**Supplementary Table 5. The periodontitis-associated taxa in each group.**

Genus level:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A\_L&M  | wp  | B\_L&M  | wp\_XY  | C\_L&M  | wp\_XY  | C\_L&H  | wp\_XY  | C\_M&H  | wp\_XY  | D\_M&H  | wp\_XY  |
| Porphyromonas  | 0.037  | Fusobacterium  | 0.006  | Rothia  | 0.026  | Lautropia  | 0.030  | Delftia  | 0.045  | Peptostreptococcus  | 0.019  |
| Filifactor  | 0.037  | Gemella  | 0.0027  | Gemella  | 0.026  | Filifactor  | 0.030  | Desulfobulbus  | 0.044  | Meiothermus  | 0.045  |
| Parvimonas  | 0.041  | Acinetobacter  | 0.039  | 　  | 　  | Solobacterium  | 0.030  | Lactococcus  | 0.045  | Barnesiella  | 0.045  |
| Streptobacillus  | 0.035  | 　  | 　  | 　  | 　  | Desulfobulbus  | 0.012 | Aeromonas  | 0.017  | 　  | 　  |
| Mycoplasma  | 0.022  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Dialister  | 0.034  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Fretibacterium  | 0.0027  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Schwartzia  | 0.0029  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Pseudoramibacter  | 0.034  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Cetobacterium  | 0.038  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Sphingomonas  | 0.047  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Scardovia  | 0.041  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Simonsiella  | 0.0146  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Murdochiella  | 0.017  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Microbacterium  | 0.0075  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Johnsonella  | 0.0078  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Phenylobacterium  | 0.019  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |
| Gp3  | 0.047  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  | 　  |

Species level:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A\_L&M  | wp\_XY  | B\_L&M  | wp\_XY  | C\_L&M  | wp\_XY  | C\_L&H  | wp\_XY  | C\_M&H  | wp\_XY  | D\_M&H  | wp\_XY  |
| *Porphyromonas\_gingivalis*  | 0.00412  | *Gemella\_haemolysans*  | 0.0027  | *Rothia\_mucilaginosa*  | 0.026 | *Eubacterium\_sulci*  | 0.017  | *Rothia\_dentocariosa*  | 0.030  | *Peptostreptococcus\_stomatis*  | 0.019  |
| *Neisseria\_oralis*  | 0.0089  | *Acinetobacter\_nosocomialis*  | 0.019  | *Gemella\_haemolysans*  | 0.026  | *Acinetobacter\_johnsonii*  | 0.045 | *Dialister\_pneumosintes*  | 0.030  | *Lactobacillus\_sanfranciscensis*  | 0.045  |
| *Mycoplasma\_faucium*  | 0.011  | *Prevotella\_fusca*  | 0.020  | *Prevotella\_dentalis*  | 0.0043  | *Lautropia\_mirabilis*  | 0.030  | *Prevotella\_baroniae*  | 0.017  | *Treponema\_pectinovorum*  | 0.045  |
| *Parvimonas\_micra*  | 0.041 | *Prevotella\_buccae*  | 0.044  | *Prevotella\_buccae*  | 0.0087 | *Solobacterium\_moorei*  | 0.030  | *Prevotella\_dentalis*  | 0.017  | *Meiothermus\_granaticius*  | 0.045  |
| *Streptococcus\_sobrinus*  | 0.0075  |  | 　  | *Acinetobacter\_johnsonii*  | 0.028  |  | 　  | *Treponema\_parvum*  | 0.045 |  | 　  |
| *Pseudoramibacter\_alactolyticus*  | 0.034  |  | 　  | *Treponema\_maltophilum*  | 0.041  |  | 　  | *Prevotella\_buccae*  | 0.017  |  | 　  |
| *Cetobacterium\_somerae*  | 0.038  |  | 　  |  | 　  |  | 　  | *Bacteroides\_ovatus*  | 0.045 |  | 　  |
| *Lactobacillus\_mucosae*  | 0.047 |  | 　  |  | 　  |  | 　  | *Lactococcus\_lactis*  | 0.045 |  | 　  |
| *Murdochiella\_asaccharolytica*  | 0.017 |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Treponema\_parvum*  | 0.0078  |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Olsenella\_uli*  | 0.036 |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Actinomyces\_timonensis*  | 0.0094 |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Johnsonella\_ignava*  | 0.0078  |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Simonsiella\_muelleri*  | 0.015 |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Oscillibacter\_valericigenes*  | 0.047 |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Haemophilus\_sputorum*  | 0.049  |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Fretibacterium\_fastidiosum*  | 0.0027  |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Prevotella\_enoeca*  | 0.015  |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Schwartzia\_succinivorans*  | 0.0029  |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |
| *Treponema\_maltophilum*  | 0.0158  |  | 　  |  | 　  |  | 　  |  | 　  |  | 　  |

wp\_XY was the p value calculated by the wilcoxon difference test. L, M, and H represent the different severity of periodontitis.