Supplementary figures

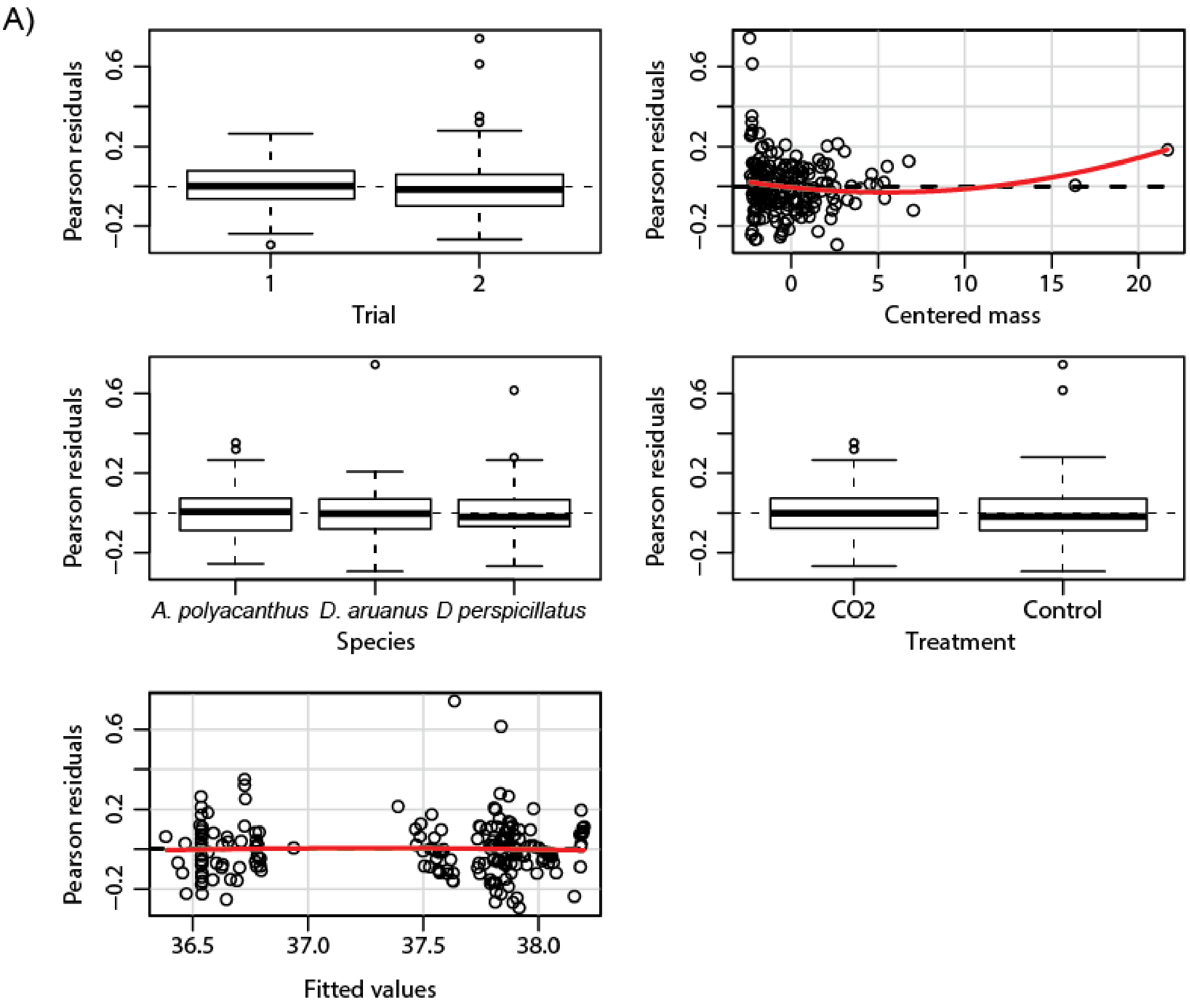
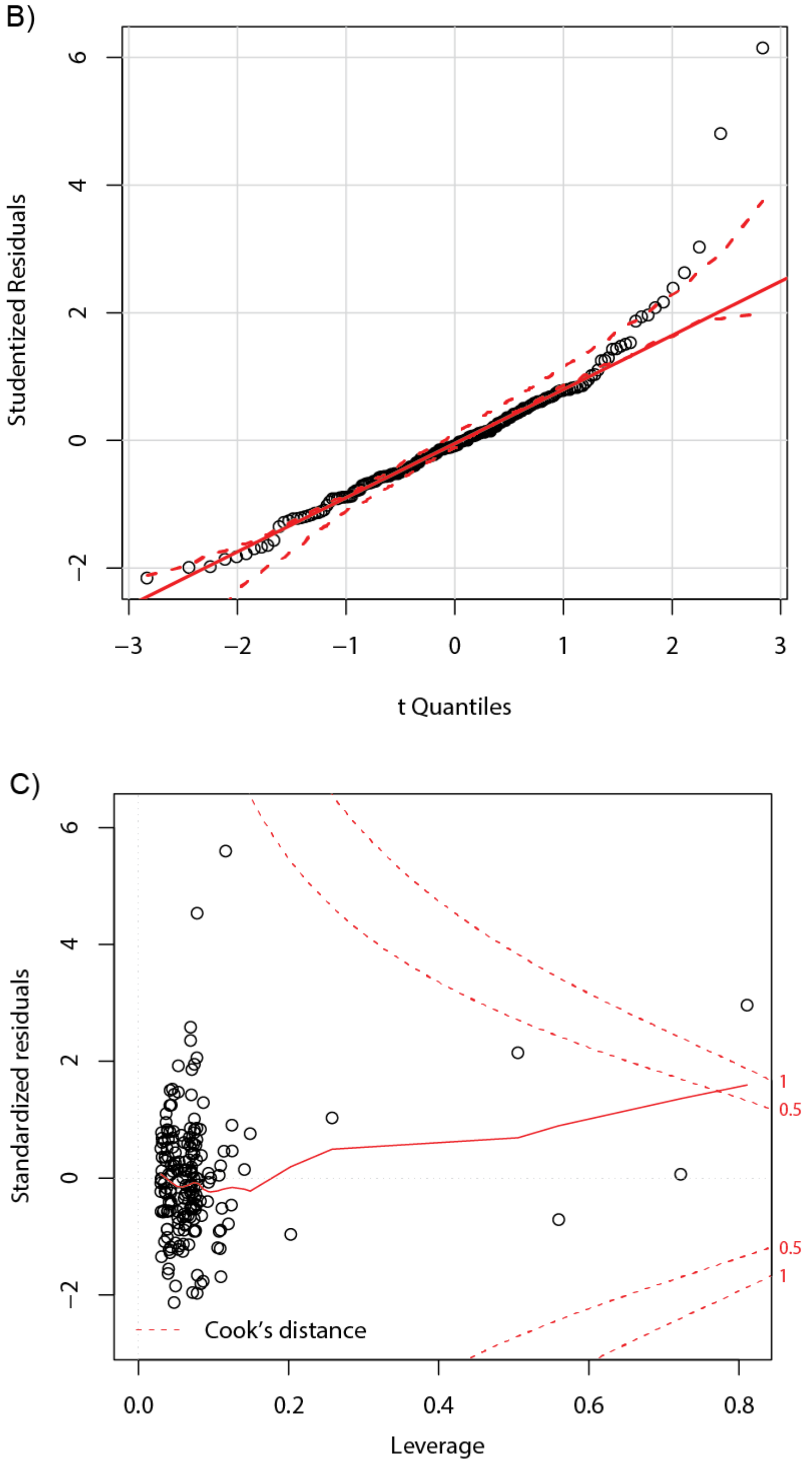


Fig. S1A



Figs. S1B, S1C

Fig. S1 Diagnostic plots showing the distribution of residuals from the model CT_{max} ~ (trial + mass + species + treatment)^2 to assess (A) homoscedasticity (i.e., homogeneity of variance), (B) normality (via a quantile-quantile plot), and (C) leverage (i.e., the influence of values on model output). *All data points were included in the model*. T1 and T2 represent the two separate trials. For a discussion of these diagnostic plots and reasons for excluding data points from general linear models, see Kim (2015) and Prabhakaran (2016).

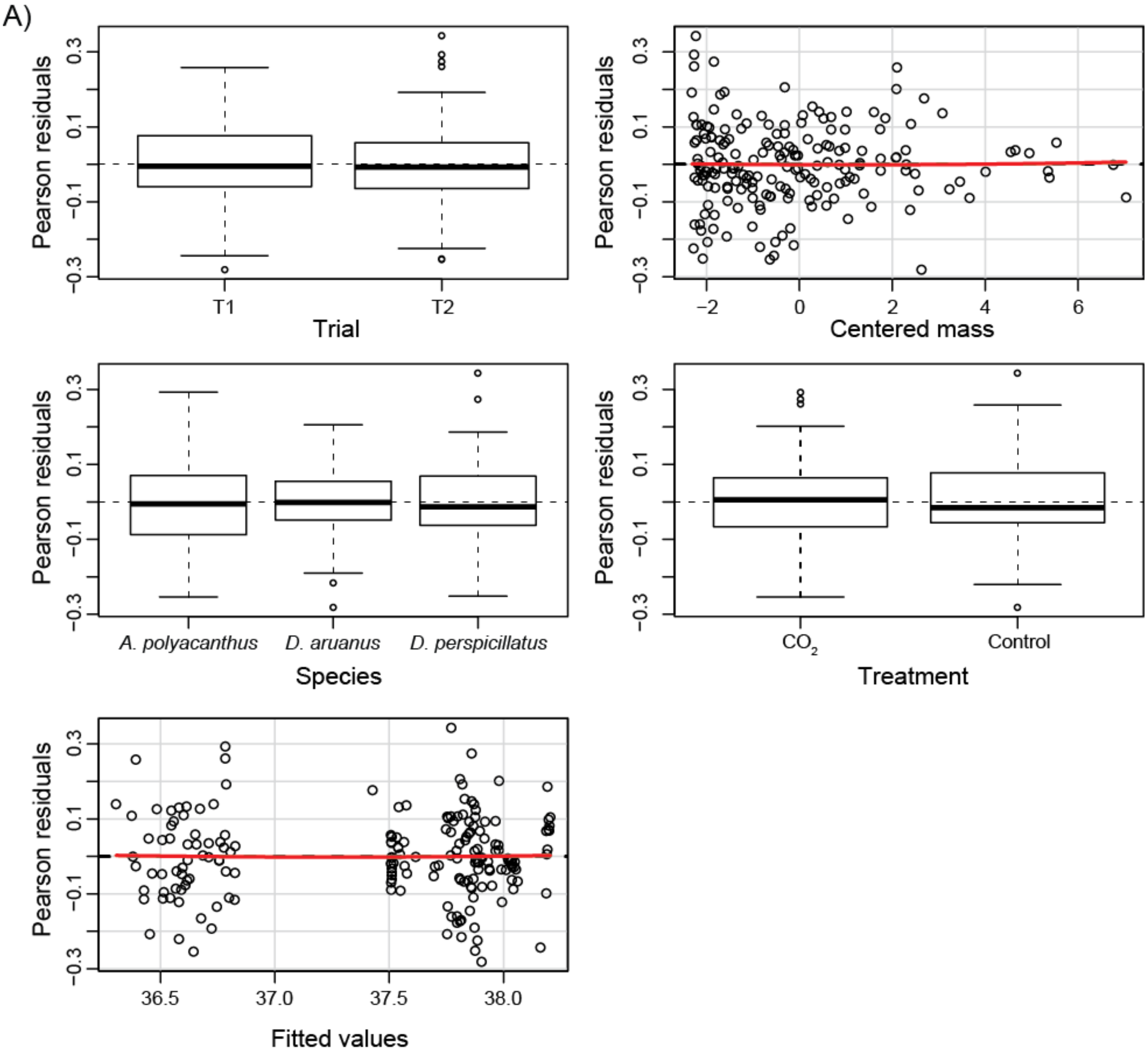
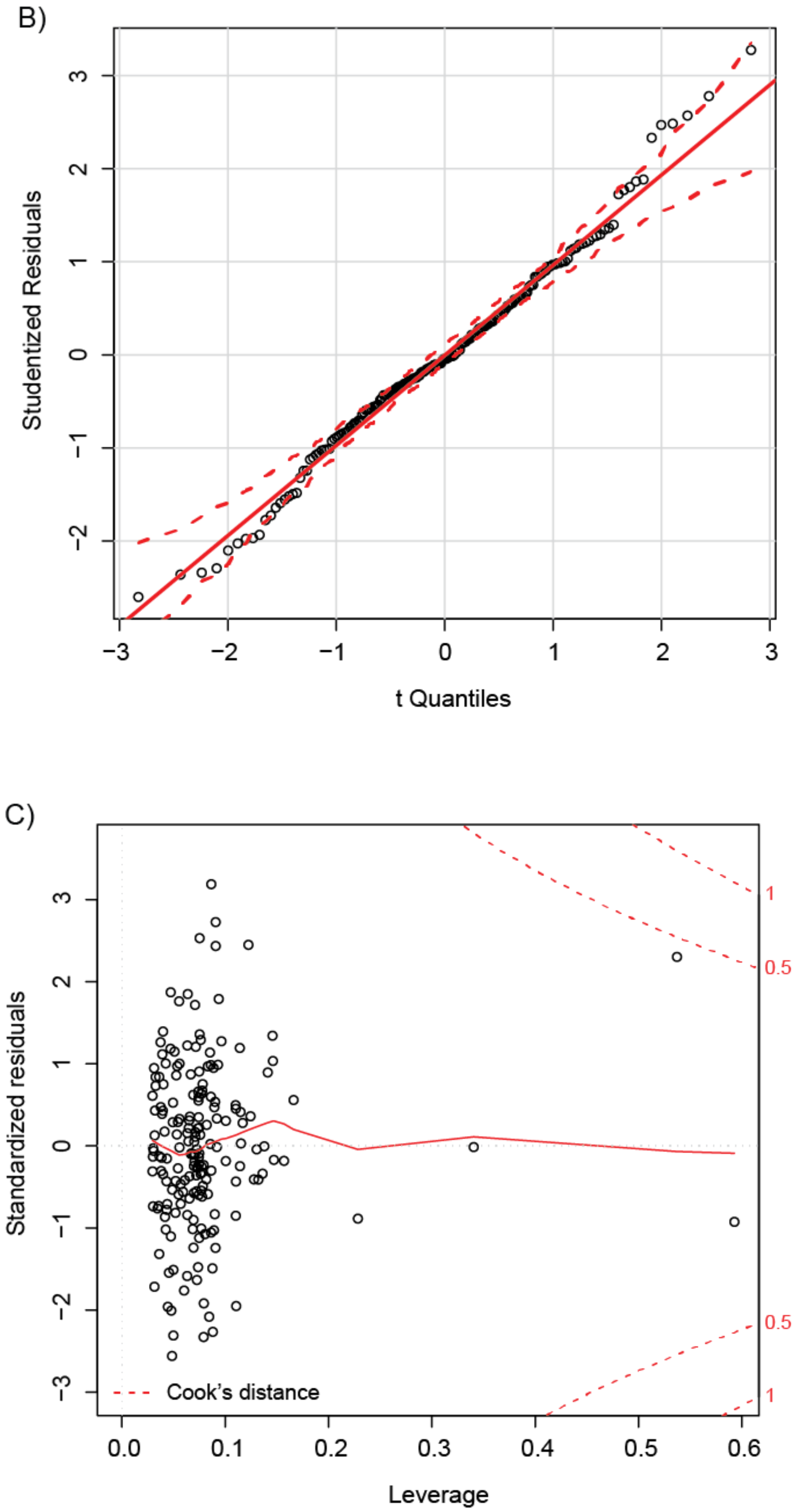

A)
Pearson residuals
0.3
0.1
−0.1
−0.3
T1
T2
Trial
Pearson residuals
0.3
0.1
−0.1
−0.3
−2
0
2
4
6
Centered mass
Pearson residuals
0.3
0.1
−0.1
−0.3
A. polyacanthus
D. aruanus
D. perspicillatus
Species
Pearson residuals
0.3
0.1
−0.1
−0.3
CO₂
Control
Treatment
Pearson residuals
0.3
0.1
−0.1
−0.3
36.5
37.0
37.5
38.0
Fitted values

Fig. S2A



Figs. S2B, S2C

Fig. S2 Diagnostic plots showing the distribution of residuals from the model $\mathrm{CT_{max}} \sim (\mathrm{trial} + \mathrm{mass} + \mathrm{species} + \mathrm{treatment})^2$ to assess (A) homoscedasticity (i.e., homogeneity of variance), (B) normality (via a quantile-quantile plot), and (C) leverage (i.e., the influence of values on model output). *Five outliers were excluded from the model* (identified as dotted green circles in Figs. 2, 3 and S3). T1 and T2 represent the two separate trials.

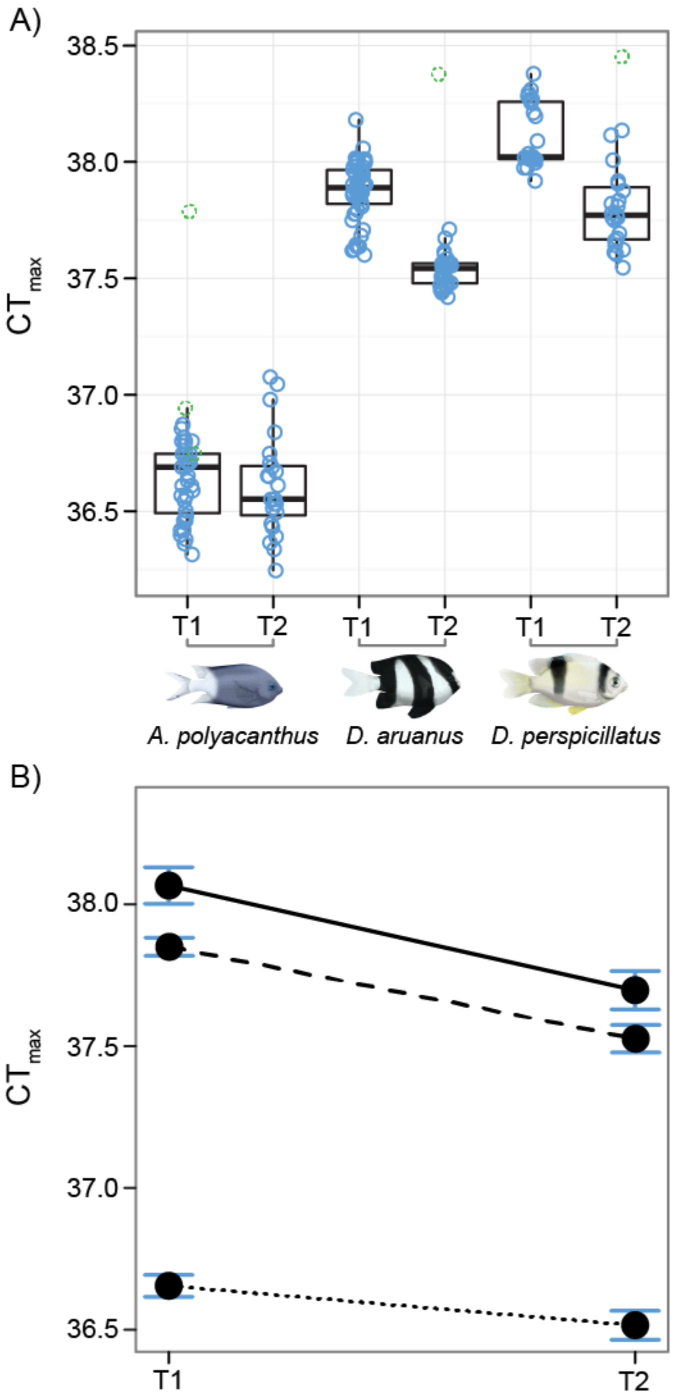


Fig. S3

Fig. S3 CT$_{max}$ of three damselfish species across two trials (T1 and T2). (A) Box-and-whisker plots showing the distribution of the raw data with five outliers (excluded from the model) indicated with dotted green circles. (B) Model predictions for *A. polyacanthus* (dotted line), *D. aruanus* (dashed line) and *D. perspicillatus* (solid line). Error bars are 95% confidence intervals.

References

Kim, B. (2015). Understanding diagnostic plots for linear regression analysis. University of Virginia Library http://data.library.virginia.edu/diagnostic-plots/

Prabhakaran, S. (2016). Outlier detection and treatment with R. R-bloggers https://www.r-bloggers.com/outlier-detection-and-treatment-with-r/