Bacterial growth efficiency and population dynamics during community assembly on plant litter

Cassandra J. Wattenburger, Nicole Feriancek, Daniel H. Buckley*

Soil and Crop Sciences, School of Integrative Plant Science,
Cornell University, 306 Tower Rd, Ithaca, NY, 14850, USA.
*Corresponding author: dbuckley@cornell.edu

Supplemental Figures

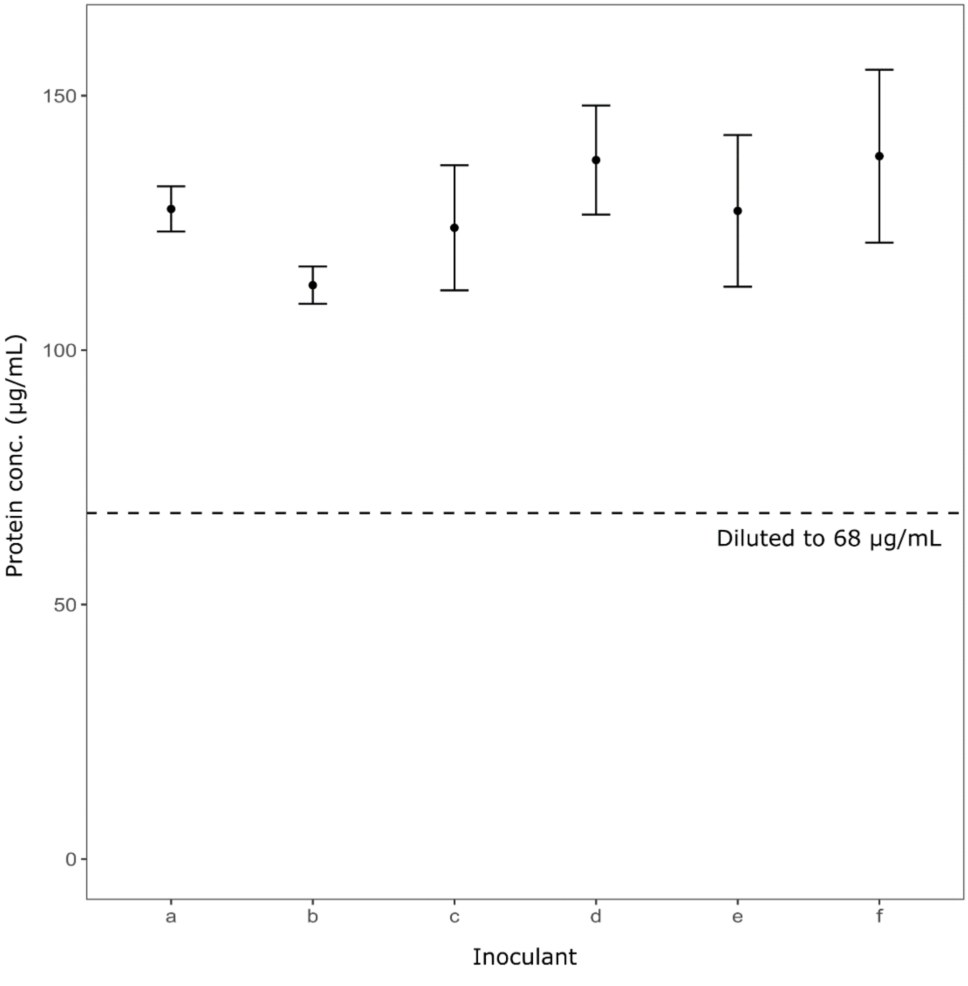

Figure S1. Protein extract concentrations from each inoculant (labeled a-f). Points show the average protein concentration with error bars showing standard deviation. The dashed horizontal line shows the concentration to which all inoculants were diluted prior to inoculation of microcosms. A total of 0.47 ml inoculant was added to each microcosm which equates to approximately 3.2 x 10^8 cells, assuming 100 fg protein per cell dry weight.

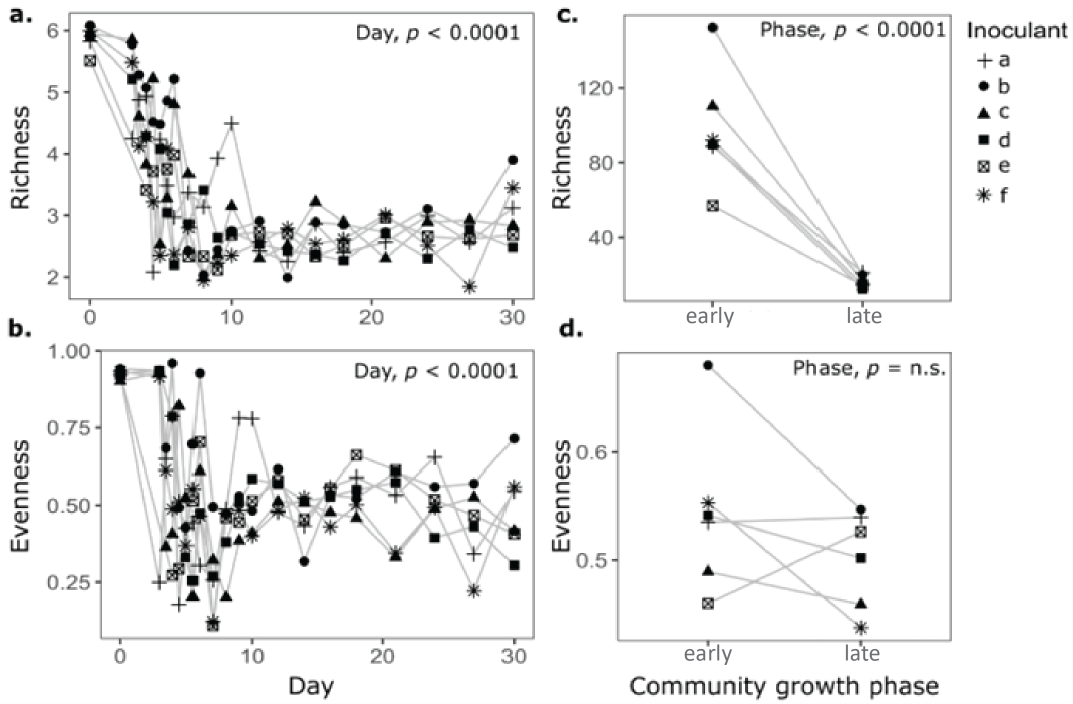

Figure S2. Changes in richness (Shannon Index) and evenness (Pielou's J) over time (**a** and **b**) and between phases (**c** and **d**). Each point represents the richness or evenness averaged across replicates for each time point or phase. Inset *p*-values indicate the result of a Welch ANOVA (**a** and **b**) or paired *t*-test (**c** and **d**).

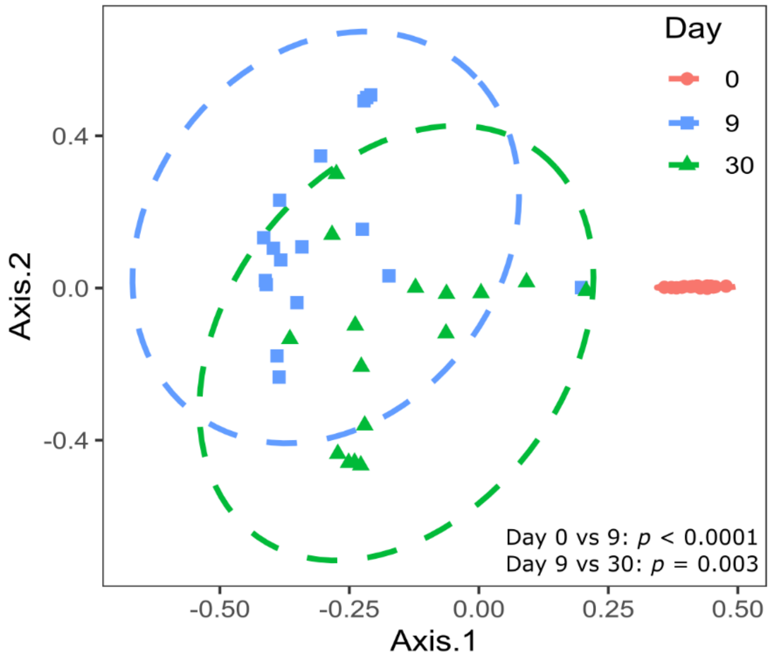

Figure S3. PCoA ordination of weighted unifrac distances of microbial communities at days 0, 9, and 30. The inset statistics show the result of permutational ANOVA tests for the specified contrasts.

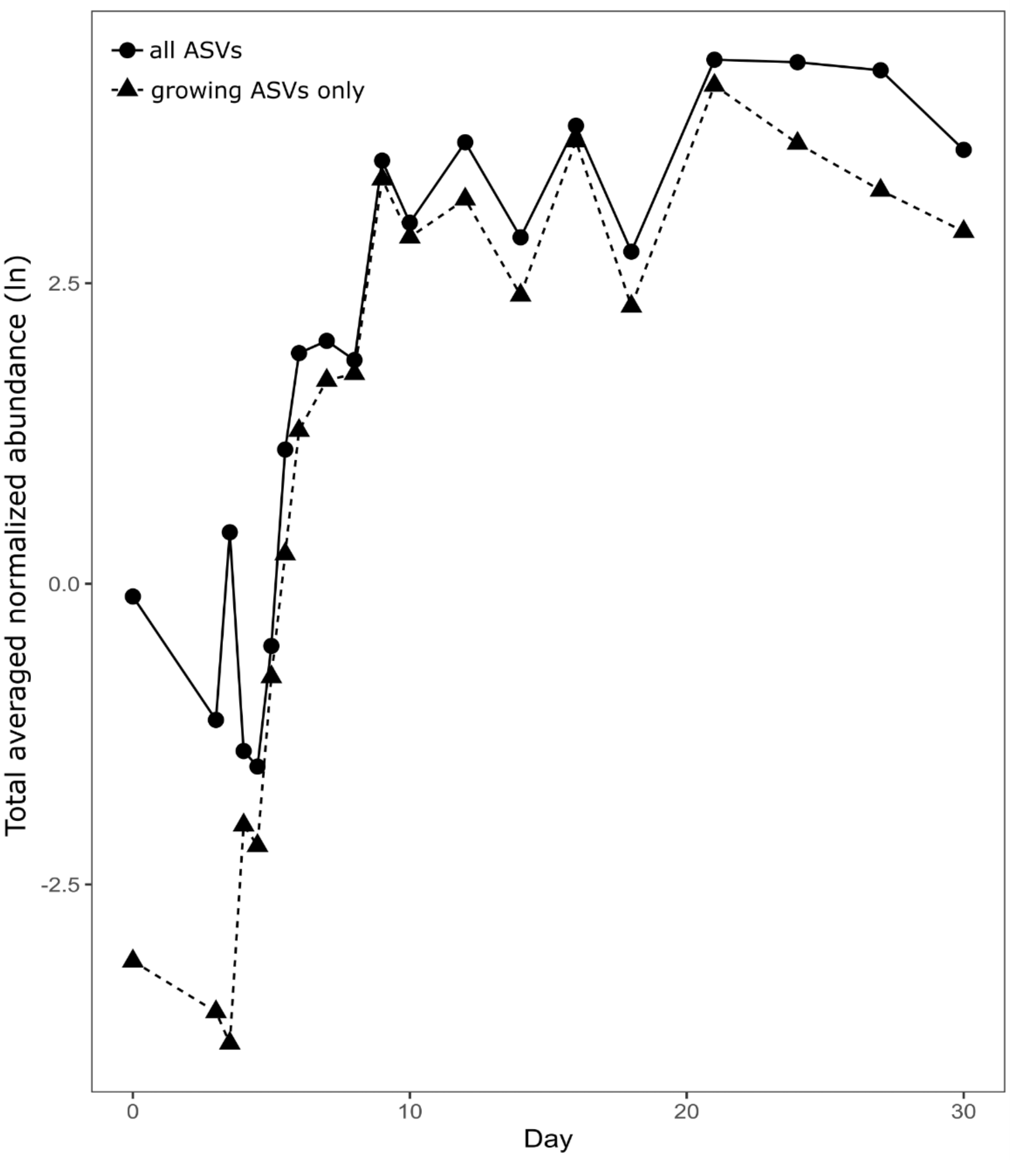

Figure S4. Growing taxa, for which growth parameters were estimated, comprised a minority of the community at the start of the experiment but came to represent a majority of the microbial community by the end of the first week of incubation. The circles show the total normalized abundance of all taxa averaged across inocula. The triangles show the total normalized abundance for only those taxa with estimated growth parameters.

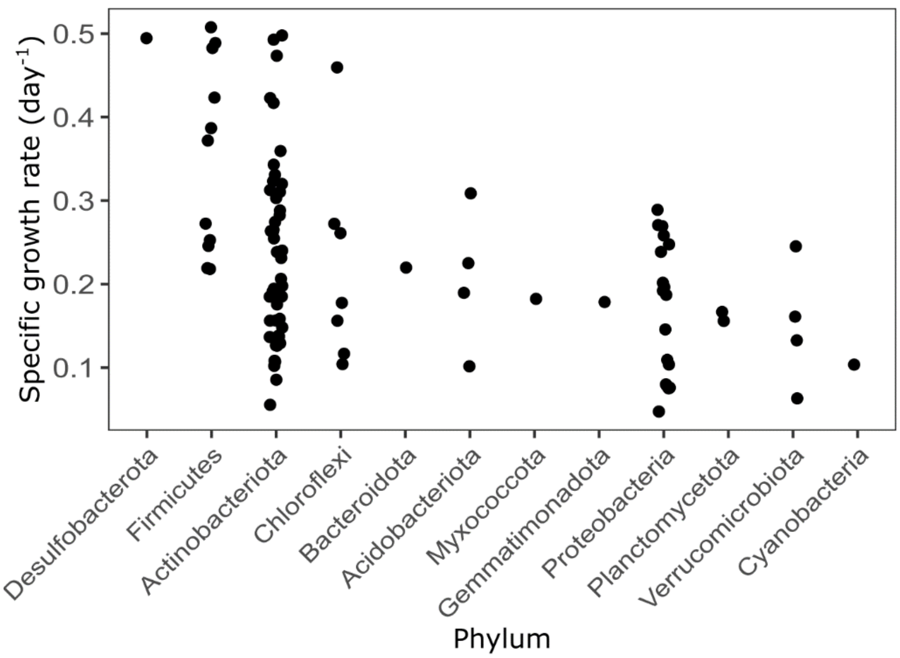

Figure S5. Specific growth rates of growth-inferred taxa grouped by phyla. Each point represents an ASV.

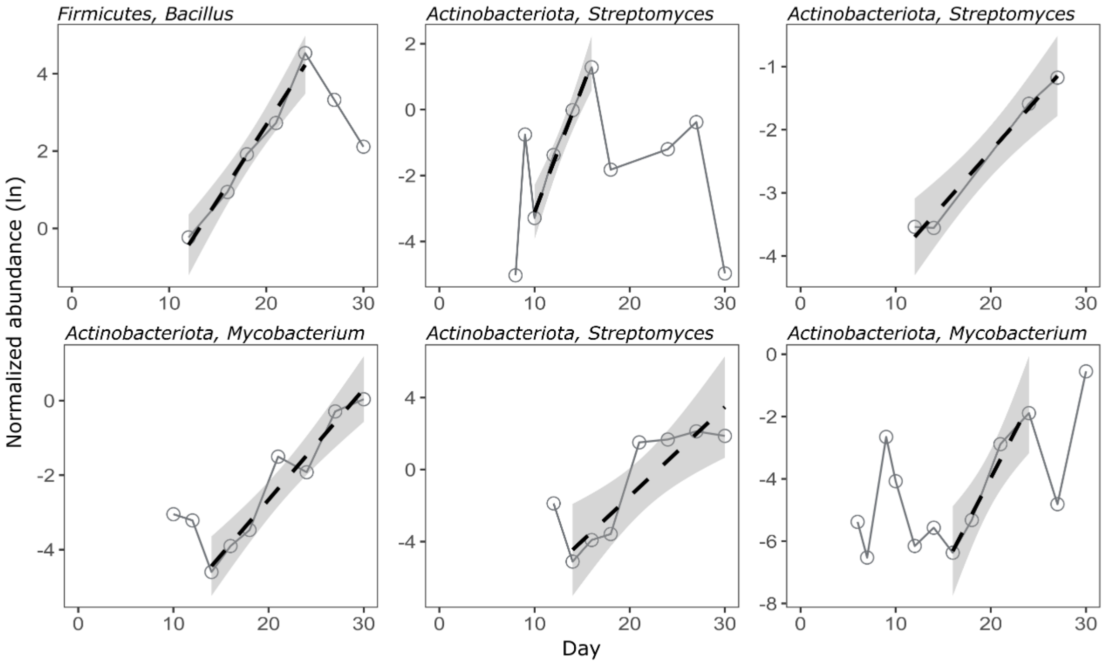

Figure S6. Late taxa with delayed growth that began growing after the community reached carrying capacity (community stationary phase). Phylum and genus classifications are included in the panel titles. Each point represents the natural log transformed normalized abundance (ARNIS ratios) of that ASV averaged across replicates. The dashed line with shaded area shows the growth estimate with a 95% confidence interval.

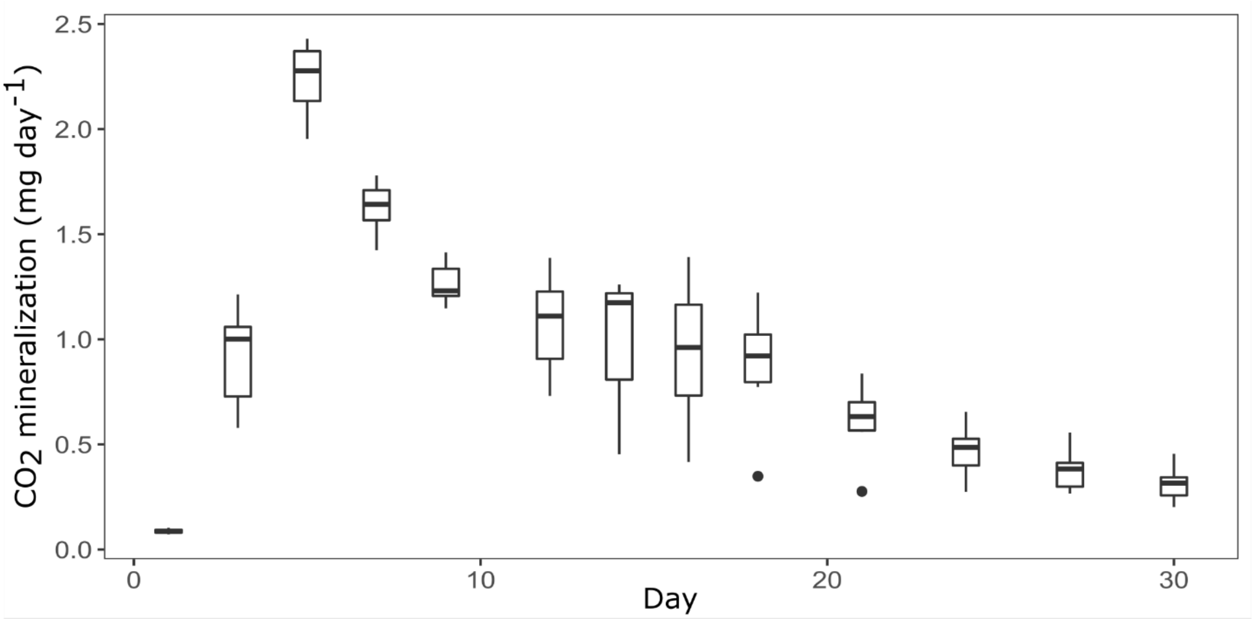

Figure S7. CO_2 mineralization rates sharply increased until day 5 then declined.