

Spatiotemporal Distribution of the Environmental Microbiota in Food Processing Plants as Impacted by Cleaning and Sanitizing Procedures: The Case of Slaughterhouses and Gaseous Ozone

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Supplementary material

Fig. S1. Venn diagram showing the distribution of oligotypes from core OTUs in the four environments (A-DR, A-PR, B-PR, C-DR) and three surface categories (S1, S2, S3).

Fig. S2. Significant pairwise comparison ($Rho > 0.6$; false-discovery rate [FDR], $P < 0.001$) between oligotype of the same species and different species expressed as absolute number **(a)** and relative percentage **(b)**.

Table S1. Variance in biological dissimilarity among bacterial communities explained by each categorical variable (plants, environment, room types, surface categories, temporal phases) or their interactions. Variance explained (R^2) and statistical significance (P -value) quantified with a PERMANOVA test of Bray–Curtis dissimilarity; since P -values result from a 999 permutations test, they are only reported down to 0.001.

Table S2. Table displaying the OTUs subjected to oligotyping and parameters used for the analysis.

Fig. S1

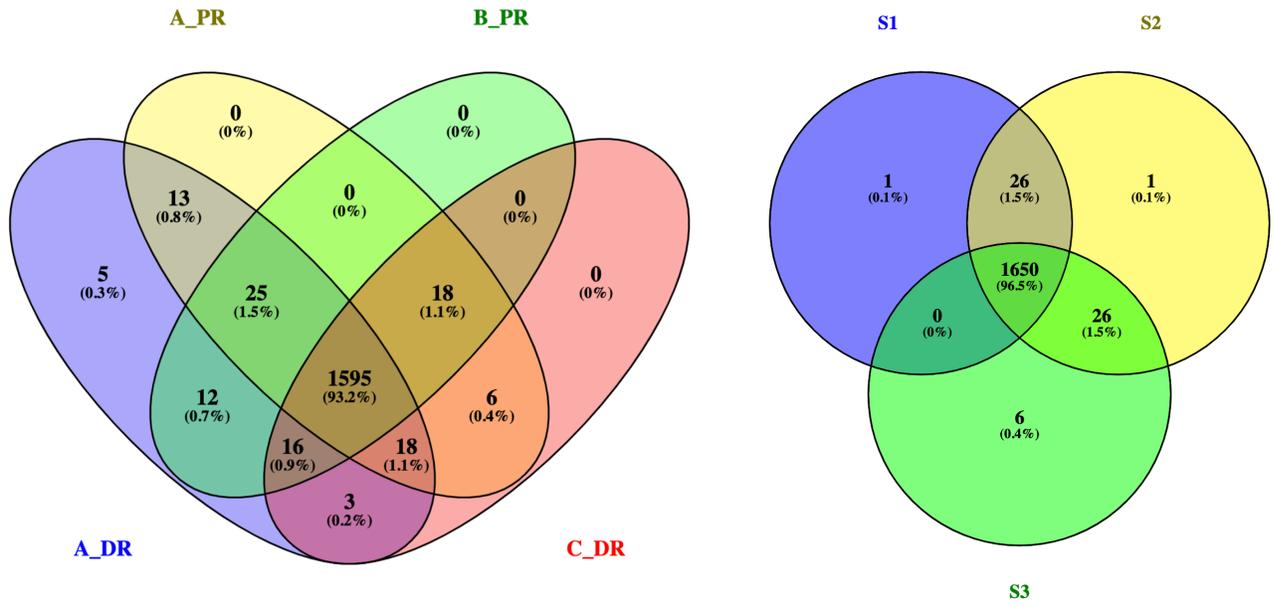


Fig. S2

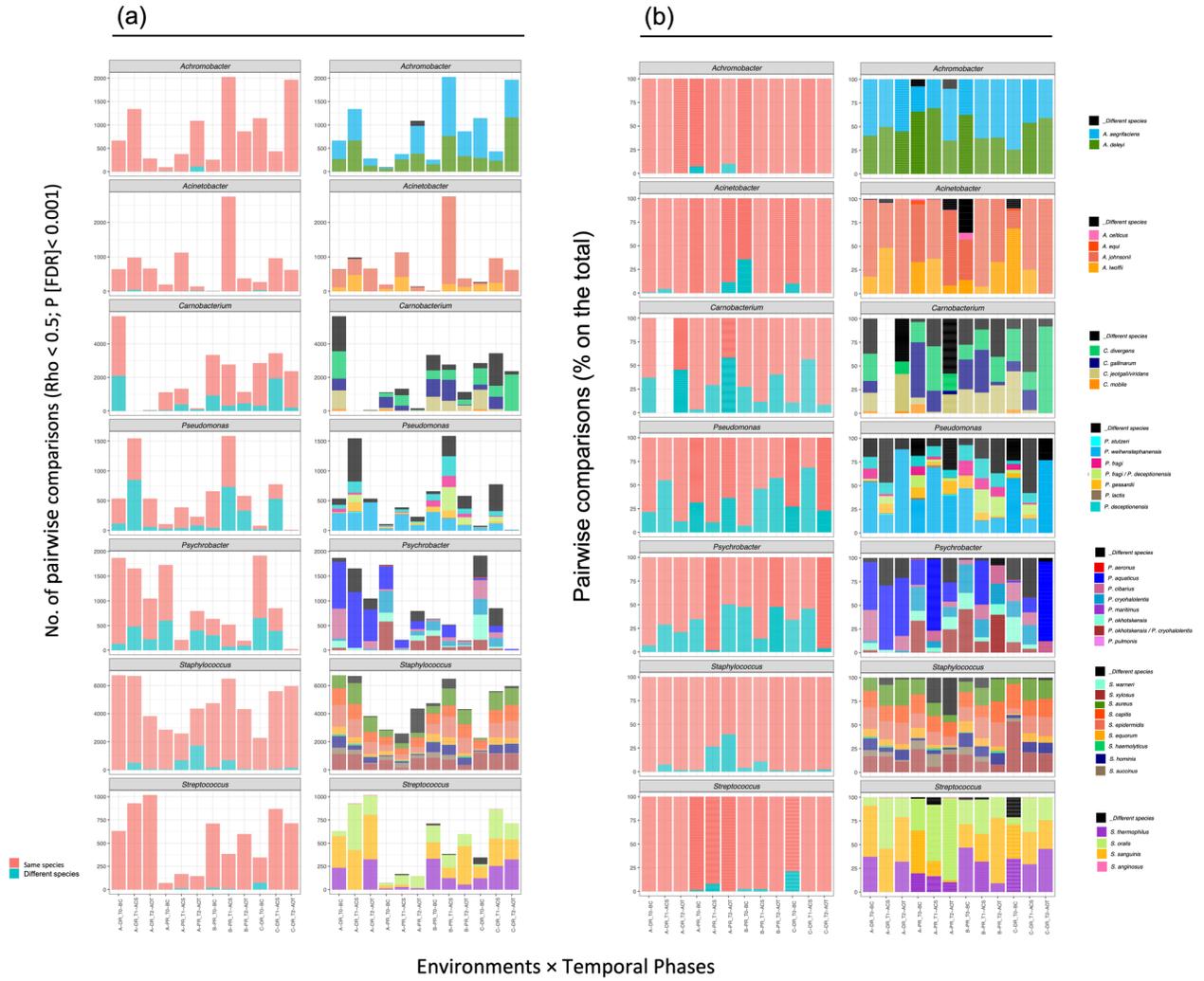


Table S1

	Explanatory variable	R²	P - value
Single	Phase (<i>BC, ACS, AOT</i>)	0.055	0.001 *
	Environment (<i>A-DR, A-PR, B-PR, C-DR</i>)	0.052	0.001 *
	Plant (<i>A, B, C</i>)	0.029	0.001 *
	Room type (<i>PR, DR</i>)	0.023	0.001 *
	Surface category (<i>S1, S2, S3</i>)	0.006	0.790
Interaction	Environment × Phase	0.068	0.001 *
	Plant × Phase	0.047	0.001 *
	Environment × Surface category × Phase	0.022	0.985
	Room type × Phase	0.021	0.001
	Surface category × Phase	0.018	0.135
	Plant × Surface category	0.017	0.984
	Environment × Surface category	0.014	0.580
	Plant × Surface category × Phase	0.010	0.768
	Room type × Surface category × Phase	0.006	0.749
	Room type × Surface category	0.005	0.144

Table S2

OTUs ID	Shannon's entropy (mean)	Reads analysed	High entropy positions chosen (-C option)	Min total abundance of oligotype in all samples (-A option)	Min substantive abundance (-M option)	% of reads represented	Purity score
denovo307699	0.173	423096	8, 457, 458, 308, 12, 275, 407, 304, 299, 333, 269, 320, 9, 250, 463, 462, 464, 101, 461, 460, 459, 298, 422, 368, 417, 419, 303, 282, 341, 285, 197, 437	default	50	68.15	0.88
denovo443152	0.300	297574	8, 458, 459, 252, 132, 40, 118, 119, 131, 415, 130, 307, 246, 120, 274, 308, 250, 309, 136, 251, 117, 12, 260, 43, 38, 206, 261, 286	400	50	35.56	0.79
denovo84598	0.140	542146	8, 12, 251, 317, 348, 457, 458	0	50	92.92	0.82
denovo440404	0.178	2823655	7, 8, 9, 12, 456, 457, 458	500	50	90.80	0.98
denovo191751	0.102	536725	8, 12, 29, 50, 57, 104, 130, 138, 148, 250, 251, 306, 307, 308, 341, 367, 393, 422, 457, 458	0	50	89.44	0.92
denovo629236	0.178	936940	8, 9, 12, 125, 246, 250, 251, 267, 382, 426, 437, 438, 440, 441, 442, 443, 444	default	50	75.15	0.81
denovo245059	0.251	306701	8, 9, 12, 121, 129, 132, 133, 136, 137, 250, 260, 296, 305, 307, 329, 395, 405, 457, 458	400	50	44.27	0.87
denovo210339	0.231	205409	8, 12, 29, 31, 50, 55, 57, 59, 70, 94, 101, 103, 104, 113, 119, 120, 122, 129, 130, 139, 143, 163, 178, 209, 234, 237, 250, 251, 252, 258, 259, 262, 268, 273, 274, 275, 279, 287, 292, 306, 307, 308, 309, 328, 330, 336, 340, 341, 345, 355, 356, 358, 364, 368, 370, 371, 377, 379, 380, 382, 391, 393, 394, 395, 397, 400, 402, 403, 404, 405, 406, 408, 409, 410, 412, 414, 416, 418, 420, 421, 422, 423, 427, 428, 429, 430, 431, 435, 436, 437, 438, 441, 442, 443, 444, 445, 446, 447, 450, 451, 453, 456, 457, 458, 460, 461, 463, 464	default	50	58.85	0.73
denovo294860	0.193	2195523	8, 12, 37, 71, 77, 78, 84, 114, 116, 129, 135, 251, 257, 259, 273, 274, 279, 285, 292, 306, 317, 318, 341, 360, 368, 393, 402, 406, 417, 419, 421, 422, 424, 430, 436, 437, 438, 443, 446, 451, 453, 457, 458, 459, 460, 461, 462, 463, 464	200	100	66.61	0.82
denovo518842	0.167	1621076	3, 8, 18, 22, 29, 33, 43, 49, 57, 70, 71, 76, 80, 104, 105, 119, 122, 139, 140, 153, 163, 189, 210, 221, 223, 237, 250, 251, 263, 266, 268, 276, 294, 300, 302, 306, 307, 308, 318, 339, 341, 345, 370, 374, 393, 396, 400, 410, 439, 451, 457, 458, 460, 461, 463	default	50	81.67	0.27

