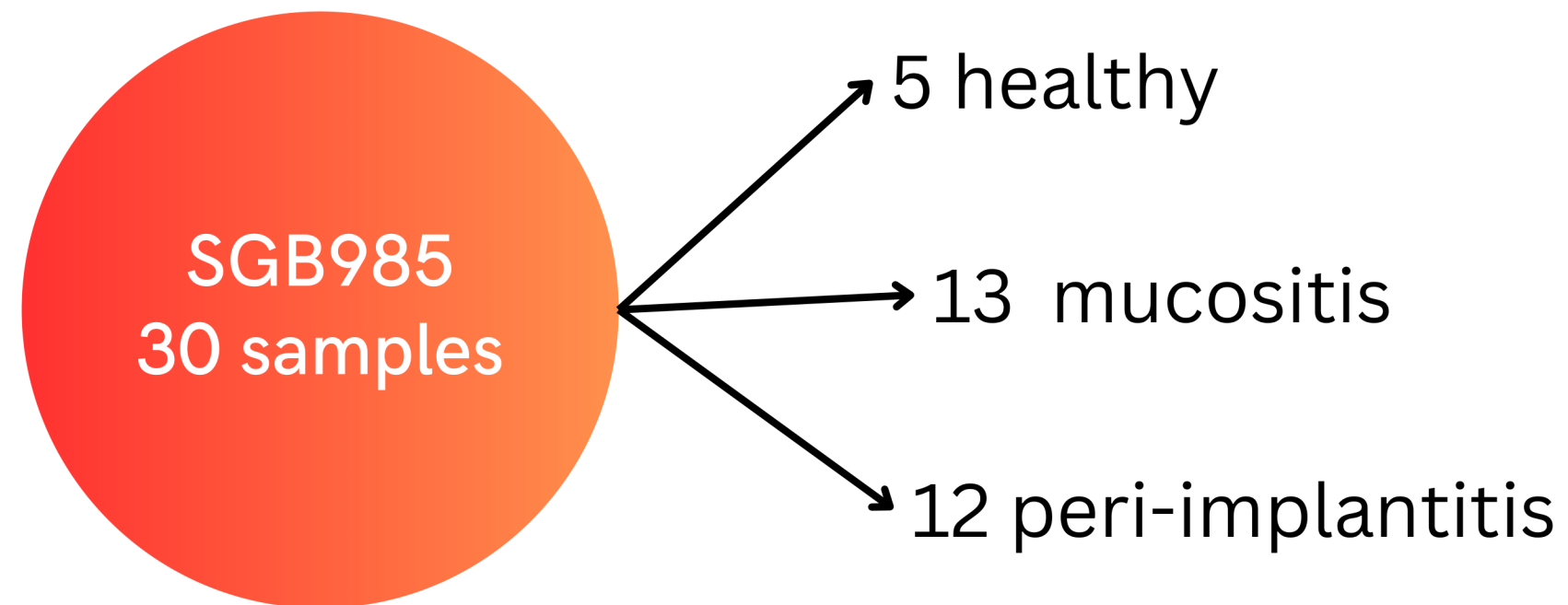


COMPUTATIONAL MICROBIAL GENOMICS

Analysis of an uSGB found in dental plaques

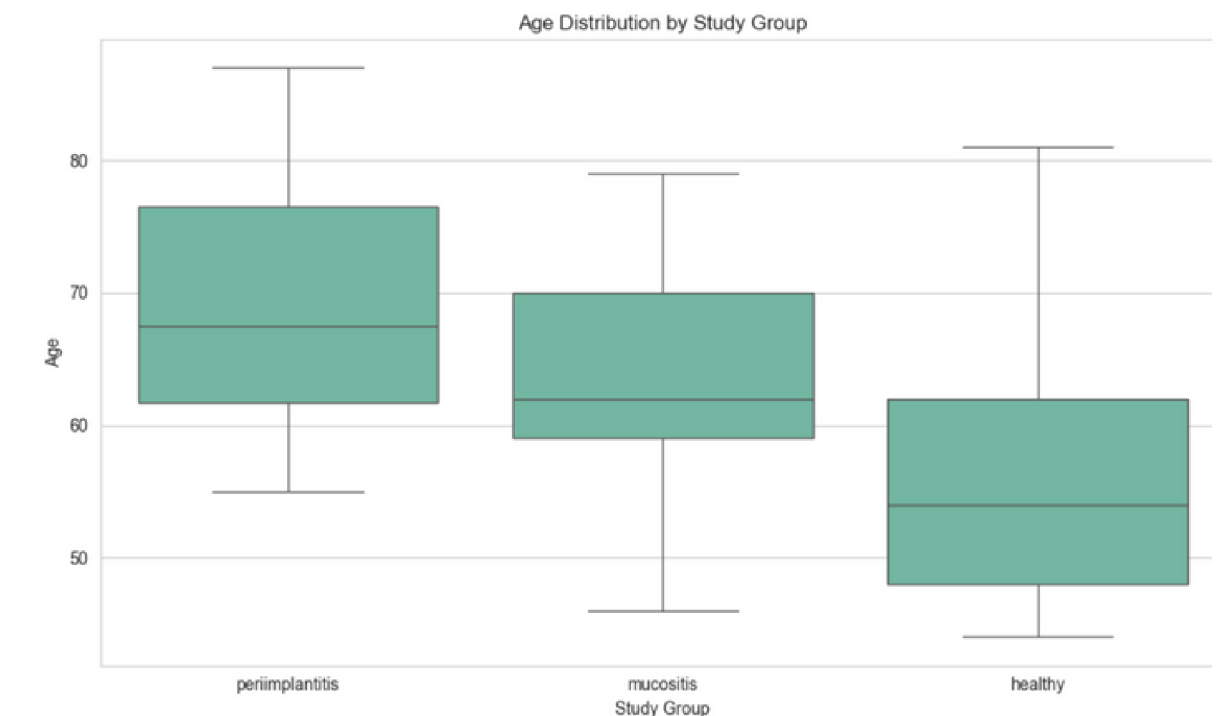
Zehra Korkusuz & Eevi Sipponen

METADATA

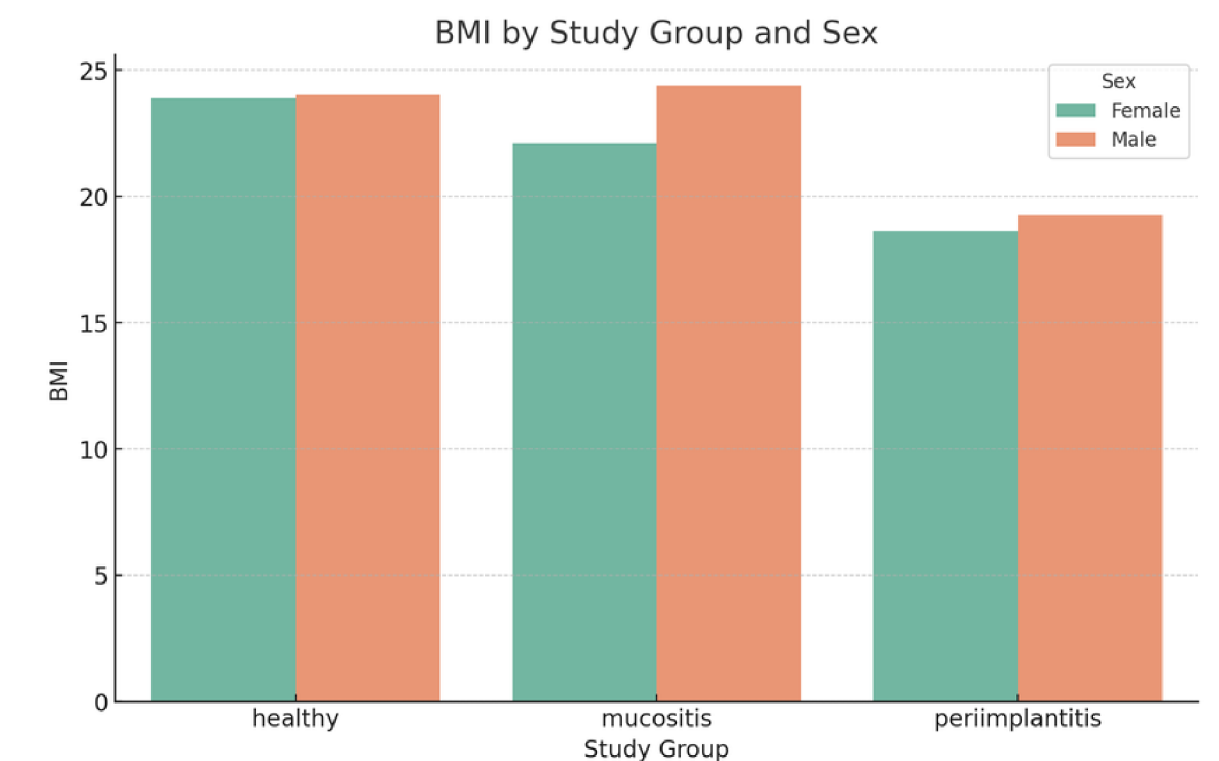


- smoking status or BMI didn't have connection to health status

- Martinez-Amargant, J., de Tapia, B., Pascual, A., Takamoli, J., Esquinas, C., Nart, J., & Valles, C. (2023). Association between smoking and peri-implant diseases: A retrospective study. *Clinical Oral Implants Research*, 34, 1127–1140
- Zintel S, Flock C, Arbogast AL, Forster A, von Wagner C, Sieverding M. Gender differences in the intention to get vaccinated against COVID-19: a systematic review and meta-analysis. *Z Gesundh Wiss*. 2022 Jan 7:1-25. doi: 10.1007/s10389-021-01677-w. Epub ahead of print. PMID: 35018277; PMCID: PMC8739532.
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smoking_history	health_status		disease_stage	
	No	Yes	No	Yes
Healthy	2	3	mucositis	7
Unhealthy	15	10	periimplantitis	8
				4



QUALITY & TAXONOMY

- no low quality genomes, 13 medium quality and 17 high quality
- all MAGs belonged to same kSGB
- *L. rimae* is isolated from human gingival crevice
 - associated with periodontal diseases*

Parameter	Our data	<i>L.rimae</i> type strain
Average Genome Size	1,460 MB	1,6 MB
Average GC content	49,7%	49,5%
Average number of contigs	110,4	9

Kingdom: *Bacteria*

—— Phylum: *Actinobacteria*

—— Class: *Coriobacteriia*

—— Order: *Coriobacteriales*

—— Family: *Atopobiaceae*

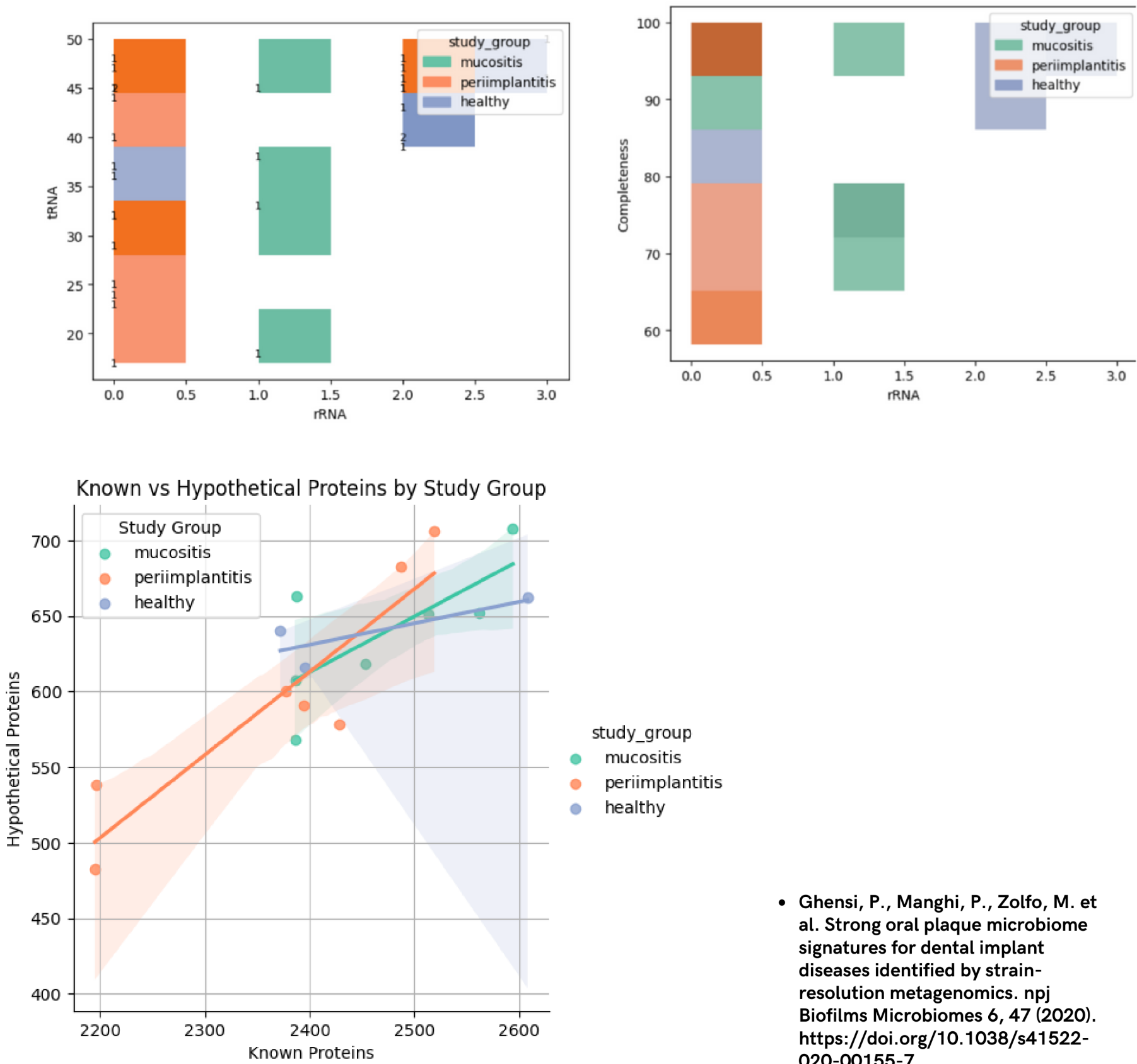
—— Genus: *Lancefieldella*

—— Species: *Lancefieldella rimae*

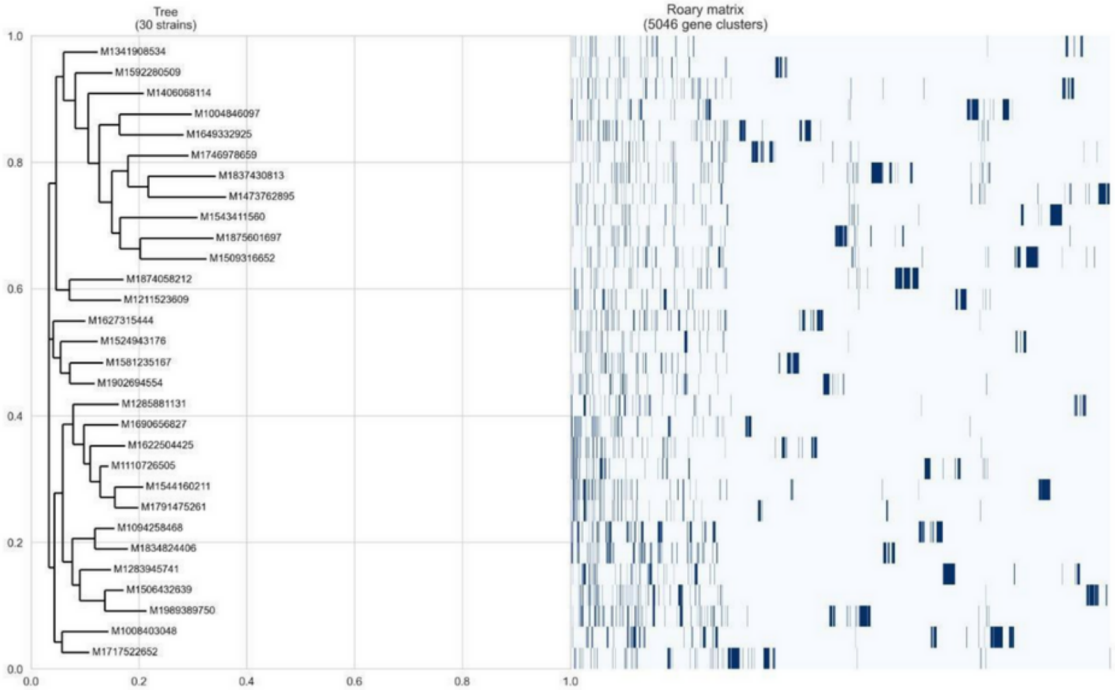
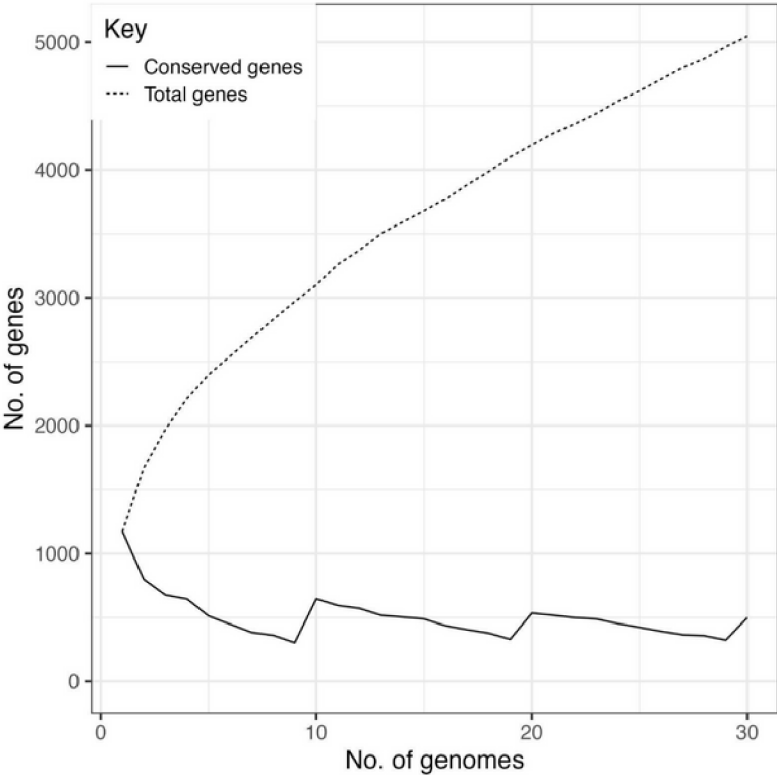
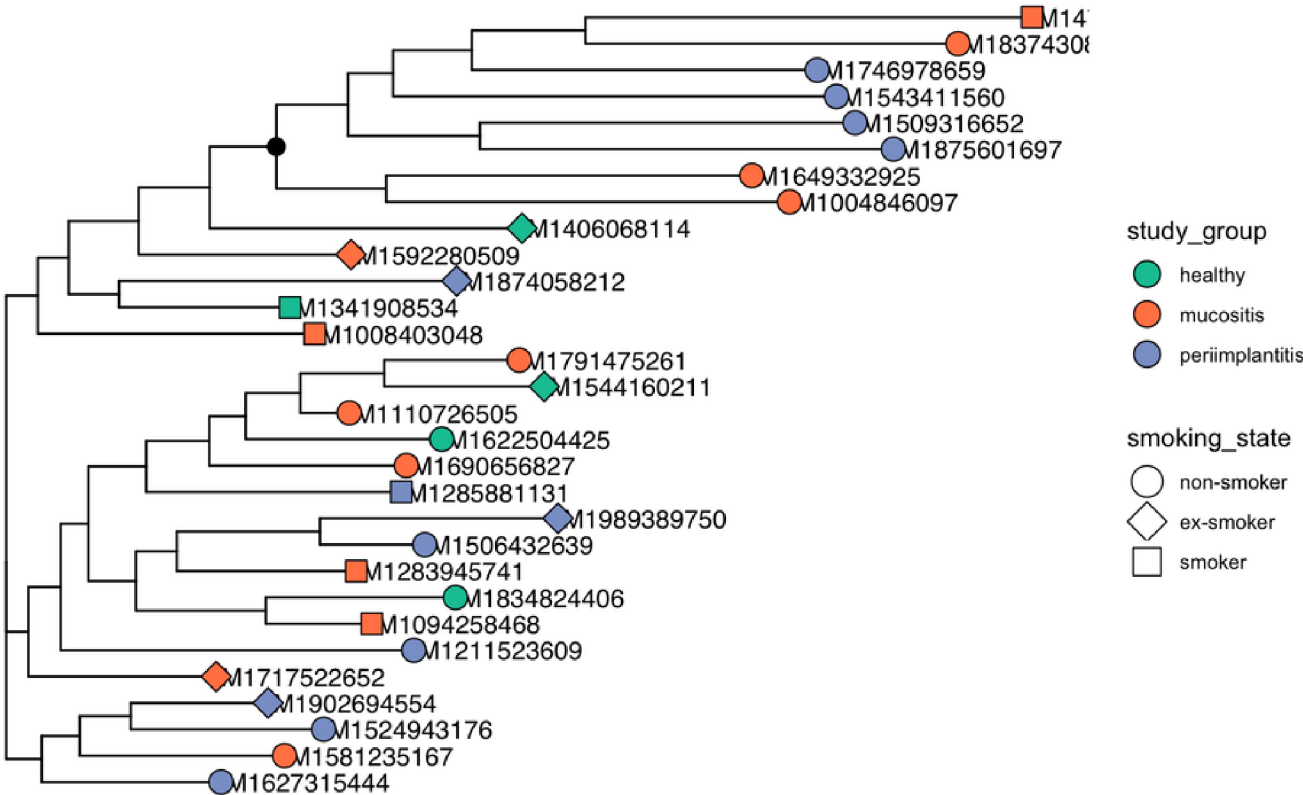
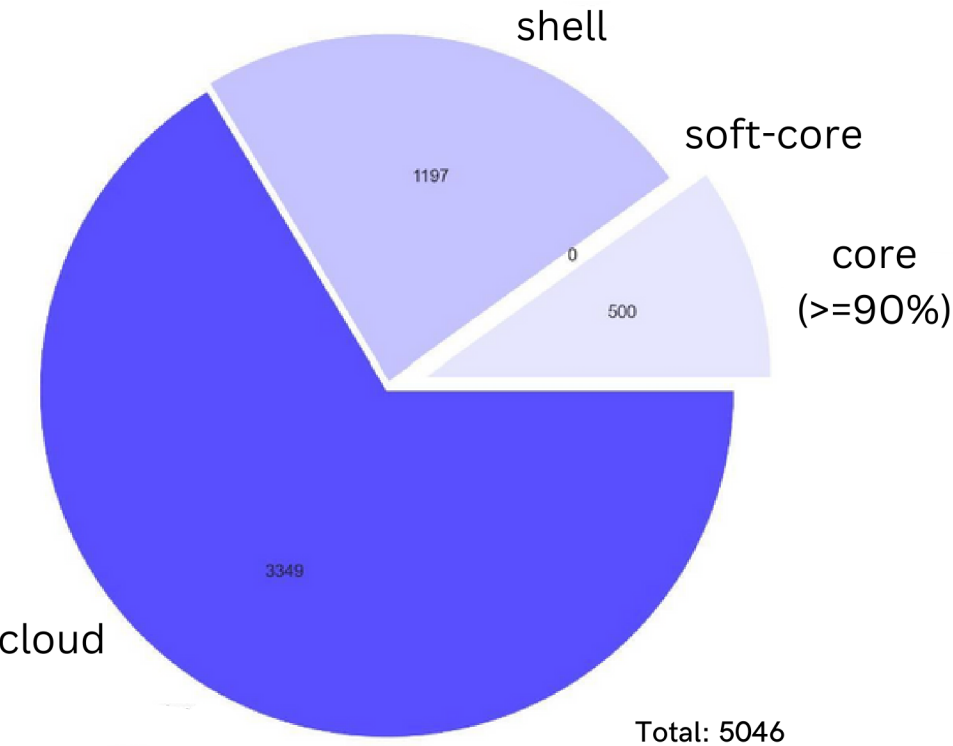
- (*)Veras EL, Castro Dos Santos N, Souza JGS, Figueiredo LC, Retamal-Valdes B, Barão VAR, Shibli J, Bertolini M, Faveri M, Teles F, Duarte P, Feres M. Newly identified pathogens in periodontitis: evidence from an association and an elimination study. J Oral Microbiol. 2023 May 27;15(1):2213111. doi: 10.1080/20002297.2023.2213111. PMID: 37261036; PMCID: PMC10228317.
- Meffert RM. Periodontitis vs. peri-implantitis: the same disease? The same treatment? Crit Rev Oral Biol Med. 1996;7(3):278-91. doi: 10.1177/10454411960070030501. PMID: 8909882.

GENOME ANNOTATION

	Average	Minimum value	Maximum value
tRNA	39	17	50
rRNA	2	1	3
tmRNA	1	1	1
CDS	1305	806	1603
Known Proteins	2143	1285	2608
Hypothetical Proteins	548	362	703



PANGENOME & PHYLOGENETIC TREE



CONCLUSIONS

- all MAGs from kSGB985
- good quality of genomes
- genomes from *Lancefieldella rimae*
- genomes characteristics consistent with *L.rimae* reference strain
- open pangenome
- peri-implantitis samples had more incomplete genomes that resulted in lack of rRNA annotation
 - low abundance in the peri-implantitis due to pathogen bacteria's dominance
- two clades of phylogenetic trees with only diseased samples can be distinguished

Additional Slides

Can we rely on the rRNA count? Why?

