimated intercept declined to <1.01 (Gelman and Rubin, 1992; calculated from three replicate runs using the gelman.diag command in the coda package in R; Plummer et al., 2006).

A. Parameter estimates

Covariate Levels Hatching survival Hatching age Hatching stage Hatching size

*Random effects*

Phylogenetic variance 0.556 2.802 0.003 0.006

Among-species variance† 0.094 0.739 0.007 0.002

Among-study variance 0.125 0.025 0.001 **0.002\***

Measurement error **129.4\*\*\* 79.4\*\*\* 165.8\*\*\* 146.0\*\*\***

Residual error 0.023 0.125 0.027 0.014

*Fixed effects*

Mean effect size -0.319 (-1.270 – 0.722) -0.778 (-2.804 – 1.057) **-0.211 (-0.325 – -0.118)\*\*** **-0.081 (-0.170 – -0.009)\***

Venue lab – 0 -0.065 (-0.663 – 0.527) -0.098 (-0.344 – 0.135)

mesocosm – 0.424 (-0.055 – 0.857) 0 0

enclosure – -0.505 (-1.311 – 0.379) – –

Predator type: embryo no **0\*\*\*** 0 **0\*\*\*** **0\*\*\***

yes **-0.213 (-0.315 – -0.105)** -0.161 (-0.367 – 0.037) **-0.239 (-0.381 – -0.080)** **-0.102 (-0.189 – -0.019)**

Predator type: larva no 0 0 0 0

yes -0.043 (-0.150 – 0.235) 0.194 (-0.024 – 0.430) 0.060 (-0.138 – 0.239) 0.039 (-0.059 – 0.135)

Predator present no 0 0 0 0

yes -0.010 (-0.214 – 0.178) 0.031 (-0.265 – 0.333) 0.065 (-0.114 – 0.237) -0.072 (-0.173 – 0.041)

Predator density 1.493 (-3.360 – 6.336) 2.312 (-2.892 – 7.416) 4.549 (-10.528 – 19.571) 2.511 (-2.428 – 7.771)

Predator diet none **0\*** **0\*\*\*** 0.217 (-0.063 – 0.509) 0.057 (-0.145 – 0.269)

embryos **-0.416 (-0.827 – -0.010)** -**0.533 (-0.843 – -0.220)** 0 0

larvae **-0.253 (-0.746 – 0.216)** -**0.208 (0.502 – 0.101)** 0.149 (-0.123 – 0.434) 0.114 (-0.020 – 0.247)

other **-0.212 (-0.675 – 0.224)** -**0.400 (-0.720 – -0.044)** 0.230 (0.003 – 0.448) 0.091 (-0.045 – 0.237)

Cue type predator present -0.748 (-2.146 – 0.456) **-0.071 (-0.492 – 0.346)** 0.111 (-0.279 – 0.550) -0.148 (-0.355 – -0.007)

caged predator 0.072 (-0.353 – 0.462) **0.367 (0.121 – 0.615)** 0 0

disturbance – **0.410 (-1.710 – 2.931)** – –

water transfer 0 **0\*\*** -0.060 (-0.319 – 0.188) 0.098 (-0.049 – 0.263)

Cue concentration -0.474 (-1.434 – 0.496) -0.002 (-2.013 – 2.074) -0.062 (-1.202 – 1.039) 0.234 (-0.514 – 1.030)

Control plain water 0 0 3.338 (-4.992 – 11.632) 2.252 (-2.629 – 7.269)

larvae – 0.183 (-0.298 – 0.670) 3.152 (-5.509 – 11.175) 2.081 (-2.824 – 7.101)

other animal 0.089 (-0.097 – 0.258) -0.032 (-0.366 – 0.328) 3.349 (-5.162 – 11.450) 2.212 (-2.676 – 7.192)

lack of disturbance -2.636 (-9.395 – 4.547) -0.496 (-2.066 – 1.006) 0

Initial stage – -2.697 (-6.061 – 0.580) – –

Hatching stage 0.056 (-0.100 – 0.201) -0.110 (-0.242 – 0.031) 0.034 (-0.105 – 0.154) –

Egg placement aquatic 2.609 (-4.127 – 9.504) 0 0 0

vegetation 0 0.497 (-0.994 – 2.011) -3.312 (-11.092 – 5.334) -2.252 (-7.343 – 2.953)

† Non-phylogenetic variance among species was not included in Eqn 1, but was estimated here and tested by comparison with a model having no random term for species.

B. Sample sizes (number of observations / number of studies)

Model Hatching survival Hatching age Hatching stage Hatching size

Mean effect size 45 / 10 116 / 23 50 / 11 96 / 14

Venue lab 45 / 9 105 / 19 45 / 9 90 / 12

mesocosm 0 / 0 8 / 4 5 / 2 6 / 3

enclosure 0 / 0 3 / 2 0 / 0 0 / 0

Predator type: embryo no 25 / 6 57 / 15 29 / 8 48 / 10

yes 20 / 6 59 / 17 21 / 6 48 / 10

Predator type: larva no 10 / 3 43 / 14 21 / 6 38 / 8

yes 35 / 7 73 / 15 29 / 8 58 / 10

Predator present no 8 / 2 21 / 6 8 / 2 20 / 3

yes 37 / 9 95 / 21 42 / 11 76 / 13

Predator density 41 / 7 98 / 20 48 / 10 94 / 13

Predator diet none 22 / 4 37 / 11 6 / 3 23 / 5

embryos 10 / 5 33 / 13 19 / 6 33 / 7

larvae 4 / 2 34 / 10 18 / 5 30 / 6

other 9 / 2 12 / 4 7 / 2 10 / 3

Cue type predator present 7 / 3 17 / 8 5 / 3 4 / 2

caged predator 10 / 4 47 / 11 30 / 6 49 / 8

disturbance 0 / 0 1 / 1 0 / 0 0 / 0

water transfer 28 / 4 51 / 9 15 / 3 43 / 6

Cue concentration 41 / 7 105 / 19 45 / 9 92 / 13

Control plain water 36 / 8 91 / 20 31 / 10 71 / 13

larvae 0 / 0 9 / 1 9 / 1 15 / 1

other animal 7 / 2 10 / 2 8 / 2 8 / 2

lack of disturbance 2 / 1 6 / 3 2 / 1 2 / 1

Initial stage 11 / 4 70 / 14 32 / 7 63 / 9

Hatch stage 41 / 7 98 / 19 50 / 11 91 / 13

Egg placement aquatic 43 / 8 110 / 20 48 / 10 94 / 13

vegetation 2 / 1 6 / 3 2 / 1 2 / 1

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