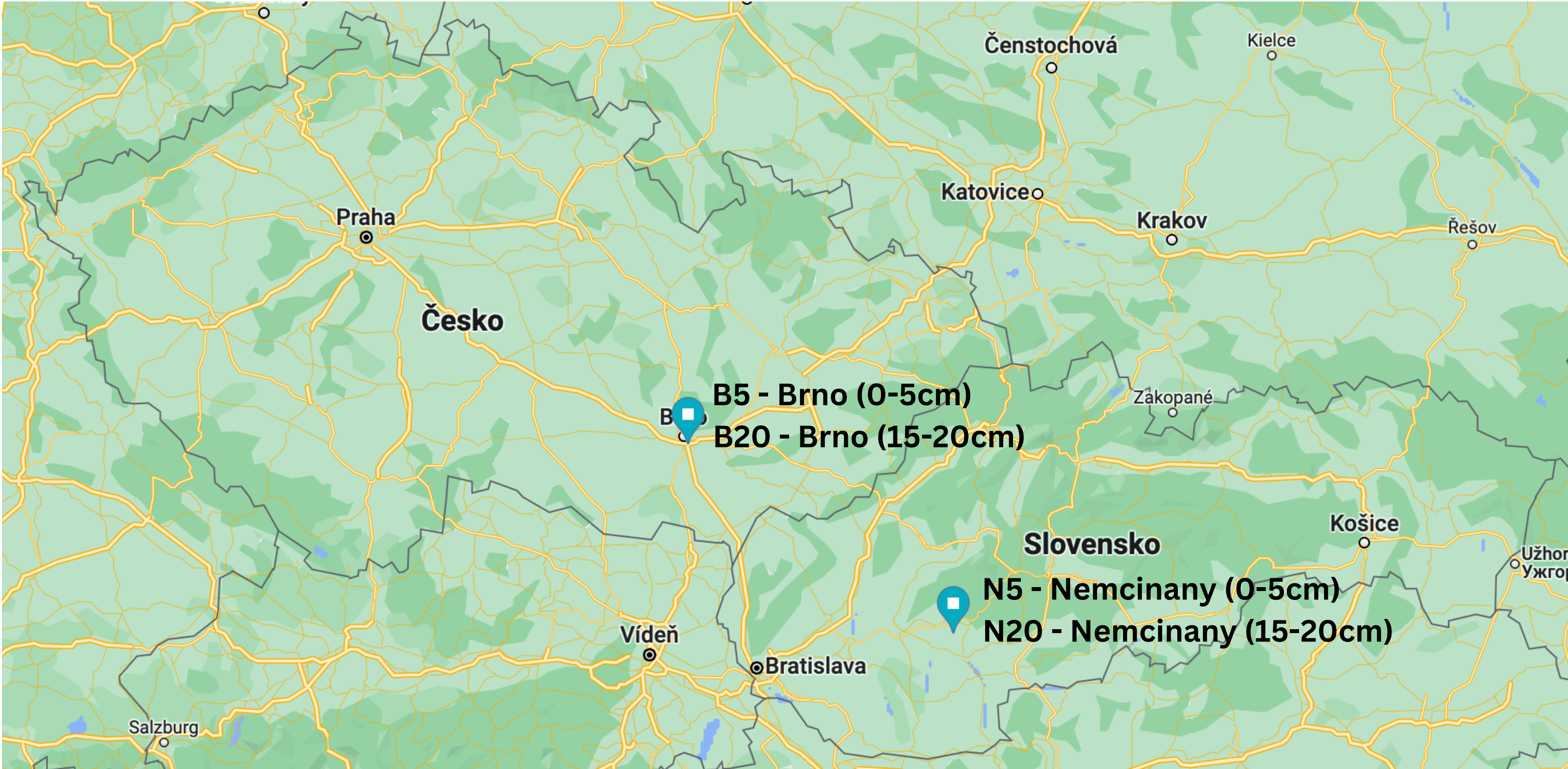


IV114 - project

Mišenko, Šuľan, Horváth

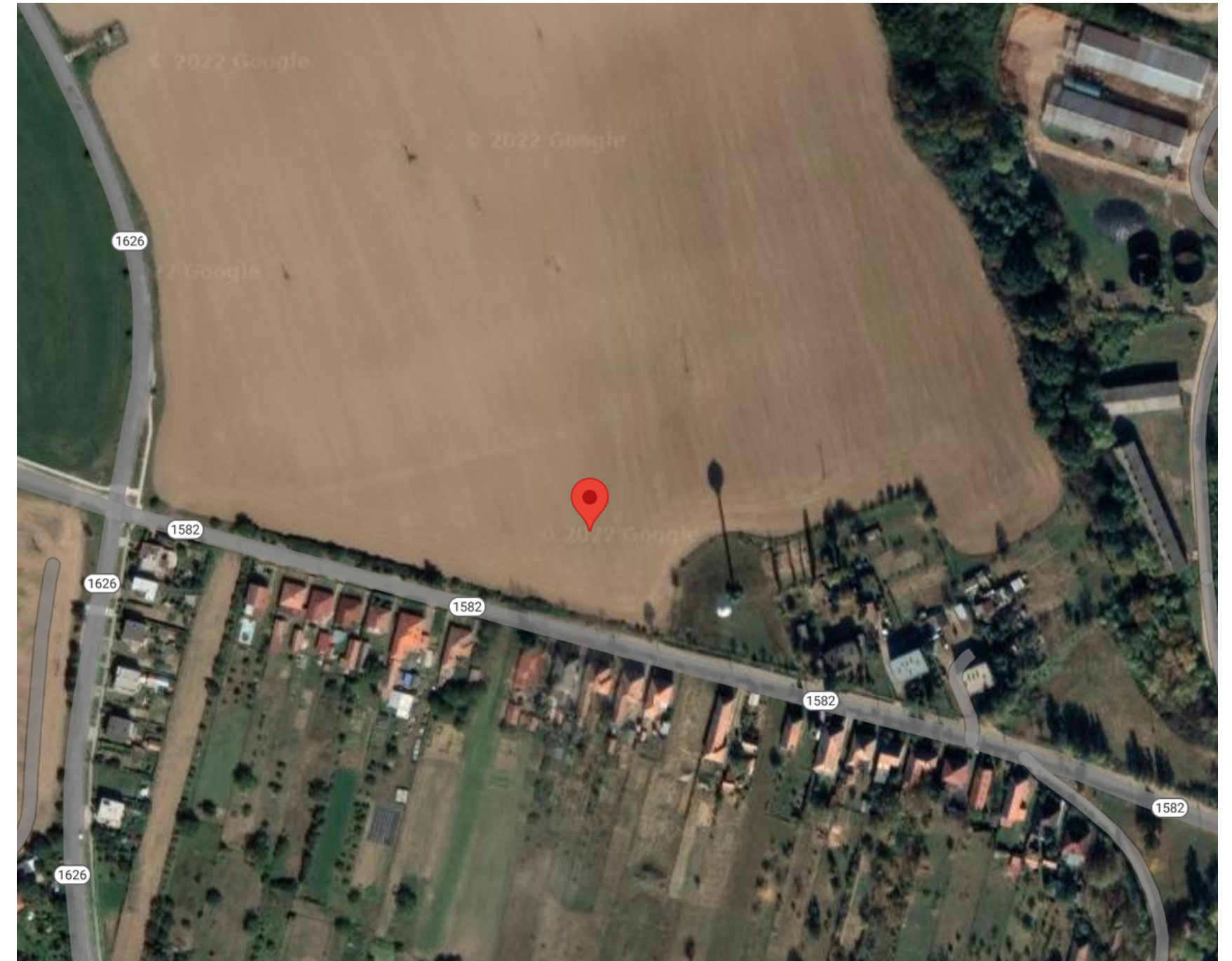
Locations



Locations

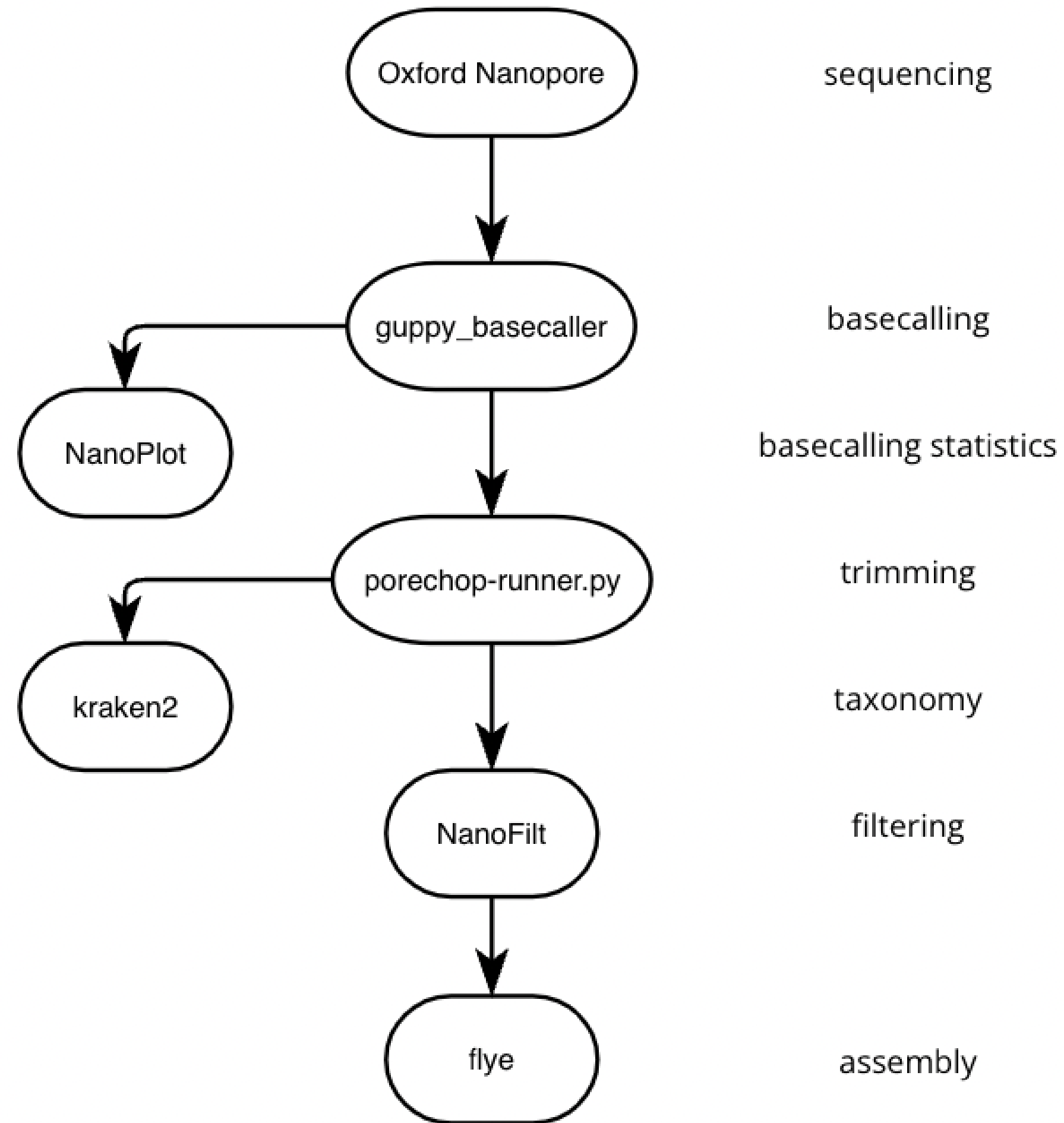


Brno - 49.164400,16.639390



Nemčinany - 48.311130,18.447720

Workflow*



*<https://gitlab.fi.muni.cz/xhorvat9/iv114-metagenomic-assembly/>

Basecalling Results

Guppy + Nanoplot

Long reads

B5

- 17523 (Q 15.5)
- Best hits:
 - ✗○ *Baekduia soli* (10429)
 - ✗○ *Paraconexibacter* sp. 02-257 (8015)
 - ✗○ *Capillimicrobium parvum* (7827)

B20*

- 21978 (Q 14.2)
- Best hits:
 - ✓○ *Haliangium ochraceum* (6315)
 - ✓○ *Methylobacterium aquaticum* (1118)

N5

- 23116 (Q 16.1)
- Hits:
 - ✓○ *Burkholderia vietnamiensis* (4660)
 - ✓○ *Schlegelella thermodepolymerans* (4051)
 - ✓○ *Ralstonia solanacearum* (4041)

N20

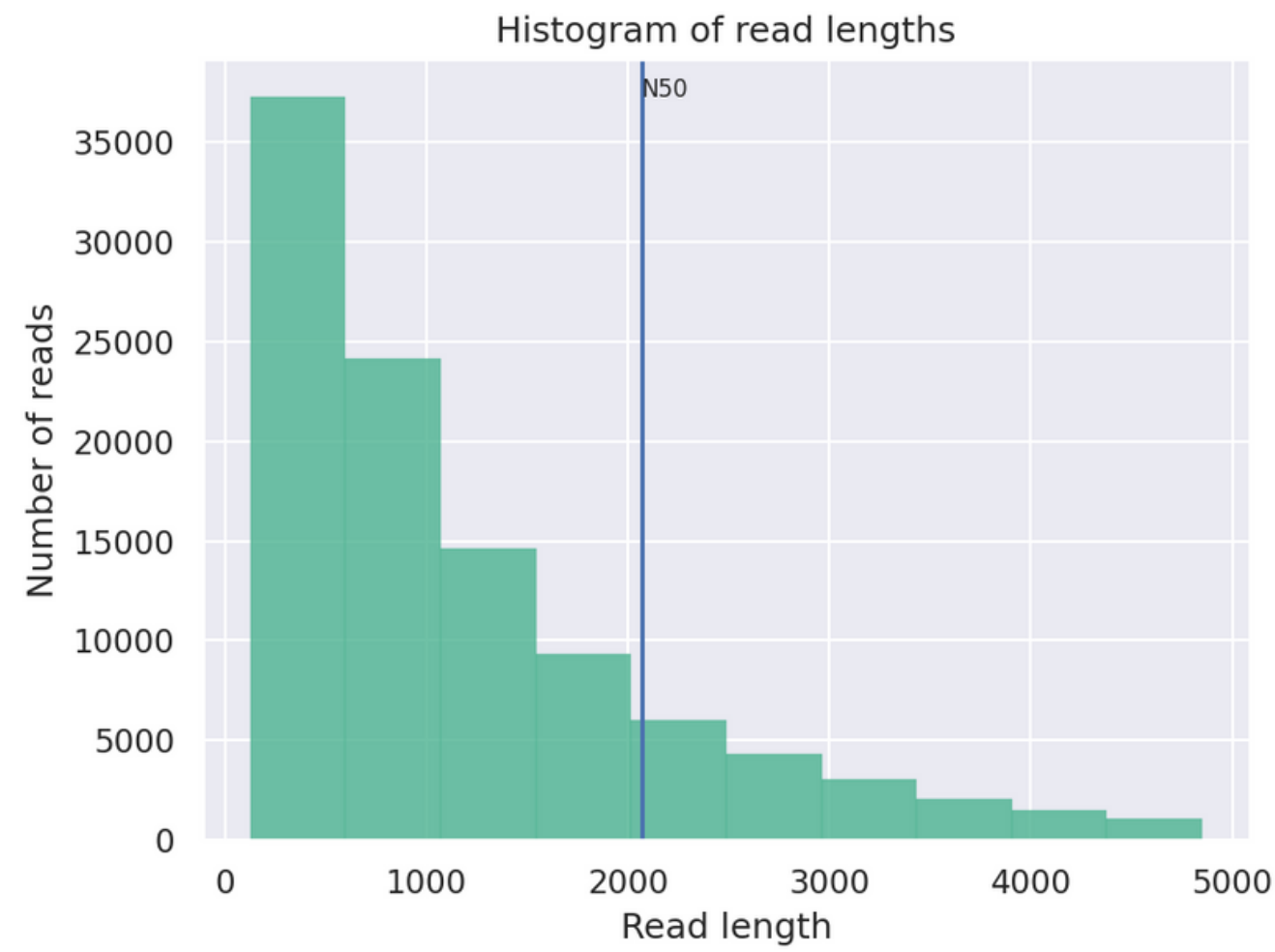
- 23914 (Q 16.0)
- Hits:
 - ✓○ *Acidobacteria bacterium* (4596)
 - ✓○ *Luteitalea pratensis* (2870)

✗ - not found in metagenome taxonomy

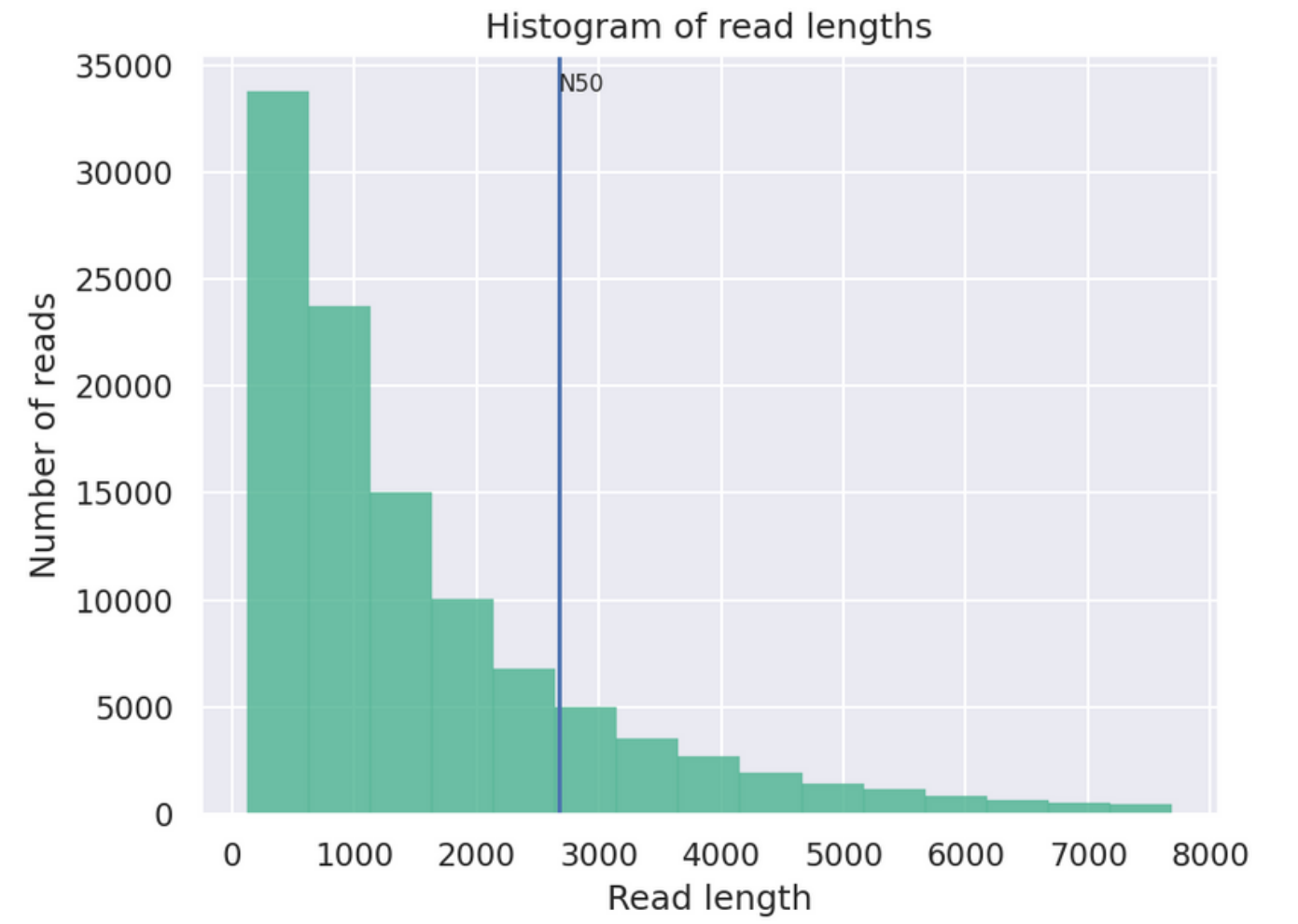
✓ - found in metagenome taxonomy

*Longest sequence 447674, overpresent GT repetitions (195632 times), Possibly artefact

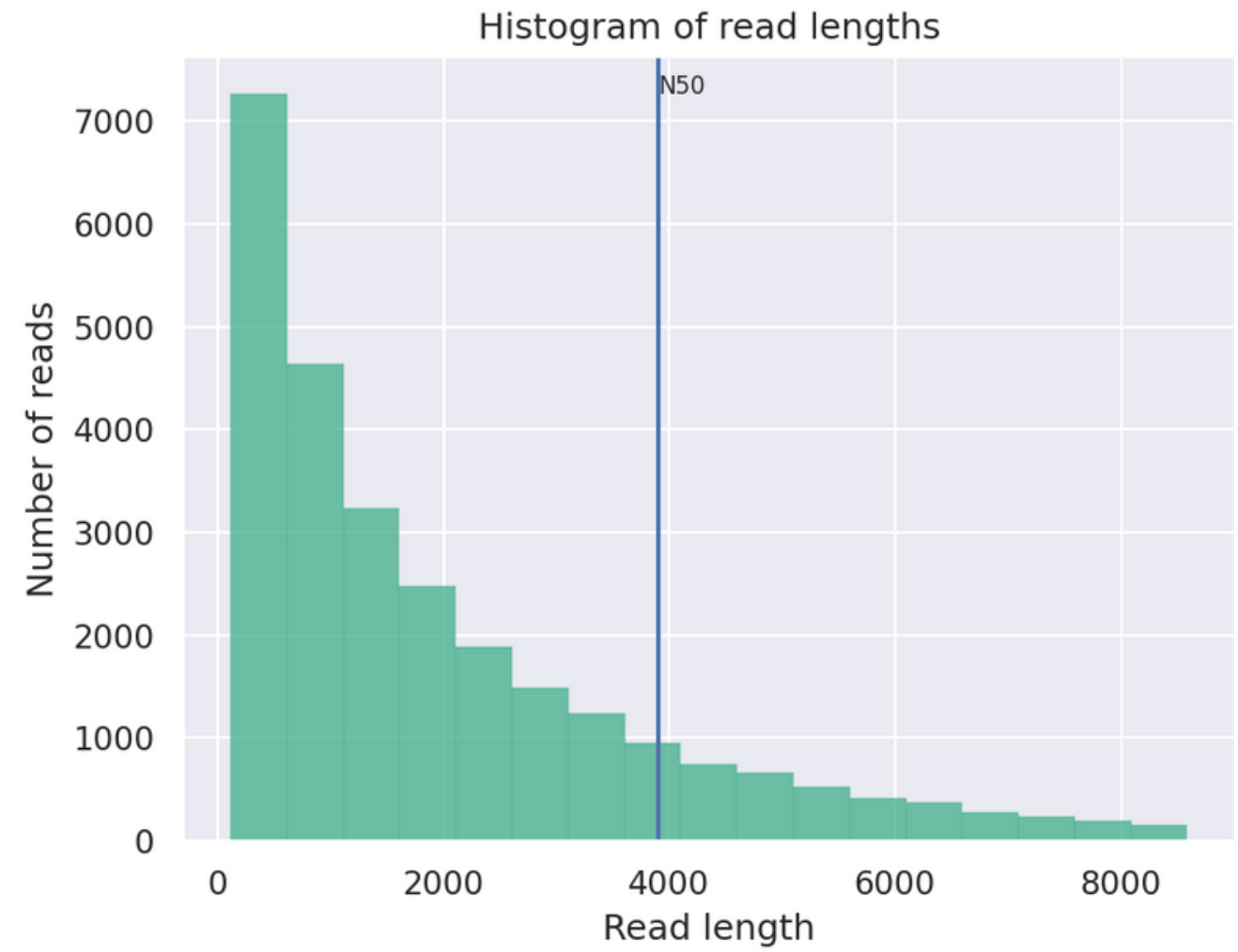
B 5



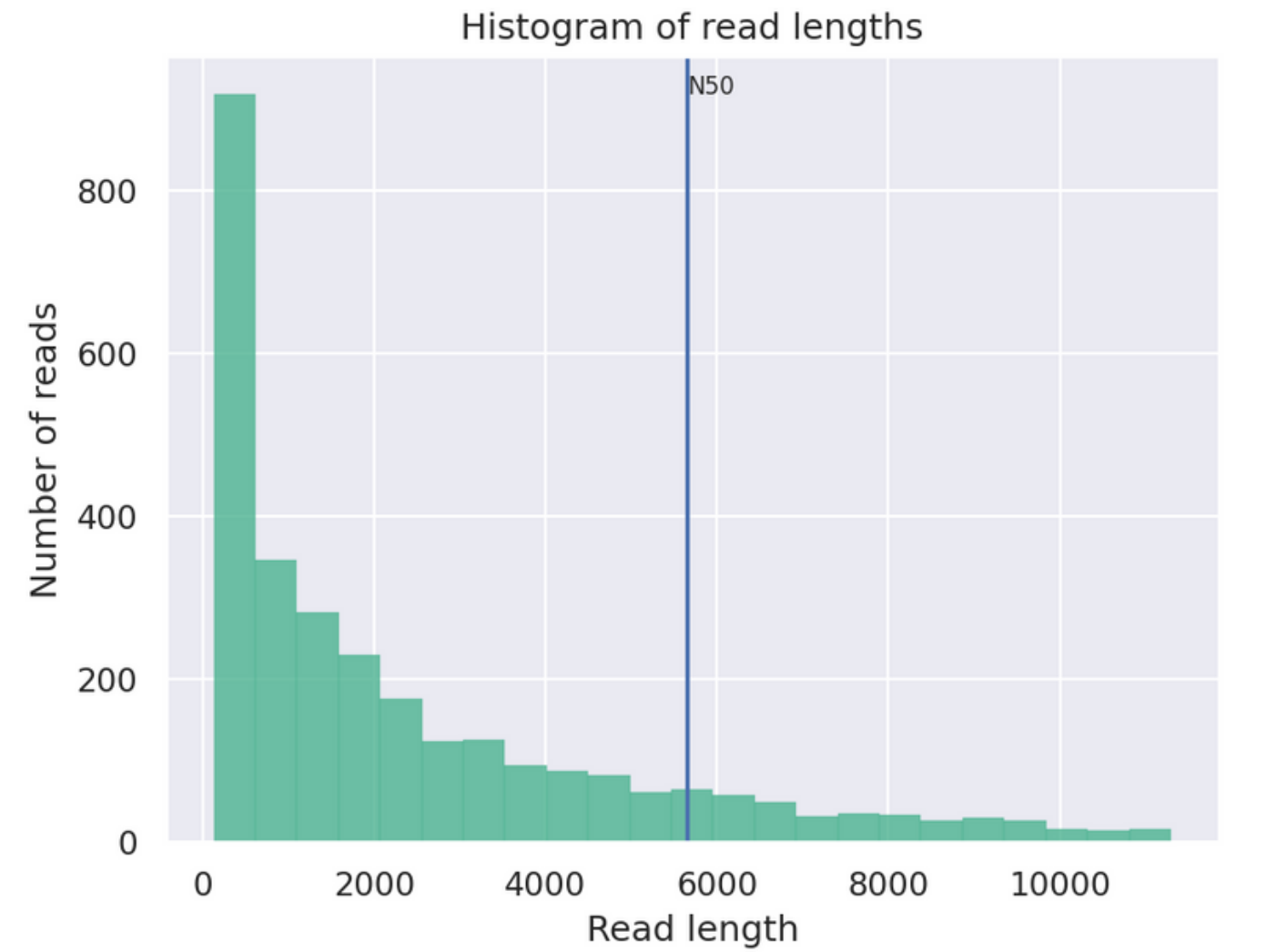
B 20



N 5



N 20



Read Quality

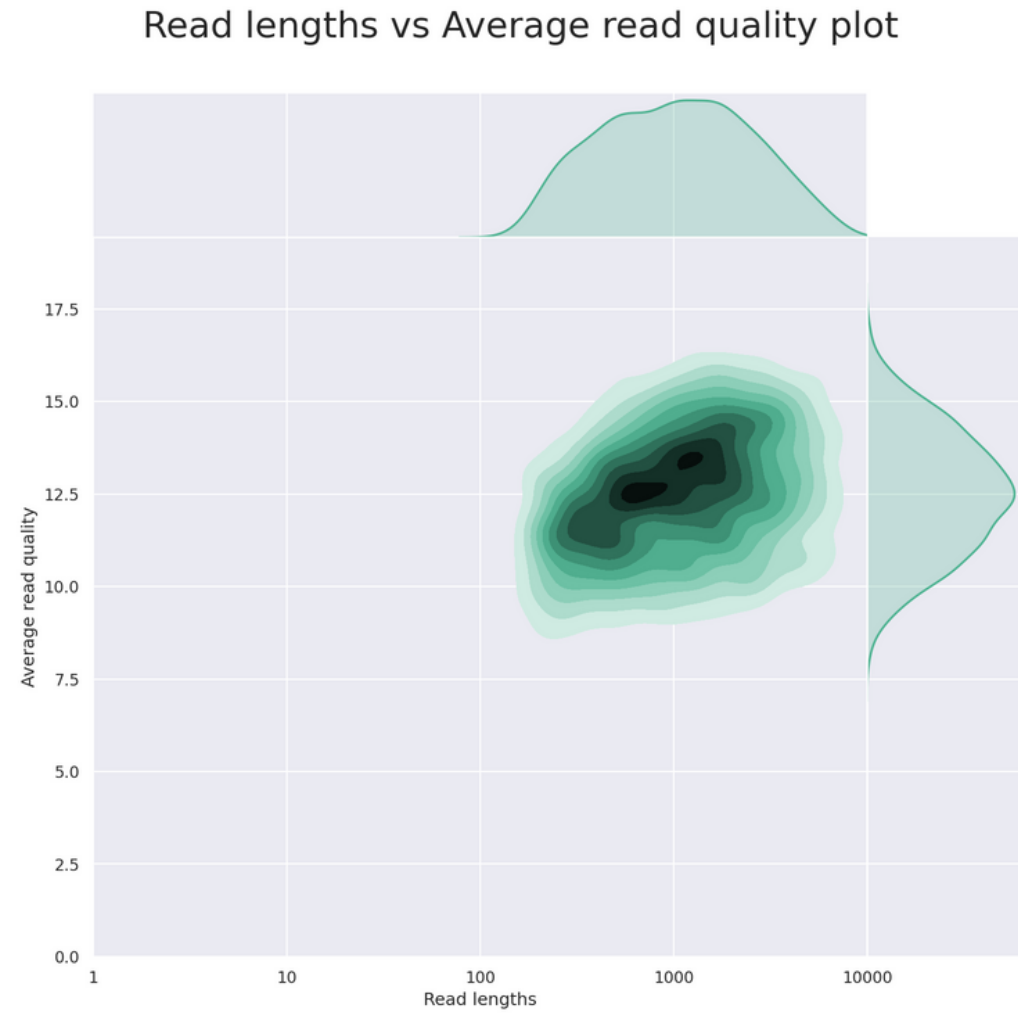
B 5



B 20



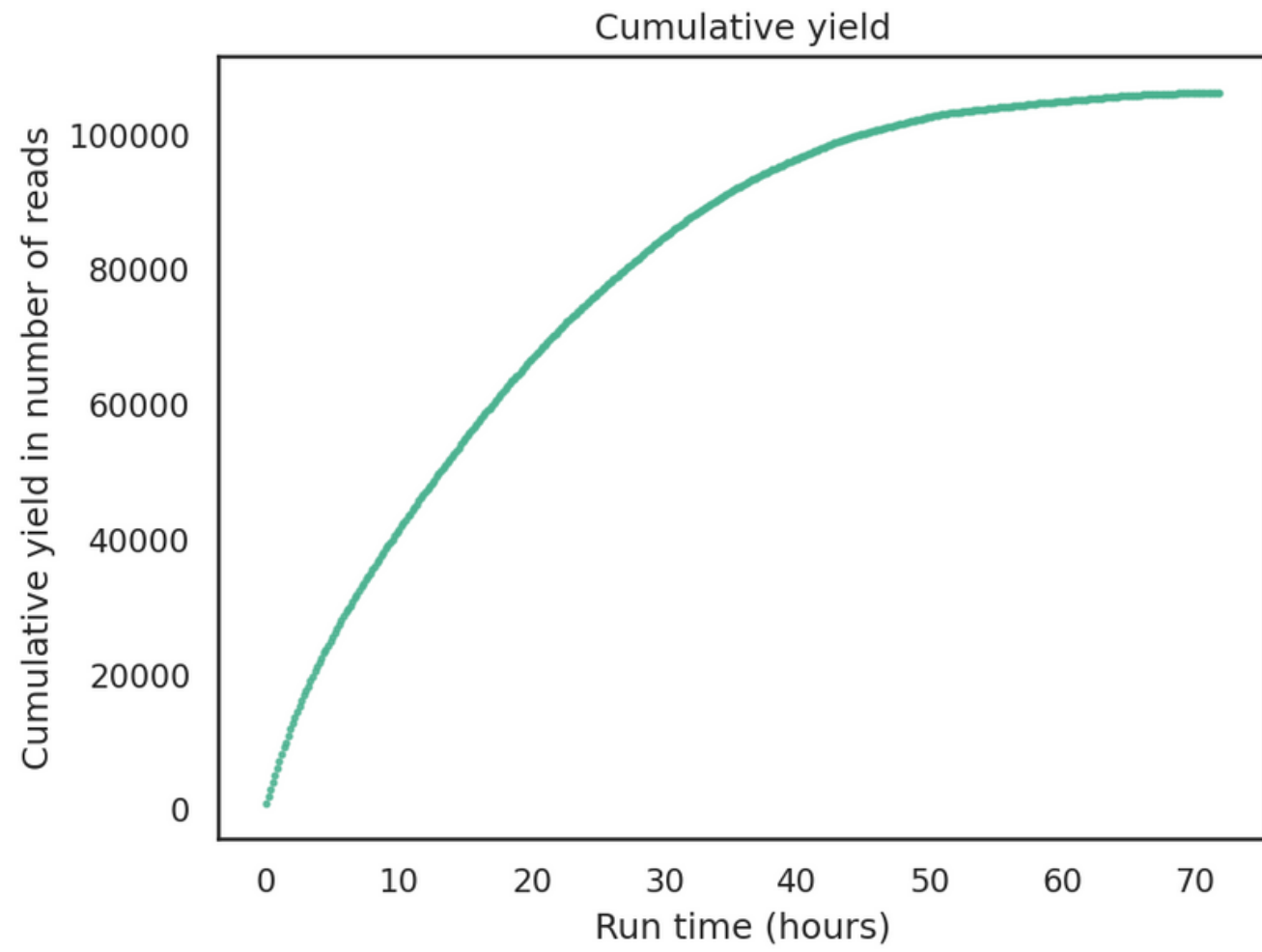
N 5



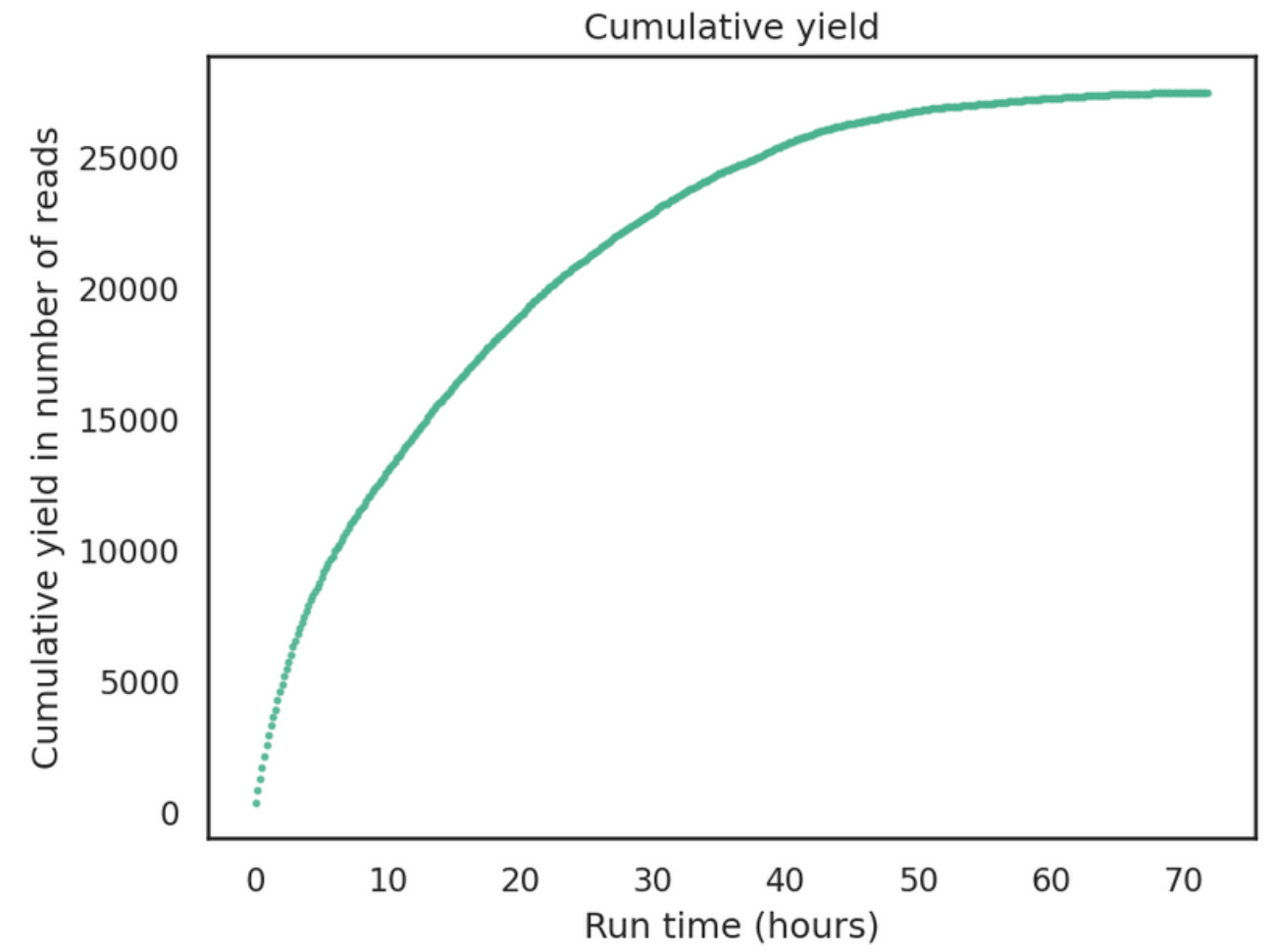
N 20



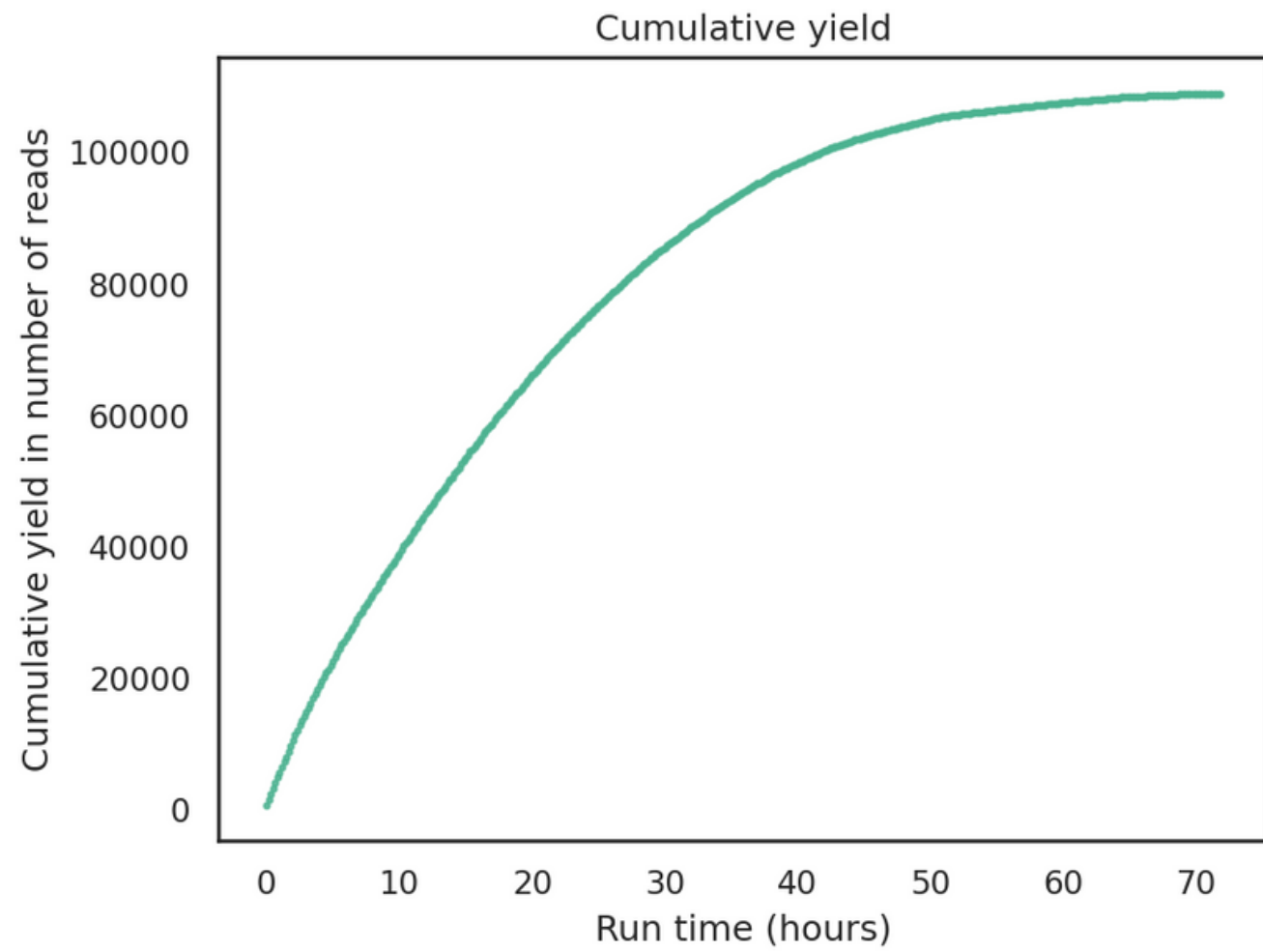
B 5



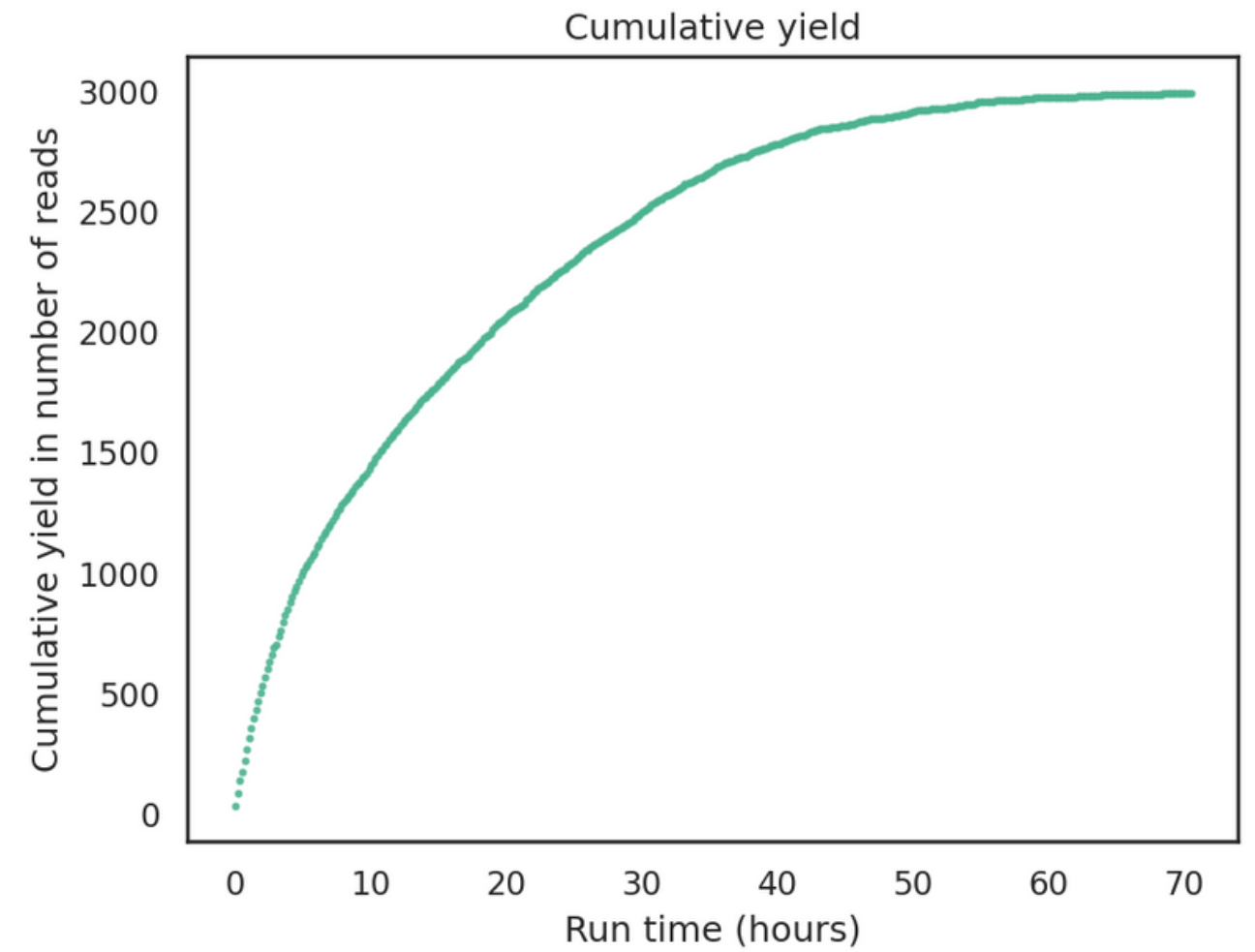
B 20



N 5



N 20

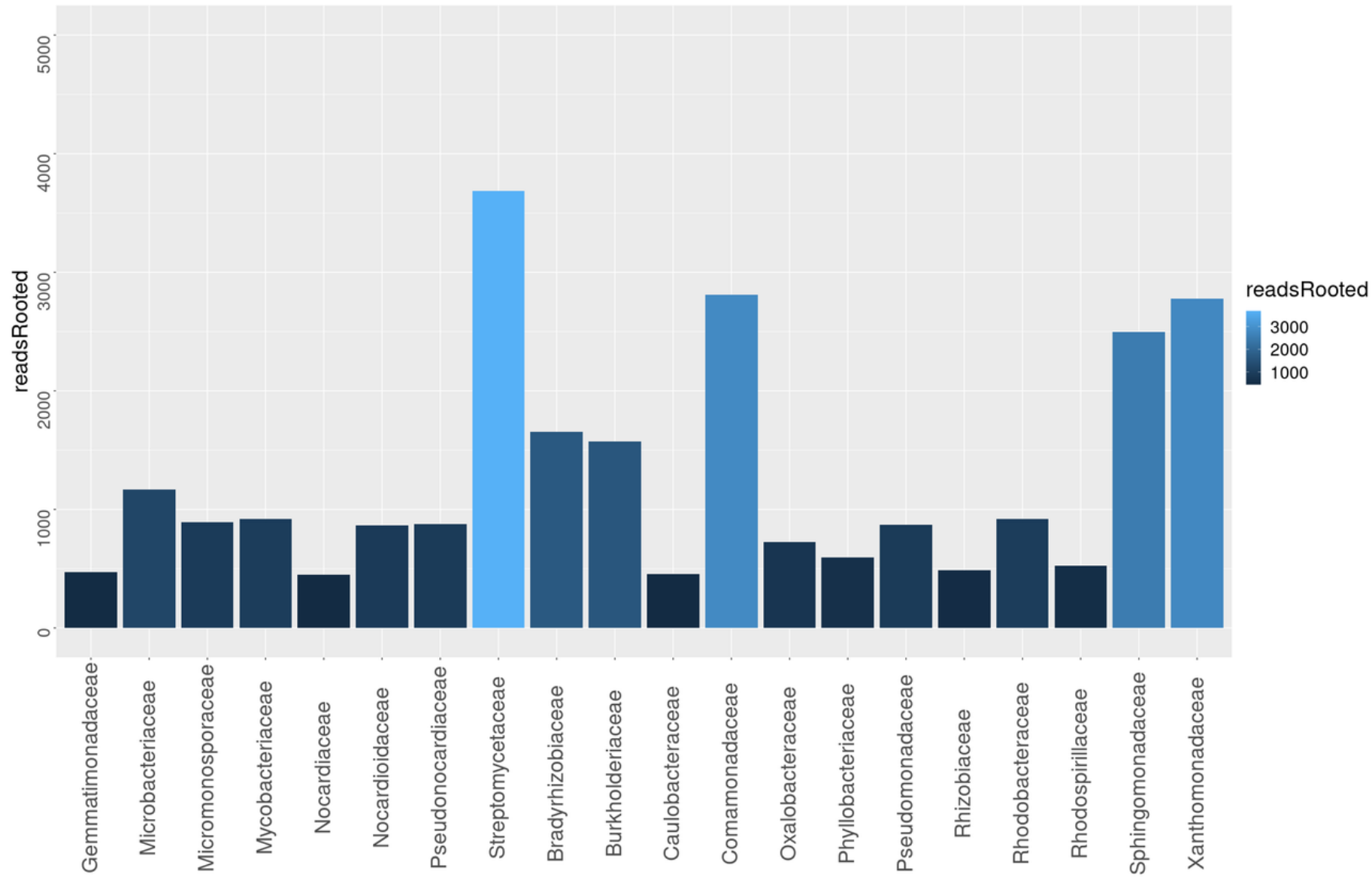


Taxonomy Analysis

Kraken2

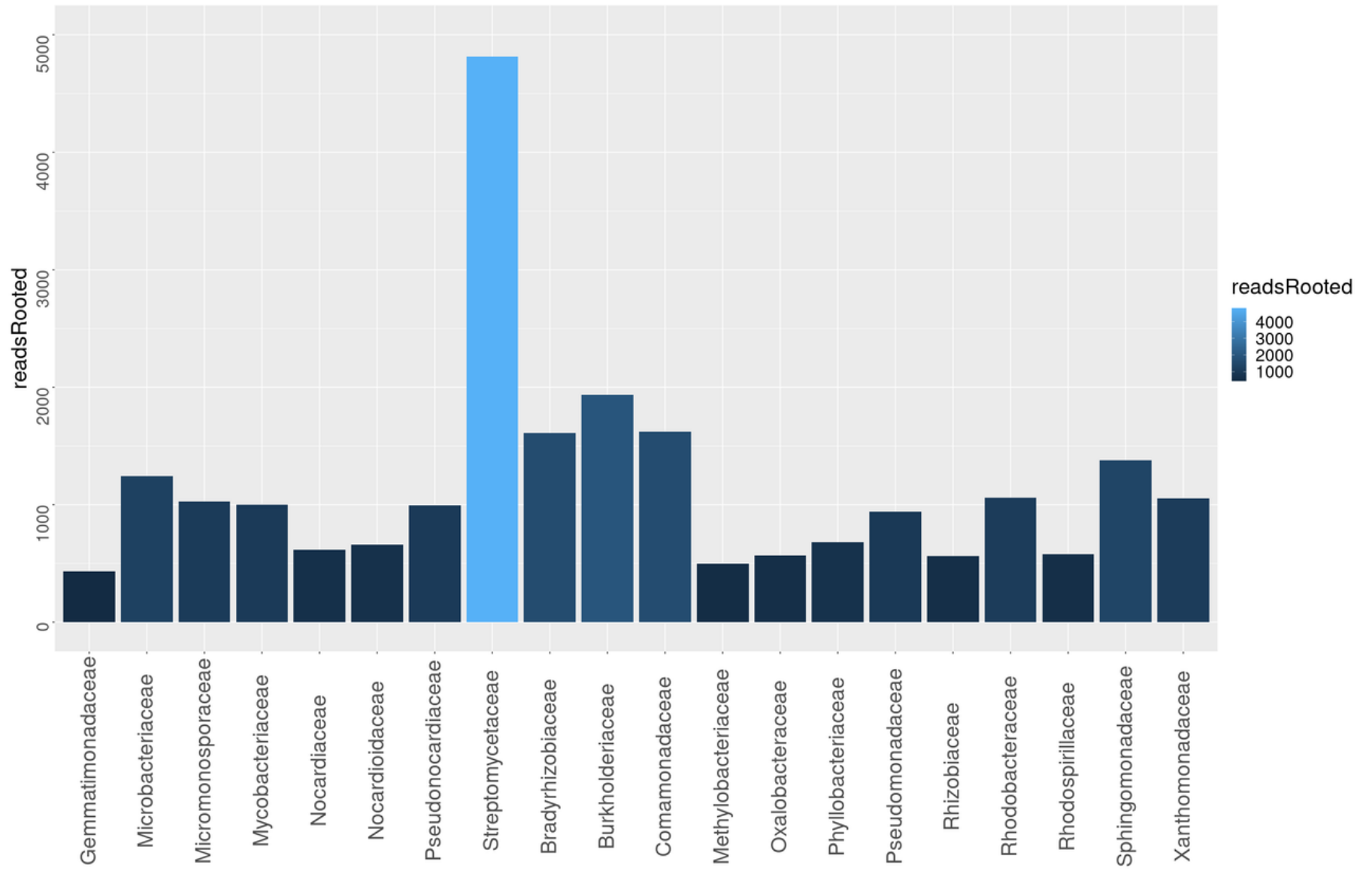
Top 20 species

B5

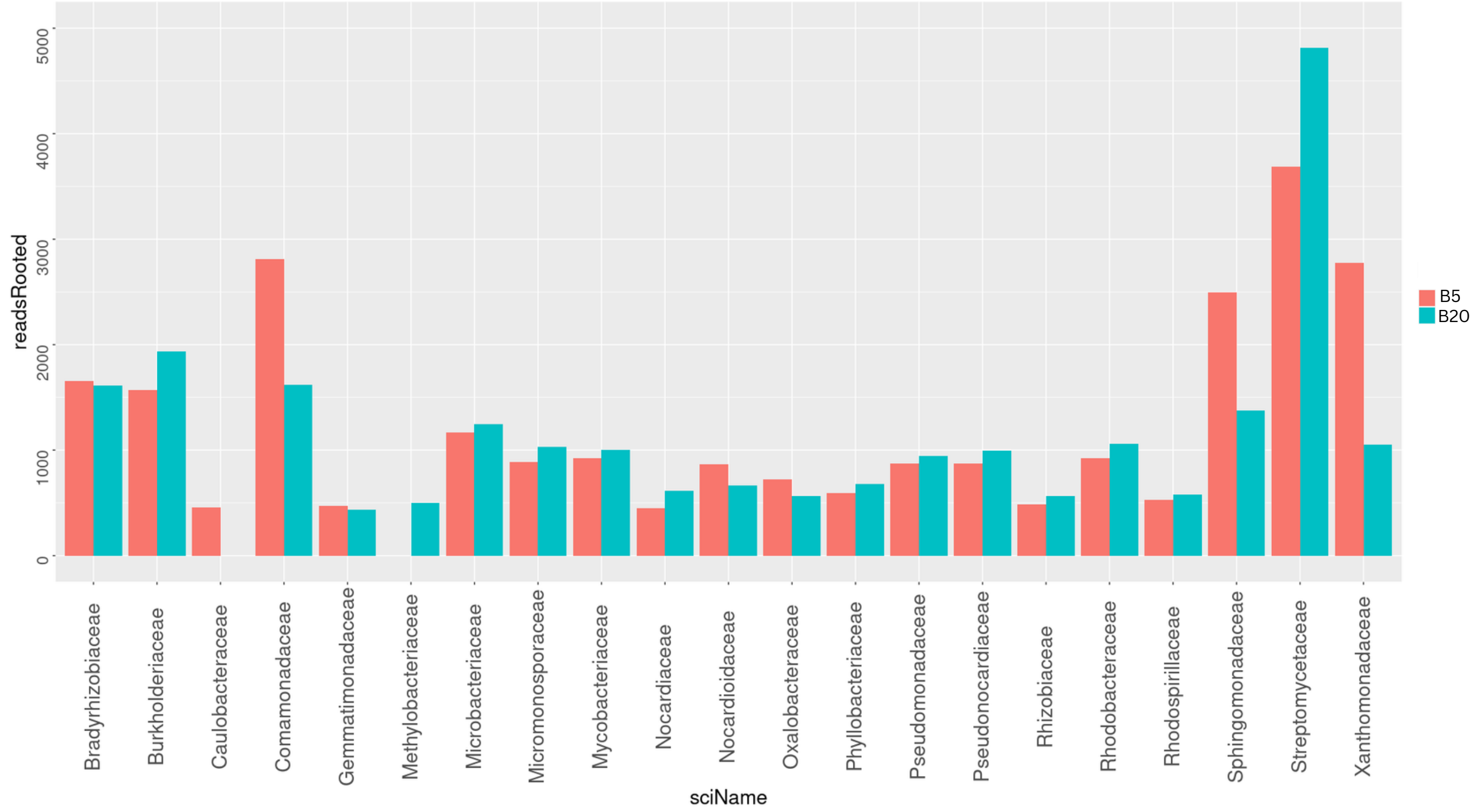


sciName

B20

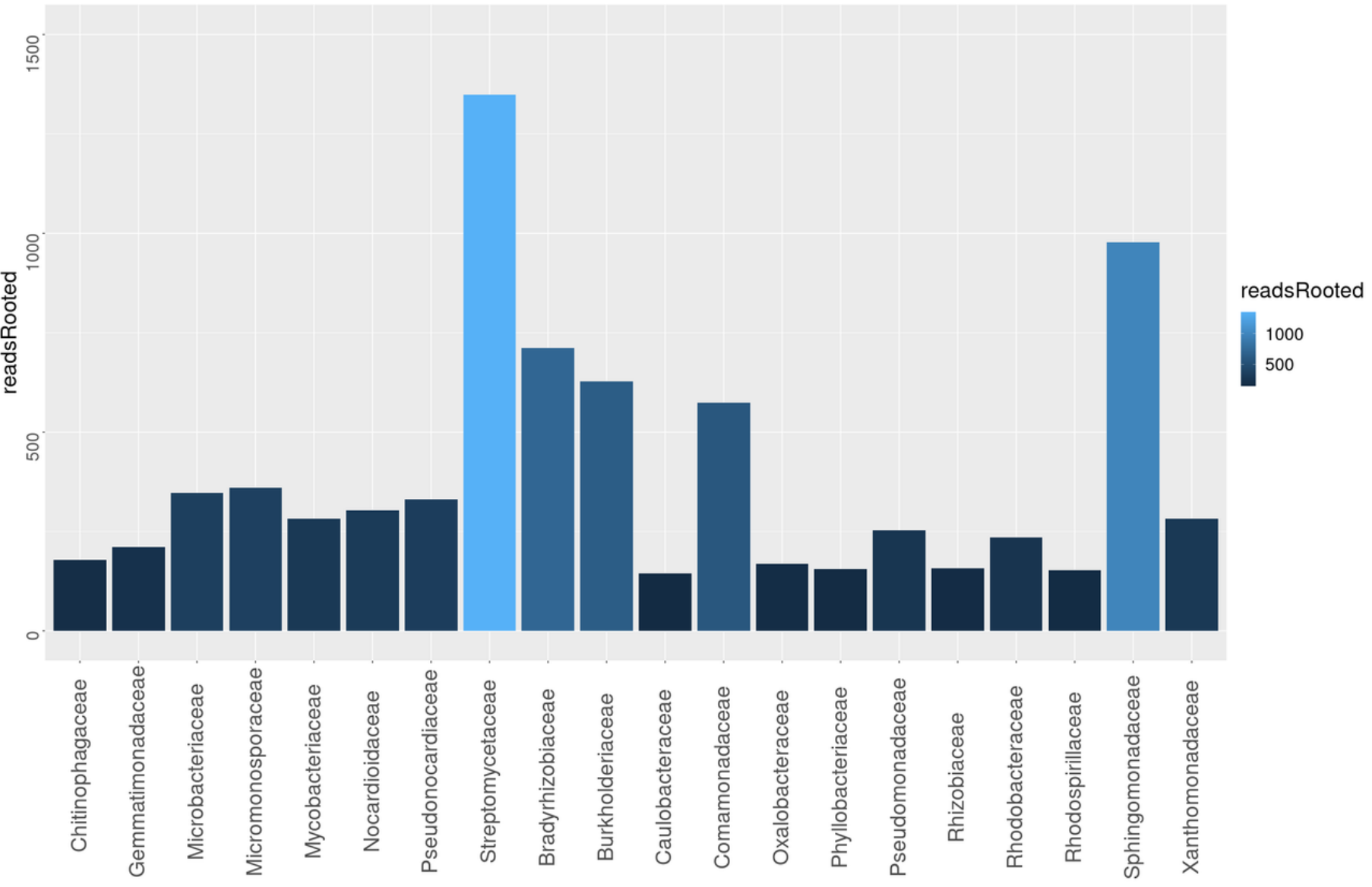


sciName



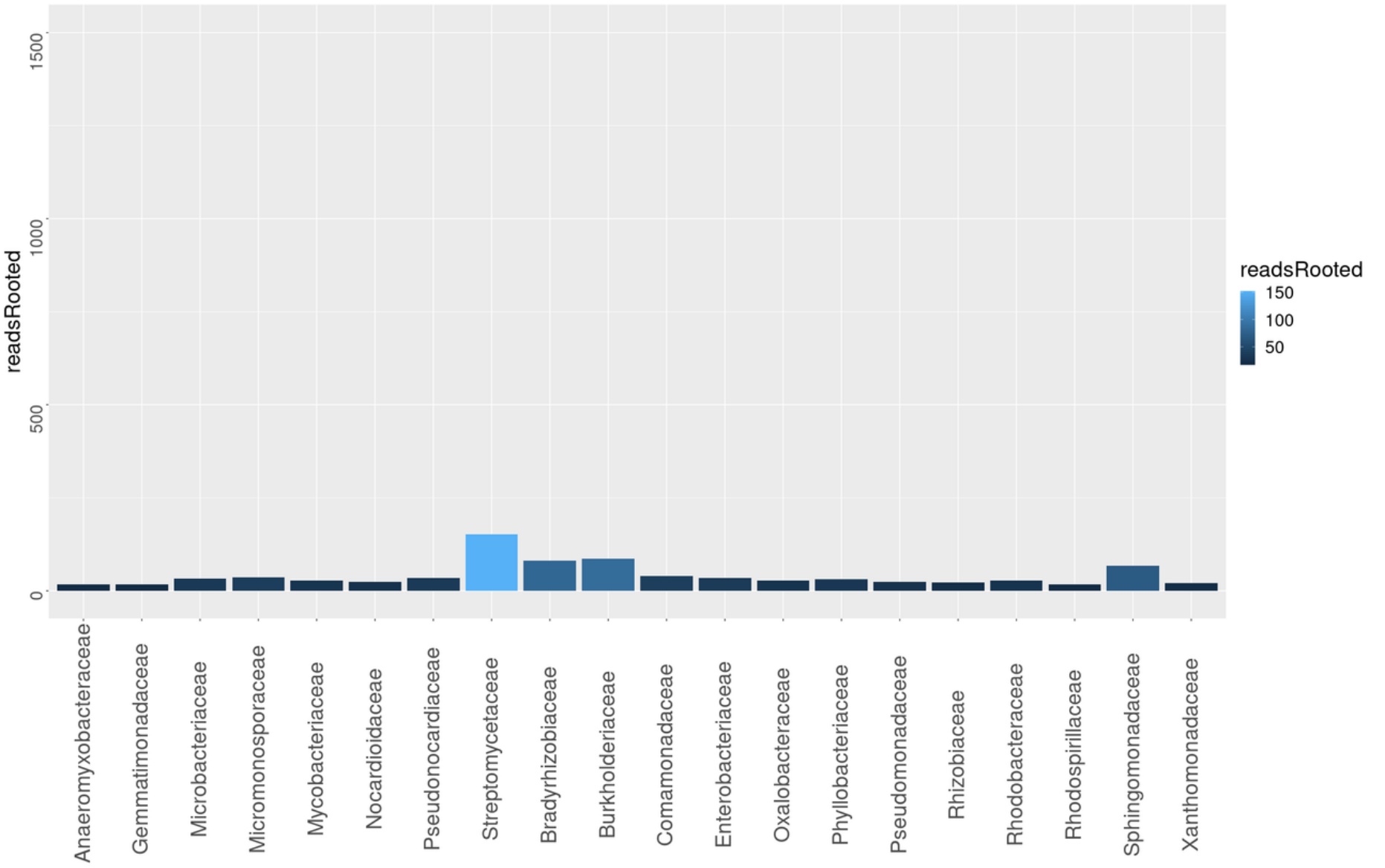
Top 20 species

N5



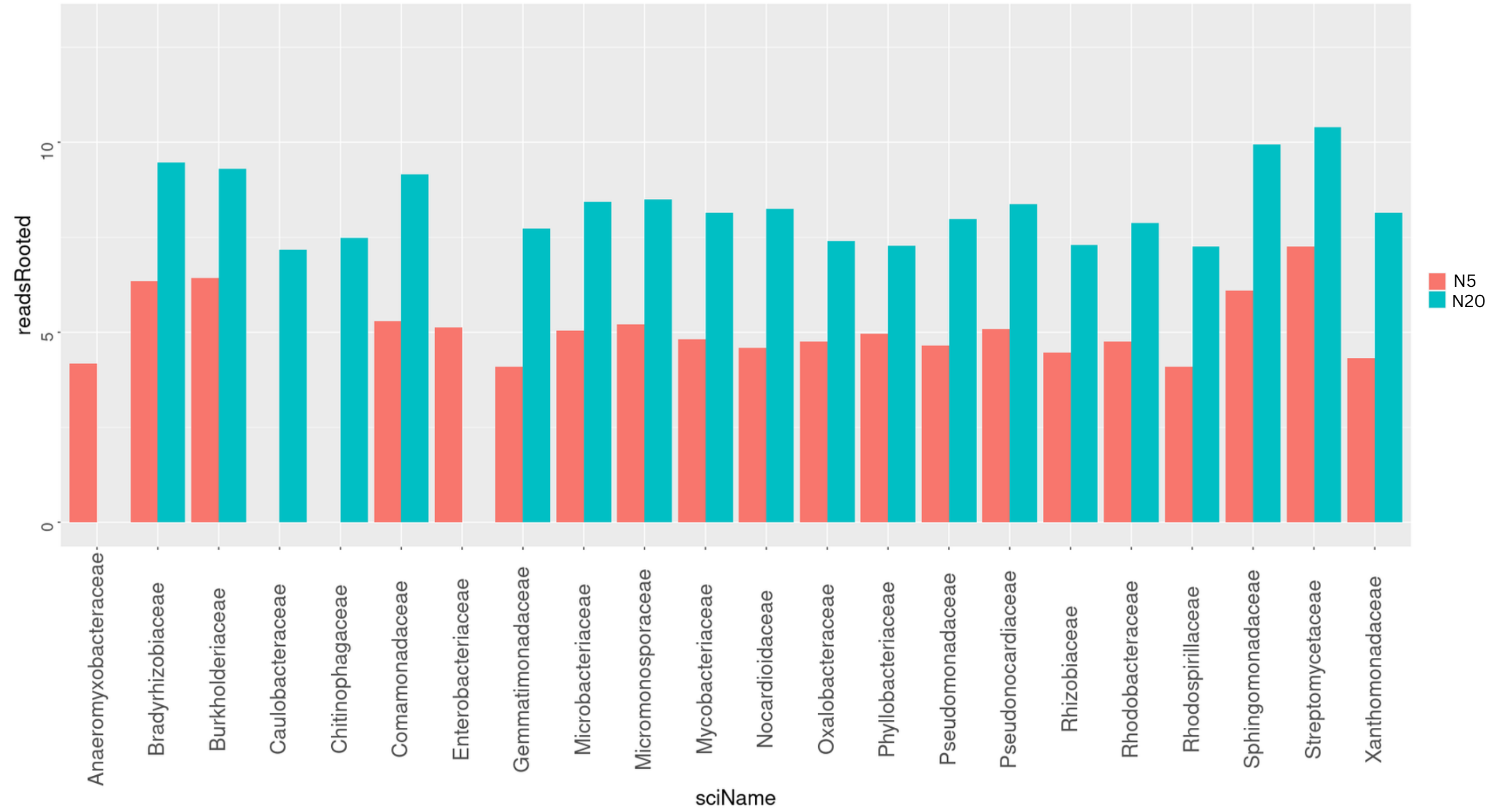
sciName

N20



sciName

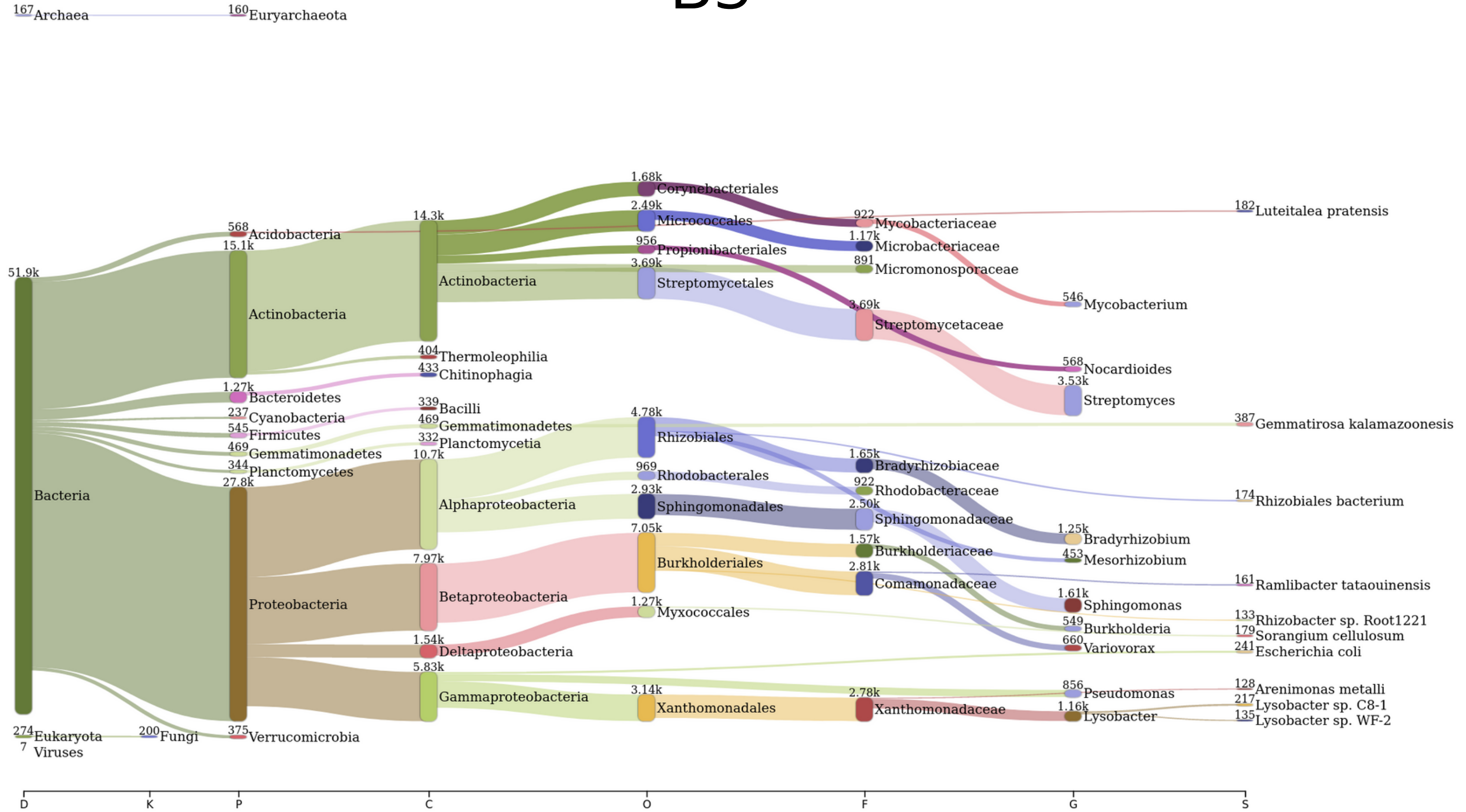
Log values of rooted reads



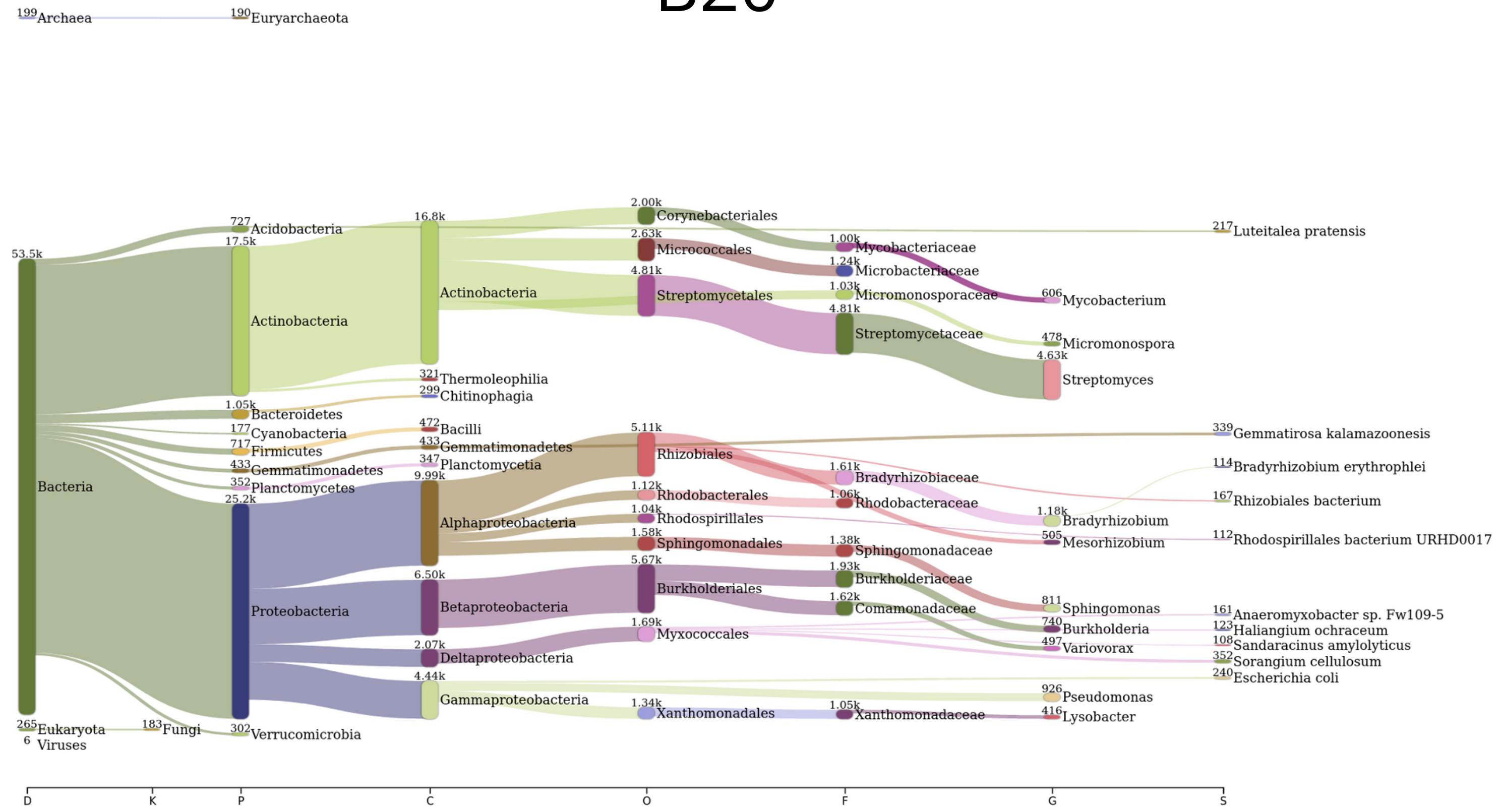
Pavian

Sankey diagram visualisation

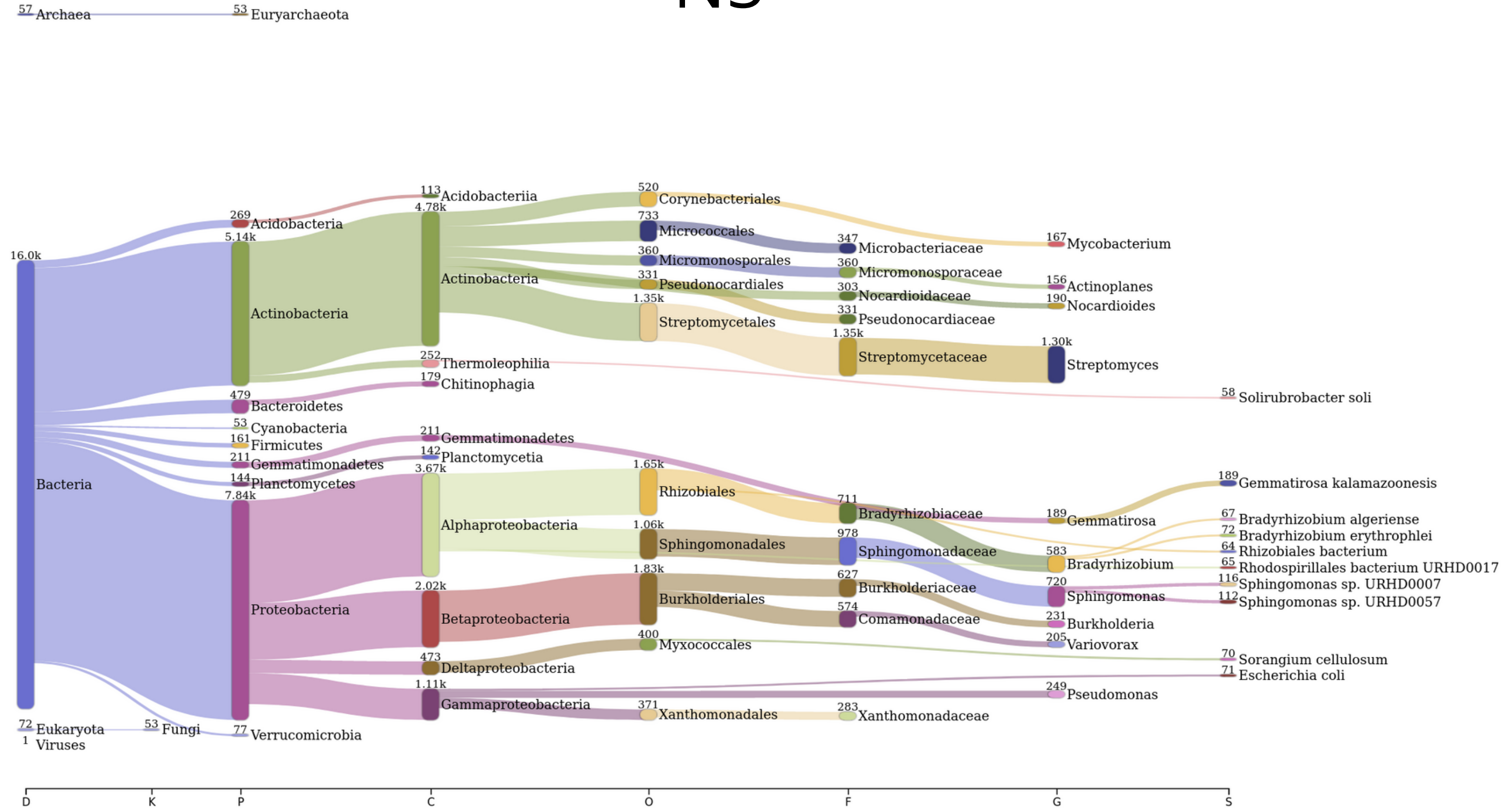
B5



B20

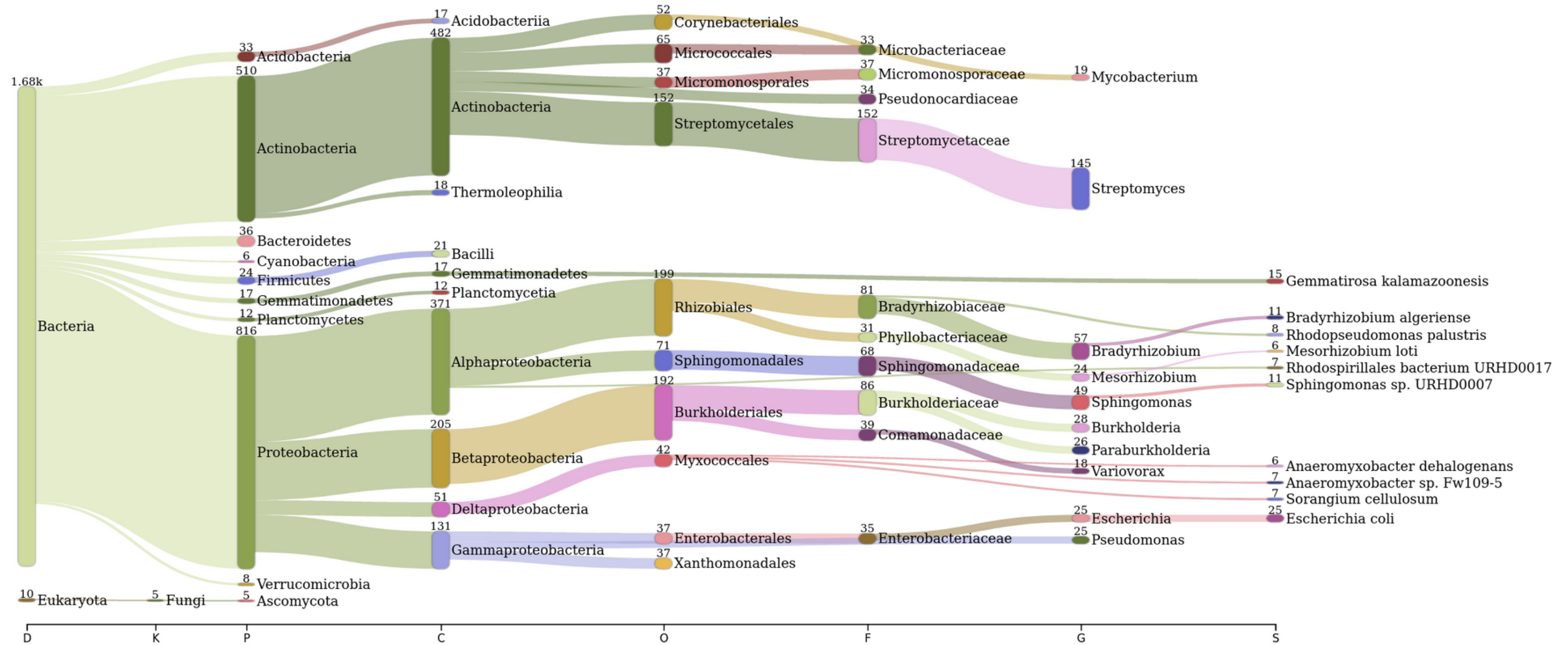


N5

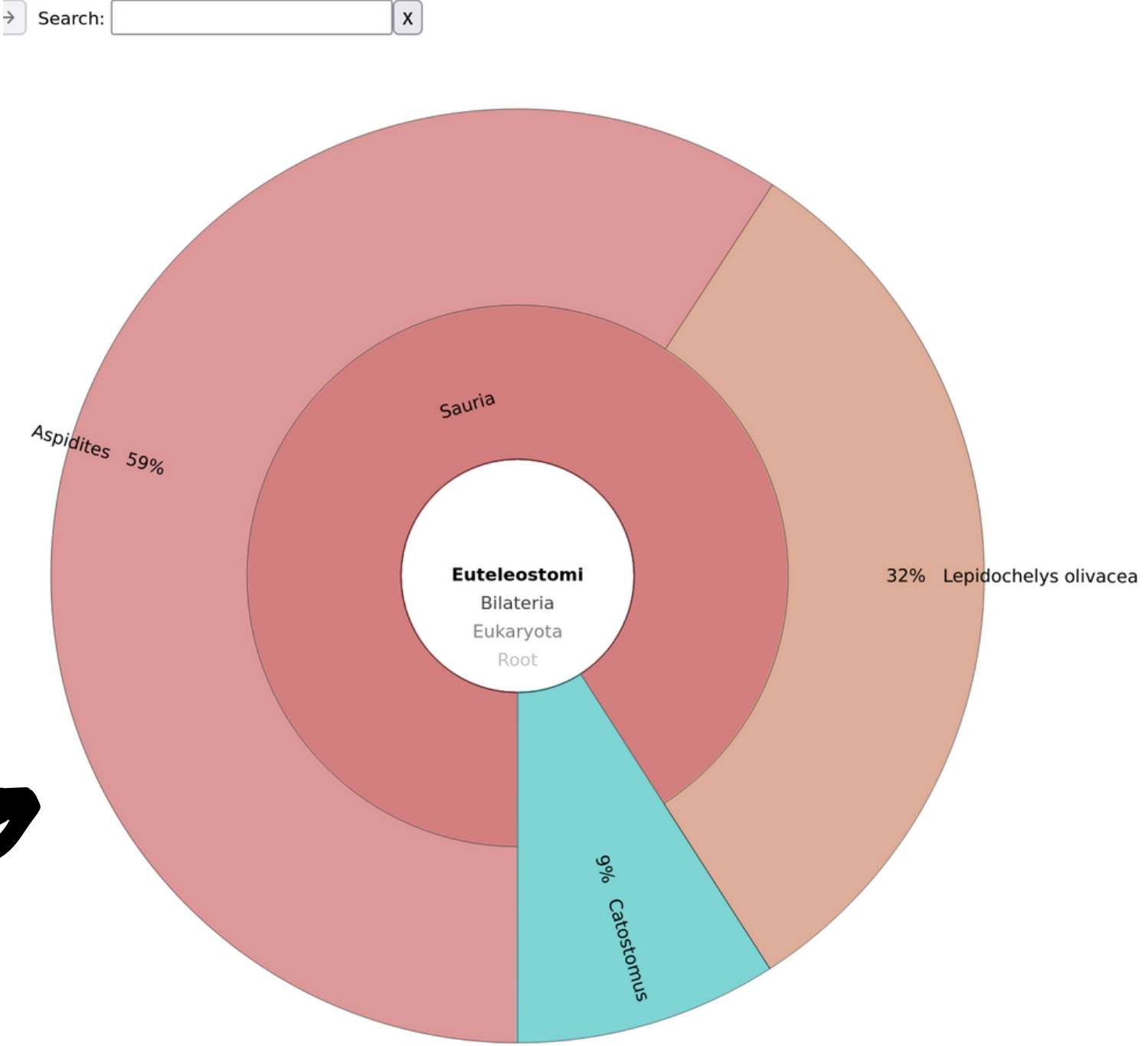
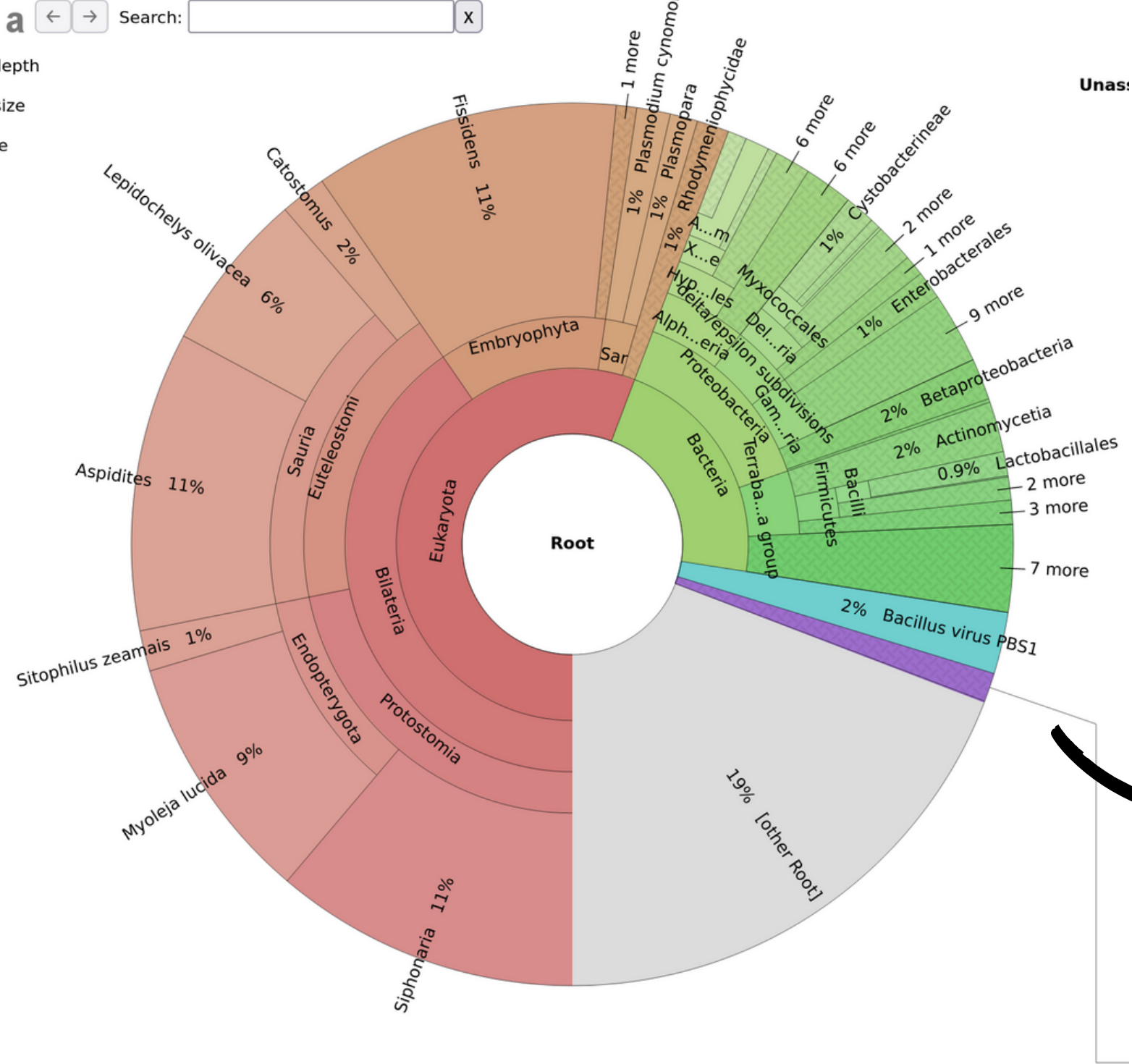


N20

2 Archaea



Krona



Metagenomic assembly

Flye

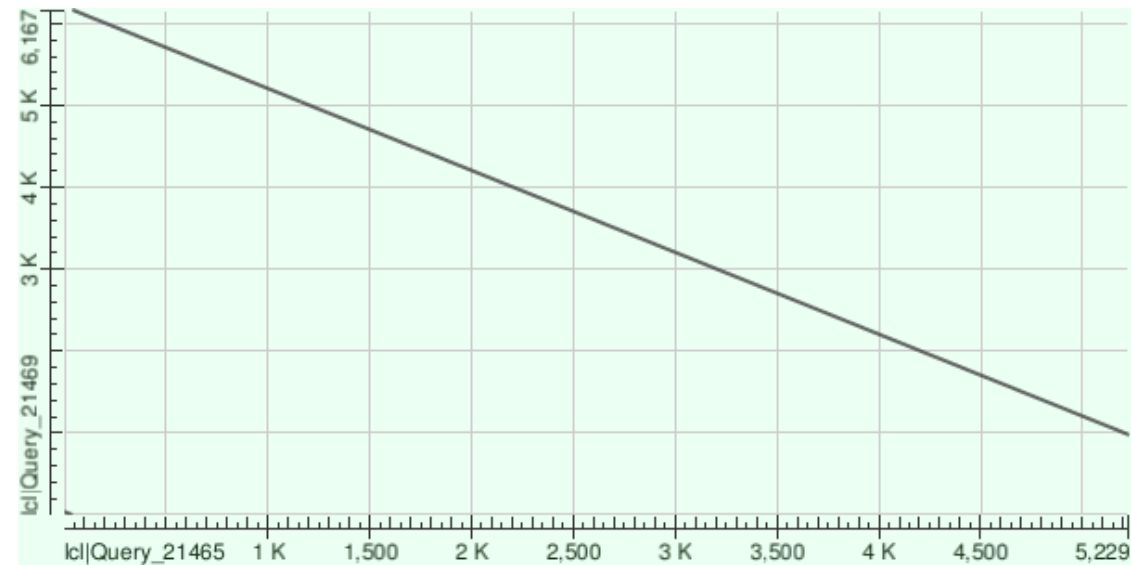
Description of assemblies

	contigs	Length (bp)
B5	3	5229 2149 3293
B20	1	6167
N5	1	12711
N20	1	6168

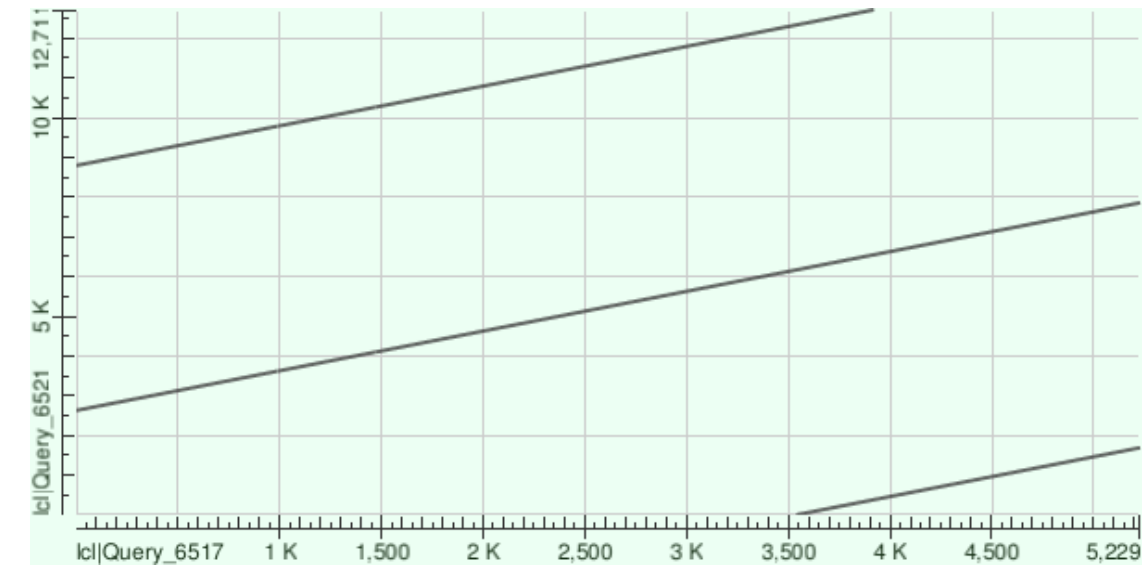
Blast top 100 searches	Contents
B5 contig 1 B5 contig 2	100% artificial sequences
B5 contig 3 N5 contig 1 N20 contig 1	93% artificial sequences 7% Chlamydia trachomatis
B20 contig 1	96% artificial sequences 4% other

Comparison of contigs

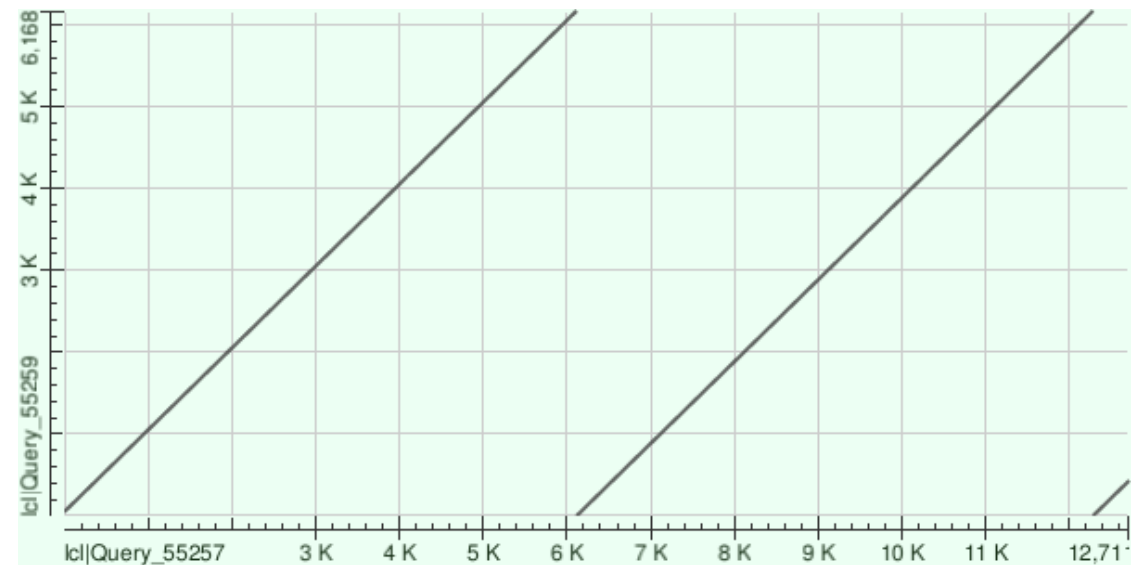
B5 contig1 against B20



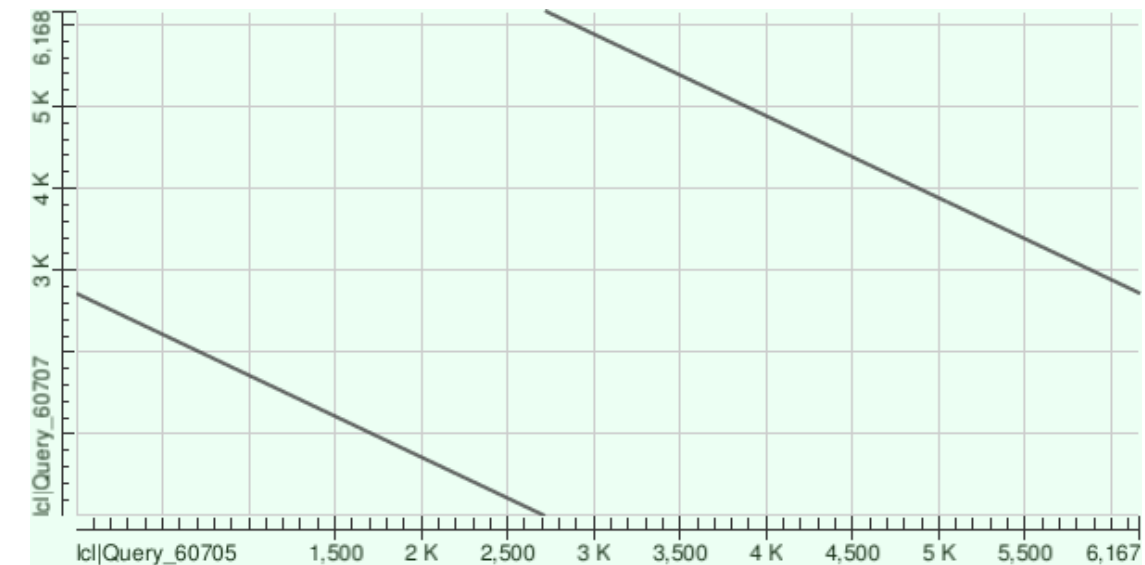
B5 contig1 against N5



N5 against N20

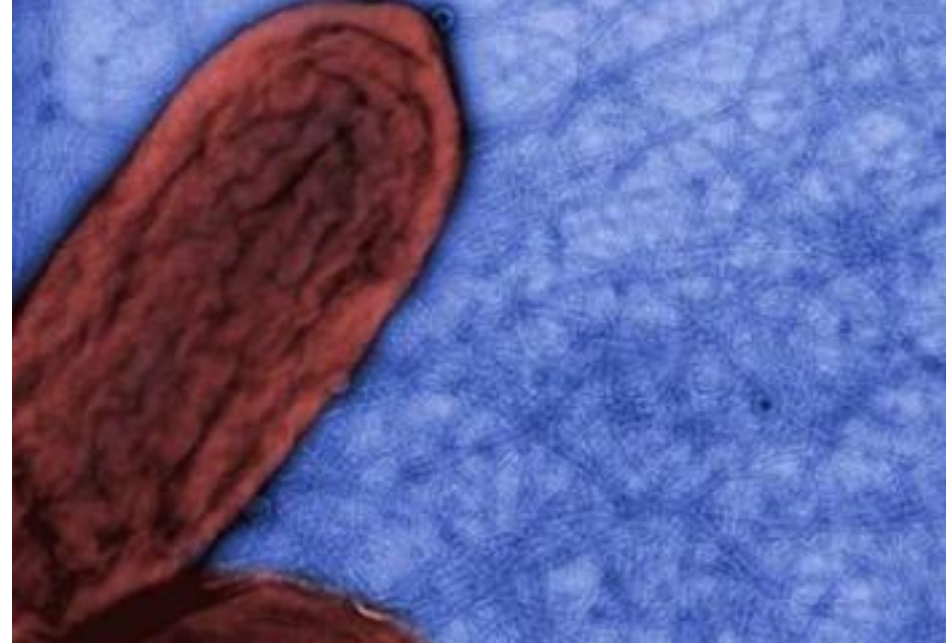


B20 against N20



Interesting blast results

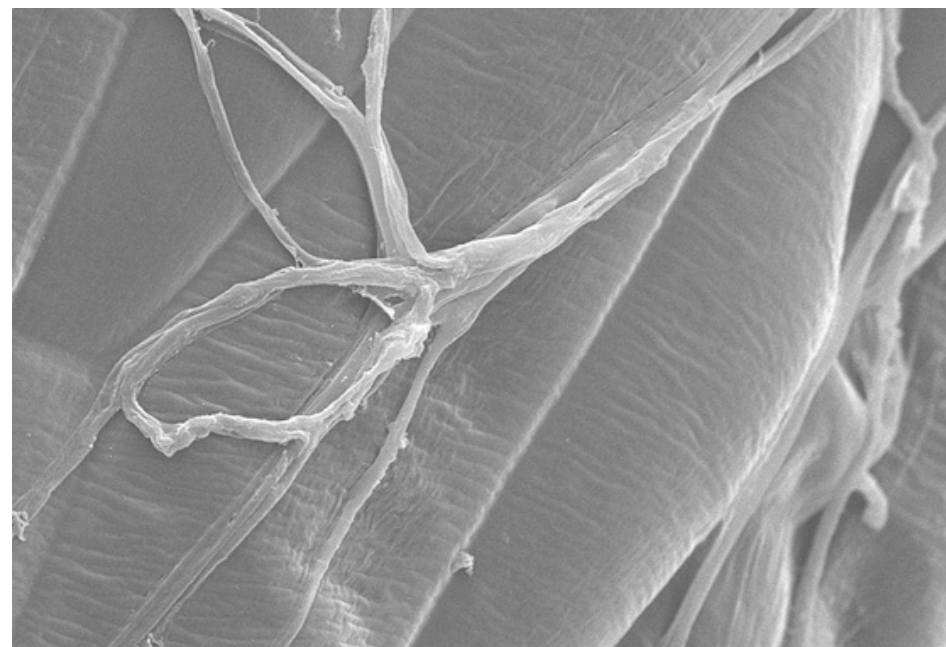
Geobacter sulfurreducens



Pseudomonas putida DOT-T1E



Epichloë festucae



Escherichia coli

