**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.