

The Microbiome in Populations with a Low and High Prevalence of Caries

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Appendix

Pyrosequencing and Sequence Analyses

Sequences with fewer than 300 bp ($n = 96$) and those containing ≥ 6 ambiguous bases ($n = 39$), had more than 2 primers or 1 barcode mismatch ($n = 18,925$), had a barcode correction ($n = 43,845$), contained homopolymers exceeding 6 bases ($n = 81,399$), or had an average quality score below 25 ($n = 3,241$) were filtered out. Sequences were trimmed to remove the barcode and forward primer, and sequences extending to the reversed primer were cleaned from the reverse primer and any subsequent sequences. Cleaned sequences were binned into clusters using UCLUST at 98.5% similarity and taxonomically identified by BLAST against the HOMD (Chen et al. 2010) to obtain HOMD Human Oral Taxon (HOT) identification (i.e., named or unnamed species or phylotypes) for each cluster.

Clusters with < 20 sequences were excluded. The original sequence data are available at <http://dx.doi.org/10.6084/m9.figshare.1437451>.

Overall Sequencing Results

FLX+ Titanium sequencing failed for 1 sample in the Swedish caries-free group, but for the remaining 37 oral samples, a total of 1,267,435 reads were obtained, which after quality filtering was reduced to 1,119,890 reads (88.4%). Of these reads, 942,788 matched at $\geq 98.5\%$ similarity to HOMD taxa, and 177,102 sequences were filtered out. The mean number of reads that passed quality control by sample was 25,481 (range, 17,138–52,334 reads). The average read length was 720 base pairs.

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Appendix Table 1. Detected Phyla and Genera.

Phylum	Romania: High Prevalence of Caries			Sweden: Caries Active			Sweden: Caries Free		
	Phylum (Prevalence)	Genus (Prevalence)	Genus (Prevalence)	Phylum (Prevalence)	Genus (Prevalence)	Genus (Prevalence)	Phylum (Prevalence)	Genus (Prevalence)	Genus (Prevalence)
<i>Actinobacteria</i> ($P_{\text{GROUP}} = 0.011, P_{\text{TREND}} = 0.015$)	5.801	0.112	1.341	26.628	19.143	0.092			
<i>Actinobaculum</i> ($P_{\text{GROUP}} = 0.002, P_{\text{TREND}} = 0.315$)		4.391	9.591			11.136			
<i>Actinomyces</i> ($P_{\text{GROUP}} = 0.003, P_{\text{TREND}} = 0.005$)		0.023	0.012			0.037			
<i>Atopobium</i>		0.914	3.644			4.419			
<i>Corynebacterium</i>		0.006	0.000			0.006			
<i>Cryptobacterium</i>		0.000	0.000			0.000			
<i>Olsenella</i>		0.000	0.000			0.000			
<i>Rothia</i>		0.354	0.256			0.045			
<i>Bacteroidetes</i>	31.533			27.180	31.081				
<i>Alloprevotella</i>		1.221	0.328			0.713			
<i>Bacteroidales</i> [G-2]		0.027	0.246			0.088			
<i>Bacteroidetes</i> [G-3] ($P_{\text{GROUP}} = 0.022, P_{\text{TREND}} = 0.007$)		0.001	0.000			0.000			
<i>Bacteroidetes</i> [G-5]		0.011	0.000			0.003			
<i>Bergeyella</i>		0.199	0.142			0.112			
<i>Capnocytophaga</i>		4.383	3.356			4.185			
<i>Porphyromonas</i> ($P_{\text{GROUP}} = 0.008, P_{\text{TREND}} = 0.001$)		3.976	0.980			0.450			
<i>Prevotella</i>		16.225	14.241			20.680			
<i>Tannerella</i>		0.532	0.856			0.984			
<i>Firmicutes</i> ($P_{\text{GROUP}} = 0.003, P_{\text{TREND}} = 0.015$)	36.493			18.074	22.566				
<i>Abiotrophia</i> ($P_{\text{GROUP}} < 0.001, P_{\text{TREND}} = 0.002$)		0.399	0.004			0.025			
<i>Anaeroglobus</i>		0.000	0.000			0.000			
<i>Catonella</i>		0.128	0.136			0.178			
<i>Clostridiales</i> [F-1][G-1]		0.000	0.000			0.000			
<i>Clostridiales</i> [F-2][G-1]		0.144	0.087			0.067			
<i>Clostridiales</i> [F-2][G-2]		0.007	0.002			0.005			
<i>Dialister</i>		0.126	0.204			0.287			
<i>Eubacterium</i> [11][G-1]		0.006	0.007			0.000			
<i>Eubacterium</i> [11][G-3]		0.002	0.092			0.057			
<i>Eubacterium</i> [11][G-5]		0.000	0.000			0.000			
<i>Eubacterium</i> [11][G-7]		0.055	0.043			0.062			
<i>Filifactor</i> ($P_{\text{GROUP}} = 0.027, P_{\text{TREND}} = 0.007$)		0.003	0.000			0.000			
<i>Gemella</i>		1.044	0.529			0.574			
<i>Granulicatella</i>		0.858	0.247			0.328			
<i>Johnsonella</i>		0.035	0.000			0.013			
<i>Lachnoanaerobaculum</i>		0.358	0.388			0.550			
<i>Lachnospiraceae</i> [G-2]		0.063	0.054			0.017			
<i>Lachnospiraceae</i> [G-3]		0.020	0.040			0.010			
<i>Lachnospiraceae</i> [G-8]		0.000	0.000			0.000			
<i>Lactobacillus</i>		0.000	0.000			0.000			
<i>Mitsuokella</i>		0.000	0.000			0.000			
<i>Mogibacterium</i>		0.032	0.017			0.008			
<i>Oribacterium</i>		0.000	0.000			0.000			

(continued)

Appendix Table 1. (continued)

Phylum	Genus	Romania: High Prevalence of Caries		Sweden: Caries Active		Sweden: Caries Free	
		Phylum (Prevalence)	Genus (Prevalence)	Phylum (Prevalence)	Genus (Prevalence)	Phylum (Prevalence)	Genus (Prevalence)
	<i>Parvimonas</i>		0.096		0.145		0.052
	<i>Peptococcus</i>		0.045		0.028		0.022
	<i>Peptostreptococcaceae</i> [11][G-2]		0.000		0.000		0.000
	<i>Peptostreptococcaceae</i> [11][G-4] ($P_{\text{GROUP}} = 0.020$, $P_{\text{TREND}} = 0.007$)		0.000		0.000		0.000
	<i>Peptostreptococcaceae</i> [11][G-7] ($P_{\text{GROUP}} = 0.007$, $P_{\text{TREND}} = 0.011$)		0.009		0.000		0.000
	<i>Peptostreptococcaceae</i> [13][G-2]		0.000		0.000		0.000
	<i>Peptostreptococcus</i>		0.038		0.002		0.005
	<i>Pseudoramibacter</i> ($P_{\text{GROUP}} = 0.003$, $P_{\text{TREND}} = 0.003$)		0.000		0.000		0.000
	<i>Selenomonas</i> ($P_{\text{GROUP}} < 0.001$, $P_{\text{TREND}} < 0.001$)		0.010		0.059		0.075
	<i>Shuttleworthia</i>		0.001		0.000		0.000
	<i>Streptococcus</i> ($P_{\text{GROUP}} = 0.008$, $P_{\text{TREND}} = 0.027$)		30.596		13.102		17.586
	<i>Veillonella</i> ($P_{\text{GROUP}} = 0.015$, $P_{\text{TREND}} = 0.005$)		0.067		0.157		0.206
Fusobacteria		18.088		19.839		20.299	
	<i>Fusobacterium</i>		2.803		5.801		4.767
	<i>Leptotrichia</i>		11.991		12.451		11.014
Proteobacteria		4.152		2.268		2.275	
	<i>Campylobacter</i> ($P_{\text{GROUP}} = 0.002$, $P_{\text{TREND}} = 0.001$)		0.629		1.691		1.721
	<i>Desulfohalobus</i>		0.000		0.000		0.000
	<i>Eikenella</i>		0.034		0.071		0.089
	<i>Kingella</i>		0.155		0.178		0.138
	<i>Lautropia</i>		0.294		0.114		0.029
	<i>Neisseria</i> ($P_{\text{GROUP}} = 0.008$, $P_{\text{TREND}} = 0.004$)		2.866		0.142		0.245
	<i>Ottowia</i>		0.000		0.000		0.000
	<i>Treponema</i>		0.198		0.502		0.438
SPIROCHAETES		0.000		0.000		0.004	
SR1		0.000		0.000		0.004	
Tenericutes		0.000		0.000		0.004	
TM7		0.038		0.021		0.070	
	TM7 [G-1] ($P_{\text{GROUP}} = 0.013$, $P_{\text{TREND}} = 0.005$)		0.000		0.000		0.000
	TM7 [G-2]		0.007		0.000		0.000
	TM7 [G-5]		0.007		0.000		0.000

Median prevalence (% of all sequences) in tooth biofilm samples from 37 adolescents according to caries strata (Romanian group with high prevalence of caries prevalence and Swedish caries-active and caries-free groups). Numbers in parenthesis refer to P values among groups (Kruskal-Wallis test) and for trend by increasing caries presence (Jonckheere test). $P \leq 0.008$ is considered statistically significant. Values in red indicate data in which both group and trend P values are ≤ 0.008 .

Appendix Table 2. Detected Species/Phylotypes in Romanian and Swedish Adolescents.

Species/HOMD Taxon	Mean Species Prevalence, %				Proportion in Which Species Was Detected, %				Median Species Prevalence among Positive Subjects, %				
	Romania: High Prevalence of Caries		Sweden: Caries Free		Romania: High Prevalence of Caries		Sweden: Caries Free		Romania: High Prevalence of Caries		Sweden: Caries Free		
	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	P _{GROUP}	P _{TREND}	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	χ^2	P Value	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free
<i>Actinobaculum</i> sp. HOT183	0.440	2.639	1.616			85.7	100.0	90.9			0.3765	1.1236	0.3825
<i>Actinomyces cardiffensis</i>	0.134	0.064	0.000			35.7	8.3	0.0			0.2322	0.3160	0.7724
<i>Actinomyces dentalis</i>	0.203	0.334	0.480			78.6	75.0	72.7			0.4212	0.4281	0.7126
<i>Actinomyces gerenceriae</i>	0.978	3.342	2.639			100.0	100.0	100.0			0.4860	0.4533	0.4329
<i>Actinomyces israelii</i>	0.304	0.220	0.210			71.4	50.0	45.5			0.3526	0.3223	0.3426
<i>Actinomyces johnsonii</i>	0.353	0.361	0.441			100.0	91.7	100.0			0.3437	0.2795	0.3412
<i>Actinomyces massiliensis</i>	0.278	0.295	0.301			64.3	91.7	90.9			0.4826	0.3420	0.3649
<i>Actinomyces meyeri</i>	0.503	0.329	0.133			78.6	66.7	36.4			0.6144	0.6760	0.7496
<i>Actinomyces naeslundii</i>	0.959	1.185	1.888			100.0	100.0	100.0			0.6144	0.6760	0.7496
<i>A. naeslundii</i> II	0.093	0.115	0.087			21.4	33.3	36.4			0.5069	0.3898	0.1892
<i>Actinomyces odontolyticus</i>	0.610	0.323	0.277			78.6	75.0	45.5			0.3972	0.3898	0.3179
<i>Actinomyces oris</i>	0.348	0.407	0.585			100.0	100.0	100.0			0.2336	0.3853	0.3783
<i>Actinomyces</i> sp. HOT848	0.619	0.232	0.558			100.0	75.0	90.9			0.3513	0.3834	0.4410
<i>Actinomyces</i> sp. HOT169	0.385	0.547	0.459			85.7	100.0	90.9			0.3861	0.4256	0.4166
<i>Actinomyces</i> sp. HOT170	0.419	0.521	0.565			100.0	100.0	100.0			0.3591	0.2768	0.4168
<i>Actinomyces</i> sp. HOT171	0.456	0.278	0.900			100.0	100.0	90.9			0.4123	0.6323	0.6249
<i>Actinomyces</i> sp. HOT175	0.467	1.047	0.824			100.0	100.0	100.0			0.4400	0.6365	0.5877
<i>Actinomyces</i> sp. HOT177	0.054	0.275	0.230			7.1	41.7	54.5			0.3765	0.4517	0.3310
<i>Actinomyces</i> sp. HOT178	0.325	0.231	0.200			85.7	66.7	54.5			0.4757	0.4450	0.3180
<i>Actinomyces</i> sp. HOT180	0.440	0.512	0.592			92.9	100.0	100.0			0.2247	0.6133	0.4166
<i>Actinomyces</i> sp. HOT414	0.211	0.125	0.060			78.6	25.0	18.2		0.003	0.3233	0.6730	0.3273
<i>Actinomyces</i> sp. HOT446	0.333	0.288	0.079			57.1	41.7	18.2			0.5758	1.0605	0.4517
<i>Actinomyces</i> sp. HOT448	0.435	4.644	0.999			85.7	91.7	81.8			0.3970	0.5923	0.4517
<i>Actinomyces</i> sp. HOT449	0.239	0.317	0.423			78.6	83.3	54.5			0.2356	0.2939	0.4342
<i>Actinomyces</i> sp. HOT525	0.250	0.327	0.319			57.1	91.7	72.7			0.3388	0.3675	0.4554
<i>Actinomyces</i> sp. HOT877	0.381	0.522	0.488			92.9	100.0	90.9			0.2738	0.3635	0.3453
<i>Actinomyces</i> sp. HOT896	0.250	0.102	0.282			64.3	25.0	54.5			0.2926	0.2673	0.2936
<i>Actinomyces</i> sp. HOT897	0.194	0.155	0.200			64.3	50.0	63.6			0.3635	0.1734	0.2766
<i>Actinomyces timonensis</i>	0.122	0.033	0.000			28.6	8.3	0.0			0.4033	0.2746	0.4016
<i>Atopobium parvulum</i>	0.438	0.063	0.406			85.7	25.0	90.9		0.001	0.2945	0.1994	0.3866
<i>Atopobium rimae</i>	0.215	0.244	0.314			64.3	66.7	63.6			0.3534	0.4146	0.5458
<i>Corynebacterium durum</i>	0.484	0.361	0.787			100.0	91.7	90.9			0.4757	0.4882	1.6693
<i>Corynebacterium matruchotii</i>	2.685	5.189	5.317			100.0	100.0	100.0			0.5728	2.5268	1.6693
<i>Cryptobacterium curtum</i>	0.358	0.148	0.292			64.3	25.0	54.5			0.5125	0.3932	0.2830
<i>Olsenella</i> sp. HOT807	0.187	0.187	0.087			42.9	50.0	45.5			0.4411	0.3932	0.2528
<i>Rothia aeria</i>	0.692	0.465	0.603			92.9	91.7	81.8			0.4774	0.4647	0.3778
<i>Rothia dentocariosa</i>	0.076	0.300	0.055			14.3	50.0	18.2			0.2062	0.4241	0.4168
<i>Alloprevotella rava</i>	0.172	0.267	0.324			71.4	50.0	63.6			0.2504	0.3755	0.4168
<i>Alloprevotella</i> sp. HOT308	0.215	0.270	0.273			42.9	66.7	63.6			0.4845	0.3703	0.3514
<i>Alloprevotella</i> sp. HOT473	0.321	0.176	0.197			64.3	50.0	54.5			0.4549	0.3811	0.3946
<i>Alloprevotella</i> sp. HOT474	0.265	0.207	0.158			64.3	41.7	36.4			0.4445	0.4417	0.3726
<i>Alloprevotella</i> sp. HOT912	0.311	0.179	0.104			64.3	33.3	27.3			0.3618	0.4417	0.2939
<i>Alloprevotella</i> sp. HOT913	0.230	0.130	0.149			71.4	25.0	36.4			0.3430	0.3663	0.3440
<i>Alloprevotella</i> sp. HOT914	0.299	0.201	0.173			71.4	58.3	45.5			0.4220	0.4191	0.5388

(continued)

Appendix Table 2. (continued)

Species/HOMD Taxon	Mean Species Prevalence, %				Proportion in Which Species Was Detected, %				Median Species Prevalence among Positive Subjects, %					
	Romania: High Prevalence of Caries		Sweden: Caries Active		Romania: High Prevalence of Caries		Sweden: Caries Active		Romania: High Prevalence of Caries		Sweden: Caries Active		Sweden: Caries Free	
	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	P_{GROUP}	P_{TREND}	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	χ^2	P Value	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	Sweden: Caries Free
<i>Alloprevotella tannerae</i>	1.116	6.421	1.017			100.0	100.0	100.0			0.3968	0.6626	0.6897	
<i>Bacteroidetes</i> [G-3] sp. HOT280	0.168	0.020	0.000			35.7	8.3	0.0			0.4279	0.2454	0.0000	
<i>Bacteroidetes</i> [G-3] sp. HOT365	0.140	0.129	0.000			28.6	16.7	0.0			0.4561	0.7738	0.0000	
<i>Bacteroidetes</i> [G-5] sp. HOT505	0.370	0.000	0.000	0.001, 0.001		50.0	0.0	0.0		0.001	0.4630	0.3301	0.0000	
<i>Bacteroidetes</i> [G-5] sp. HOT507	0.009	0.055	0.000			7.1	16.7	0.0			0.2257	0.4587	0.3397	
<i>Bacteroidetes</i> [G-5] sp. HOT511	0.197	0.172	0.273			42.9	33.3	54.5			0.2379	0.4326	0.4149	
<i>Bergeyella</i> sp. HOT322	0.390	0.401	0.445			100.0	91.7	100.0			0.2588	0.3999	0.4472	
<i>Bergeyella</i> sp. HOT900	0.396	0.383	0.368			92.9	75.0	81.8			0.2854	0.5674	0.4472	
<i>Bergeyella</i> sp. HOT907	0.146	0.189	0.105			42.9	25.0	18.2			0.4678	0.4644	0.4842	
<i>Cabnocytophaga gingivalis</i>	0.663	0.356	0.463			100.0	91.7	100.0			0.5277	0.4176	0.4713	
<i>Cabnocytophaga granulosa</i>	0.886	0.785	0.979			100.0	100.0	100.0			0.6856	0.4341	0.3855	
<i>Cabnocytophaga haemolytica</i>	0.296	0.204	0.220			50.0	50.0	63.6			0.8253	0.4725	0.6077	
<i>Cabnocytophaga leadbetteri</i>	1.515	0.617	0.921			92.9	100.0	100.0			0.8253	0.4725	0.6360	
<i>Cabnocytophaga ochracea</i>	0.034	0.247	0.139			21.4	50.0	36.4			0.2925	0.4647	0.3440	
<i>Cabnocytophaga</i> sp. HOT323	0.324	0.433	0.194			64.3	75.0	63.6			0.3287	0.6572	0.3440	
<i>Cabnocytophaga</i> sp. HOT324	0.263	0.539	0.264			57.1	83.3	63.6			0.3228	0.3783	0.3755	
<i>Cabnocytophaga</i> sp. HOT326	0.271	0.508	0.418			78.6	91.7	100.0			0.3272	0.3650	0.3783	
<i>Cabnocytophaga</i> sp. HOT332	0.416	0.811	0.254			92.9	75.0	54.5			0.4313	0.4780	0.3882	
<i>Cabnocytophaga</i> sp. HOT335	0.299	0.345	0.629			78.6	58.3	90.9			0.4114	0.4020	0.3594	
<i>Cabnocytophaga</i> sp. HOT336	0.250	0.479	0.489			64.3	91.7	90.9			0.4678	0.4572	0.4507	
<i>Cabnocytophaga</i> sp. HOT338	0.287	0.394	0.405			64.3	83.3	72.7			0.4512	0.3834	0.3962	
<i>Cabnocytophaga</i> sp. HOT412	0.283	0.345	0.631			71.4	75.0	90.9			0.4830	0.3834	0.3239	
<i>Cabnocytophaga</i> sp. HOT863	0.442	0.205	0.115			71.4	41.7	36.4			0.5862	0.5340	0.2865	
<i>Cabnocytophaga</i> sp. HOT864	0.566	0.637	0.276			100.0	83.3	90.9			0.5190	0.6798	0.2549	
<i>Cabnocytophaga</i> sp. HOT878	0.227	0.000	0.034			42.9	0.0	9.1			0.4327	0.0000!	0.3726	
<i>Cabnocytophaga</i> sp. HOT901	0.297	0.000	0.089			42.9	0.0	18.2			0.3186	0.3864	0.5848	
<i>Cabnocytophaga</i> sp. HOT902	0.195	0.195	0.250			57.1	50.0	45.5			0.3145	0.3864	0.3445	
<i>Cabnocytophaga</i> sp. HOT903	0.095	0.154	0.126			28.6	33.3	36.4			0.3961	0.3983	0.3445	
<i>Cabnocytophaga</i> sp. HOT903	0.774	0.461	0.506			100.0	83.3	100.0			0.2563	0.4179	0.3440	
<i>Bacteroidales</i> [G-2] sp. HOT274	0.157	0.502	0.561	0.016, 0.007		78.6	83.3	90.9			0.2798	0.4969	0.2519	
<i>Porphyromonas catonidae</i>	1.085	0.855	0.292			92.9	91.7	81.8			0.5682	0.5134	0.1975	
<i>Porphyromonas endodontalis</i>	0.532	0.301	0.130			64.3	41.7	36.4			0.4473	0.3523	0.3464	
<i>Porphyromonas gingivalis</i>	0.276	0.031	0.000			28.6	8.3	0.0			0.4135	0.4417	0.3985	
<i>Porphyromonas</i> sp. HOT275	0.359	0.295	0.267			85.7	33.3	54.5			0.4582	0.5159	0.3946	
<i>Porphyromonas</i> sp. HOT277	0.265	0.171	0.072			50.0	58.3	18.2			0.5240	0.4816	0.3726	
<i>Porphyromonas</i> sp. HOT278	0.783	0.294	0.294			78.6	75.0	63.6			1.0278	0.3932	0.3443	
<i>Porphyromonas</i> sp. HOT279	2.147	0.371	0.923			92.9	83.3	100.0			0.6886	0.3898	0.3443	
<i>Porphyromonas</i> sp. HOT284	0.226	0.222	0.176			64.3	58.3	45.5			0.2046	0.1868	0.4166	
<i>Porphyromonas</i> sp. HOT395	0.078	0.000	0.000			21.4	0.0	0.0			0.3499	0.5931	0.1679	
<i>Prevotella baroniae</i>	0.186	0.099	0.015			50.0	16.7	9.1			0.3868	0.8545	0.2927	
<i>Prevotella buccae</i>	0.254	0.267	0.146			64.3	33.3	45.5			0.3635	0.7795	0.3183	
<i>Prevotella dentalis</i>	0.117	0.038	0.000	0.022, 0.008		42.9	8.3	0.0			0.4279	0.7735	0.9540	
<i>Prevotella denticola</i>	1.583	1.102	2.096			92.9	91.7	81.8			0.5186	0.5190	0.5847	
<i>Prevotella enoea</i>	0.279	0.139	0.064			57.1	41.7	27.3			0.4844	0.3985	0.4198	
<i>Prevotella fusca</i>	0.066	0.066	0.263			14.3	8.3	36.4			0.3854	0.5806	0.4714	

(continued)

Appendix Table 2. (continued)

Species/HOMD Taxon	Mean Species Prevalence, %				Proportion in Which Species Was Detected, %				Median Species Prevalence among Positive Subjects, %			
	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	P _{GROUP} ^a P _{TREND}	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	χ ² P Value	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	Sweden: Caries Free
<i>Prevotella histicola</i>	0.248	0.296	0.657		42.9	58.3	54.5		0.4578	0.4667	0.6360	0.6360
<i>Prevotella intermedia</i>	0.929	0.275	1.257		71.4	41.7	27.3		0.4411	0.4897	0.3962	0.3962
<i>Prevotella loeschii</i>	0.051	0.082	0.148		21.4	8.3	45.5		0.3255	0.5172	0.4657	0.4657
<i>Prevotella maculosa</i>	0.503	0.818	0.941		92.9	100.0	90.9		0.3255	0.4702	0.7149	0.7149
<i>Prevotella marshii</i>	0.161	0.135	0.040		50.0	33.3	18.2		0.4232	0.4942	0.4678	0.4678
<i>Prevotella melaninogenica</i>	2.867	0.752	1.693		100.0	100.0	100.0		0.7137	0.4165	0.4678	0.4678
<i>Prevotella micans</i>	0.633	0.238	0.172	0.029, 0.007	92.9	75.0	54.5	0.004	0.6777	0.3229	0.2682	0.2682
<i>Prevotella multiformis</i>	0.696	0.048	0.000	0.003, 0.001	57.1	16.7	0.0		0.6063	2.5250	3.11679	3.11679
<i>Prevotella nigrescens</i>	1.154	5.755	5.175		100.0	91.7	100.0		0.5837	2.5250	2.4885	2.4885
<i>Prevotella oralis</i>	1.220	0.059	0.082		42.9	16.7	18.2		0.6814	1.0780	1.3485	1.3485
<i>Prevotella oris</i>	1.220	3.013	2.618		100.0	100.0	100.0		0.6419	0.8989	1.0429	1.0429
<i>Prevotella oulorum</i>	0.756	0.733	0.884		92.9	91.7	100.0		0.6419	0.7517	0.8371	0.8371
<i>Prevotella pallens</i>	0.905	0.424	0.552		71.4	66.7	54.5		0.6615	0.7517	0.5397	0.5397
<i>Prevotella pleuritid</i>	0.309	0.870	0.298		57.1	75.0	36.4		0.2758	0.4647	0.3739	0.3739
<i>Prevotella pleuritid</i>	0.312	0.477	0.396		85.7	100.0	90.9		0.3359	0.3684	0.3784	0.3784
<i>Prevotella saccharolytica</i>	0.484	0.317	0.355		71.4	75.0	81.8		0.3595	0.3834	0.4924	0.4924
<i>Prevotella salivae</i>	0.126	0.149	0.174		42.9	33.3	27.3		0.3380	0.6973	0.8321	0.8321
<i>Prevotella scopas</i>	0.544	0.958	0.664		85.7	91.7	90.9		0.5078	0.5112	0.7370	0.7370
<i>Prevotella</i> sp. HOT292	0.138	0.287	0.151		28.6	66.7	36.4		0.4561	0.3443	0.3514	0.3514
<i>Prevotella</i> sp. HOT293	0.091	0.108	0.032		21.4	33.3	9.1		0.3106	0.1736	0.3514	0.3514
<i>Prevotella</i> sp. HOT296	0.235	0.133	0.110		64.3	41.7	36.4		0.2530	0.2519	0.3866	0.3866
<i>Prevotella</i> sp. HOT299	0.302	0.252	0.491		64.3	75.0	81.8		0.2766	0.3607	0.4744	0.4744
<i>Prevotella</i> sp. HOT300	0.288	0.192	0.075	0.03, 0.009	85.7	41.7	18.2	0.001	0.2766	0.3755	0.4148	0.4148
<i>Prevotella</i> sp. HOT301	0.070	0.152	0.000		21.4	25.0	0.0		0.3235	0.3489	0.1507	0.1507
<i>Prevotella</i> sp. HOT304	0.075	0.016	0.027		14.3	8.3	18.2		0.5612	0.2476	0.3440	0.3440
<i>Prevotella</i> sp. HOT305	0.337	0.242	0.304		57.1	50.0	63.6		0.5388	0.2937	0.3755	0.3755
<i>Prevotella</i> sp. HOT306	0.034	0.000	0.134		7.1	0.0	36.4		0.3521	0.4647	0.3769	0.3769
<i>Prevotella</i> sp. HOT309	0.571	0.256	0.333		78.6	58.3	72.7		0.3348	0.4816	0.4168	0.4168
<i>Prevotella</i> sp. HOT313	0.585	0.759	1.248		78.6	66.7	81.8		0.3522	0.6626	0.4410	0.4410
<i>Prevotella</i> sp. HOT314	0.152	0.012	0.029		42.9	8.3	9.1		0.5782	1.4711	1.3103	1.3103
<i>Prevotella</i> sp. HOT315	2.133	1.937	2.009		100.0	100.0	100.0		1.0465	0.9338	1.3103	1.3103
<i>Prevotella</i> sp. HOT317	0.151	0.136	0.029		28.6	25.0	9.1		0.4512	0.3834	0.3180	0.3180
<i>Prevotella</i> sp. HOT396	0.943	0.000	0.000		78.6	0.0	0.0		0.4516	0.4702	0.6776	0.6776
<i>Prevotella</i> sp. HOT443	0.401	0.581	0.801		86.6	100.0	81.8		0.4416	0.4487	0.6775	0.6775
<i>Prevotella</i> sp. HOT472	0.272	0.231	0.166		64.3	50.0	27.3		0.5728	0.3907	0.5022	0.5022
<i>Prevotella</i> sp. HOT475	0.726	0.311	0.834		100.0	66.7	81.8		0.5806	0.2484	0.3931	0.3931
<i>Prevotella veroralis</i>	0.189	0.058	0.134		42.9	25.0	27.3		0.4606	0.4926	0.8396	0.8396
<i>Tannerella forsythia</i>	0.883	1.118	1.361		100.0	100.0	90.9		0.4572	0.3988	0.6474	0.6474
<i>Tannerella</i> sp. HOT286	0.406	0.224	0.309		85.7	75.0	72.7		0.4512	0.2119	0.3171	0.3171
<i>Tannerella</i> sp. HOT808	0.231	0.000	0.044	0.008, 0.027	50.0	0.0	18.2		0.4932	0.4647	0.4438	0.4438
<i>Tannerella</i> sp. HOT916	1.325	0.291	0.531		100.0	58.3	72.7		0.4137	0.2850	0.3312	0.3312
<i>Abiotrophia defectiva</i>	0.482	0.203	0.255		92.9	91.7	90.9	0.004	0.2712	0.2163	0.2490	0.2490
<i>Catonella morbi</i>	0.213	0.050	0.000	0.004, 0.001	57.1	16.7	0.0		0.4279	0.3834	0.0000	0.0000
<i>Catonella</i> sp. HOT164	0.089	0.054	0.000		14.3	8.3	0.0		0.3022	0.4647	0.0000	0.0000
<i>Catonella</i> sp. HOT451	0.025	0.059	0.000		14.3	16.7	0.0		0.3428	0.3660	0.5271	0.5271
<i>Clostridiales</i> [F-1][G-1] sp. HOT093												

(continued)

Appendix Table 2. (continued)

Species/HOMD Taxon	Mean Species Prevalence, %				Proportion in Which Species Was Detected, %				Median Species Prevalence among Positive Subjects, %					
	Romania: High Prevalence of Caries		Sweden: Caries Active		Romania: High Prevalence of Caries		Sweden: Caries Active		Romania: High Prevalence of Caries		Sweden: Caries Active		Sweden: Caries Free	
	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	P _{GROUP} * P _{TREND}	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	χ ² P Value	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	Sweden: Caries Active	Sweden: Caries Free	
<i>Clostridiales</i> [F-2][G-1] sp. HOT075	0.499	0.272	0.951		92.9	83.3	81.8		0.4702	0.3636	0.6360	0.3636	0.6360	
<i>Clostridiales</i> [F-2][G-2] sp. HOT085	0.393	0.132	0.335		64.3	50.0	54.5		0.6145	0.4382	0.6360	0.4382	0.6360	
<i>Dialister invisus</i>	0.513	0.820	0.966		92.9	91.7	100.0		0.5532	0.7128	0.3852	0.7128	0.3852	
<i>Dialister microaerophilus</i>	0.019	0.103	0.023		7.1	16.7	9.1		0.5257	0.7327	0.2992	0.7327	0.2992	
<i>Dialister pneumosintes</i>	0.377	0.244	0.101		64.3	41.7	27.3		0.5257	0.3853	0.3726	0.3853	0.3726	
<i>Eubacterium</i> [1][G-1] <i>infirmum</i>	0.334	0.174	0.199		64.3	50.0	36.4		0.4561	0.4745	0.3726	0.4745	0.3726	
<i>Eubacterium</i> [1][G-1] <i>sulci</i>	0.099	0.143	0.020		28.6	16.7	9.1		0.3689	0.4202	0.2882	0.4202	0.2882	
<i>Eubacterium</i> [1][G-3] <i>brachy</i>	0.156	0.297	0.255		50.0	83.3	63.6		0.1658	0.3573	0.3445	0.3573	0.3445	
<i>Eubacterium</i> [1][G-5] <i>saphenum</i>	0.072	0.116	0.000		35.7	25.0	0.0		0.2035	0.4164	0.5459	0.4164	0.5459	
<i>Eubacterium</i> [1][G-7] <i>yurii</i>	0.295	0.384	0.449		92.9	91.7	90.9		0.2976	0.3811	0.5217	0.3811	0.5217	
<i>Filifactor alovis</i>	0.152	0.198	0.000		50.0	33.3	0.0		0.2235	0.3755	0.0000	0.3755	0.0000	
<i>Gemella bergeri</i>	0.000	0.062	0.000		0.0	25.0	0.0		0.4169	0.2792	0.2913	0.2792	0.2913	
<i>Gemella haemolysans</i>	0.414	0.363	0.239		100.0	91.7	81.8		0.6220	0.3177	0.3312	0.3177	0.3312	
<i>Gemella morbillorum</i>	1.251	0.816	1.199		92.9	100.0	100.0		0.6439	0.3915	0.5852	0.3915	0.5852	
<i>Gemella sanguinis</i>	0.274	0.343	0.409		78.6	83.3	81.8		0.4582	0.3827	0.4357	0.3827	0.4357	
<i>Granulicatella adiacens</i>	1.073	0.732	0.483		100.0	100.0	100.0		0.5966	0.2854	0.3783	0.2854	0.3783	
<i>Granulicatella elegans</i>	0.489	0.270	0.253		100.0	75.0	54.5		0.3297	0.3181	0.3649	0.3181	0.3649	
<i>Johnsonella ignava</i>	0.221	0.146	0.230		71.4	41.7	54.5		0.4030	0.1966	0.3241	0.1966	0.3241	
<i>Johnsonella</i> sp. HOT166	0.256	0.030	0.000	0.022, 0.005	42.9	16.7	0.0		0.4396	0.1966	0.2199	0.1966	0.2199	
<i>Lachnoaerobaculum sabureum</i>	0.442	0.594	0.513		100.0	100.0	100.0		0.3325	0.4580	0.5217	0.4580	0.5217	
<i>Lachnoaerobaculum umeaense</i>	0.433	0.372	0.423		100.0	91.7	100.0		0.4279	0.3263	0.3796	0.3263	0.3796	
<i>Lachnoaerobaculum</i> sp. HOT083	0.222	0.080	0.020	0.007, 0.005	57.1	8.3	9.1	0.006	0.3897	0.3358	0.3655	0.3358	0.3655	
<i>Lachnospiraceae</i> [G-2] sp. HOT088	0.229	0.000	0.103		35.7	0.0	27.3		0.3599	0.3666	0.3866	0.3666	0.3866	
<i>Lachnospiraceae</i> [G-2] sp. HOT096	0.118	0.116	0.098		42.9	33.3	18.2		0.2588	0.3625	0.4017	0.3625	0.4017	
<i>Lachnospiraceae</i> [G-3] sp. HOT100	0.305	0.429	0.367		78.6	100.0	90.9		0.2942	0.3305	0.3841	0.3305	0.3841	
<i>Lachnospiraceae</i> [G-3] sp. HOT100	0.164	0.045	0.000		28.6	16.7	0.0		0.3193	0.3699	0.6360	0.3699	0.6360	
<i>Lachnospiraceae</i> [G-8] sp. HOT500	0.062	0.119	0.058		21.4	16.7	9.1		0.3069	0.7140	0.6360	0.7140	0.6360	
<i>Lactobacillus gasseri</i>	0.077	0.000	0.000		21.4	0.0	0.0		0.2504	0.0000	0.0000	0.0000	0.0000	
<i>Lactobacillus</i> sp. HOT461	0.039	0.000	0.000		21.4	0.0	0.0		0.2155	0.4647	0.3031	0.4647	0.3031	
<i>Lactobacillus vaginalis</i>	0.049	0.133	0.055		14.3	25.0	18.2		0.3158	0.4053	0.3031	0.4053	0.3031	
<i>Anaeroglobus geminatus</i>	0.105	0.097	0.000		21.4	25.0	0.0		0.3215	0.1966	0.3620	0.1966	0.3620	
<i>Mitsuokella</i> sp. HOT521	0.237	0.122	0.288		78.6	50.0	72.7		0.3529	0.2570	0.3824	0.2570	0.3824	
<i>Mogibacterium diversum</i>	0.354	0.226	0.316		85.7	66.7	72.7		0.4279	0.3405	0.4017	0.3405	0.4017	
<i>Mogibacterium neglectum</i>	0.197	0.092	0.000		42.9	16.7	0.0		0.4201	0.5550	0.4198	0.5550	0.4198	
<i>Mogibacterium timidum</i>	0.056	0.000	0.038		14.3	0.0	9.1		0.3947	0.3459	0.4182	0.3459	0.4182	
<i>Oribacterium sinus</i>	0.363	0.337	0.464		85.7	75.0	90.9		0.4316	0.2319	0.3726	0.2319	0.3726	
<i>Parvimonas micra</i>	0.224	0.122	0.147		50.0	50.0	63.6		0.4414	0.1777	0.1757	0.1777	0.1757	
<i>Parvimonas</i> sp. HOT110	0.212	0.000	0.000	0.001, 0.001	50.0	0.0	0.0	0.001	0.4279	0.4520	0.2236	0.4520	0.2236	
<i>Parvimonas</i> sp. HOT393	0.363	0.449	0.220		85.7	91.7	81.8		0.3598	0.4423	0.2236	0.4423	0.2236	
<i>Peptioccocus</i> sp. HOT167	0.166	0.071	0.000		42.9	25.0	0.0		0.3945	0.2900	0.0000	0.2900	0.0000	
<i>Peptostreptococcaceae</i> [1][G-2] sp. HOT091	0.218	0.032	0.000	0.16, 0.006	42.9	8.3	0.0		0.3958	0.3883	0.2220	0.3883	0.2220	
<i>Peptostreptococcaceae</i> [1][G-4] sp. HOT369	0.306	0.033	0.040		57.1	8.3	18.2		0.2766	0.3932	0.2220	0.3932	0.2220	
<i>Peptostreptococcaceae</i> [1][G-7] sp. HOT081	0.008	0.000	0.000		7.1	0.0	0.0		0.3233	0.4331	0.7088	0.4331	0.7088	
<i>Peptostreptococcaceae</i> [13][G-2] sp. HOT790	0.303	0.246	0.347		71.4	50.0	54.5		0.4145	0.4331	0.7088	0.4331	0.7088	
<i>Peptostreptococcus stomatis</i>	0.165	0.000	0.000	0.003, 0.003	42.9	0.0	0.0	0.003	0.4176	0.7795	0.3841	0.7795	0.3841	
<i>Pseudoramibacter alactolyticus</i>														

(continued)

Appendix Table 2. (continued)

Species/HOMD Taxon	Mean Species Prevalence, %				Proportion in Which Species Was Detected, %				Median Species Prevalence among Positive Subjects, %			
	Romania: High Prevalence of Caries		Sweden: Caries Active / Caries Free		Romania: High Prevalence of Caries		Sweden: Caries Active / Caries Free		Romania: High Prevalence of Caries		Sweden: Caries Active / Caries Free	
	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	P _{GROUP} ^{TREND}	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	χ ² P Value	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	
<i>Selenomonas artemidis</i>	0.059	0.171	0.140		14.3	25.0	36.4		0.4462	0.4647	0.3347	
<i>Selenomonas infelix</i>	0.238	0.291	0.127		57.1	66.7	36.4		0.4561	0.3684	0.2738	
<i>Selenomonas noxia</i>	0.326	0.278	0.279		50.0	91.7	90.9		0.4950	0.3630	0.3477	
<i>Selenomonas</i> sp. HOT137	0.079	0.099	0.309		21.4	25.0	72.7		0.4411	0.3755	0.3477	
<i>Selenomonas</i> sp. HOT138	0.063	0.233	0.141		14.3	66.7	36.4		0.4473	0.2333	0.4182	
<i>Selenomonas</i> sp. HOT140	0.065	0.039	0.273		7.1	16.7	54.5		0.6034	0.1918	0.5507	
<i>Selenomonas</i> sp. HOT892	0.021	0.149	0.244		7.1	50.0	36.4		0.3461	0.2751	0.5043	
<i>Shuttleworthia satelles</i>	0.204	0.143	0.040		50.0	25.0	18.2		0.3972	0.4422	0.3276	
<i>Streptococcus anginosus</i>	0.778	0.655	3.821		85.7	91.7	72.7		0.4024	0.3822	0.3371	
<i>Streptococcus australis</i>	0.731	0.305	0.416		100.0	66.7	100.0	0.009	0.3332	0.4074	0.3496	
<i>Streptococcus constellatus</i>	0.244	0.493	0.316		64.3	83.3	63.6		1.4529	0.8039	0.6885	
<i>Streptococcus cristatus</i>	3.555	2.100	1.740		100.0	100.0	100.0		1.8749	1.4723	1.1984	
<i>Streptococcus downei</i>	0.073	0.000	0.000		21.4	0.0	0.0		0.5125	0.4597	0.6919	
<i>Streptococcus gordanii</i>	1.470	0.819	1.007		100.0	100.0	90.9		0.5835	0.3796	0.3757	
<i>Streptococcus infantis</i>	0.660	0.478	0.358		92.9	100.0	90.9		0.5277	0.3043	0.3486	
<i>Streptococcus intermedius</i>	0.526	0.588	0.614		100.0	100.0	90.9		0.8952	0.7825	1.1283	
<i>Streptococcus mitis</i>	8.165	4.718	2.462		100.0	100.0	100.0		4.4181	1.3776	2.1076	
<i>Streptococcus mitis</i> bv2	4.425	1.577	3.988	0.005, 0.155	100.0	100.0	100.0		2.6362	0.5770	1.9683	
<i>Streptococcus mutans</i>	1.381	0.588	0.894		85.7	83.3	45.5		0.4379	0.2303	0.3726	
<i>Streptococcus oligofermentans</i>	0.264	0.036	0.121		42.9	16.7	18.2		0.4447	0.3397	0.2640	
<i>Streptococcus oralis</i>	0.601	0.635	0.293		85.7	91.7	81.8		0.4512	0.3397	0.1826	
<i>Streptococcus parasanguinis</i> I	0.213	0.183	0.093		50.0	50.0	36.4		0.3765	0.2625	0.3583	
<i>Streptococcus parasanguinis</i> II	0.384	0.293	0.362		57.1	75.0	54.5		0.3765	0.3430	0.4354	
<i>Streptococcus peroris</i>	0.223	0.050	0.070		64.3	16.7	18.2		0.3617	0.4003	0.3440	
<i>Streptococcus pneumoniae</i>	0.422	0.193	0.260		92.9	50.0	63.6		0.3599	0.3825	0.4577	
<i>Streptococcus salivarius</i>	1.833	0.347	0.755		100.0	83.3	90.9		0.9542	0.6430	0.7453	
<i>Streptococcus sanguinis</i>	2.779	1.539	1.423		100.0	100.0	100.0		1.8116	0.8878	0.9745	
<i>Streptococcus sinensis</i>	0.245	0.042	0.087		42.9	16.7	9.1		0.5264	0.3932	0.9540	
<i>Streptococcus sobrinus</i>	0.538	0.039	0.000	0.014, 0.005	42.9	8.3	0.0		0.4800	0.3651	0.3556	
<i>Streptococcus</i> sp. HOT055	0.111	0.042	0.102		21.4	16.7	27.3		0.2983	0.3635	0.3714	
<i>Streptococcus</i> sp. HOT056	0.345	0.402	0.266		100.0	91.7	54.5	0.006	0.2983	0.5389	0.3714	
<i>Streptococcus</i> sp. HOT057	0.198	0.150	0.133		35.7	16.7	45.5		0.8136	0.4630	0.4594	
<i>Streptococcus</i> sp. HOT058	1.487	1.114	1.426		100.0	100.0	100.0		0.6429	0.4586	0.5389	
<i>Streptococcus</i> sp. HOT061	0.526	0.229	0.097		57.1	41.7	27.3		0.3568	0.4074	0.1933	
<i>Streptococcus</i> sp. HOT066	0.274	0.243	0.126		71.4	58.3	36.4		0.3509	0.3755	0.1933	
<i>Streptococcus</i> sp. HOT067	0.061	0.000	0.031		14.3	0.0	9.1		0.3352	0.4050	0.3448	
<i>Streptococcus</i> sp. HOT068	0.048	0.121	0.063		14.3	33.3	18.2		0.4116	0.3684	0.6424	
<i>Streptococcus</i> sp. HOT069	0.223	0.010	0.172		42.9	8.3	18.2		0.4473	0.3380	0.3866	
<i>Streptococcus</i> sp. HOT070	0.750	0.453	0.291		92.9	66.7	81.8		0.4411	0.4335	0.4168	
<i>Streptococcus</i> sp. HOT071	1.881	1.149	3.602		85.7	91.7	90.9		0.3888	0.4331	1.0980	
<i>Streptococcus</i> sp. HOT074	0.233	0.088	0.000	0.010, 0.002	57.1	25.0	0.0	0.007	0.3397	0.3811	0.3514	
<i>Streptococcus</i> sp. HOT431	0.392	0.232	0.258		100.0	66.7	63.6		0.3158	0.3703	0.3786	
<i>Streptococcus vestibularis</i>	0.137	0.831	0.421	0.009, 0.003	50.0	83.3	100.0		0.2842	0.3844	0.3786	
<i>Veillonella atypica</i>	0.134	0.069	0.122		35.7	16.7	27.3		0.2755	0.3755	0.3442	
<i>Veillonella dispar</i>	0.295	0.323	0.406		92.9	91.7	100.0		0.2983	0.3684	0.4016	

(continued)

Appendix Table 2. (continued)

Species/HOMD Taxon	Mean Species Prevalence, %				Proportion in Which Species Was Detected, %				Median Species Prevalence among Positive Subjects, %					
	Romania: High Prevalence of Caries		Sweden: Caries Active		Romania: High Prevalence of Caries		Sweden: Caries Active		Romania: High Prevalence of Caries		Sweden: Caries Active		Sweden: Caries Free	
	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	P_{GROUP}	P_{TREND}	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	χ^2	P Value	Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free	Sweden: Caries Free
<i>Veillonella parvula</i>	0.397	0.416	0.452			100.0	100.0	100.0			0.5909	0.8109	0.6462	
<i>Fusobacterium nucleatum</i> subsp. <i>polymorphum</i>	1.466	2.841	2.288			100.0	100.0	100.0			0.7830	1.6503	1.0769	
<i>F. nucleatum</i> subsp. <i>vincentii</i>	0.432	1.872	1.219	0.006, 0.024		100.0	100.0	100.0			0.4599	1.3908	0.8829	
<i>F. nucleatum</i> subsp. <i>animalis</i>	0.685	2.018	1.995			100.0	100.0	100.0			0.4757	0.8226	0.3783	
<i>F. nucleatum</i> subsp. <i>nucleatum</i>	0.333	0.307	0.207			71.4	83.3	72.7			0.4582	0.2711	0.3570	
<i>Fusobacterium periodonticum</i>	1.409	0.404	0.390			92.9	91.7	90.9			0.4512	0.3420	0.3787	
<i>Fusobacterium</i> sp. HOT203	0.314	0.351	0.200			71.4	83.3	54.5			0.4473	0.3932	0.3514	
<i>Fusobacterium</i> sp. HOT205	0.084	0.104	0.126			21.4	25.0	27.3			1.2716	0.9432	0.5419	
<i>Leptotrichia buccalis</i>	1.468	2.995	0.808			100.0	100.0	81.8			0.4932	0.5451	0.3755	
<i>Leptotrichia goodfellowii</i>	0.212	0.196	0.253			71.4	75.0	81.8			0.4932	0.5551	0.2761	
<i>Leptotrichia hofstadii</i>	1.977	2.895	2.126			92.9	91.7	100.0			1.0191	1.3579	1.3236	
<i>Leptotrichia hongkongensis</i>	1.013	1.557	1.688			92.9	100.0	100.0			0.6294	0.6725	0.6848	
<i>Leptotrichia strahii</i>	0.660	0.462	0.355			92.9	66.7	72.7			0.6147	0.4826	0.3725	
<i>Leptotrichia</i> sp. HOT212	0.594	0.512	0.833			92.9	100.0	100.0			0.3744	0.3555	0.3490	
<i>Leptotrichia</i> sp. HOT215	0.368	0.303	0.514			85.7	83.3	100.0			0.3685	0.3162	0.3480	
<i>Leptotrichia</i> sp. HOT217	0.222	0.161	0.201			57.1	41.7	45.5			0.4581	0.3140	0.3180	
<i>Leptotrichia</i> sp. HOT218	0.315	0.016	0.057			42.9	8.3	18.2			0.4313	0.4326	0.2623	
<i>Leptotrichia</i> sp. HOT219	0.221	0.308	0.142			57.1	66.7	54.5			0.3139	0.4647	0.3138	
<i>Leptotrichia</i> sp. HOT221	0.180	0.192	0.239			57.1	41.7	54.5			0.3332	0.5834	0.4166	
<i>Leptotrichia</i> sp. HOT223	0.296	0.686	0.854			64.3	75.0	81.8			0.4141	0.4328	0.4667	
<i>Leptotrichia</i> sp. HOT225	1.309	0.896	1.087			100.0	83.3	100.0			0.4216	0.4113	0.5293	
<i>Leptotrichia</i> sp. HOT392	0.456	0.513	0.478			100.0	83.3	81.8			0.4946	0.5539	0.7579	
<i>Leptotrichia</i> sp. HOT417	1.391	0.680	0.872			100.0	91.7	90.9		0.005	0.4932	0.5028	0.7879	
<i>Leptotrichia</i> sp. HOT463	0.427	0.032	0.120			64.3	8.3	18.2			0.4387	0.3834	0.6360	
<i>Leptotrichia</i> sp. HOT498	1.617	0.887	1.061			92.9	66.7	45.5			0.4932	0.6199	0.3615	
<i>Leptotrichia</i> sp. HOT847	0.376	0.052	0.000	<0.001, <0.001		71.4	8.3	0.0			0.4561	0.3737	0.5699	
<i>Leptotrichia</i> sp. HOT847	0.349	0.269	0.414			78.6	58.3	72.7			0.2844	0.3932	0.3975	
<i>Leptotrichia</i> sp. HOT879	0.225	0.326	0.144			78.6	50.0	36.4			0.3544	0.9294	0.6890	
<i>Leptotrichia</i> sp. HOT909	1.881	2.846	3.403			92.9	91.7	81.8			0.4766	0.5506	0.4102	
<i>Campylobacter concisus</i>	0.362	0.376	0.340			92.9	91.7	100.0			0.3879	0.5613	0.6317	
<i>Campylobacter gracilis</i>	0.419	1.062	1.516			100.0	100.0	100.0			0.3556	0.7810	0.8717	
<i>Campylobacter rectus</i>	0.257	0.150	0.121			57.1	33.3	36.4			0.4279	0.3731	0.3786	
<i>Campylobacter showae</i>	0.096	0.605	0.440			92.9	100.0	90.9			0.2779	0.3130	0.4261	
<i>Desulfobulbus</i> sp. HOT041	0.339	0.397	0.420			28.6	0.0	0.0			0.2555	0.3065	0.3445	
<i>Eikenella corrodens</i>	0.294	0.071	0.265			100.0	100.0	100.0			0.3233	0.3065	0.4150	
<i>Kingella denitrificans</i>	0.238	0.399	0.384			64.3	16.7	45.5			0.2464	0.3388	0.4238	
<i>Kingella oralis</i>	0.133	0.094	0.193			85.7	100.0	100.0			0.2657	0.3388	0.2584	
<i>Kingella</i> sp. HOT012	0.017	0.000	0.000			28.6	16.7	45.5			0.2945	0.5628	0.2411	
<i>Neisseria</i> sp. HOT523	0.623	0.676	0.564			71.4	0.0	0.0			0.4594	0.3963	0.4899	
<i>Lautropia mirabilis</i>	0.033	0.204	0.204			92.9	91.7	90.9			0.4520	0.4732	0.5438	
<i>Neisseria bacilliformis</i>	0.368	0.344	0.197			14.3	41.7	36.4			0.2932	0.3932	0.2904	
<i>Neisseria elongata</i>	0.331	0.138	0.160			85.7	83.3	72.7			0.3353	0.3755	0.1933	
<i>Neisseria flavas</i>	0.525	0.126	0.115			78.6	41.7	45.5			0.3765	0.3789	0.3445	
<i>Neisseria flavescens</i>	0.193	0.030	0.000	0.014, 0.005		71.4	25.0	36.4			0.4844	0.3737	0.3656	
<i>Neisseria meningitidis</i>						42.9	8.3	0.0			0.5393	0.5740	0.3831	

(continued)

Appendix Table 2. (continued)

Species/HOMD Taxon	Mean Species Prevalence, %				Proportion in Which Species Was Detected, %				Median Species Prevalence among Positive Subjects, %			
	Romania: High Prevalence of Caries		Sweden: Caries Free		Romania: High Prevalence of Caries		Sweden: Caries Free		Romania: High Prevalence of Caries		Sweden: Caries Free	
	0.395	0.065	0.070	0.006, 0.008	64.3	8.3	18.2	0.005	0.5391	0.3822	0.3180	0.3613
<i>Neisseria oralis</i>	0.315	0.126	0.140	0.006, 0.008	64.3	33.3	45.5	0.005	0.5659	0.4326	0.3726	0.3613
<i>Neisseria pharyngis</i>	4.147	0.513	0.211	0.013, 0.005	78.6	75.0	36.4		0.6617	0.4517	0.4357	0.4357
<i>Neisseria sicca</i>	0.259	0.108	0.076		42.9	16.7	18.2		0.4561	0.4234	0.3600	0.3600
<i>Neisseria</i> sp. HOT015	0.373	0.187	0.256		64.3	50.0	54.5		0.3896	0.3583	0.3257	0.3257
<i>Neisseria</i> sp. HOT016	0.110	0.000	0.041		28.6	0.0	18.2		0.4932	0.0000	0.2281	0.2281
<i>Neisseria</i> sp. HOT018	0.088	0.000	0.000		21.4	0.0	0.0		0.2945	0.2520	0.3613	0.3613
<i>Neisseria</i> sp. HOT020	0.271	0.090	0.309		71.4	33.3	63.6		0.2979	0.3461	0.3890	0.3890
<i>Neisseria subflava</i>	0.145	0.187	0.193		35.7	41.7	45.5		0.4279	0.3834	0.3445	0.3445
<i>Otawia</i> sp. HOT894	0.156	0.239	0.041		42.9	50.0	18.2		0.4376	0.3651	0.1118	0.1118
<i>Treponema denticola</i>	0.422	0.411	0.010		28.6	33.3	9.1		0.4561	0.3898	0.2480	0.2480
<i>Treponema lectithiolyticum</i>	0.186	0.016	0.087		78.6	75.0	54.5		0.4537	0.4837	0.6776	0.6776
<i>Treponema maltophilum</i>	0.440	0.754	0.589		35.7	8.3	9.1		0.4279	0.4469	0.4965	0.4965
<i>Treponema socranskii</i>	0.125	0.063	0.014		100.0	91.7	100.0		0.2945	0.3932	0.4029	0.4029
<i>Treponema</i> sp. HOT226	0.179	0.082	0.000		21.4	16.7	9.1		0.5388	0.3576	0.1495	0.1495
<i>Treponema</i> sp. HOT262	0.238	0.121	0.186		35.7	25.0	0.0		0.4540	0.1573	0.4301	0.4301
<i>Treponema</i> sp. HOT268	0.133	0.272	0.121		50.0	33.3	36.4		0.4561	0.2361	0.3440	0.3440
SR1 [G-1] sp. HOT345	0.060	0.030	0.000		28.6	58.3	27.3		0.4747	0.3946	0.3440	0.3440
<i>Mycoplasma faucium</i>	0.082	0.302	0.164		14.3	8.3	0.0		0.3973	0.4286	0.2838	0.2838
<i>Mycoplasma salivarium</i>	0.245	0.392	0.310		28.6	58.3	45.5		0.3689	0.4041	0.2918	0.2918
TM7 [G-1] sp. HOT346	0.101	0.177	0.204		64.3	91.7	81.8		0.3689	0.4326	0.3180	0.3180
TM7 [G-1] sp. HOT347	0.189	0.202	0.323		28.6	33.3	36.4		0.2288	0.3651	0.3312	0.3312
TM7 [G-1] sp. HOT348	0.254	0.178	0.237		64.3	58.3	90.9		0.2120	0.3195	0.3445	0.3445
TM7 [G-1] sp. HOT349	0.083	0.115	0.038		50.0	41.7	45.5		0.4512	0.3195	0.5038	0.5038
TM7 [G-2] sp. HOT350	0.330	0.152	0.128		21.4	25.0	9.1		0.4537	0.5247	0.3906	0.3906
TM7 [G-5] sp. HOT437					64.3	25.0	27.3		0.4561	0.7744	0.3613	0.3613

Data are presented as mean species prevalence (% of all sequences) and percentage of detection frequencies by caries group (Romanian group with high prevalence of caries and Swedish caries-active and caries-free groups) and as median values among those in whom the species/phylogroup was detected (see Statistics section). Differences between group means and prevalences were tested with the Kruskal-Wallis test and for trend by increasing caries presence with the Jonckheere test. $P \leq 0.008$ is considered statistically significant.

Appendix Table 3. Core Microbiome.

Phylum	Genus	Species/HOMD Taxon	Found in 100% of Subjects	Found in 90% of Subjects		
Actinobacteria	Actinobaculum	Actinobaculum sp. HOT183		Yes		
		Actinomyces	Actinomyces gerencseriae	Yes	Yes	
			Actinomyces naeslundii	Yes	Yes	
			Actinomyces oris	Yes	Yes	
			Actinomyces sp. HOT170	Yes	Yes	
			Actinomyces sp. HOT175	Yes	Yes	
			Actinomyces johnsonii		Yes	
			Actinomyces sp. HOT169		Yes	
			Actinomyces sp. HOT171		Yes	
			Actinomyces sp. HOT180		Yes	
			Actinomyces sp. HOT848		Yes	
			Actinomyces sp. HOT877		Yes	
		Corynebacterium	Corynebacterium matruchotii	Yes	Yes	
			Corynebacterium durum		Yes	
Bacteroidetes	Rothia	Rothia aeria		Yes		
	Alloprevotella	Alloprevotella tanneriae	Yes	Yes		
	Bergeyella	Bergeyella sp. HOT322		Yes		
	Capnocytophaga	Capnocytophaga granulosa	Capnocytophaga gingivalis	Yes	Yes	
		Capnocytophaga leadbetteri	Capnocytophaga sp. HOT326		Yes	
		Capnocytophaga sp. HOT864	Capnocytophaga sputigena		Yes	
		Porphyromonas	Porphyromonas catoniae		Yes	
			Porphyromonas sp. HOT279		Yes	
		Prevotella	Prevotella melaninogenica	Prevotella oris	Yes	Yes
			Prevotella sp. HOT317	Prevotella denticola	Yes	Yes
			Prevotella maculosa	Prevotella nigrescens		Yes
			Prevotella oulorum	Prevotella saccharolytica		Yes
			Prevotella sp. HOT292	Tannerella		Yes
	Tannerella		Tannerella sp. HOT286		Yes	
	Catonella		Catonella morbi		Yes	
	Dialister		Dialister invisus		Yes	
	Eubacterium [11][G-7]		Eubacterium [11][G-7] yurii		Yes	
	Firmicutes	Gemella	Gemella haemolysans		Yes	
			Gemella morbillorum		Yes	
Granulicatella		Granulicatella adiacens	Yes	Yes		
Kongella		Kingella oralis		Yes		
Lachnoanaerobaculum		Lachnoanaerobaculum saburreum	Yes	Yes		
		Lachnoanaerobaculum umeaense		Yes		
Lachnospiraceae [G-3]		Lachnospiraceae [G-3] sp. HOT100	Streptococcus cristatus	Yes	Yes	
		Streptococcus	Streptococcus mitis	Yes	Yes	
		Streptococcus mitis bv2	Streptococcus sanguinis	Yes	Yes	
		Streptococcus sp. HOT58	Streptococcus australis	Yes	Yes	
		Streptococcus gordonii	Streptococcus infantis		Yes	
		Streptococcus intermedius	Streptococcus salivarius		Yes	
		Streptococcus sp. HOT071	Streptococcus sp. HOT071		Yes	
	Veillonella	Veillonella parvula	Yes	Yes		
		Veillonella dispar		Yes		
	Fusobacteria	Fusobacterium	Fusobacterium nucleatum subsp. polymorphum	Yes	Yes	
F. nucleatum subsp. vincentii			Yes	Yes		
F. nucleatum subsp. animalis			Yes	Yes		

(continued)

Appendix Table 3. (continued)

Phylum	Genus	Species/HOMD Taxon	Found in 100% of Subjects	Found in 90% of Subjects	
	<i>Leptotrichia</i>	<i>Fusobacterium periodonticum</i>		Yes	
		<i>Leptotrichia buccalis</i>		Yes	
		<i>Leptotrichia hofstadii</i>		Yes	
		<i>Leptotrichia hongkongensis</i>		Yes	
		<i>Leptotrichia</i> sp. HOT212		Yes	
		<i>Leptotrichia</i> sp. HOT215		Yes	
		<i>Leptotrichia</i> sp. HOT225		Yes	
		<i>Leptotrichia</i> sp. HOT392		Yes	
		<i>Leptotrichia</i> sp. HOT417		Yes	
		<i>Leptotrichia wadei</i>		Yes	
Proteobacteria	<i>Campylobacter</i>	<i>Campylobacter gracilis</i>	Yes	Yes	
		<i>Campylobacter concisus</i>		Yes	
		<i>Campylobacter showae</i>		Yes	
		<i>Eikenella</i>	<i>Eikenella corrodens</i>	Yes	Yes
		<i>Kingella</i>	<i>Kingella oralis</i>		Yes
	<i>Lautropia</i>	<i>Lautropia mirabilis</i>		Yes	
Spirochaetes	<i>Treponema</i>	<i>Treponema socranskii</i> subsp. <i>buccale</i>		Yes	

Species/phylogenotypes shared by 100% (24 species) and by 90% (78 species) of the 37 adolescents with pyrosequencing information.

Appendix Table 4. Species/Phylogenotypes Associated with the 3 Caries Groups.

	VIP Value	
	Romania: High Prevalence of Caries	Sweden: Caries Active / Sweden: Caries Free
Species associated with the Romanian high caries group		
<i>Streptococcus sobrinus</i> by PCR	1.88	
<i>Streptococcus mutans</i> by PCR	1.23	
<i>S. sobrinus</i> by qPCR	1.31	
<i>Abiotrophia defectiva</i>	1.40	
<i>Alloprevotella</i> sp. HOT473	1.34	
<i>Alloprevotella</i> sp. HOT914	1.21	
<i>Catonella</i> sp. HOT164	1.15	
<i>Fusobacterium periodonticum</i>	1.16	
<i>Granulicatella elegans</i>	1.57	
<i>Lachnospiraceae</i> [G-2] sp. HOT096	1.14	
<i>Lactobacillus vaginalis</i>	1.01	
<i>Leptotrichia</i> sp. HOT218	1.27	
<i>Leptotrichia</i> sp. HOT463	1.16	
<i>Leptotrichia</i> sp. HOT909	1.39	
<i>Neisseria flavescens</i>	1.09	
<i>Neisseria pharynges</i>	1.24	
<i>Neisseria sicca</i>	1.04	
<i>Parvimonas</i> sp. HOT393	1.22	
<i>Peptostreptococcaceae</i> [I1][G-4] sp. HOT369	1.01	
<i>Peptostreptococcus stomatis</i>	1.18	
<i>Porphyromonas</i> sp. HOT275	1.12	
<i>Porphyromonas</i> sp. HOT277	1.02	
<i>Porphyromonas</i> sp. HOT278	1.02	
<i>Prevotella dentalis</i>	1.07	
<i>Prevotella multiformis</i>	1.06	
<i>Shuttleworthia satelles</i>	1.13	
<i>Streptococcus australis</i>	1.23	
<i>Streptococcus cristatus</i>	1.30	
<i>Streptococcus sanguinis</i>	1.25	
<i>Streptococcus sinensis</i>	1.07	
<i>S. sobrinus</i>	1.19	

(continued)

Appendix Table 4. (continued)

	VIP Value		
	Romania: High Prevalence of Caries	Sweden: Caries Active	Sweden: Caries Free
<i>Streptococcus</i> sp. HOT074	1.10		
<i>Streptococcus</i> sp. HOT431	1.49		
Species associated with the Romanian high caries and Swedish caries-active groups			
<i>Dialister pneumosintes</i>	1.22	1.22	
<i>Gemella haemolysans</i>	1.00	1.00	
<i>Leptotrichia shahii</i>	1.68	1.68	
<i>Peptostreptococcaceae</i> [I I][G-2] sp. HOT091	1.07	1.07	
<i>Porphyromonas catoniae</i>	1.26	1.26	
<i>Prevotella</i> sp. HOT301	1.12	1.12	
<i>Streptococcus mitis</i>	1.00	1.00	
<i>Streptococcus</i> sp. HOT070	1.09	1.09	
Sweet snacks and species associated with the Swedish caries-active and caries-free groups			
Chocolate		2.50	2.50
Sweets		2.21	2.21
Ice cream		2.05	2.05
<i>Actinomyces</i> sp. HOT525		1.01	1.01
<i>Capnocytophaga</i> sp. HOT336		1.13	1.13
<i>Fusobacterium nucleatum</i> subsp. <i>animalis</i>		1.14	1.14
<i>Prevotella maculosa</i>		1.10	1.10
<i>Prevotella nigrescens</i>		1.31	1.31
Species associated with the Swedish caries-active group			
<i>Actinobaculum</i> sp. HOT183		1.19	
<i>Actinomyces</i> sp. HOT175		1.26	
<i>Actinomyces</i> sp. HOT446		1.21	
<i>Actinomyces</i> sp. HOT448		1.79	
<i>Actinomyces</i> sp. HOT877		1.38	
<i>Alloprevotella tanneriae</i>		1.90	
<i>Bacteroidales</i> [G-2] sp. HOT274		1.11	
<i>Bergeyella</i> sp. HOT907		1.21	
<i>Capnocytophaga</i> sp. HOT324		1.60	
<i>Capnocytophaga</i> sp. HOT326		1.00	
<i>Capnocytophaga</i> sp. HOT864		1.26	
<i>Eubacterium</i> [I I][G-1] <i>infirmum</i>		1.23	
<i>F. nucleatum</i> subsp. <i>polymorphum</i>		1.02	
<i>F. nucleatum</i> subsp. <i>vincentii</i>		1.27	
<i>Gemella bergeri</i>		1.41	
<i>Kingella oralis</i>		1.02	
<i>Lachnoanaerobaculum saburreum</i>		1.08	
<i>Leptotrichia buccalis</i>		1.80	
<i>Mitsuokella</i> sp. HOT521		1.18	
<i>Parvimonas</i> sp. HOT110		1.19	
<i>Prevotella enoeca</i>		1.01	
<i>Prevotella marshii</i>		1.37	
<i>Prevotella oralis</i>		1.18	
<i>Prevotella pleuritidis</i>		1.12	
<i>Prevotella</i> sp. HOT293		1.66	
<i>Selenomonas infelix</i>		1.29	
<i>Selenomonas</i> sp. HOT138		1.72	
<i>Selenomonas</i> sp. HOT892		1.45	
<i>Streptococcus constellatus</i>		1.09	
TM7 [G-1] sp. HOT348		1.07	
TM7 [G-1] sp. HOT349		1.24	
<i>Treponema socranskii</i>		1.03	
<i>Veillonella parvula</i>		1.05	
Species associated with the Swedish caries-free group			
<i>Actinomyces johnsonii</i>			1.12
<i>Actinomyces massiliensis</i>			1.32
<i>Actinomyces naeslundii</i>			1.26
<i>Actinomyces oris</i>			1.10

(continued)

Appendix Table 4. (continued)

	VIP Value	
	Romania: High Prevalence of Caries	Sweden: Caries Active Sweden: Caries Free
<i>Actinomyces</i> sp. HOT171		1.48
<i>Actinomyces</i> sp. HOT177		1.95
<i>Actinomyces</i> sp. HOT180		1.46
<i>Actinomyces</i> sp. HOT449		1.12
<i>Campylobacter gracilis</i>		1.82
<i>Capnocytophaga</i> sp. HOT335		1.64
<i>Clostridiales</i> [F-2][G-1] sp. HOT075		1.12
<i>Dialister invisus</i>		1.04
<i>F. nucleatum</i> subsp. <i>nucleatum</i>		1.15
<i>Leptotrichia</i> sp. HOT215		1.15
<i>Mycoplasma faucium</i>		1.01
<i>Mycoplasma salivarium</i>		1.23
<i>Prevotella denticola</i>		1.15
<i>Prevotella fusca</i>		1.12
<i>Prevotella histicola</i>		1.37
<i>Prevotella</i> sp. HOT300		1.00
<i>Prevotella</i> sp. HOT309		1.10
<i>Selenomonas noxia</i>		1.57
<i>Selenomonas</i> sp. HOT137		1.46
<i>Selenomonas</i> sp. HOT140		1.03
<i>Streptococcus pneumoniae</i>		1.02
<i>Streptococcus</i> sp. HOT071		1.14
Species associated with the Romanian high caries and Swedish caries-free groups		
<i>Atopobium parvulum</i>	1.28	1.28
<i>Lachnospiraceae</i> [G-2] sp. HOT088	1.14	1.14
<i>Leptotrichia</i> sp. HOT879	1.01	1.01
<i>Neisseria elongata</i>	1.20	1.20
<i>Porphyromonas</i> sp. HOT279	1.49	1.49
<i>Streptococcus mitis</i> bv2	1.24	1.24

Variable Importance in Projection (VIP) values for *S. mutans* by polymerase chain reaction (PCR), *S. sobrinus* by PCR and quantitative PCR (qPCR), 108 species/phylotypes, and sweet snacks that were either highly influential (VIP > 1.5) or influential (VIP > 1.0) in the partial least squares projection. For the remaining 187 species/phylotypes and *S. mutans* by qPCR, the VIP values were <1.0. For variables associated with 2 groups, the VIP value is presented in both columns, and VIP > 1.5 is indicated in red.

Appendix Reference

Chen T, Yu WH, Izard J, Baranova OV, Lakshmanan A, Dewhirst FE. 2010. The Human Oral Microbiome Database: a web accessible resource for investigating oral microbe taxonomic and genomic information. Database (Oxford). 6:baq013.