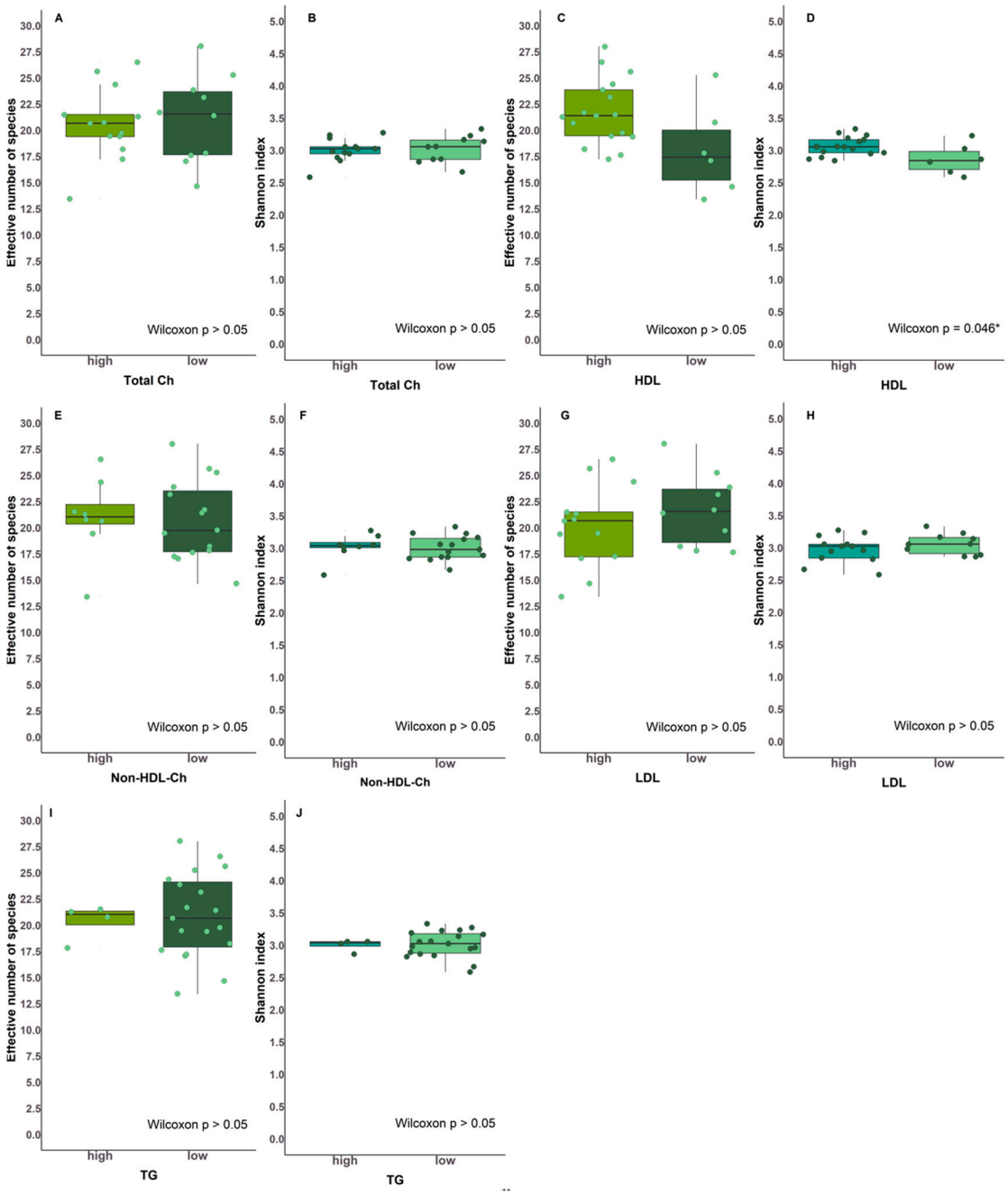



**Figure S4.** The difference in microbiome diversity between participants with "high" and "low" levels of circulating lipids. Alpha diversity was expressed as the effective number of species and Shannon's diversity index. **(A)** and **(B)** show difference in Shanonon's diversity index and the effective number of species between participants with "high" and "low" total Ch levels, **(C)** and **(D)** show differences in alpha diversity measures between participants with "high" and "low" HDL levels, **(E)** and **(F)** show differences in alpha diversity measures between participants with "high" and "low" Non-HDL Ch levels, **(G)** and **(H)** show differences in alpha diversity measures between participants with "high" and "low" LDL levels and **(I)** and **(J)** display differences in Shannon's diversity index and the effective number of species between participants with "high" and "low" TG levels. Wilcoxon rank-sum test was used to compare alpha diversity between participants with "high" and "low" lipid levels, assuming $p > 0.05$ as significant. Participants were assigned to the "high" or **"**low" lipid group using the following standard lipid reference values, which were as follows: Total Ch < 5.0 (mmol/l), HDL ≥ 1.2 (mmol/l), Non-HDL Ch ≤ 3.9 (mmol/l), LDL < 3.0 (mmol/l), TG < 1.7(mmol/l). *—unadjusted p-value, after correction for multiple testing, significance was lost ($p_{adjust} > 0.05$); Total Ch—total cholesterol; HDL—high-density lipoproteins; Non-HDL Ch—non-high density lipoproteins, calculated as HDL subtracted from TCh; LDL—low-density lipoproteins; TG—triglycerides.