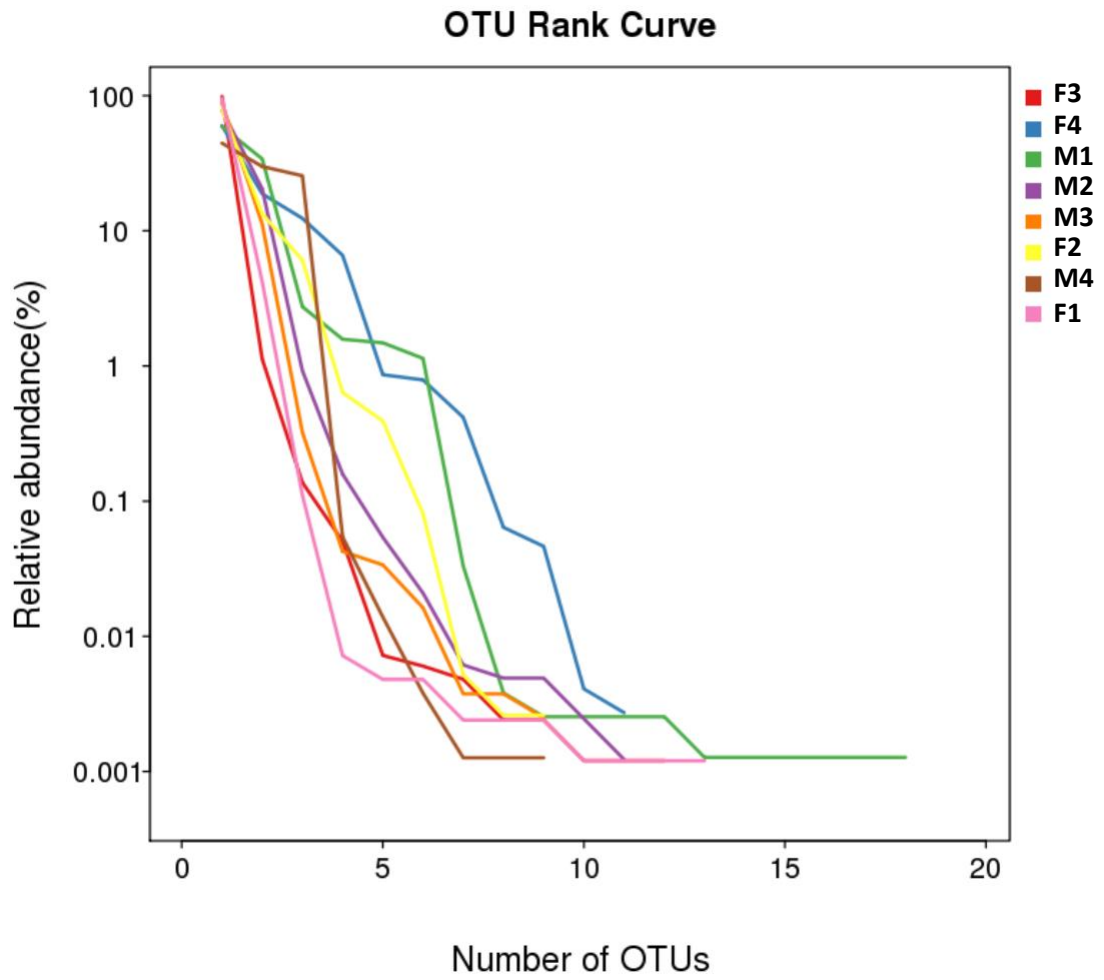
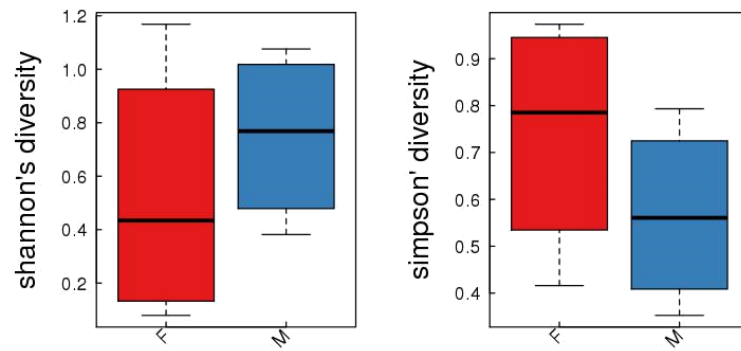


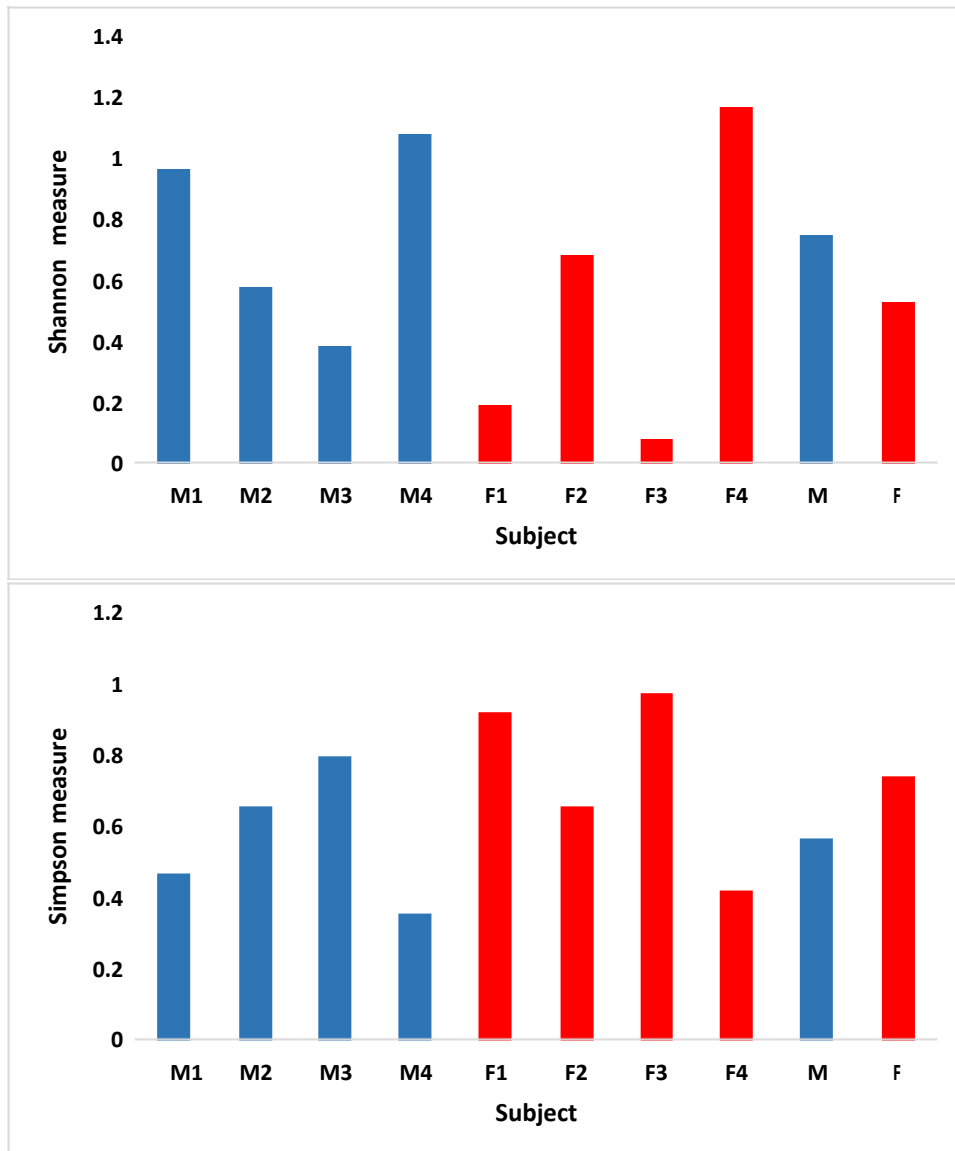
**Appendix 1.** Comparison of male (M) and female (F) skin microbiomes for numbers of paired reads, sequence tags and observed species (Sobs or OTUs) at the sample and group levels. M = male, F = female.



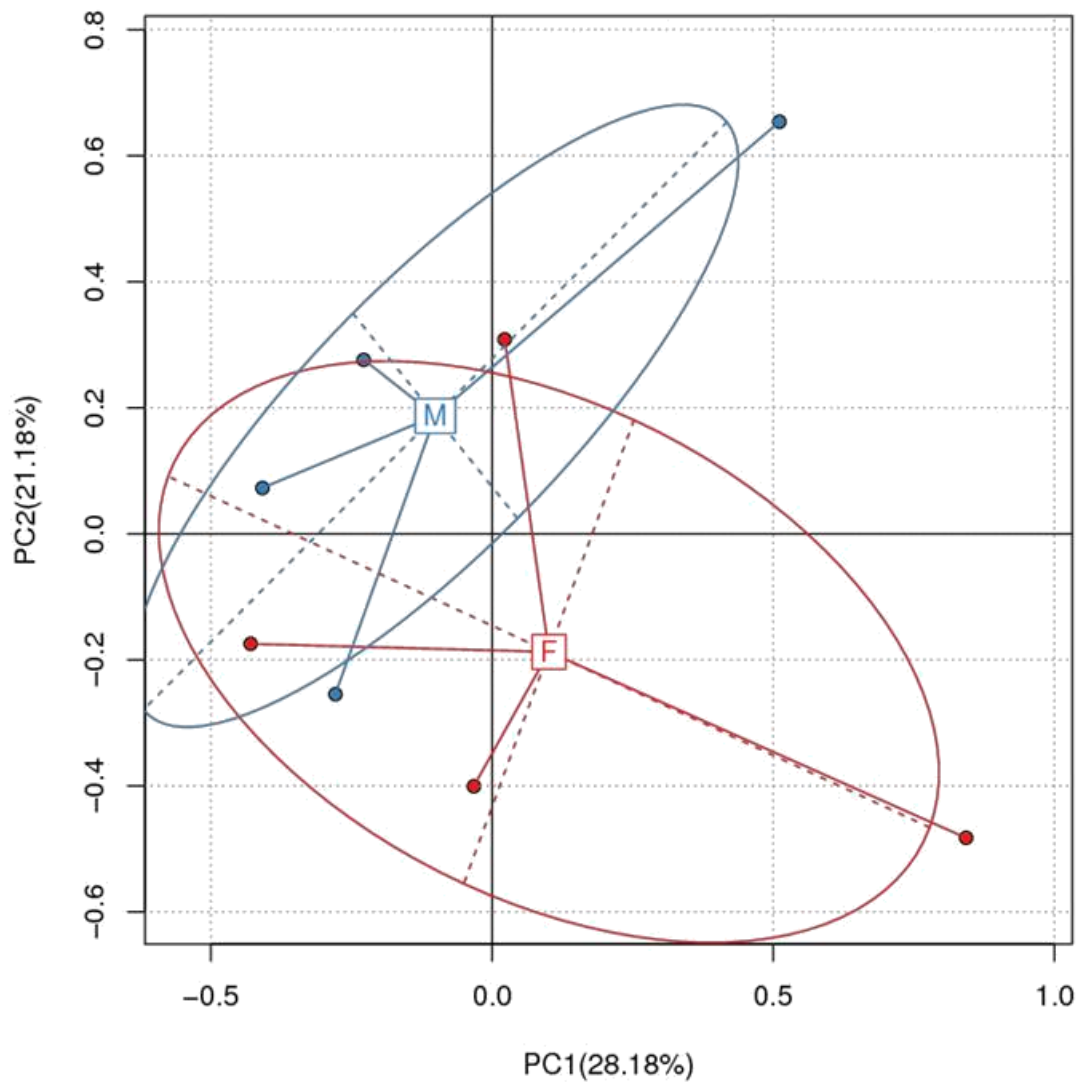
**Appendix 2.** Number and relative abundance of OTUs of different samples. M = male, F = female.



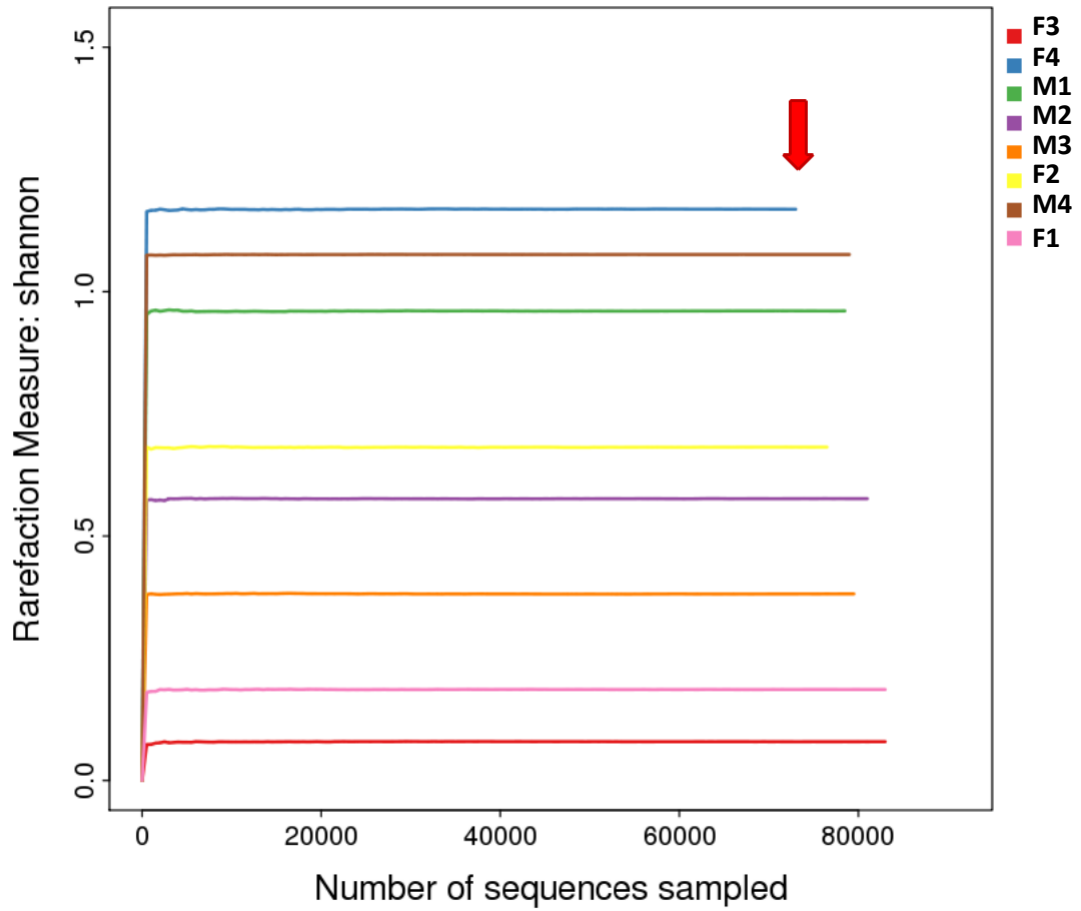
**Appendix 3.** Alpha diversity indices as boxplots to describe richness and evenness at the group level of the samples male (blue) and female (red). M = male, F = female.



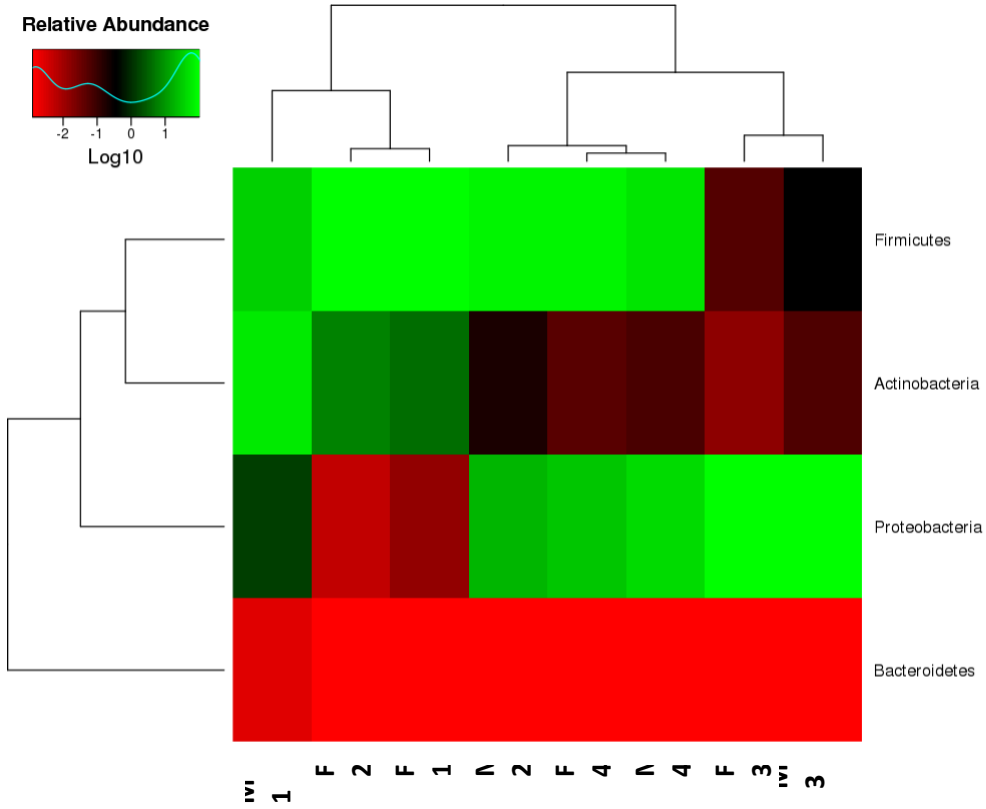
**Appendix 4.** Alpha diversity measures of skin microbiomes at the sample and group levels to describe sample or group richness (Shannon index) and evenness (Simpson index). M = male, F = female.



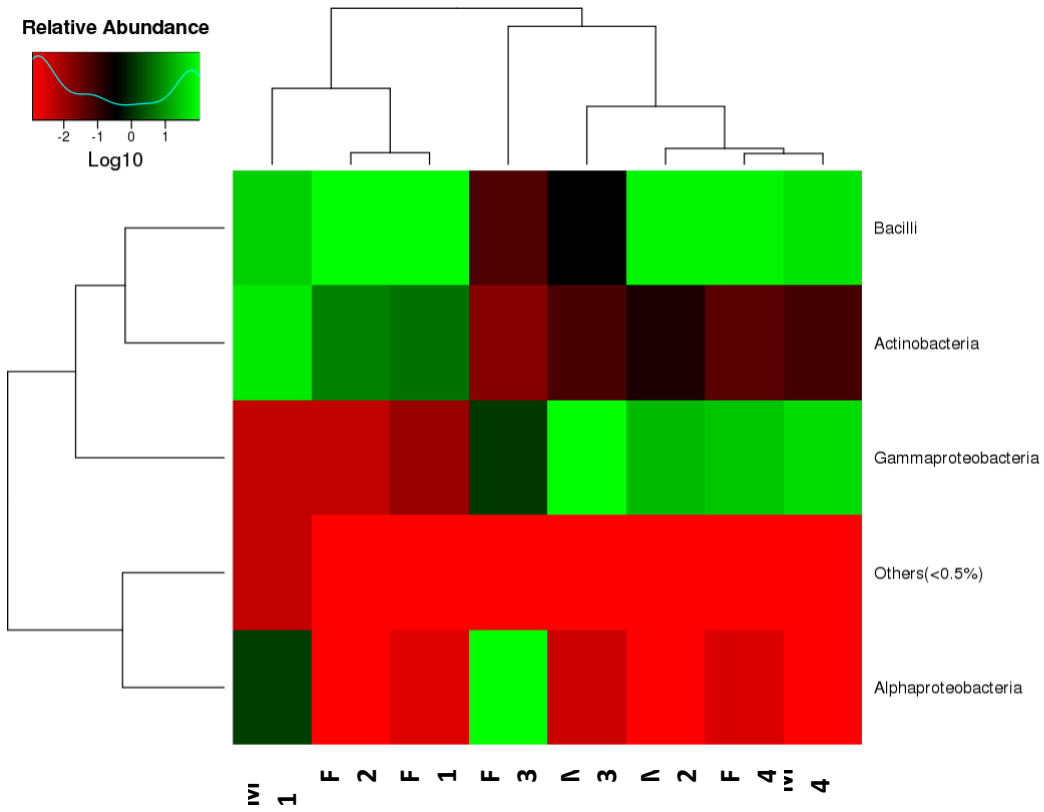
**Appendix 5.** PCoA based on OTU abundance of different samples. Blue boxes indicate samples of male. Red boxes indicate samples of female. X-axis is the first principal coordinate and Y-axis is the second. Number in brackets represents contributions of PCoAs to differences among samples. A dot represents each sample, and different colors represent different groups. M = male, F = female.



**Appendix 6.** Number of sequences as rarefaction measures. The arrow indicates the suitable sample size for analyzing taxonomy abundance (~73,000 sequence reads). M = male, F = female.

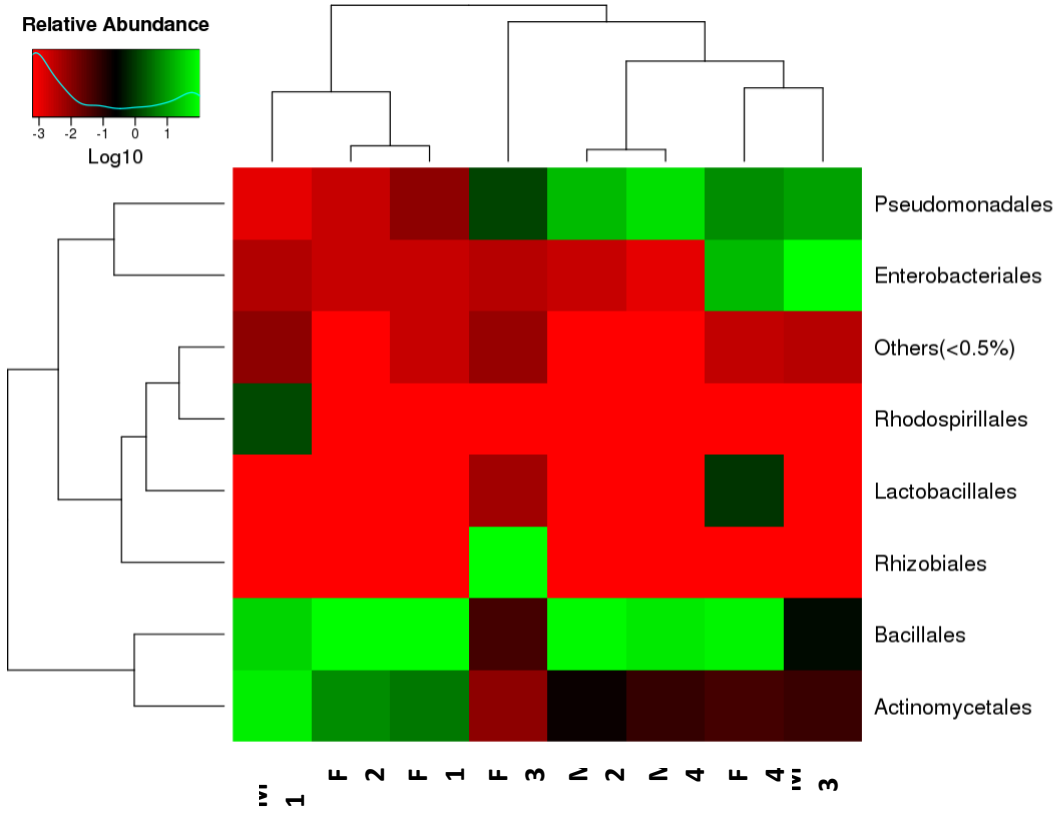


**Appendix 7.** Log-scaled percentage heat map at the phylum level. M = male, F = female.

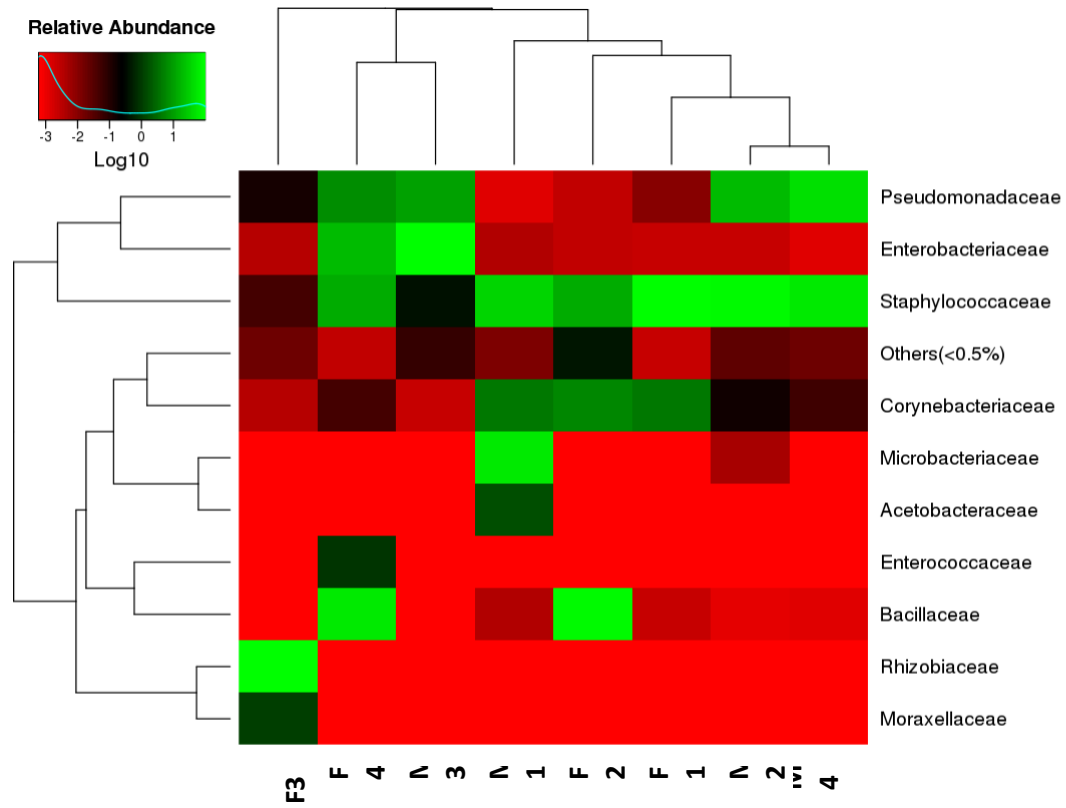


**Appendix 8.** Log-scaled percentage heat map at the class level. M = male, F = female.

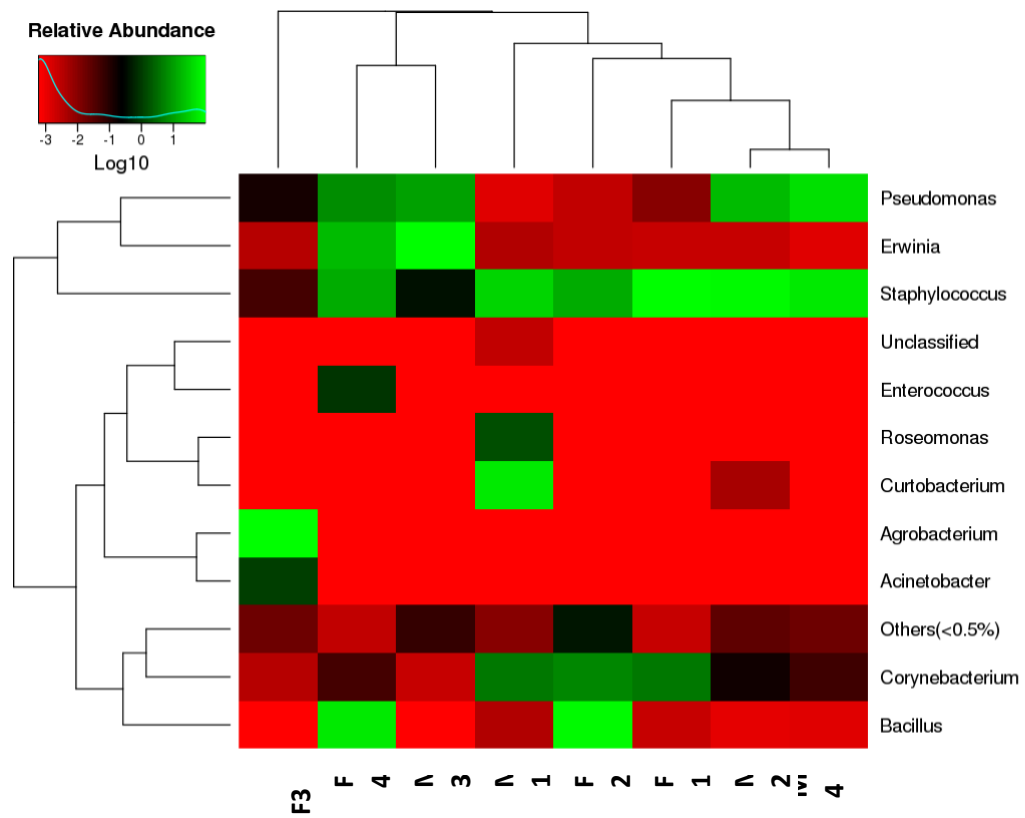




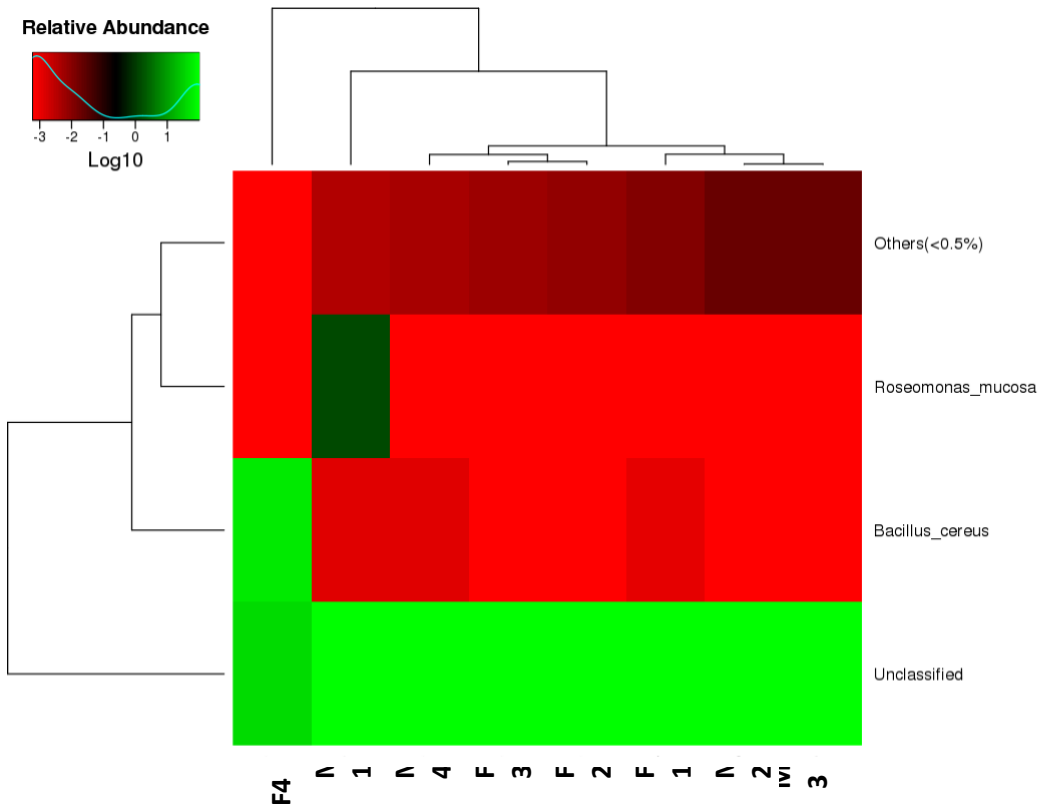
**Appendix 9.** Log-scaled percentage heat map at the order level. M = male, F = female.



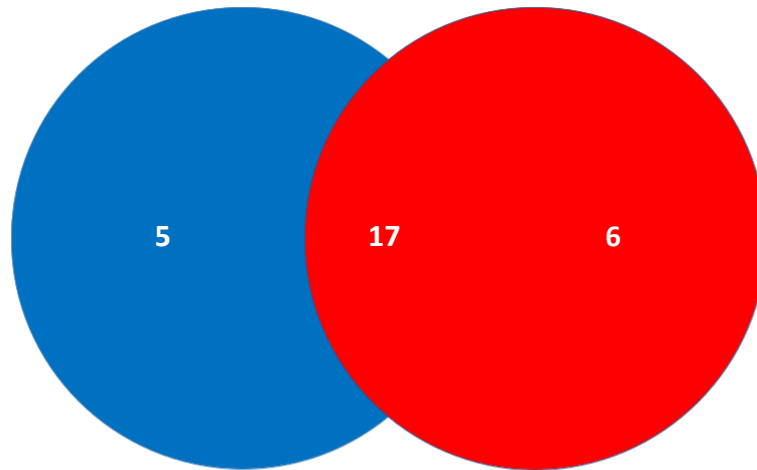
**Appendix 10.** Log-scaled percentage heat map at the family level. M = male, F = female.



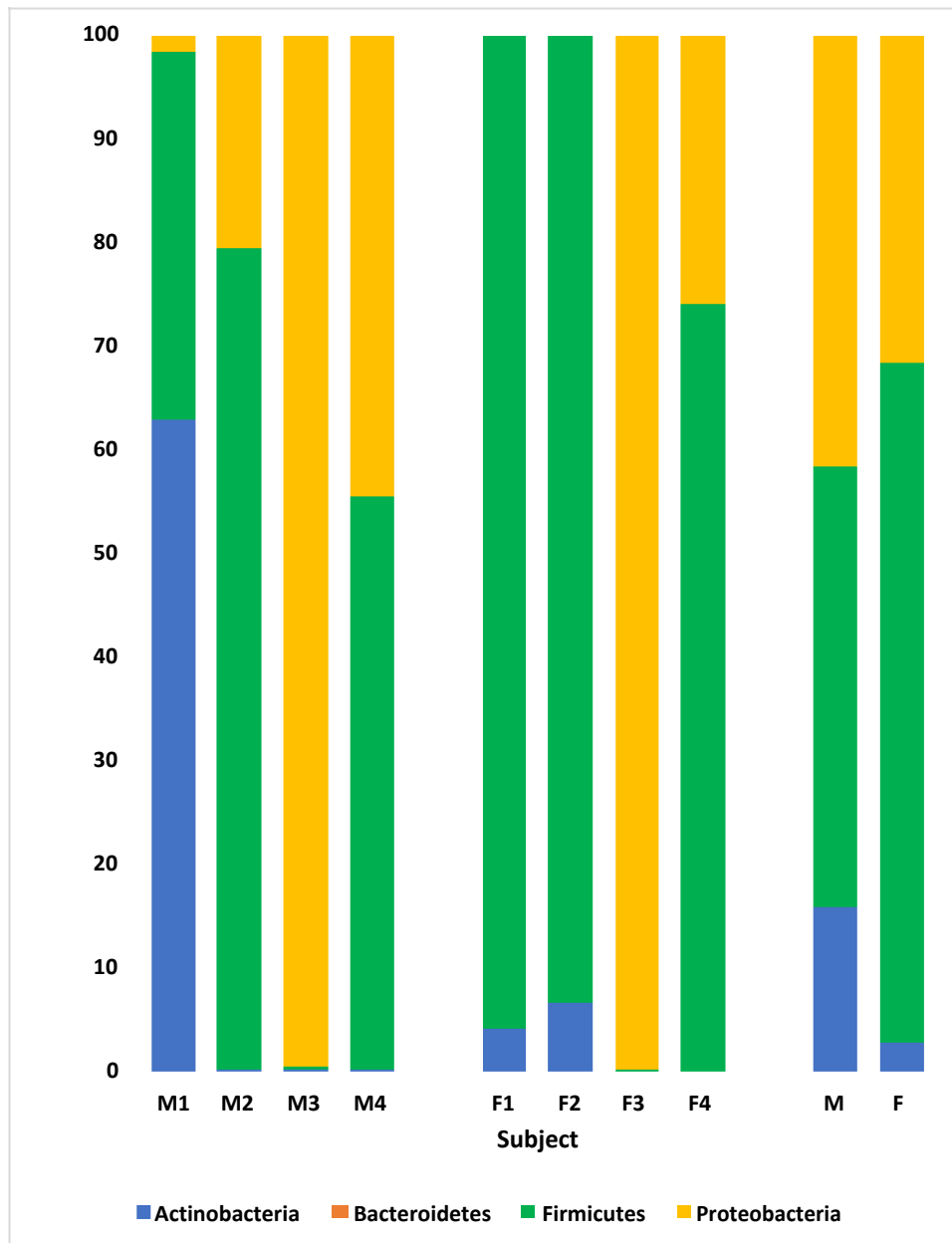
**Appendix 11.** Log-scaled percentage heat map at the genus level. M = male, F = female.



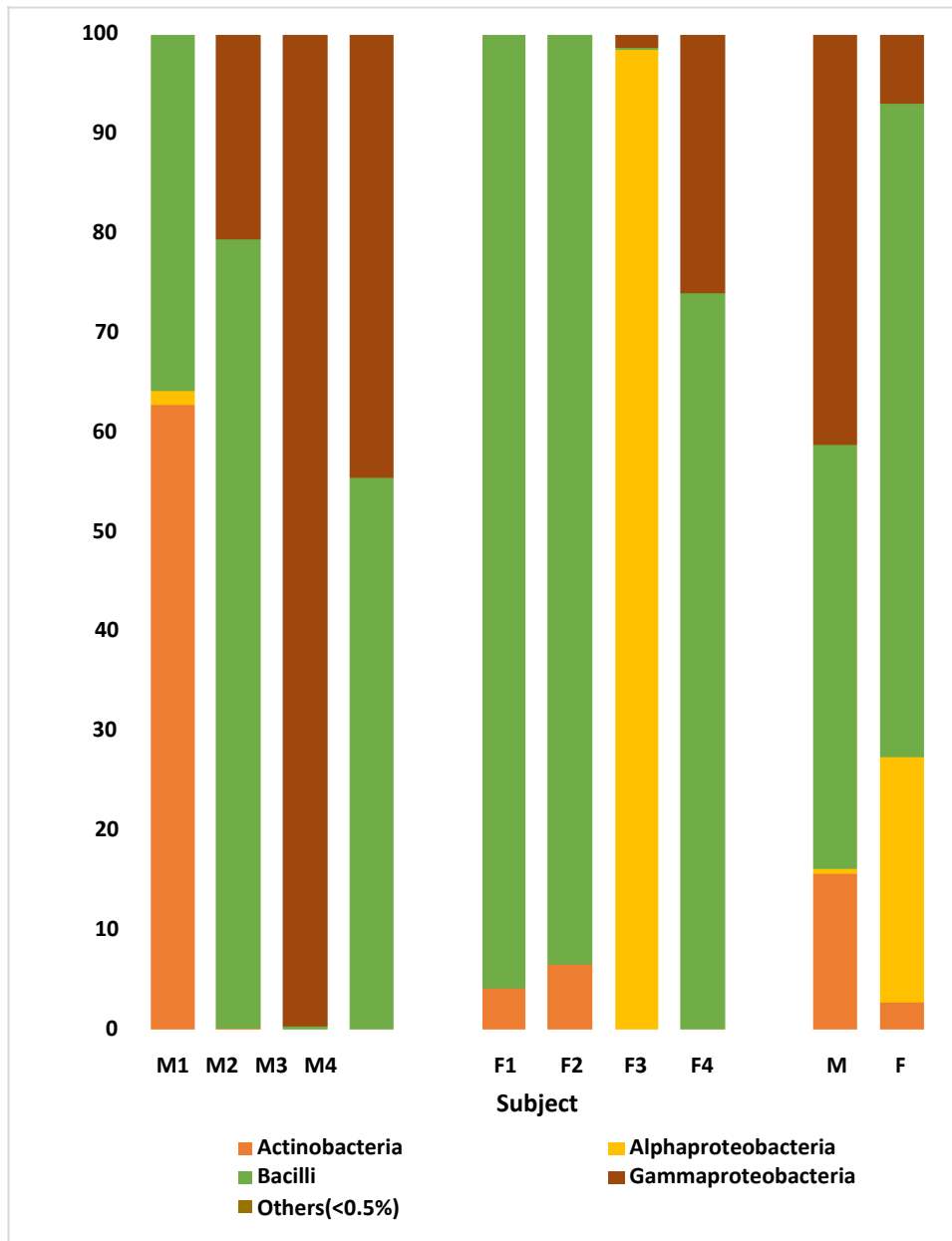
**Appendix 12.** Log-scaled percentage heat map at the species level. M = male, F = female.



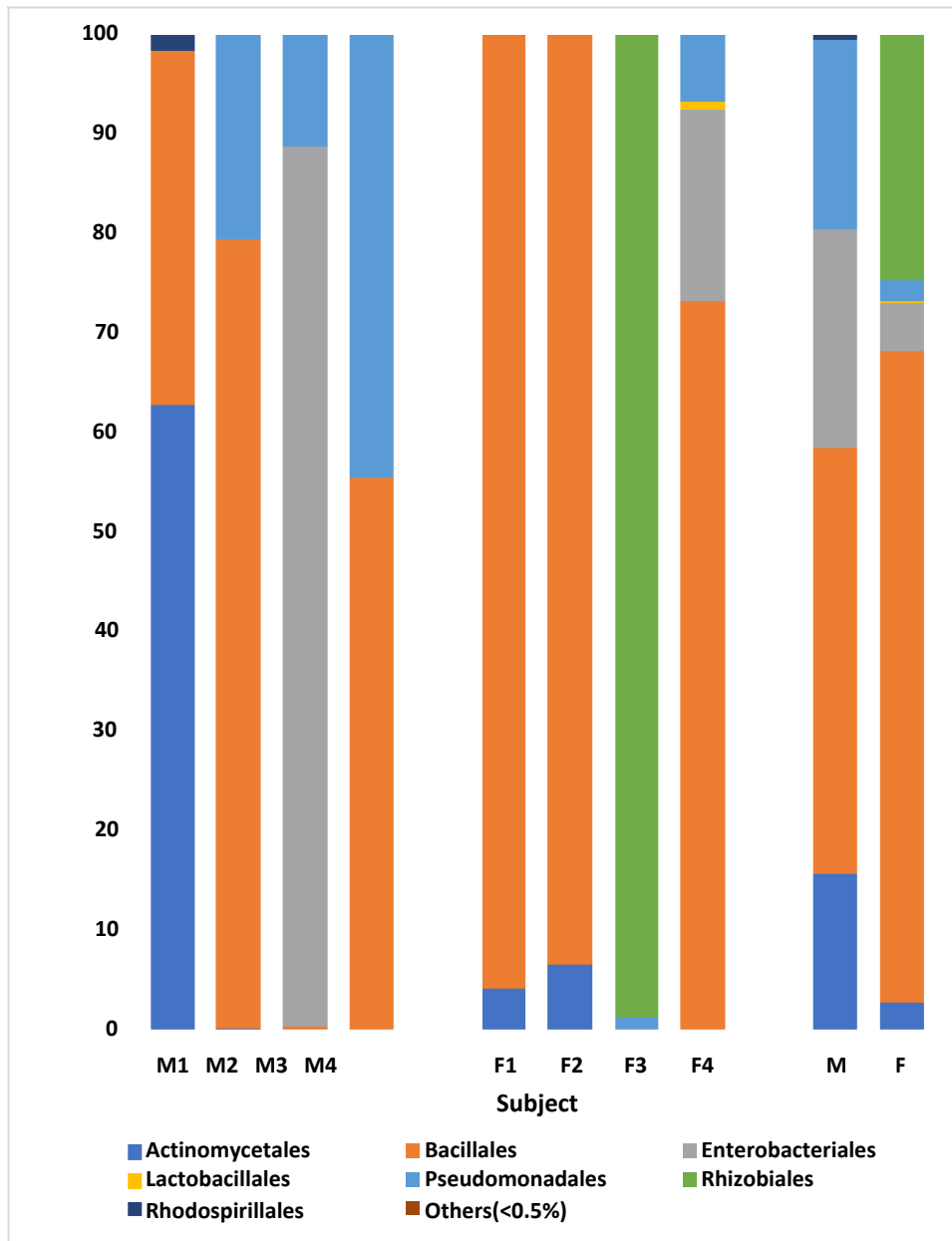
**Appendix 13.** Venn diagram describing the unique (five for Male and six for Female) and shared OTUs (17) between the two groups of samples male (blue) and female (red). The five male OTUs involve OTU5, OTU10, OTU18, OTU27, OTU26. The six female OTUs involve OTU1, OTU11, OTU12, OTU21, OTU23, OTU28. The other OTUs (17) are shared between the two groups with different relative abundances.



**Appendix 14.** Relative abundance of skin microbiomes at the phylum level as measured by Metastats at the sample and group levels. M= male, F = female.

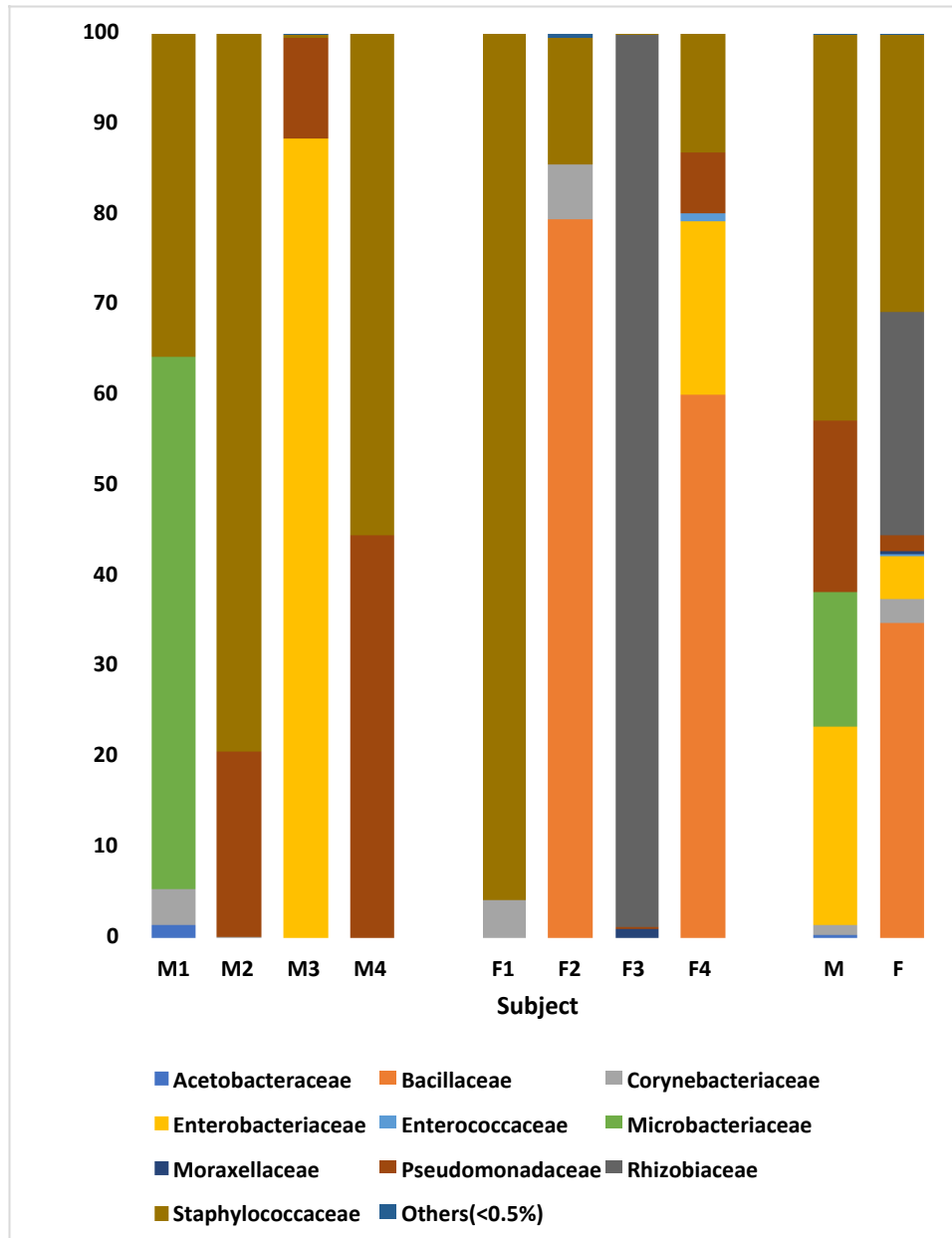


**Appendix 15.** Relative abundance of skin microbiomes at the class level as measured by Metastats at the sample and group levels. M= male, F = female.

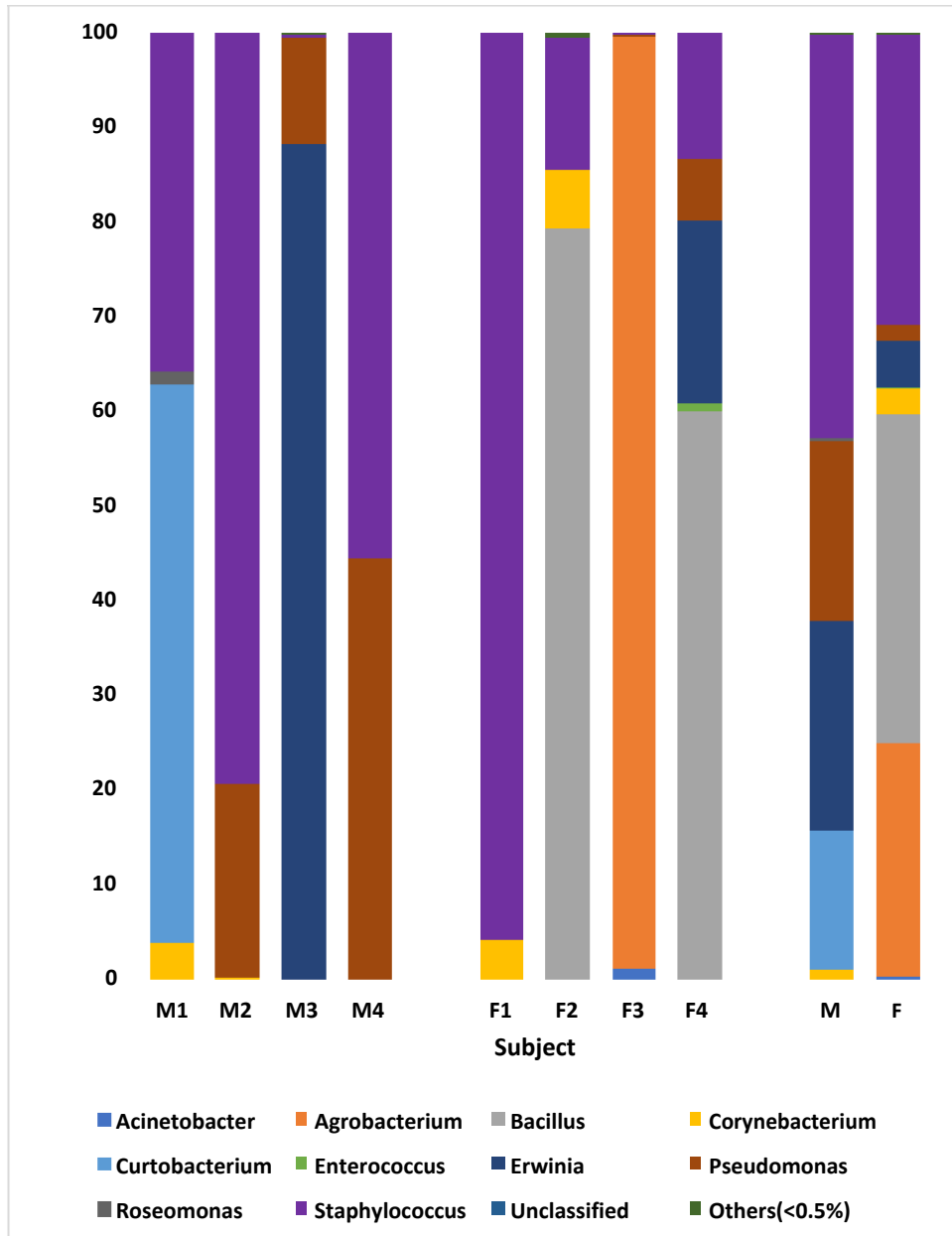


**Appendix 16.** Relative abundance of skin microbiomes at the order level as measured by Metastats at the sample and group levels. M= male, F = female.

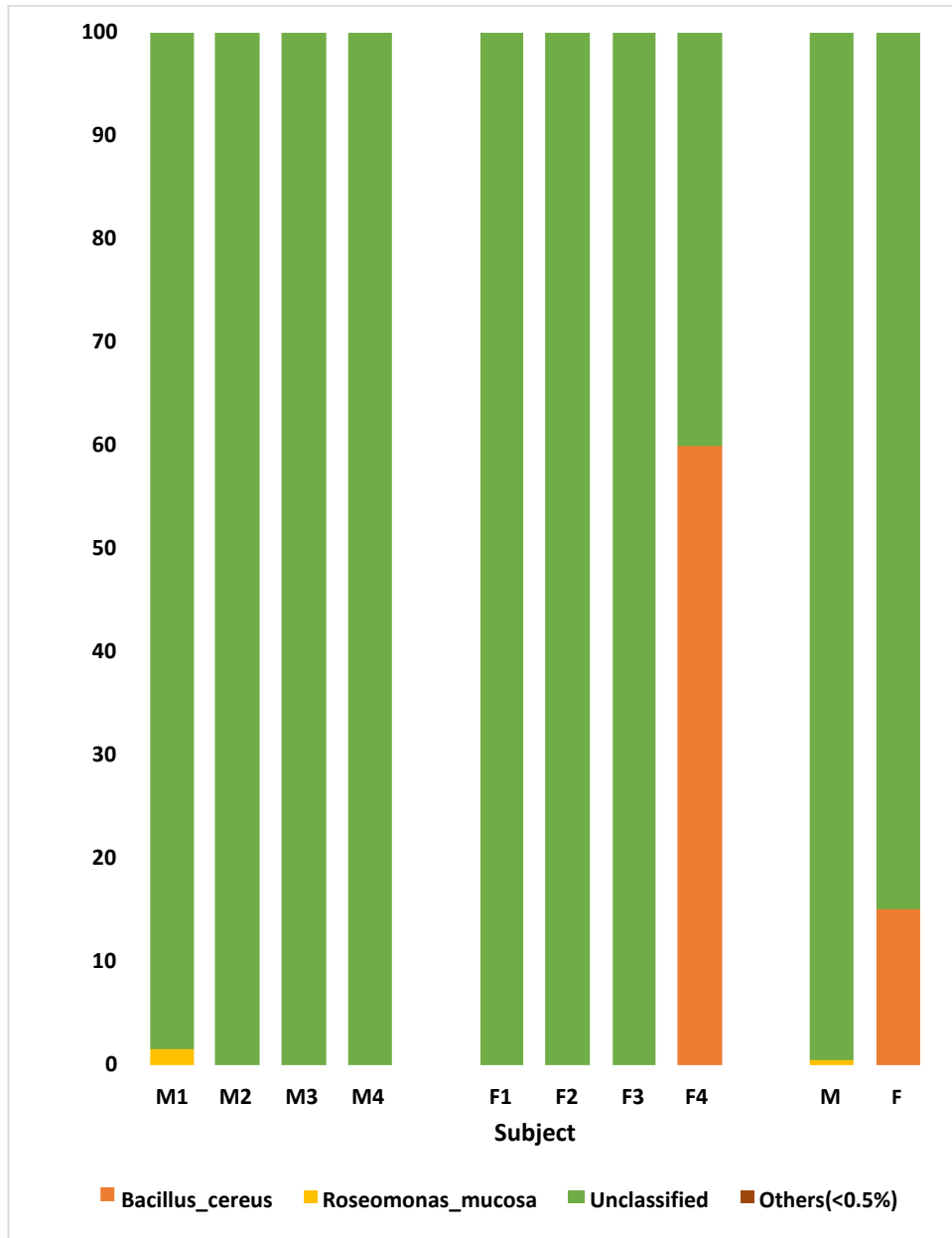




**Appendix 17.** Relative abundance of skin microbiomes at the family level as measured by Metastats at the sample and group levels. M= male, F = female.



**Appendix 18.** Relative abundance of skin microbiomes at the genus level as measured by Metastats at the sample and group levels. M= male, F = female.



**Appendix 19.** Relative abundance of skin microbiomes at the species level as measured by Metastats at the sample and group levels. M= male, F = female.

**Appendix 20.** Description of observed species detected from OTU annotation across subjects (male and female).

OTU no.	OTU Abundance	Taxonomy
Otu4	210187	Bacteria;Firmicutes;Bacilli;Bacillales;Staphylococcaceae;Staphylococcus
Otu1	81986	Bacteria;Proteobacteria;Alphaproteobacteria;Rhizobiales;Rhizobiaceae;Agrobacterium
Otu2	70961	Bacteria;Proteobacteria;Gammaproteobacteria;Enterobacteriales;Enterobacteriaceae;Erwinia
Otu7	65683	Bacteria;Proteobacteria;Gammaproteobacteria;Pseudomonadales;Pseudomonadaceae;Pseudomonas
Otu3	61055	Bacteria;Firmicutes;Bacilli;Bacillales;Bacillaceae;Bacillus
Otu5	46392	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Microbacteriaceae;Curtobacterium
Otu6	44134	Bacteria;Firmicutes;Bacilli;Bacillales;Bacillaceae;Bacillus;Bacillus_cereus
Otu19	26859	Bacteria;Firmicutes;Bacilli;Bacillales;Staphylococcaceae;Staphylococcus
Otu8	13801	Bacteria;Proteobacteria;Gammaproteobacteria;Enterobacteriales;Enterobacteriaceae;Erwinia
Otu9	9229	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Corynebacteriaceae;Corynebacterium
Otu14	2163	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Corynebacteriaceae;Corynebacterium
Otu10	1167	Bacteria;Proteobacteria;Alphaproteobacteria;Rhodospirillales;Acetobacteraceae;Roseomonas;Roseomonas_mucosa
Otu11	935	Bacteria;Proteobacteria;Gammaproteobacteria;Pseudomonadales;Moraxellaceae;Acinetobacter
Otu12	633	Bacteria;Firmicutes;Bacilli;Lactobacillales;Enterococcaceae;Enterococcus
Otu13	352	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Micrococcaceae;Micrococcus
Otu15	205	Bacteria;Proteobacteria;Gammaproteobacteria;Pseudomonadales;Pseudomonadaceae;Pseudomonas
Otu17	100	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Corynebacteriaceae;Corynebacterium
Otu20	28	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Propionibacteriaceae;Propionibacterium;Propionibacterium_acnes
Otu18	26	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Corynebacteriaceae;Corynebacterium
Otu16	19	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Micrococcaceae;Kocuria;Kocuria_palustris
Otu24	10	Bacteria;Proteobacteria;Alphaproteobacteria;Sphingomonadales;Sphingomonadaceae;Sphingomonas
Otu22	9	Bacteria;Proteobacteria;Gammaproteobacteria;Pseudomonadales;Pseudomonadaceae;Pseudomonas;Pseudomonas_mendocina
Otu21	6	Bacteria;Actinobacteria;Actinobacteria;Bifidobacteriales;Bifidobacteriaceae;Gardnerella
Otu25	5	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Corynebacteriaceae;Corynebacterium;Corynebacterium_kroppenstedtii
Otu23	5	Bacteria;Firmicutes;Bacilli;Lactobacillales;Lactobacillaceae;Lactobacillus
Otu28	2	Bacteria;Actinobacteria;Actinobacteria;Actinomycetales;Corynebacteriaceae;Corynebacterium
Otu27	2	Bacteria;Bacteroidetes;Flavobacteriia;Flavobacteriales;Flavobacteriaceae;Capnocytophaga
Otu26	2	Bacteria;Firmicutes;Clostridia;Clostridiales;Mogibacteriaceae

**Appendix 21.** Alpha diversity comparison results between the two groups. M = male, F = female.

#Alpha	mean(F)	SD(F)	mean(M)	SD(M)	p-value
Shannon	0.52900	0.50073	0.74874	0.32472	0.68571
Simpson	0.73990	0.25705	0.56678	0.19629	0.48571



**Appendix 23.** Taxonomy and description of the OTUs recovered from skin microbiomes of healthy individuals (male and female).

Low abundant genera are indicated by asterisk

Phylum	Class	Order	Family	Genus	Species	OTUs
Firmicutes	Bacilli	Bacillales	Staphylococcaceae	<i>Staphylococcus</i>	<i>Staphylococcus</i> spp.1 (no. reads 210187)	4
	Bacilli	Bacillales	Staphylococcaceae	<i>Staphylococcus</i>	<i>Staphylococcus</i> spp.2 (no. reads 26859)	19
	Bacilli	Bacillales	Bacillaceae	<i>Bacillus</i>	<i>Bacillus</i> spp.1 (no. reads 61055)	3
	Bacilli	Bacillales	Bacillaceae	<i>Bacillus</i>	<i>B. cereus</i> (no. reads 44134)	6
	Bacilli	Lactobacillales	Enterococcaceae	<i>Enterococcus</i>	<i>Enterococcus</i> spp.1 (no. reads 633)	12
	Bacilli	Lactobacillales	Lactobacillaceae	<i>Lactobacillus</i>	<i>Lactobacillus</i> spp.1* (no. reads 5)	23
	Clostridia	Clostridiales	Mogibacteriaceae* (no. reads 2)	–	–	26
Proteobacteria	Alphaproteobacteria	Rhizobiales	Rhizobiaceae	<i>Agrobacterium</i>	<i>Agrobacterium</i> spp.1 (no. reads 81986)	1
	Alphaproteobacteria	Rhodospirillales	Acetobacteraceae	<i>Roseomonas</i>	<i>R. mucosa</i> (no. reads 1167)	10
	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	<i>Sphingomonas</i>	<i>Sphingomonas</i> spp.1 (no. reads 10)	24
	Gammaproteobacteria	Enterobacteriales	Enterobacteriaceae	<i>Erwinia</i>	<i>Erwinia</i> spp.1 (no. reads 70961)	2
	Gammaproteobacteria	Enterobacteriales	Enterobacteriaceae	<i>Erwinia</i>	<i>Erwinia</i> spp.2 (no. reads 13801)	8
	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	<i>Pseudomonas</i>	<i>Pseudomonas</i> spp.1 (no. reads 65683)	7
	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	<i>Pseudomonas</i>	<i>Pseudomonas</i> spp.2 (no. reads 205)	15
	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	<i>Pseudomonas</i>	<i>P. mendocina</i> * (no. reads 9)	22
Actinobacteria	Gammaproteobacteria	Pseudomonadales	Moraxellaceae	<i>Acinetobacter</i>	<i>Acinetobacter</i> spp.1 (no. reads 935)	11
	Actinobacteria	Actinomycetales	Microbacteriaceae	<i>Curtobacterium</i>	<i>Curtobacterium</i> spp.1 (no. reads 46392)	5
	Actinobacteria	Actinomycetales	Corynebacteriaceae	<i>Corynebacterium</i>	<i>Corynebacterium</i> spp.1 (no. reads 9229)	9
	Actinobacteria	Actinomycetales	Corynebacteriaceae	<i>Corynebacterium</i>	<i>Corynebacterium</i> spp.2 (no. reads 2163)	14
	Actinobacteria	Actinomycetales	Corynebacteriaceae	<i>Corynebacterium</i>	<i>Corynebacterium</i> spp.3 (no. reads 100)	17
	Actinobacteria	Actinomycetales	Corynebacteriaceae	<i>Corynebacterium</i>	<i>Corynebacterium</i> spp.4 (no. reads 26)	18
	Actinobacteria	Actinomycetales	Corynebacteriaceae	<i>Corynebacterium</i>	<i>Corynebacterium</i> spp.5* (no. reads 2)	28
	Actinobacteria	Actinomycetales	Corynebacteriaceae	<i>Corynebacterium</i>	<i>C. kroppenstedtii</i> * (no. reads 5)	25
	Actinobacteria	Actinomycetales	Micrococcaceae	<i>Micrococcus</i>	<i>Micrococcus</i> spp.1 (no. reads 352)	13
	Actinobacteria	Actinomycetales	Micrococcaceae	<i>Kocuria</i>	<i>K. palustris</i> (no. reads 19)	16
	Actinobacteria	Actinomycetales	Propionibacteriaceae	<i>Propionibacterium</i>	<i>P. acnes</i> (no. reads 28)	20
	Actinobacteria	Bifidobacteriales	Bifidobacteriaceae	<i>Gardnerella</i>	<i>Gardnerella</i> spp.1* (no. reads 6)	21
	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	<i>Capnocytophaga</i>	<i>Capnocytophaga</i> spp.1* (no. reads 2)