Supplementary Materials for

The microbiome of the marine flatworm *Macrostomum lignano* provides fitness advantages and exhibits circadian rhythmicity

by

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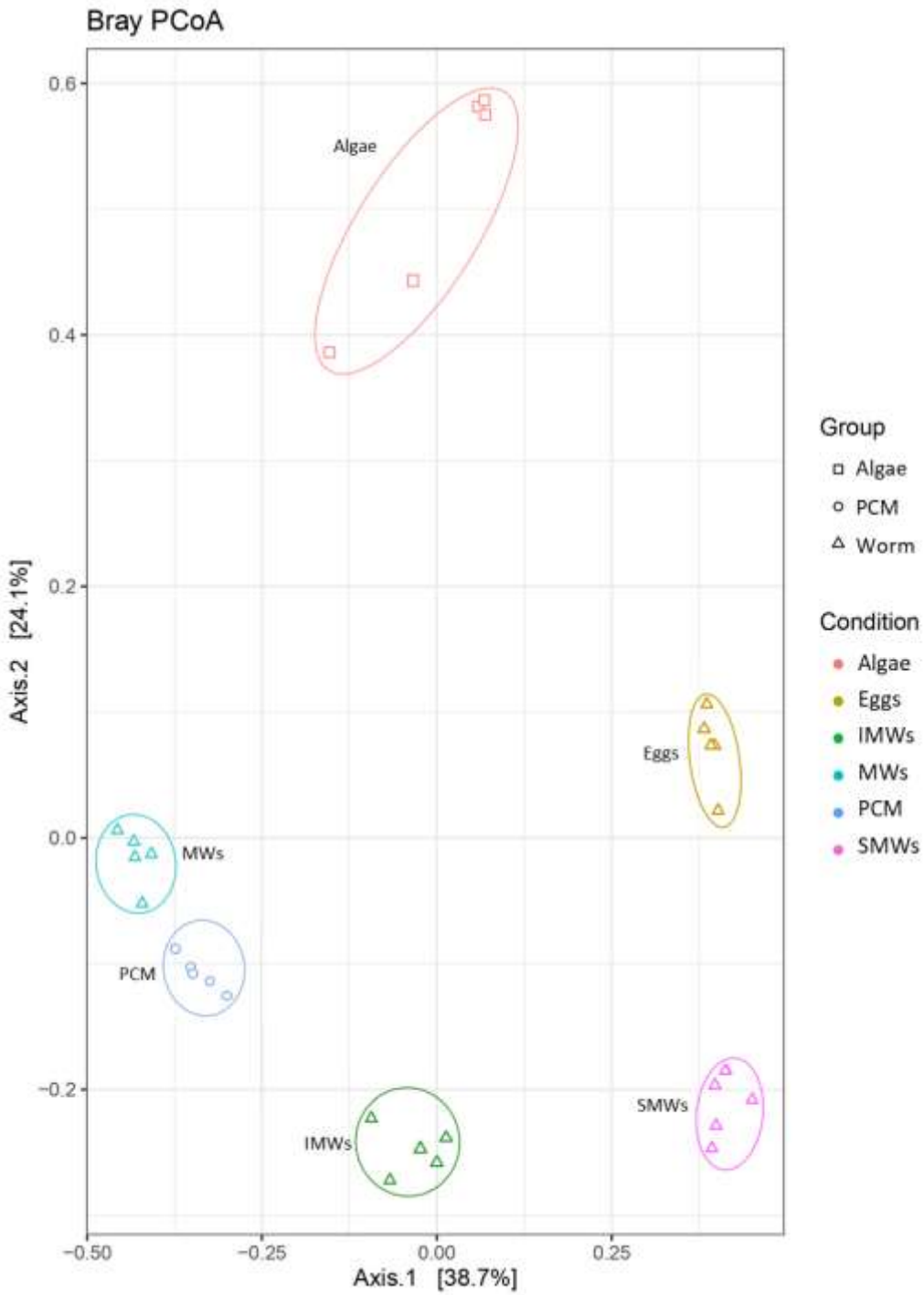
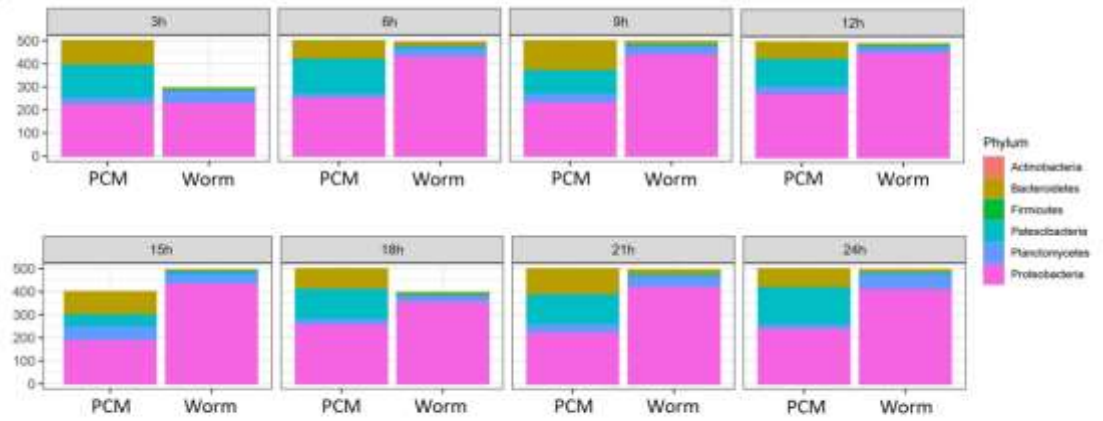
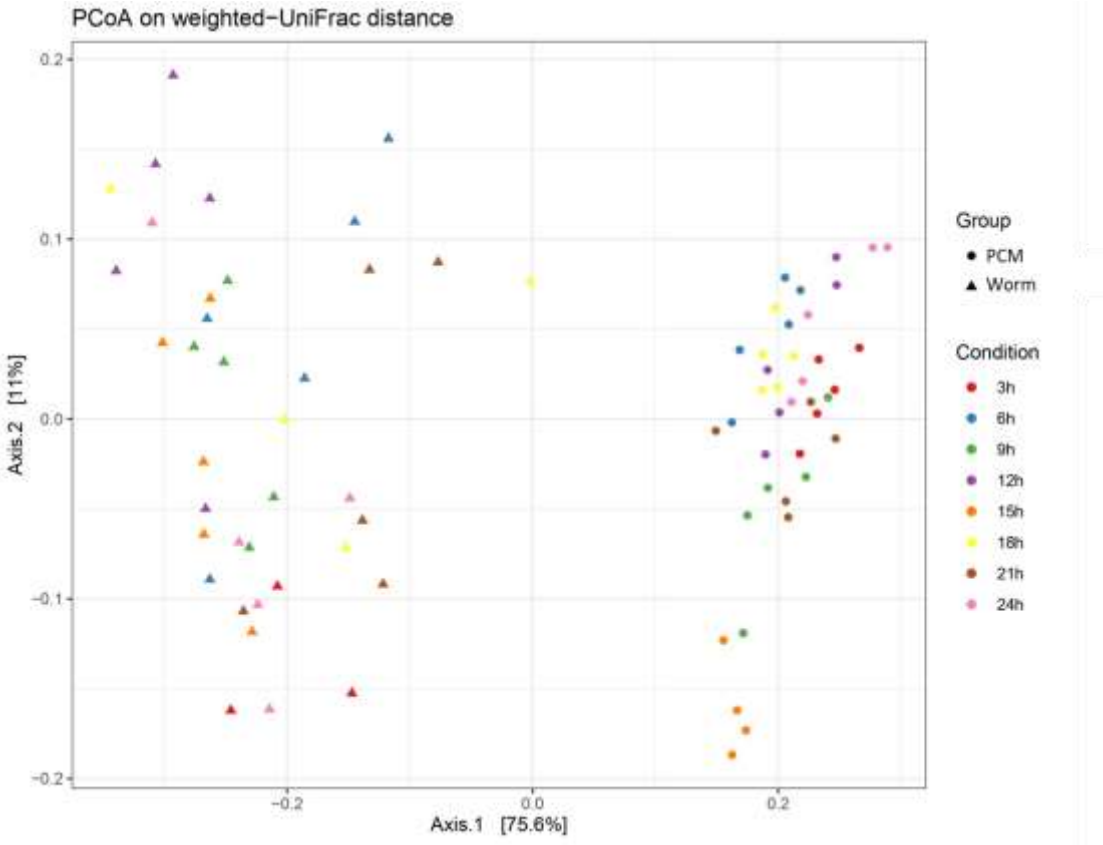
This file includes Supplementary Figures S1 to S4



Supplementary Figure 1: Principal coordinate analysis (PCoA) plot with Bray-Curtis dissimilarity. The different developmental worm samples have separated from each other, which all depart from the algae medium and their living law. MWs, mature worms; SMWs, starved mature worms; IMWs, immature worms; PCM, pre-conditioned medium. The animal samples employ 5 mature or 10 immature worms with 5 biological replicates.



Supplementary Figure 2: The phylum bacterial abundance of worms and their living substrate (PCM) during eight observation time points.



Supplementary Figure 3: Principal coordinate analysis (PCoA) plot with weighted UniFrac distance analysis of worms and their living substrate (PCM) during eight observation time points.

Supplementary Figure 4: pH of *M.lignano* and medium samples. The pH measurements by using the indicator dyes, 0.1 % m-cresol purple (657890, Merck, Sigma-Aldrich) and 0.1 % bromocresol purple (B5880, Merck, Sigma-Aldrich) at a ratio of 1:1 for 4 hours. pH indicator presents the worms' gut as yellow in color ($5.2 \leq pH < 6.8$) and medium in violet ($7.4 < pH \leq 9.0$). MW, mature worms; SMWs, starvation mature worms; IMW, immature worms.