A picture containing photo, showing

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**Fig. S1** Photographs of *T. californicus* offspring developing through 6 naupliar stages (n1-n6), 5 copepodite stages (c1-c5) and final adult stage (A). Photos taken under a dissecting scope and body size measurements recorded using a glass calibration slide and Fiji software.

A screenshot of a cell phone

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**Figure S2** A comparison of the observed effect size for the relationship between first clutch size and total offspring (blue line) and a distribution of effect sizes from a simulated null model of the relationship (black bars). Please note, this distribution of null effect sizes will change slightly each time the simulation is run due to random number generation. In the null model, a simulated first clutch variable is regressed on a simulated total offspring variable over a total of 1,000 iterations. The simulated variables are generated using the ‘rpois’ function and the means of observed count values. Using this method, we first generated a simulated first clutch size variable. Next, we generated a simulated variable that represents the difference between the total offspring count and the first clutch. This is the “remaining” reproductive output after the first clutch. To create the simulated total offspring variable, we added the values from the first clutch variable to the remaining output variable. The null model, therefore, represents the case where the relationship between first clutch size and total offspring is only dependent on the fact that first clutch size is added to the total offspring count. The generation of the simulated total offspring variable does not include other biological effects that may tie the first clutch to total offspring output.

A close up of a map

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**Fig. S3** The relationship between first clutch size and the following life history variables including average offspring body size (A), average ratio of offspring to reach the copepodite state in two weeks (B), average egg gestation time (C), average ratio of offspring to survive until the 2-week checkpoint (D), total number of clutches (E), and largest clutch size (F). The black line represents the population mean and the grey shading represents confidence intervals around the mean effect.

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**Fig. S4** The relationship between increasing mother age and increasing number of reproductive bouts on offspring development rate (A, B), and clutch survival ratio (C, D). The black line represents the population mean and the grey lines represent individual mothers.

A close up of a map

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**Fig. S5** The relationships between offspring size and clutch size on clutch survival (A, B) and clutch development rate (C, D). The black line represents the population mean and the grey shading represents confidence intervals around the mean effect.

A close up of a map

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**Fig. S6** The relationship between egg development time and offspring size (A), clutch size (B) survival ratio (C), and development ratio (D). The black line is the population mean and the grey shading represents confidence intervals around the mean effect.