

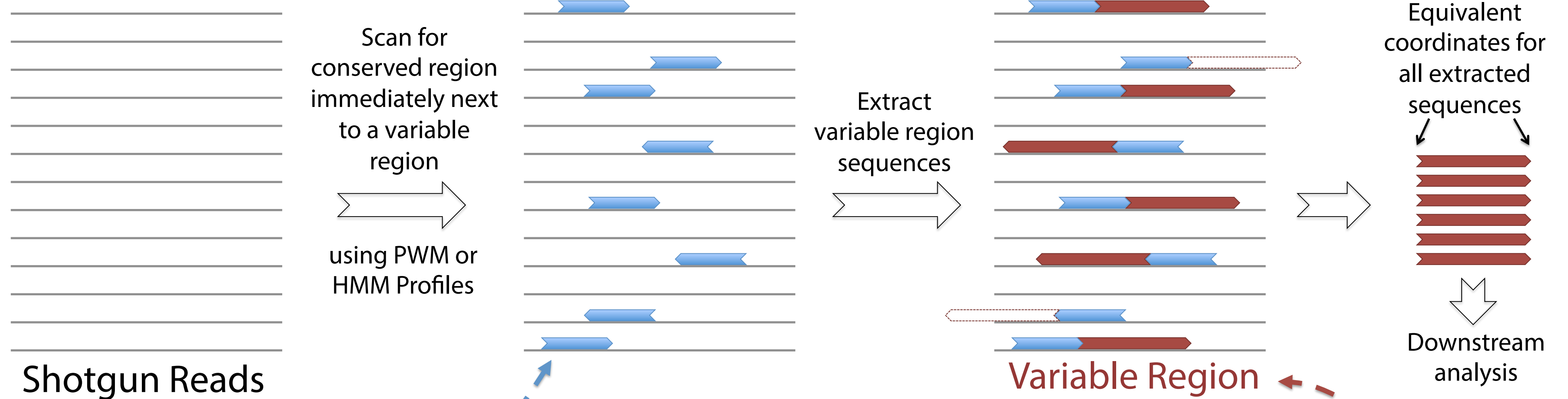
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The Problem

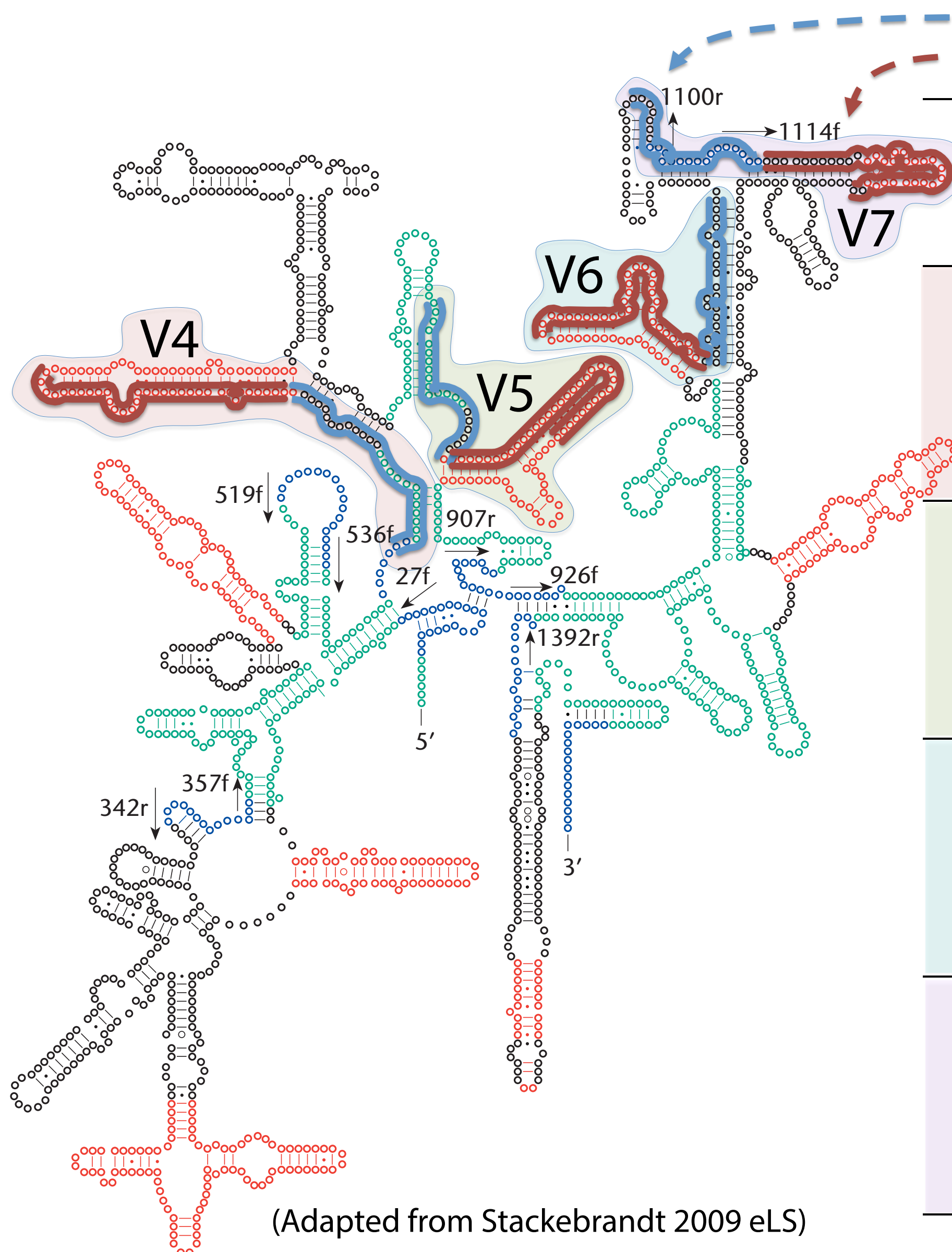
Given shotgun-based metagenomic or total RNA metatranscriptomic reads, how to perform rRNA profiling:

- How to screen for those reads
- How to deal with reads from different regions of the rRNA gene
- How to utilize short reads

The Solution



<http://chaos.bic.nus.edu.sg/ribotagger>

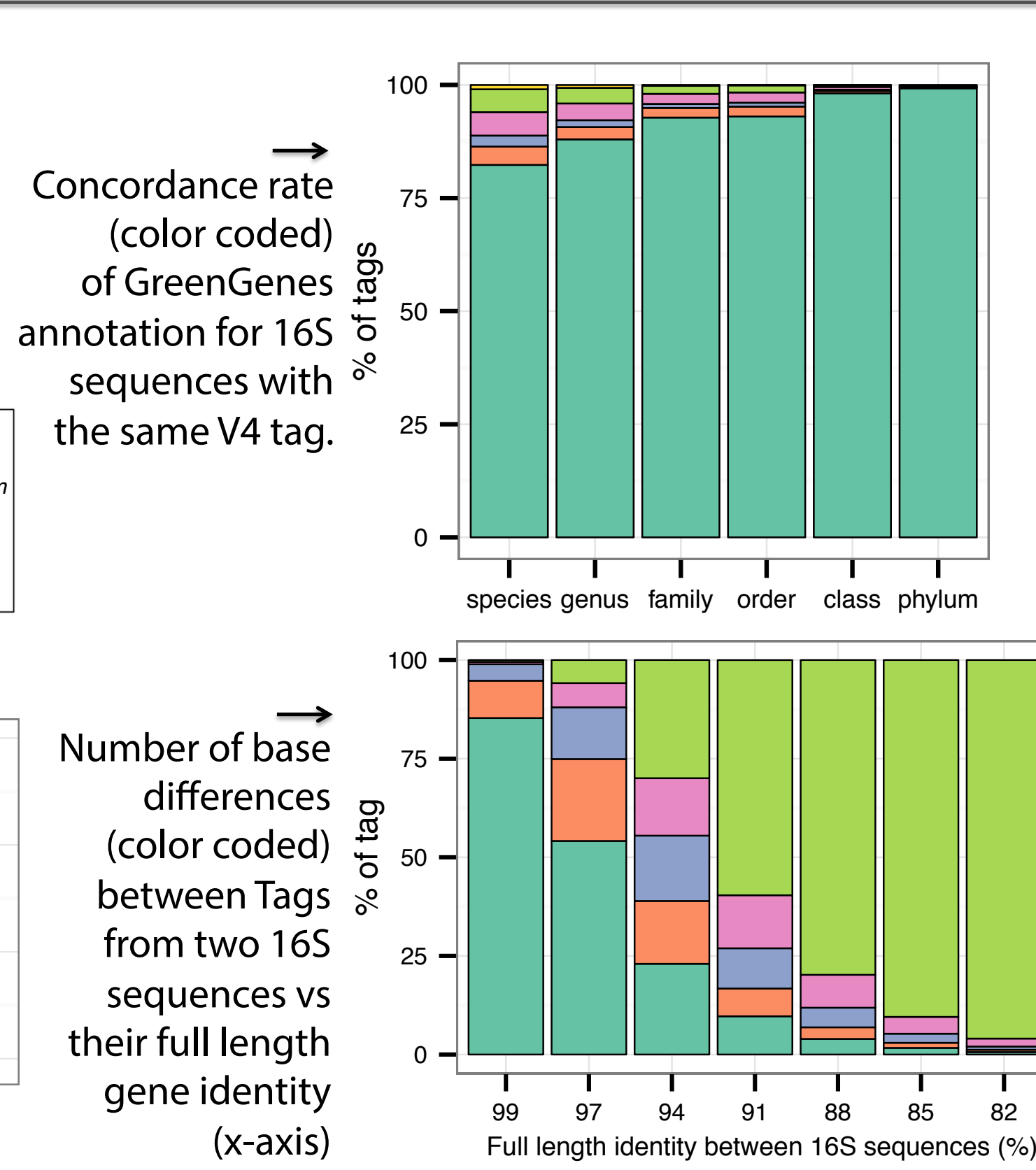
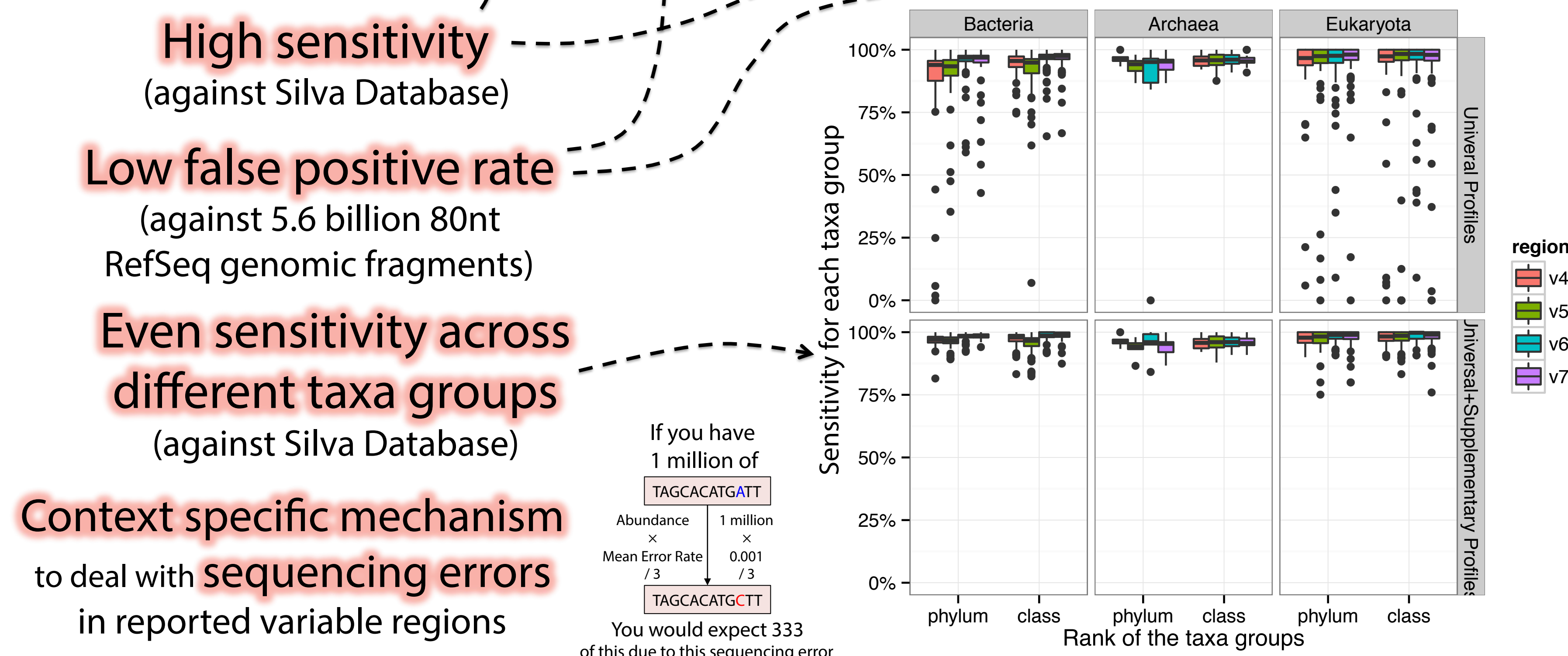
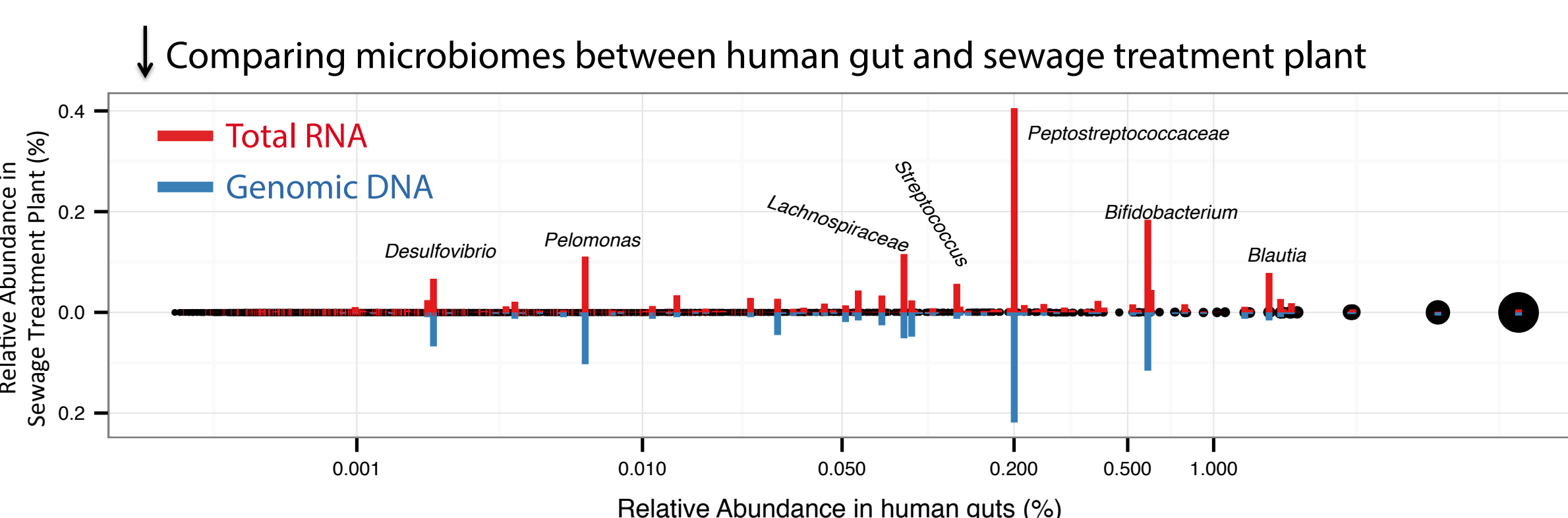
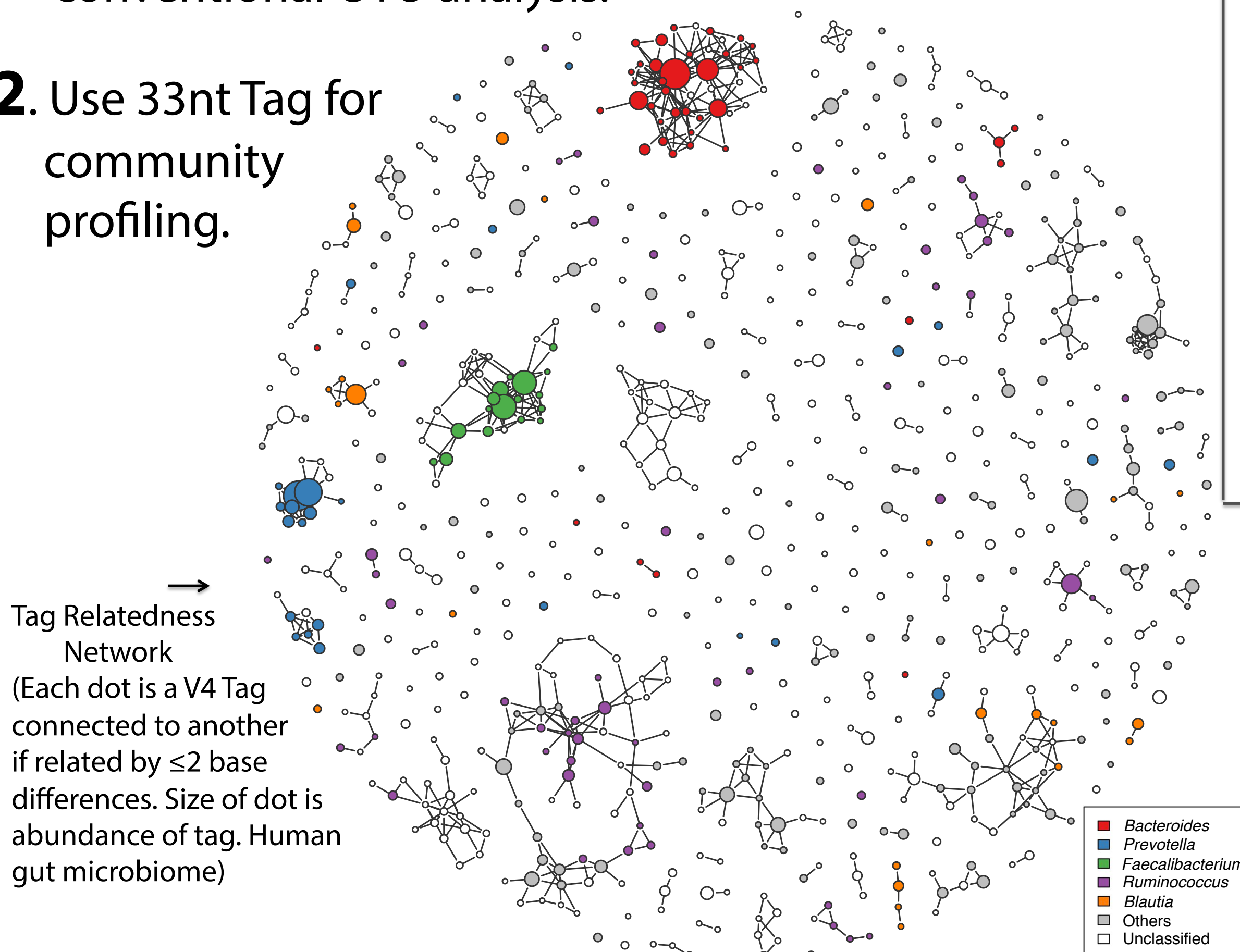


(Adapted from Stackebrandt 2009 eLS)

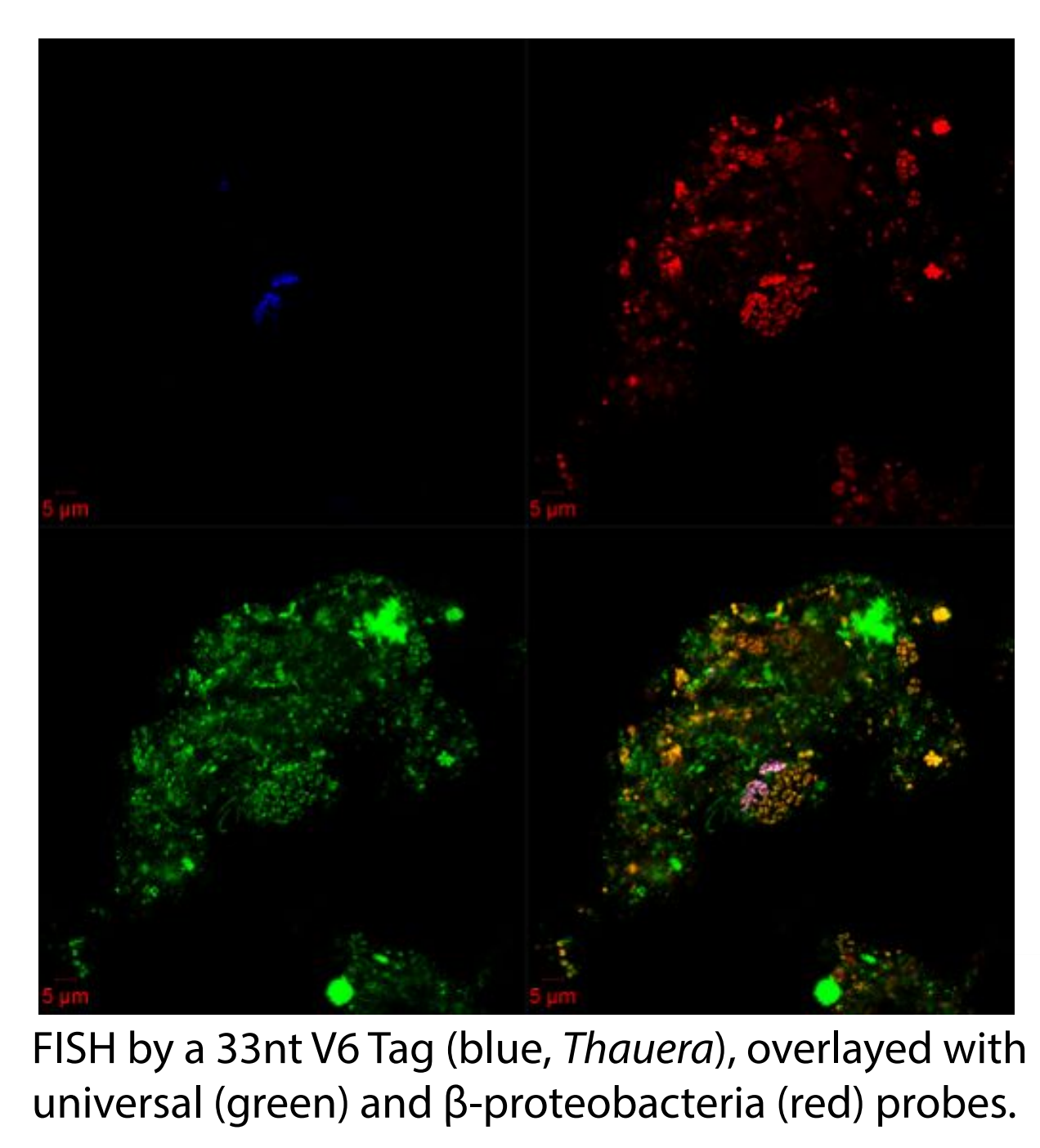
			Universal Recognition Profile		Taxa-Specific Supplementary Profiles	With Supplementary Profiles		Variable Region
			Sensitivity	False Positive Rate		Sensitivity	False Positive Rate	
V4	Bacteria	TGGCGTAAGGCGCTAGCGG	95.0%	9.9E-09	22	96.9%	3.4E-07	AGTCGCTGAAAGCGCTA
	Archaea	TGGCGTAAGGCGCTAGCGG	96.2%	1.7E-10	2	96.2%	1.7E-10	TATAGTCTGAAATCCTTA
	Eukaryota	TCCGTTAAAACTCGTAGTGA	95.5%	9.7E-09	6	96.9%	9.6E-07	TTTGGCGCTCGCTCG
V5	Bacteria	GTAGTCCACCGTAACGATG	94.7%	7.8E-09	12	96.6%	1.2E-06	ACTGCTGCTGCTGCTG
	Archaea	GTAGTCCACCGTAACGATG	95.5%	2.8E-08	3	95.6%	3.3E-08	CCTGCTGCTGCTGCTG
	Eukaryota	GTAGTCCACCGTAACGATG	94.6%	1.6E-07	15	96.5%	5.1E-07	CGCTGCTGCTGCTGCTG
V6	Bacteria	GACGACCATGCAACCT	97.1%	2.8E-08	9	98.3%	1.9E-07	CTGCTGCTGCTGCTG
	Archaea	GACGACCATGCAACCT	95.5%	3.1E-08	2	95.6%	3.1E-08	CTGCTGCTGCTGCTG
	Eukaryota	AAGAAGCCCATGCCACCA	96.1%	1.3E-08	6	97.7%	6.0E-07	CGCTGCTGCTGCTGCTG
V7	Bacteria	AAGTCCGCAAGACCGAACCC	97.2%	5.8E-09	10	98.4%	2.0E-06	TTTCTGCTGCTGCTG
	Archaea	AAGTCCGCAAGACCGAACCC	95.3%	1.6E-08	1	95.3%	1.6E-08	CGCTGCTGCTGCTG
	Eukaryota	AATTCCGCAAGACCGAACCC	95.8%	1.3E-08	6	97.2%	4.1E-07	TTTCTGCTGCTGCTG

Applications

1. Extract variable region sequences for conventional OTU analysis.
2. Use 33nt Tag for community profiling.



3. Use the 33nt Tag for FISH or FISH-FACS



Other Posters using RiboTagger:

- 368A (Monday) Tan Shi Ming *et al*, Deciphering the unknowns in Singapore's wastewater treatment plant.
- 256A (Thursday) Melanie Sun *et al*, Tracing signals in the meta-ome: impacts of organic enrichment on the structure and function of sediment microbes in a field experiment.
- 258A (Thursday) Tan Chuan Hao *et al*, Systemic dissecting of interspecies interactions in complex microbial communities.
- 360B (Thursday) Simone Birrer *et al*, Meta-omics elucidate sediment community and functional responses to field manipulated stressors.