

Supporting Information. Chang, F.-H., and B. J. Cardinale. Intra-guild predation (IGP) can increase or decrease prey density depending on the strength of IGP. Ecology.

Appendix S1

In this appendix, we first show the empirically measured population density of IG prey (Colpidium) and predator (Blepharisma) in Appendix S1: Figure S1. We then show the model simulations from the Type II model in Appendix S1: Figure S2. The Type II model is parameterized with the values in Table 1. In both figures, different colors represent different treatments of intra-guild predation strength, i.e. availability of IG prey population to IG predator. From Appendix S1: Figure S2, we see that the model simulations from the Type II model appear to be limit cycles. Unfortunately, we are not able to test existence of limit cycles in our experimental system because we are not able to maintain the experiments long enough to precisely capture limit cycles (Appendix S1: Figure S1). However, the experimentally measured densities (~ 3 (ind./mL) for IG predator and ~ 122 (ind./mL) for IG prey) seem to match the long term average of the model simulations (1.8 ± 1.6 (standard deviation) for IG predator and 114.2 ± 5.4 (standard deviation) for IG prey). Consequently, we take the average of the final 2,000 time steps out of the 10,000 time step simulations as the model predictions.

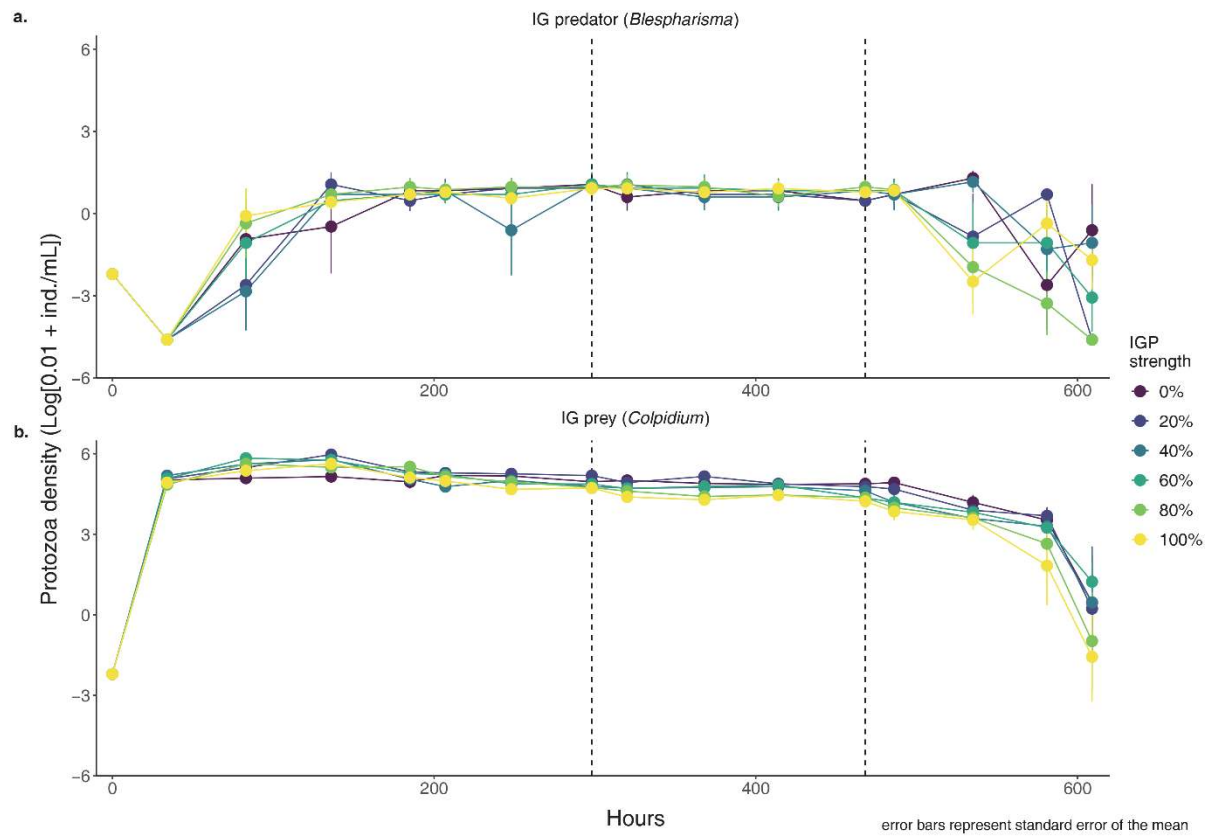


Figure S1. Empirically measured population density of IG predator (panel a) and prey (panel b) across the experiment duration.

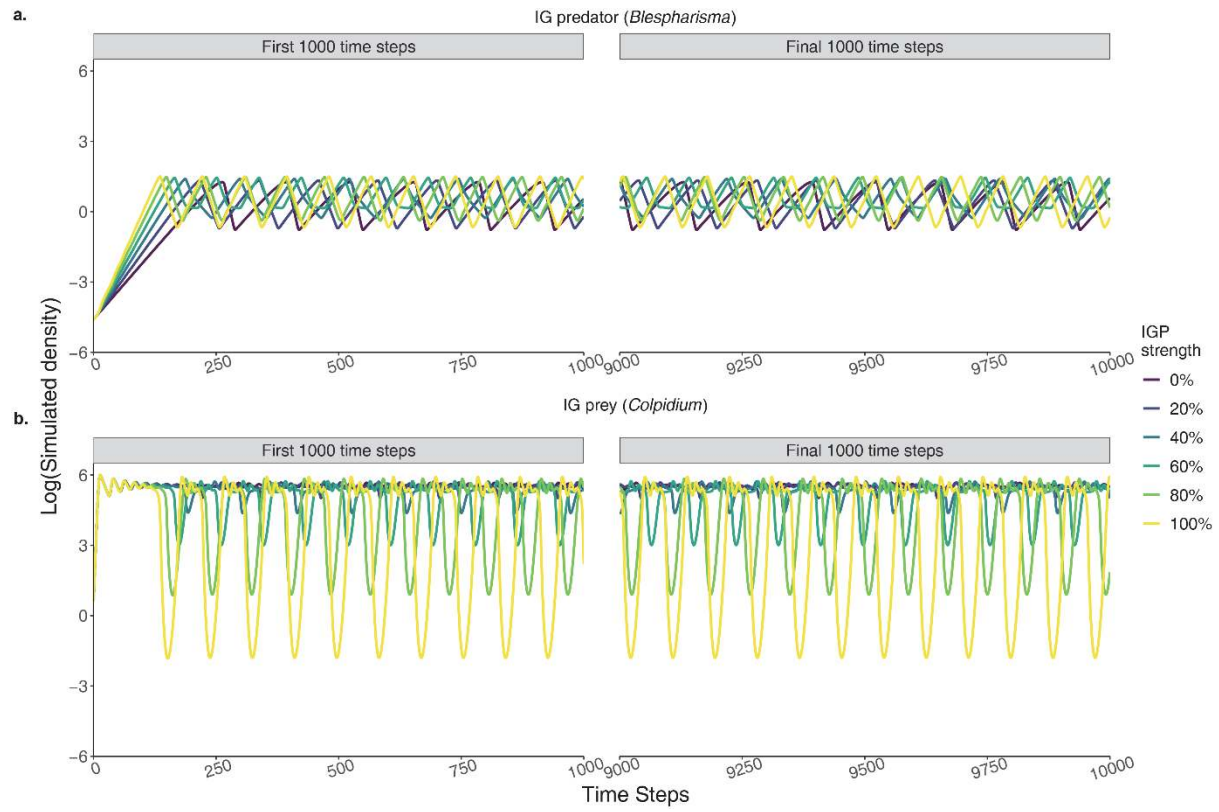


Figure S2. Model simulations (i.e. time series) from the Type II model for IG predator (panel a) and prey (panel b).