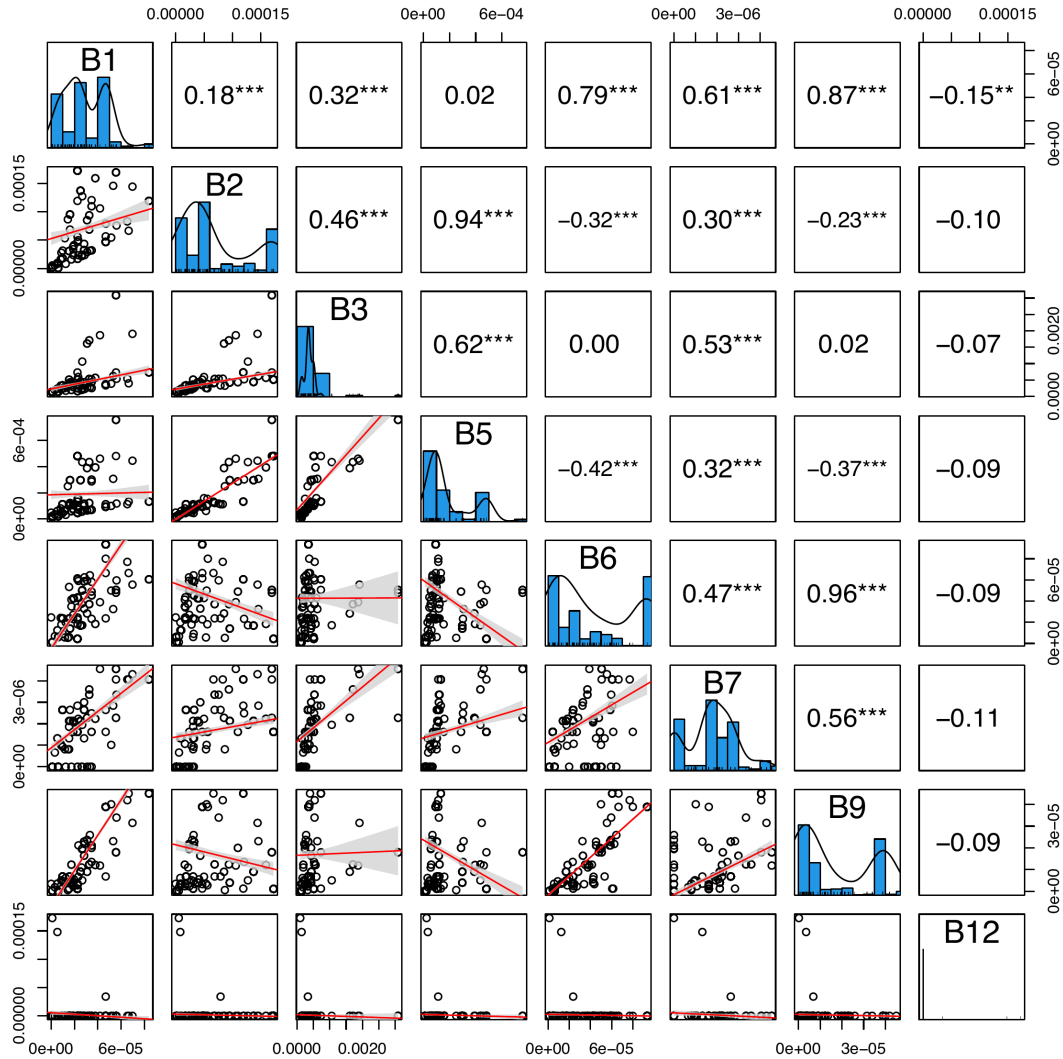


1 Extended data figures

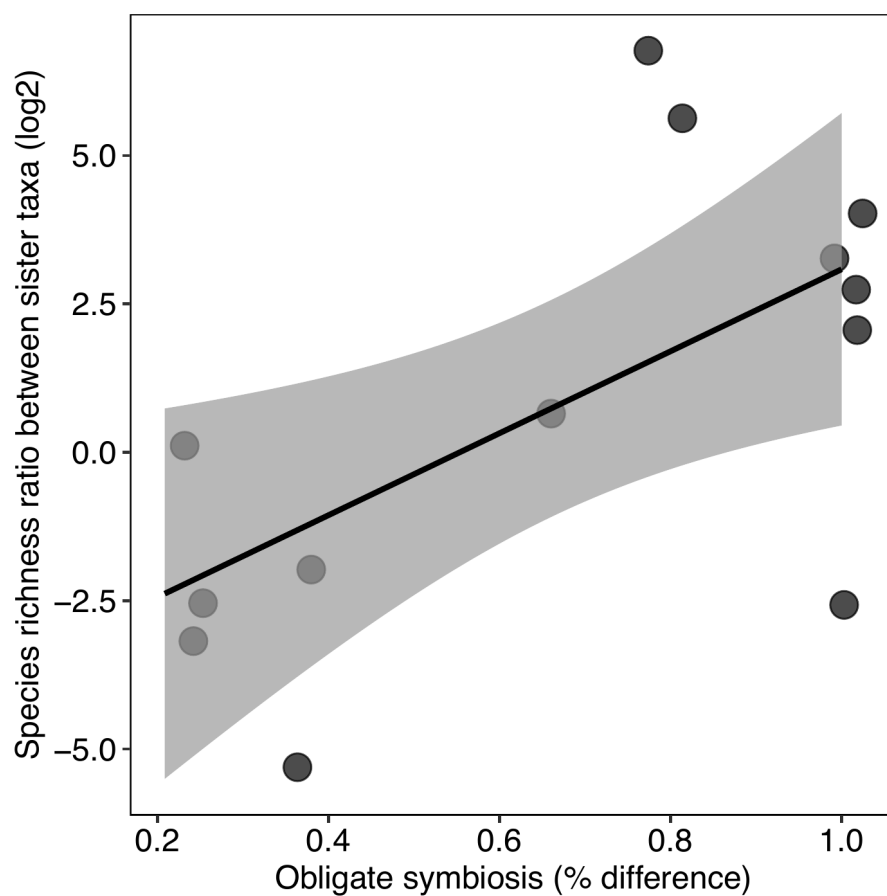


2
3 **Extended Data Fig. 1: The relationship between different B vitamins across diets.**
4 Frequency distributions are plotted on the diagonals. Scatter plots of the correlation
5 between different B vitamins are plotted below the diagonal where each point represents
6 one insect family and lines represent linear fits with 95% confidence intervals. Pearson
7 correlation coefficients with significance values (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$) are
8 plotted above the diagonal.



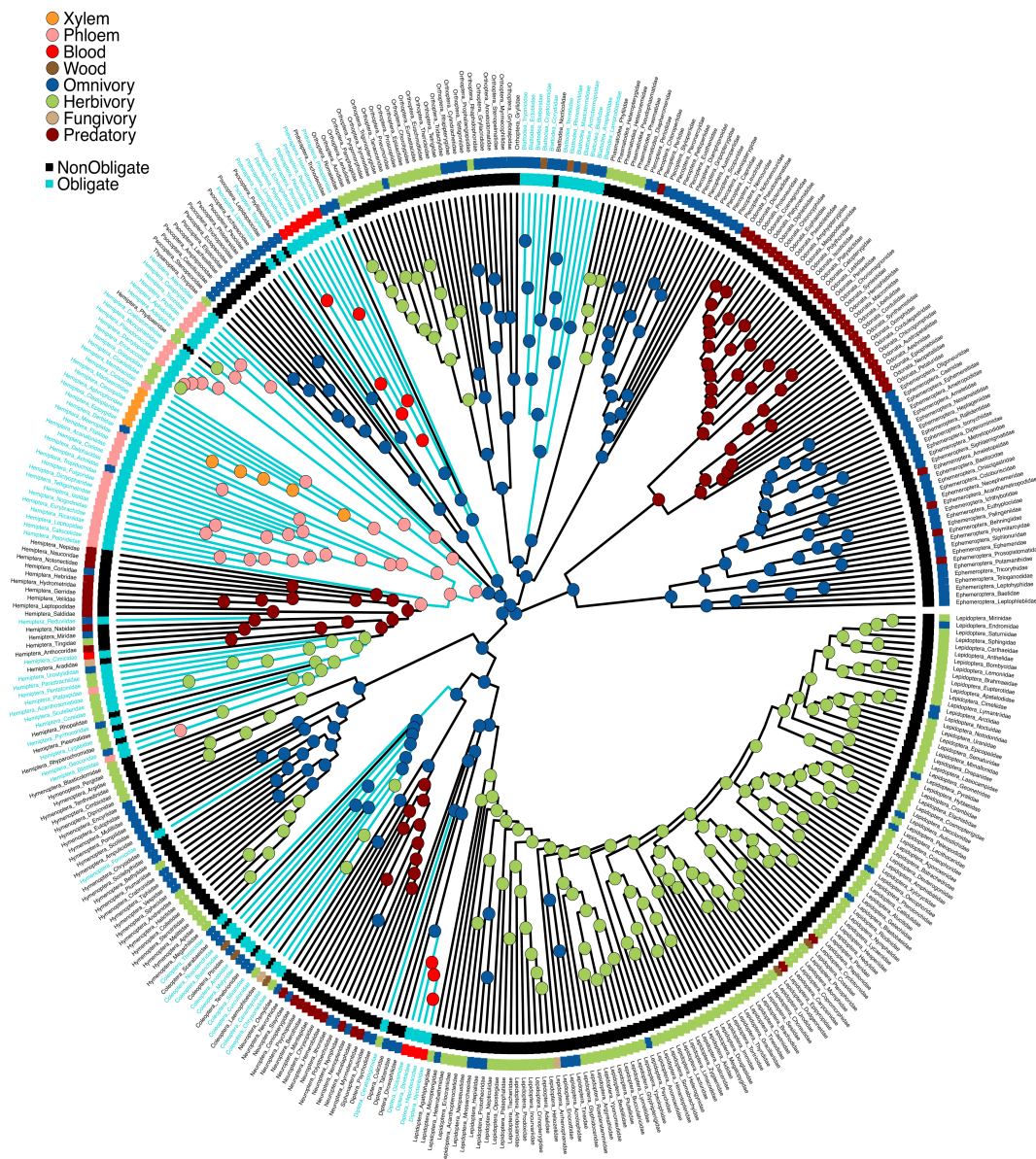
9

10 **Extended Data Fig. 2: Levels of B vitamins in host diets in relation to symbiont**
 11 **phylogenetic history.** B5 vitamins are presented in blue and B9 in black and the size of
 12 the circles indicates the amount of B5 and B9 vitamins in the diets of insect hosts (square
 13 root transformed for presentation).



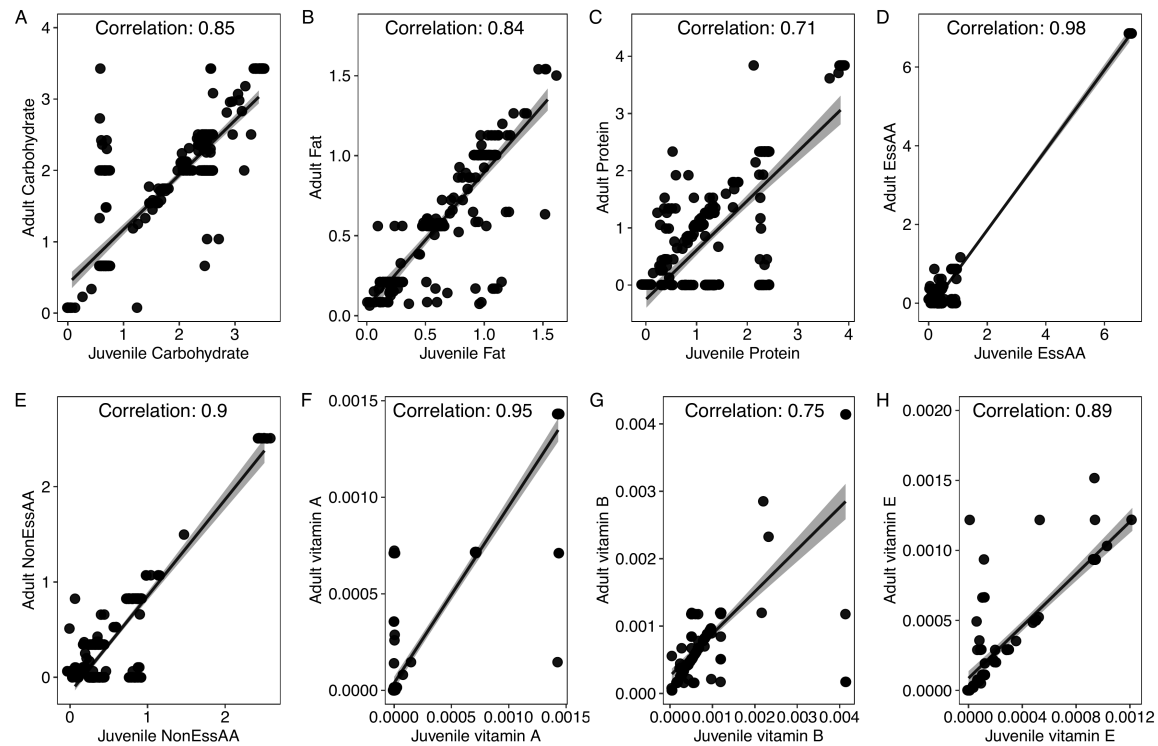
14

15 **Extended Data Fig. 3: The relationship between ratio of species richness between**
 16 **sister taxa (log₂) and the difference in the percentage of species with obligate**
 17 **symbionts. Regression line with 95% confidence intervals plotted for illustrative**
 18 **purposes.**

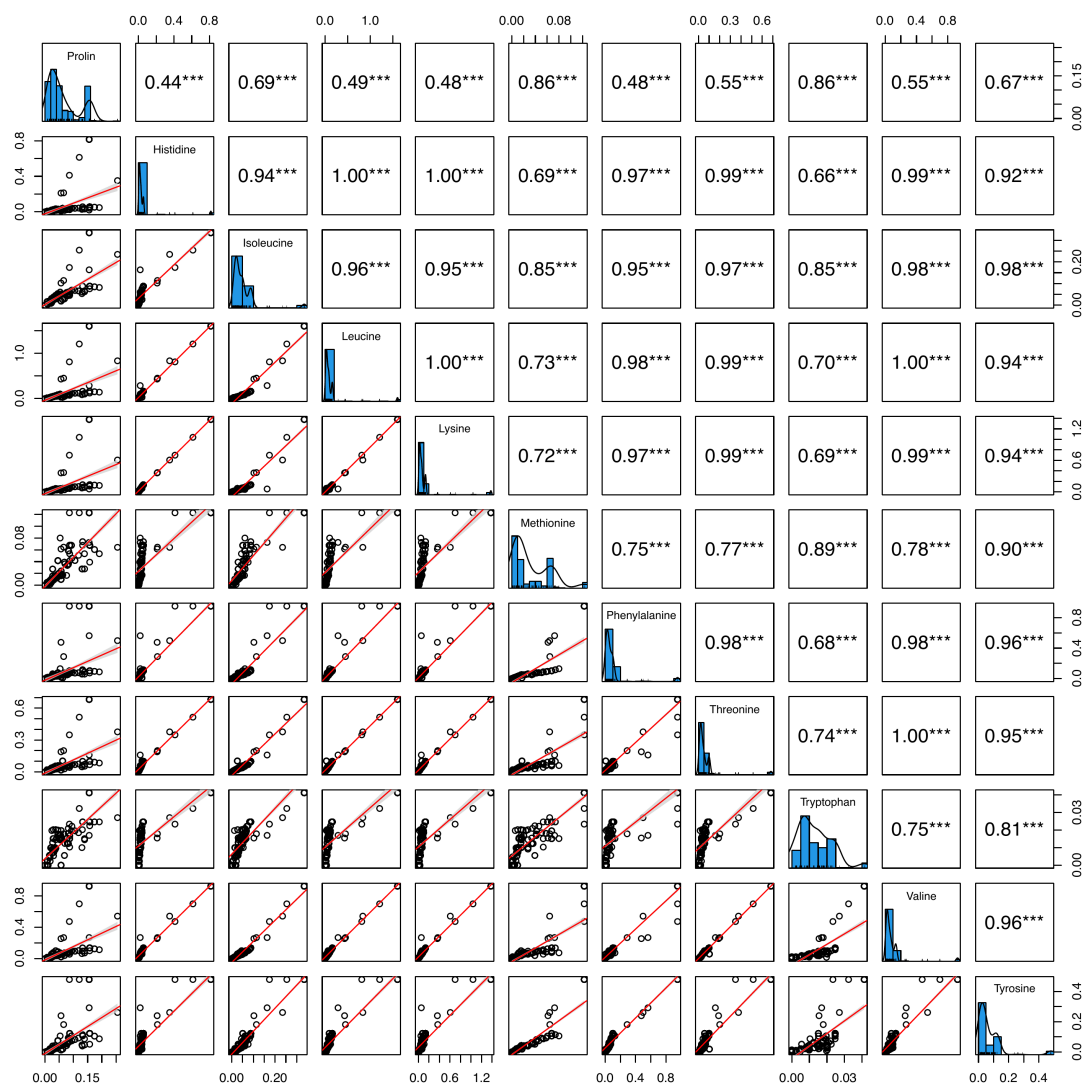


19

20 **Extended Data Fig. 4: The phylogenetic distribution of obligate symbionts across**
 21 **insect families and their feeding niches** (Figure 1 of the main manuscript plotted with
 22 tip labels). Turquoise tips and branches indicate obligate symbionts and different
 23 coloured dots represent different feeding niches. Ancestral feeding niches and states
 24 obligate symbiosis were estimated using SCM (Supplementary Table 5).



Extended Data Fig. 5: The relationship between nutrients in adult and juvenile diets. Frequency distributions are plotted on the diagonals. Scatter plots of the correlation between different nutrients during adult and juvenile life stages are plotted below the diagonal where each point represents one insect family and lines represent linear fits with 95% confidence intervals. Pearson correlation coefficients with significance values (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$) are plotted above the diagonal.



Extended Data Fig. 6: The relationship between different amino acids across diets. Frequency distributions are plotted on the diagonals. Scatter plots of the correlation between different amino acids are plotted below the diagonal where each point represents one insect family and lines represent linear fits with 95% confidence intervals. Pearson correlation coefficients with significance values (* p<0.05, ** p<0.01, *** p<0.001) are plotted above the diagonal.