

Supplementary

Figure S1

Split graphs resulting from split decomposition analysis of amino acid sequences of 29 ribosomal protein (S1A) and 12 phylogenetic markers (S1B). Colours refer to the same phylogroups indicated in Figure 1. Orange: *L. delbrueckii* group; red: *L. alimentarius* group; green: *L. perolens* group; dark grey: *L. casei* group; dark pink: *L. sakei* group; violet: *L. salivarius* group; brown: *L. reuteri* group; light grey: *L. buchneri* group; light blue: *L. plantarum* group; light pink: *L. coryniformis* group.

Figure S2

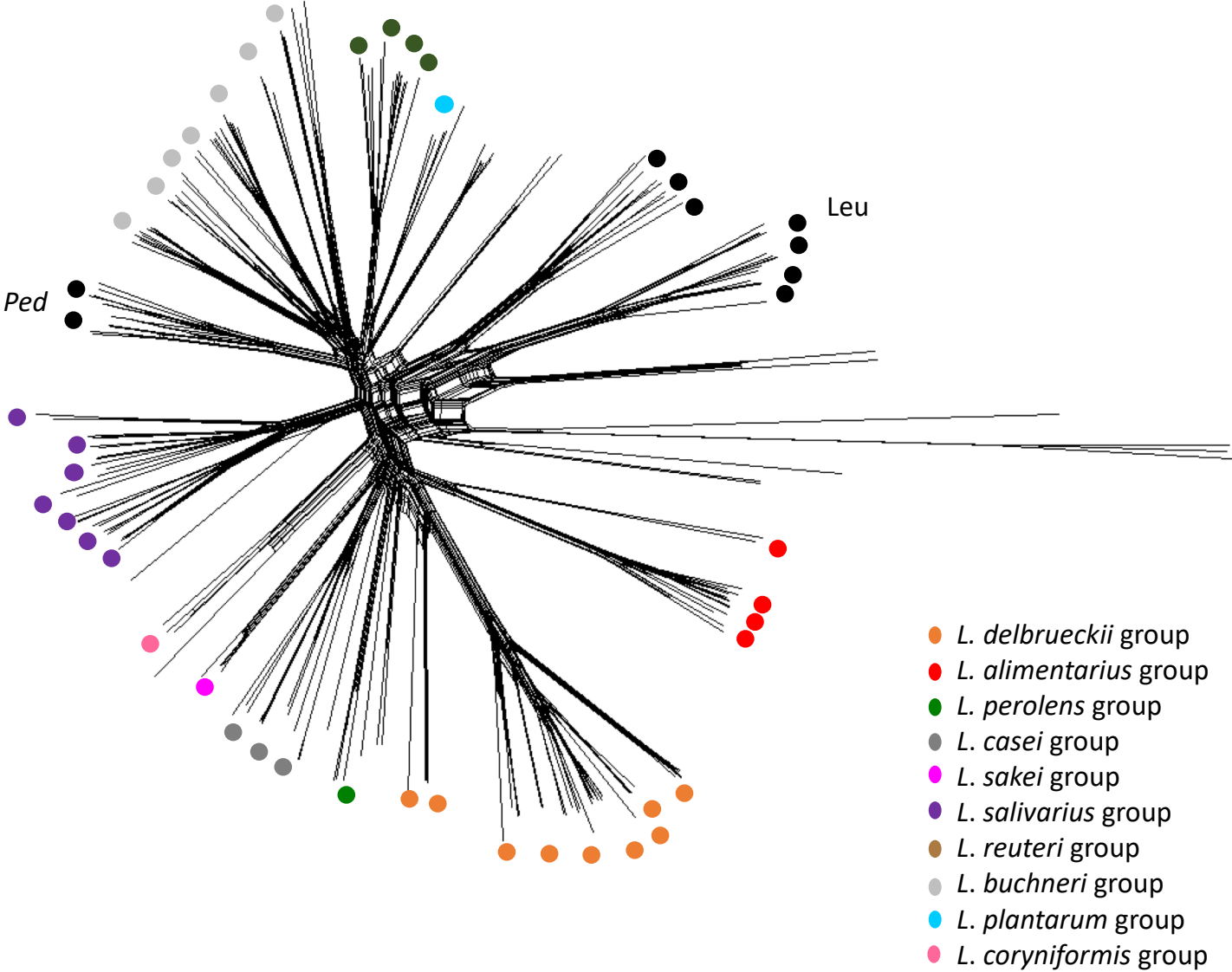
Histograms of the Average Nucleotide Identity (ANI), Average Amino acid Identity (AAI), and Percentage of Conserved Protein (POCP) values. Red bars indicate the following thresholds: <75-80% ANI indicate that genomes are too divergent to be compared based on ANI; 55-60% AAI is set as genus boundary based on AAI; 50% POCP is set as genus boundary based on POCP.

Figure S3

16S rRNA gene sequence-based phylogenetic trees of all members of each phylogroup. The tree was calculated using Tamura Three Parameters as distance matrix formula and minimum evolution as tree reconstruction method. Bootstrap values (1,000 replicates) are reported in percentage at nodes (values below 60% are not shown). The reference species for each group is indicated in red. A: *L. delbrueckii* group; B: *L. alimentarius* group; C: *L. perolens* group; D: *L. casei* group; E: *L. sakei* group; F: *L. plantarum* group; G: *L. coryniformis* group; H: *L. salivarius* group; I: *L. reuteri* group; J: *L. buchneri* group; K: genus *Pediococcus*; L: family Leuconostocaceae. *L. selangorensis* is reported in *L. casei* phylogroup; couples (*L. rossiae-L. siliginis*; *L. concavus-L. dextrinicus* are not reported). *L. curtus* have been recently described and it is associated to *L. rossiae-L. siliginis*.

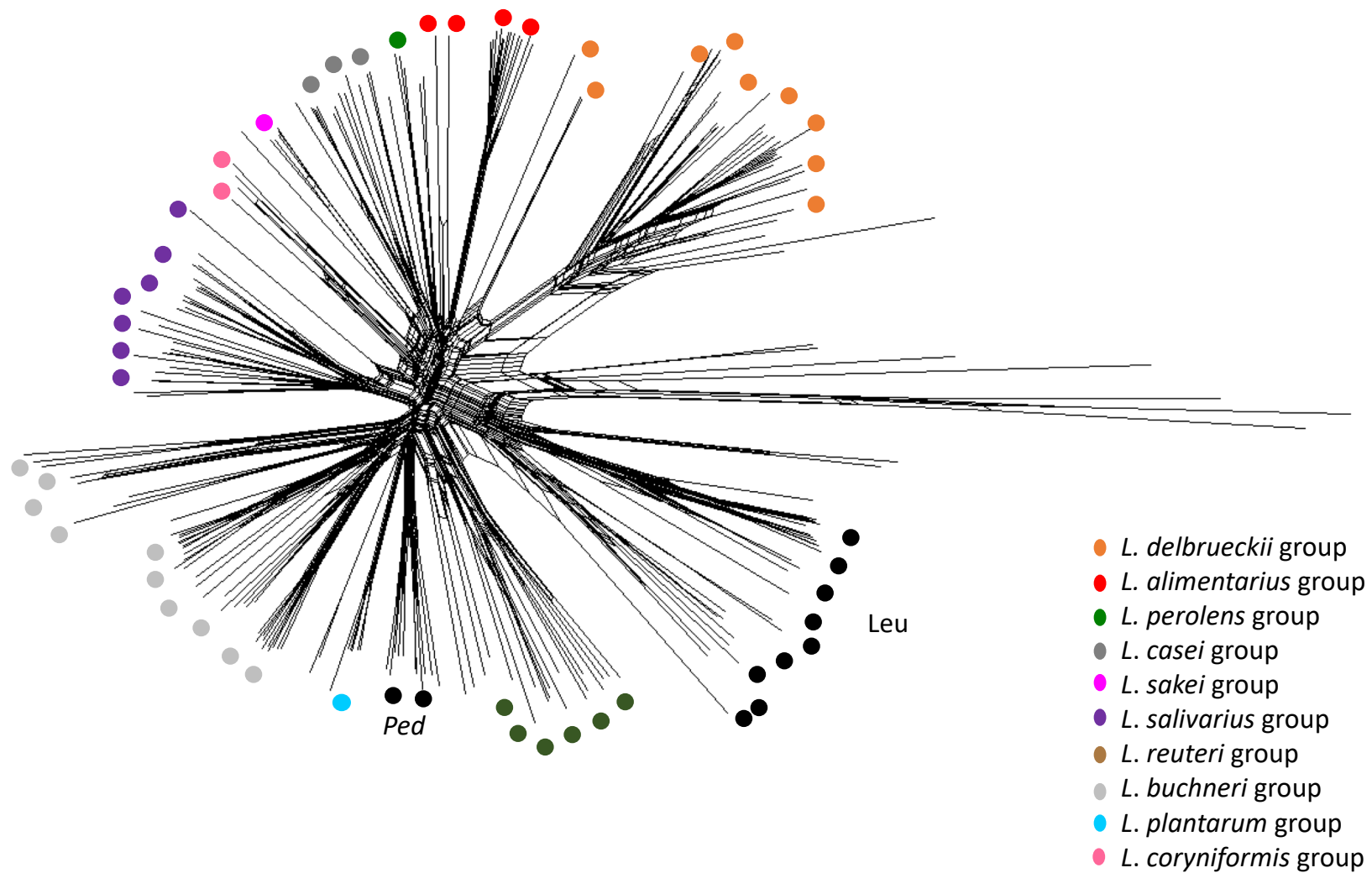
Suppl Figure S1A

10,01



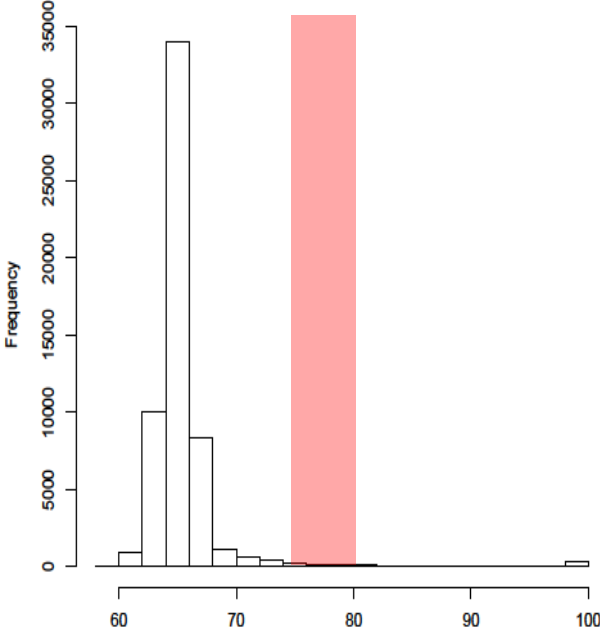
Suppl Figure S1B

0.01

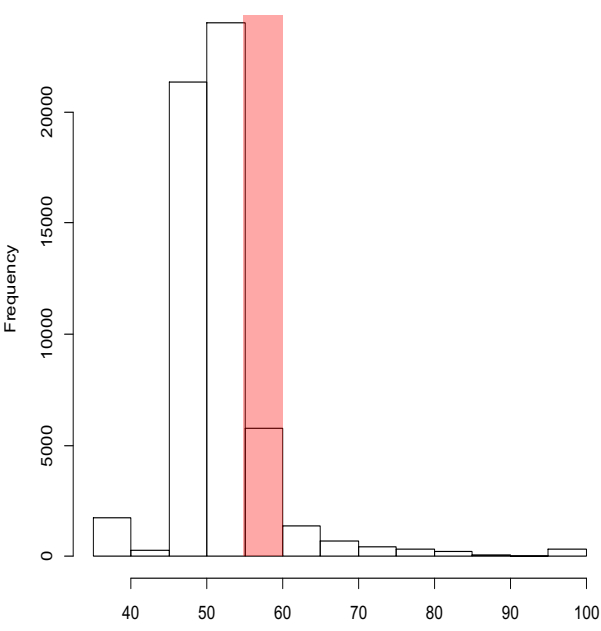


Suppl Figure S2

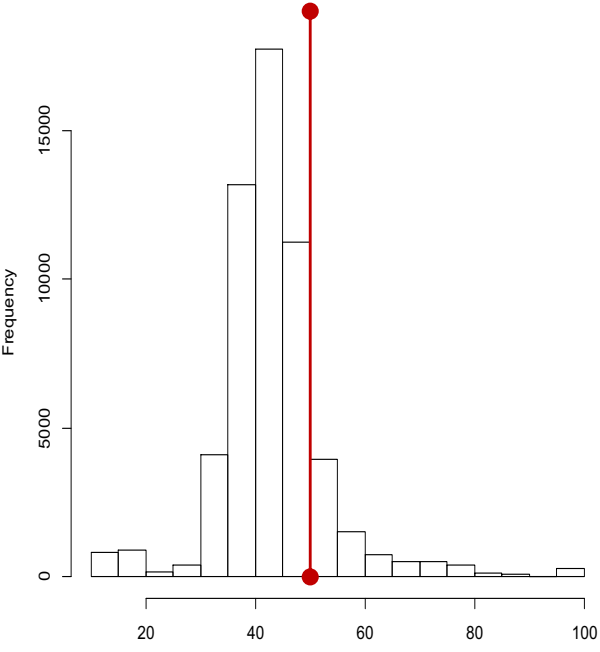
ANI



AAI



POCP



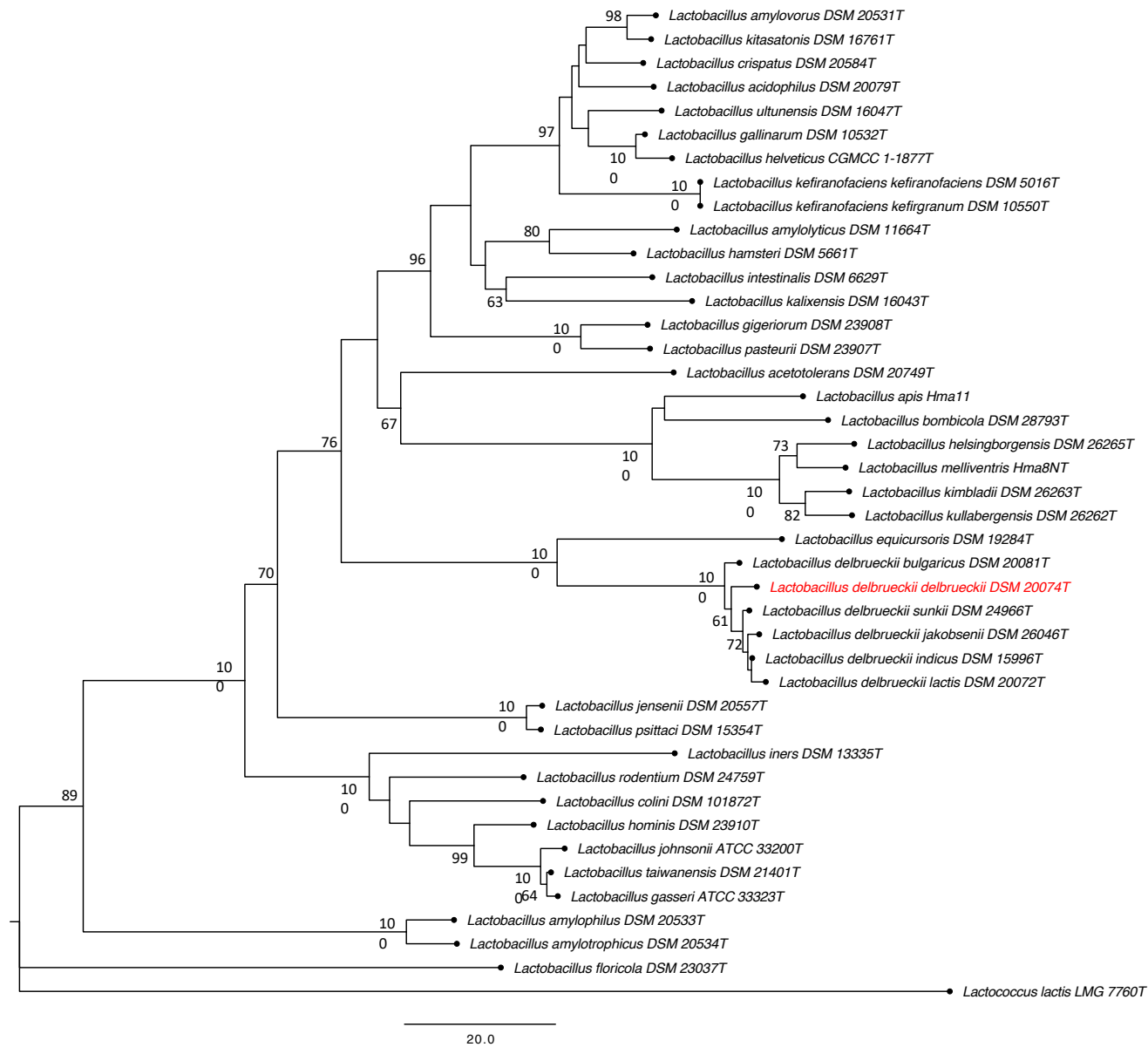


Figure S3A: *L. delbrueckii* group

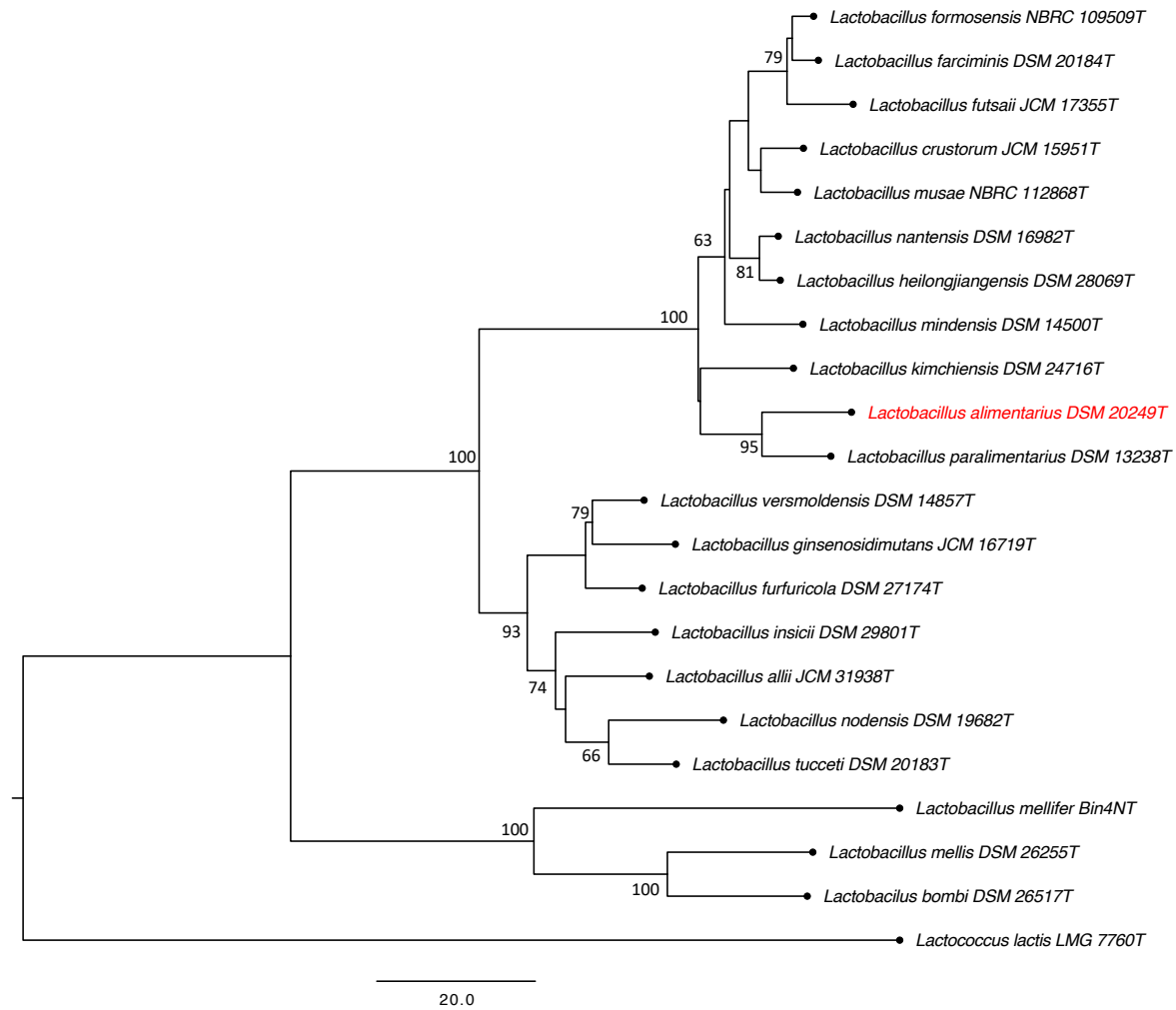


Figure S3B: *L. alimentarius* group

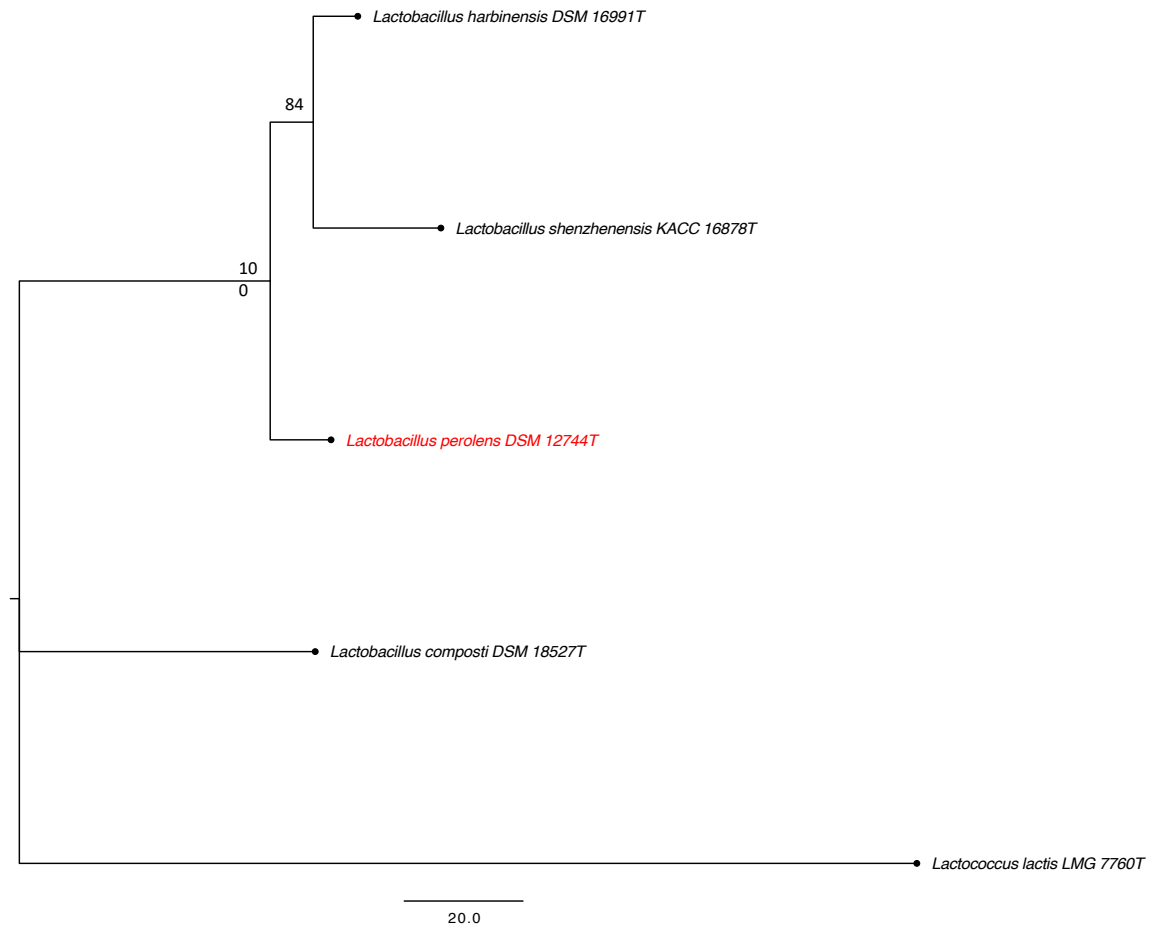


Figure S3C: *L. perolens* group

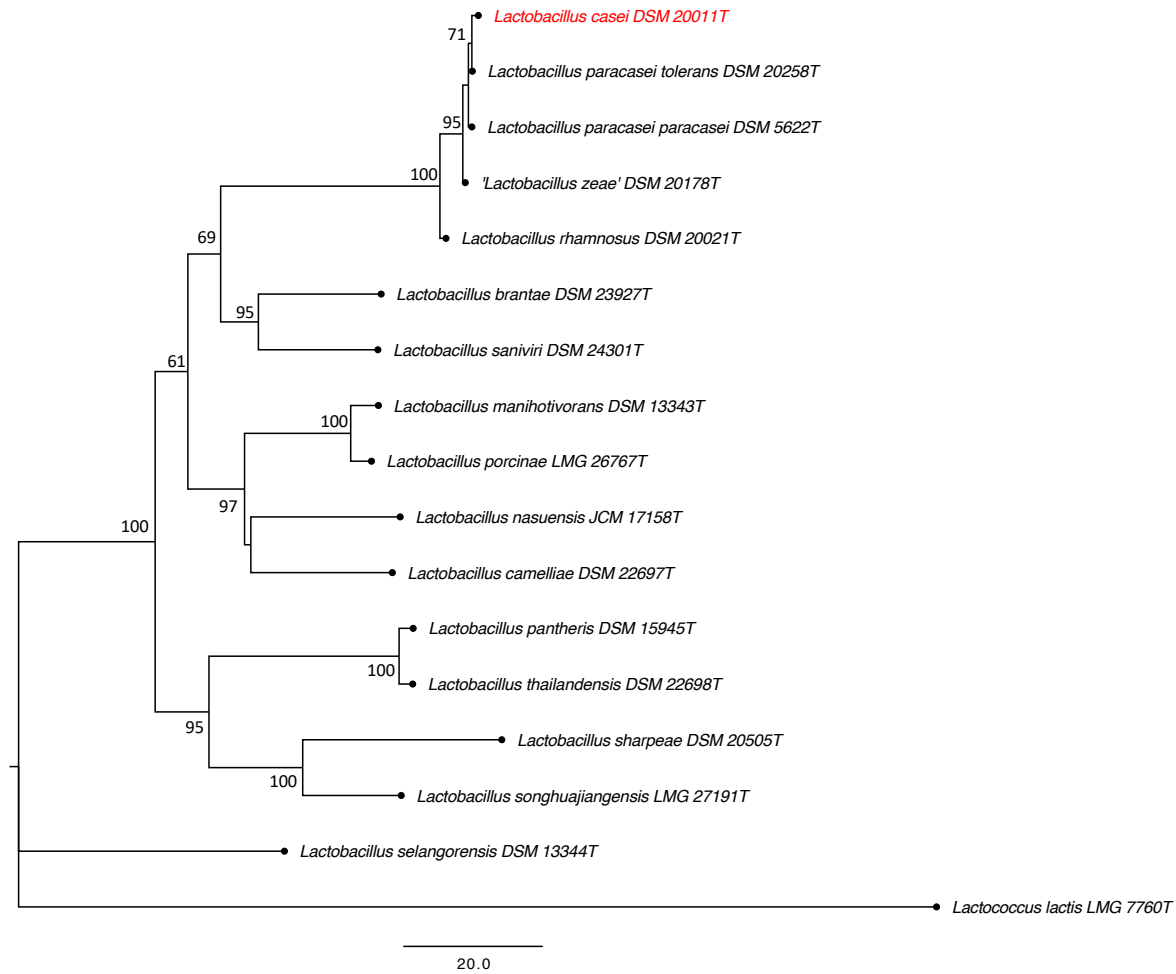


Figure S3D: *L. casei* group (*L. chiayiensis* has been recently described and it is related to *L. casei*)



Figure S3E: *L. sakei* group



Figure S3F: *L. plantarum* group

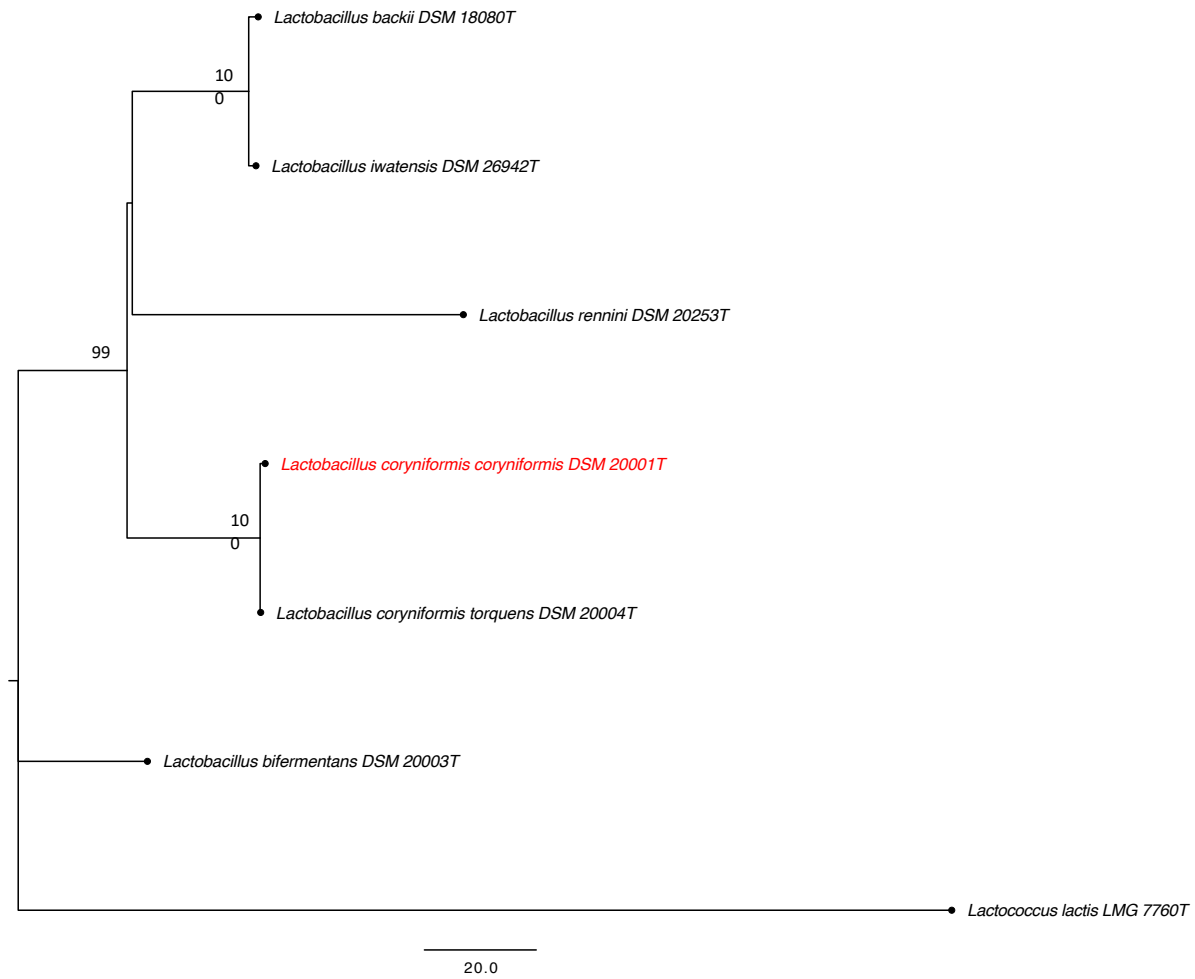
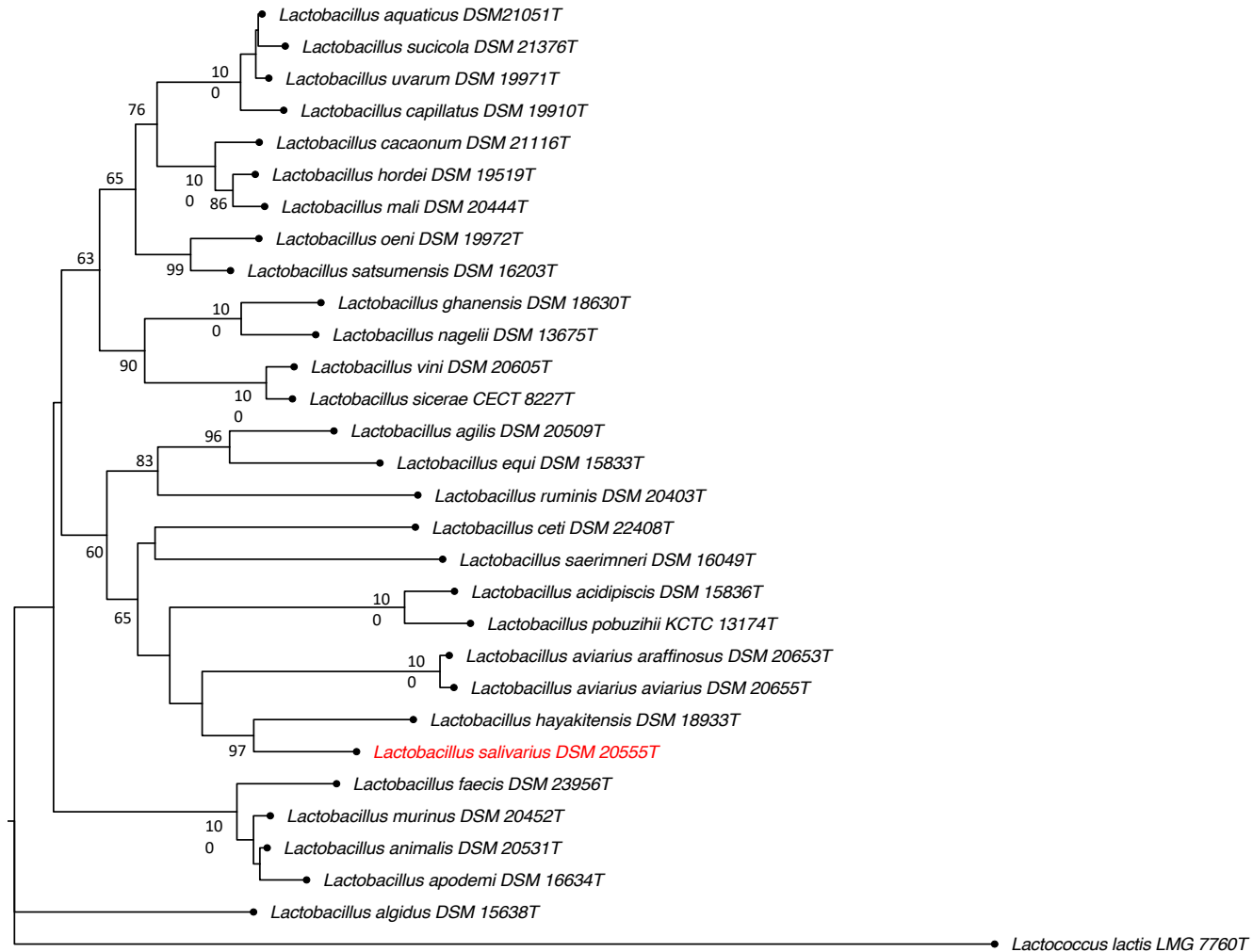


Figure S3G: *L. coryniformis* group



20.0

Figure S3H: *L. salivarius* group

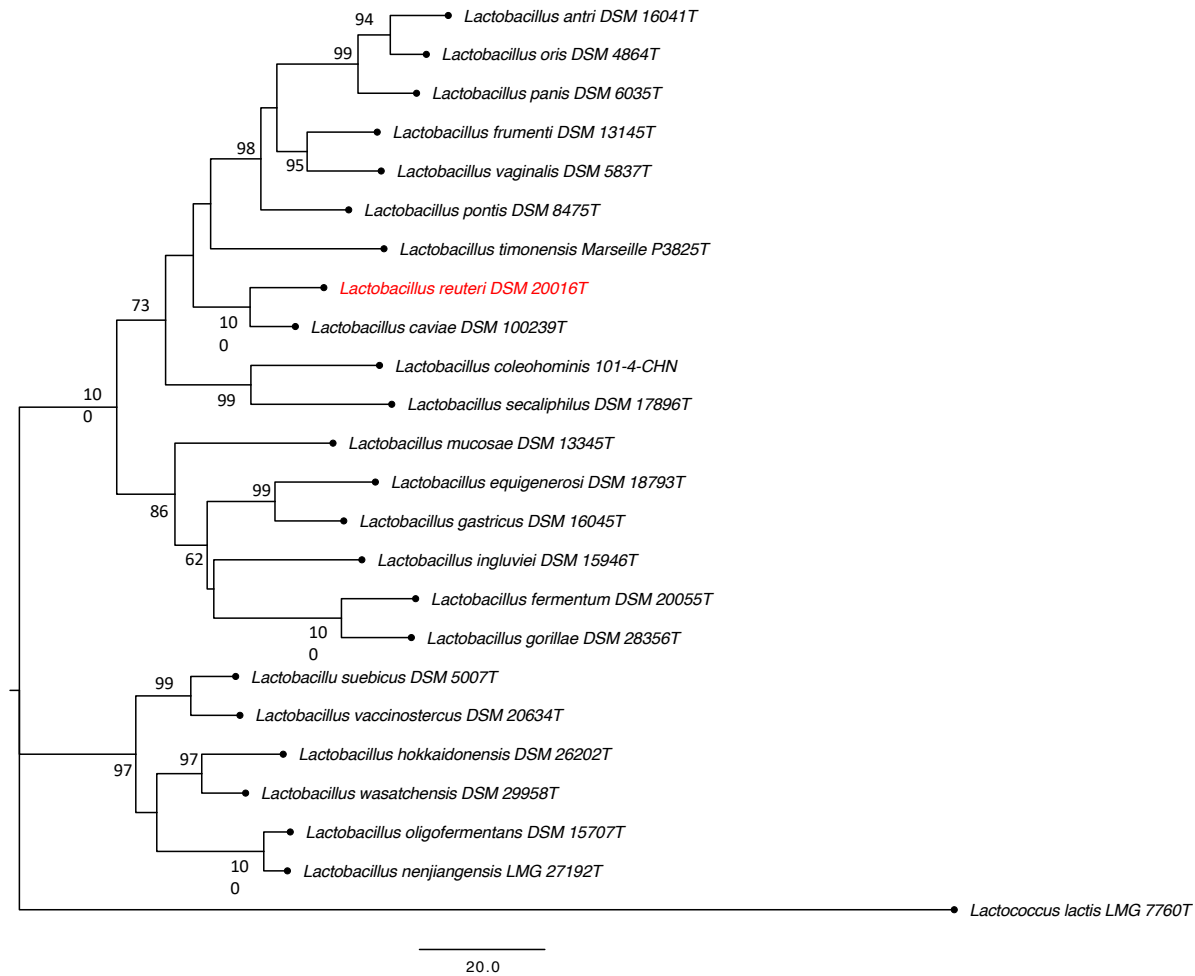


Figure S3I: *L. reuteri* group

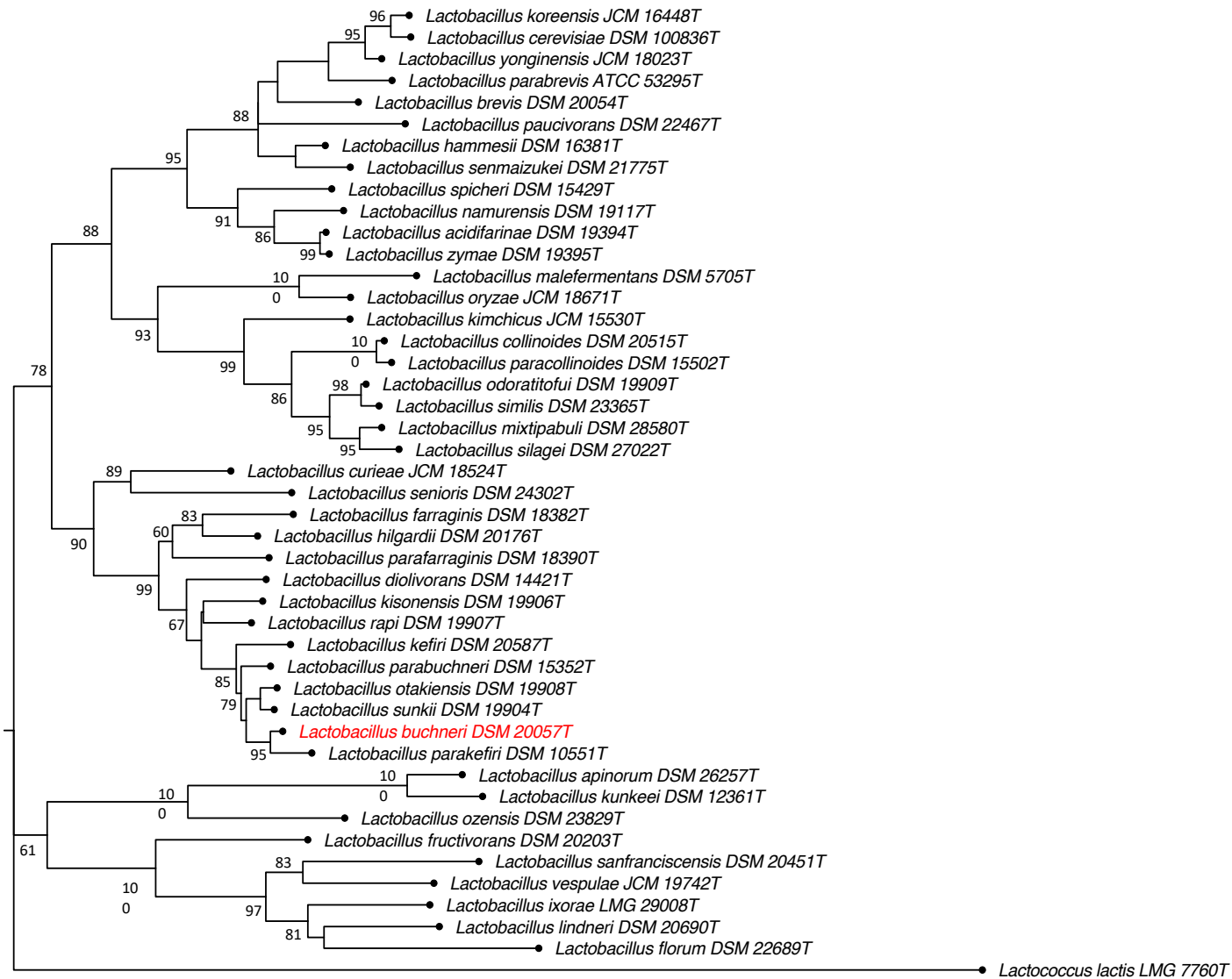


Figure S3J: *L. buchneri* group (*L. silangicola*, *L. pentosiphilus*, *L. kosoii*, *L. raoultii* have been recently described, thus they are not reported in the tree but they are related to *L. mixtipabuli*, *L. silagei*, *L. kunkeei*, *L. farraginis*).

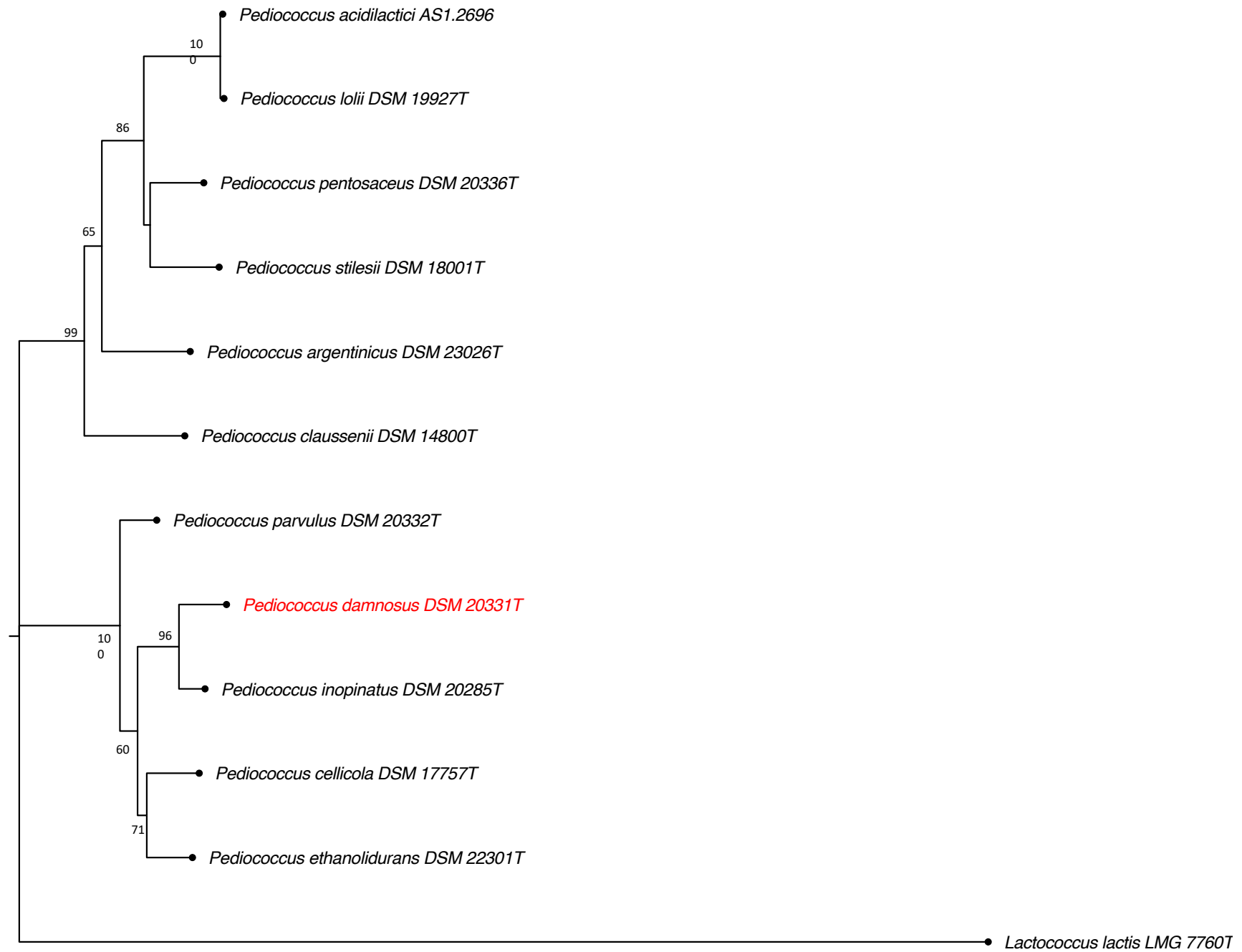


Figure S3K: *Pediococcus* genus 20.0

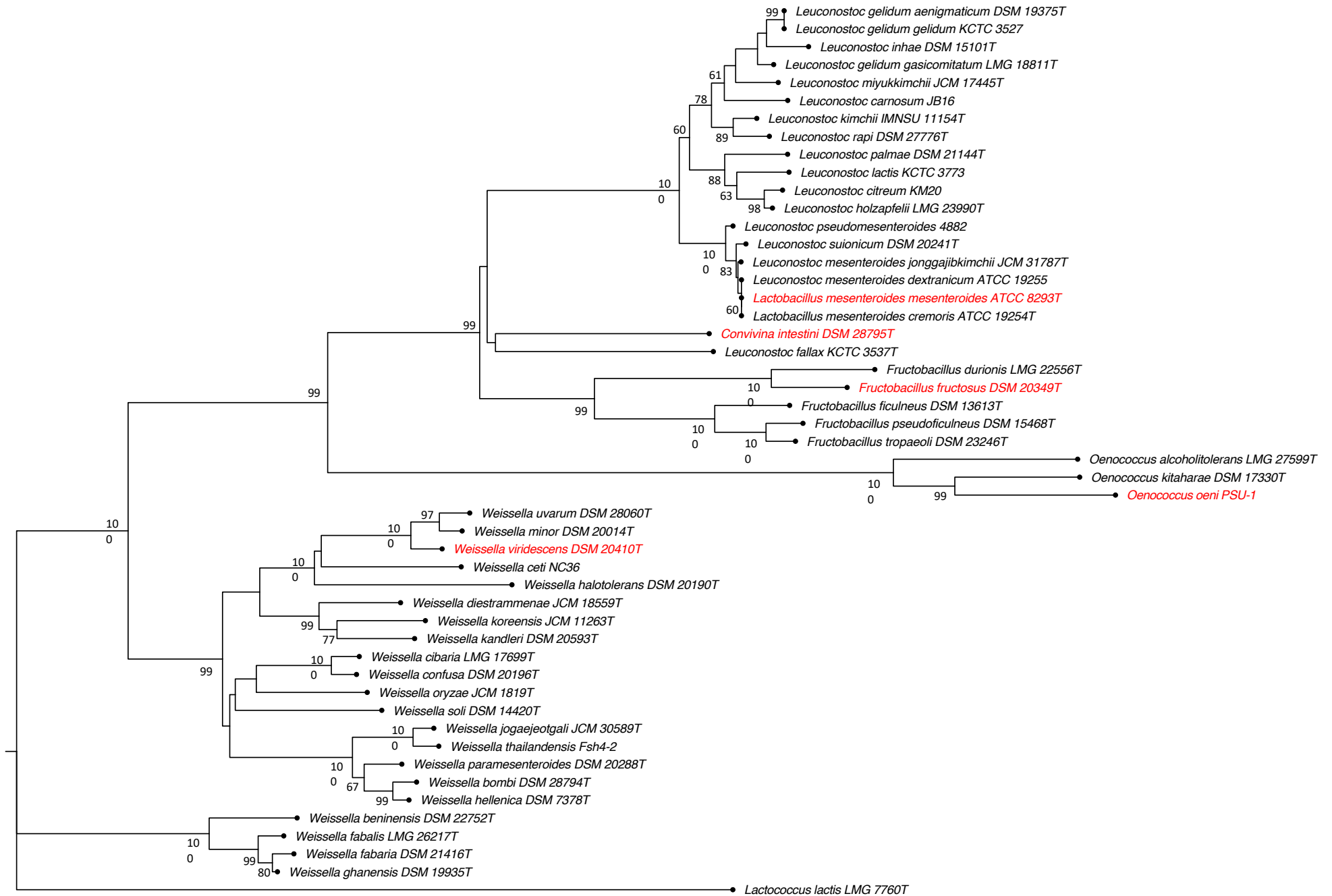


Figure S3L: family Leuconostocaceae

20.0

Table S1
Species considered in the present study and their genome features, including reference phylogroup and carbohydrate fermentation profile.

Genus	Species	Strain	Isolation year	Source	Genome size (Mbp)	GC%	Phylogroups	Metabolic Profiles	Genome Accession No.	16S rRNA Accession No.	MLST	rMLST	16s rRNA	AAI	POCP
<i>Atopobium</i>	<i>minutum</i>	DSM 20886T	1937	Perineal abscess	1.72	48.69			JQB000000000		x	x	x	x	x
<i>Atopobium</i>	<i>rimae</i>	DSM 7090T	1991	Human gingival crevice	1.63	1.63			JQC000000000		x	x	x	x	x
<i>Carnobacterium</i>	<i>divergens</i>	DSM 20623T	1984	Vacuum packaged minced beef	2.59	34.95			JQBS000000000		x	x	x	x	x
<i>Carnobacterium</i>	<i>malvaromaticum</i>	DSM 20342T	1974	Milk with rambly flavour	3.76	34.31			JQB000000000		x	x	x	x	x
<i>Corynebacterium</i>	<i>intestini</i>	DSM 28795T	2015	Bumble bee gut			Leuconostocaceae			LK054488					
<i>Fructobacillus</i>	<i>durionis</i>	LMG 2256T	2005	Malayian acid-fermented condiment, tempok			Leuconostocaceae			AJ780981					
<i>Fructobacillus</i>	<i>fructus</i>	DSM 13613T	2002	Fig-tree	1.54	43.9	Leuconostocaceae		BBXQ0000000.1		x	x	x	x	x
<i>Fructobacillus</i>	<i>fructosus</i>	DSM 20349T	1956	Flowers	1.48	44.56	Leuconostocaceae		JQB100000000		x	x	x	x	x
<i>Fructobacillus</i>	<i>pseudofrucosus</i>	DSM 15468T	2006	Ripe fig	1.41	44.5	Leuconostocaceae		FNWS0000000.1		x	x	x	x	x
<i>Fructobacillus</i>	<i>tropaeoli</i>	DSM 23246T	2011	<i>Tropaeolum majus</i> , a flower	1.69	44.2	Leuconostocaceae		BBXT0000000.1		x	x	x	x	x
<i>Kandleria</i>	<i>vitulina</i>	DSM 20405T	1973	Calf navel	2.14	35.03			JQBL000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>acetotolerans</i>	DSM 20749T	1986	Fermented Vinegar Bruth	1.59	36.26	<i>L. delbrueckii</i>	OHE	AYZC000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>acidifarinae</i>	DSM 19394T	2005	Artisanal wheat sourdough	2.92	51.59	<i>L. buchneri</i>	OHE	AZDV000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>acidophilus</i>	DSM 15836T	1900	Fermented fish	2.33	39.07	<i>L. salivarius</i>	OHE	AZFD000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>acidophilus</i>	DSM 20079T	2000	Human	1.95	34.59	<i>L. delbrueckii</i>	OHE	AZCS000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>agilis</i>	DSM 20589T	1982	Municipal sewage	2.06	41.74	<i>L. salivarius</i>	OHE	AYYP000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>alpidus</i>	DSM 15385T	2000	Vacuum-packed beef	1.59	36.03	<i>L. salivarius</i>	OHE	AZD000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>alimentarius</i>	DSM 20249T	1970	Marinated fish product	2.34	35.4	<i>L. alimentarius</i>	FHE	AZDQ000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>allii</i>	JCM 31938T	1997	Scallion kimchi			<i>L. alimentarius</i>	OHO	CP019221		x	x	x	x	x
<i>Lactobacillus</i>	<i>amylolyticus</i>	DSM 11664T	2019	Acidified beer wort	1.54	38.24	<i>L. delbrueckii</i>	OHO	AZEP000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>amylolophilus</i>	DSM 20533T	1981	Swine waste-corn fermentation	1.56	43.61	<i>L. delbrueckii</i>	OHO	AYYS000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>amylotrophicus</i>	DSM 20534T	2006	Swine waste-corn fermentation	1.55	43.59	<i>L. delbrueckii</i>	OHO	AZCV000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>amylotrophicus</i>	DSM 20531T	1981	Cattle waste-corn fermentation	2.02	37.77	<i>L. delbrueckii</i>	OHO	AZCM000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>animalis</i>	DSM 28602T	1983	Dental plaque of baboon	1.89	41.06	<i>L. salivarius</i>	OHO	AYYW000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>antri</i>	DSM 16041T	2005	Gastric biopsis, Human stomach mucosa	2.24	51.11	<i>L. reuteri-vaccinostercus</i>	OHE	AZDK000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>apiformis</i>	DSM 26257T	2014	Honey stomach of the honeybee	1.46	34.9	<i>L. buchneri</i>	OHE	JXC00000000.1		x	x	x	x	x
<i>Lactobacillus</i>	<i>apis</i>	Hma11	2014	Stomach of honeybees	1.70	36.85	<i>L. delbrueckii</i>	OHO	JXLG0000000.1		x	x	x	x	x
<i>Lactobacillus</i>	<i>apodemi</i>	DSM 16634T	2006	Faeces of wild Japanese wood mouse	2.10	38.63	<i>L. salivarius</i>	FHE	AZFT000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>aquaticus</i>	DSM 21051T	2009	Surface of a eutrophic freshwater pond	2.41	37.41	<i>L. salivarius</i>	OHO	AYZD000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>avarius araffinus</i>	DSM 20653T	1986	Intestine of chicken	1.48	38.13	<i>L. salivarius</i>	OHO	AYYZ000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>avarius avarius</i>	DSM 20655T	1985	Faeces of chicken	1.68	40.12	<i>L. salivarius</i>	OHO	AZVA000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>bucchi</i>	DSM 18080T	2013	Spoiled lager beer	1.88	40.12	<i>L. coryniformis</i>	OHO		AB779648	x	x	x	x	x
<i>Lactobacillus</i>	<i>byfermentans</i>	DSM 20003T	1943	Blown cheese	3.14	44.29	<i>L. coryniformis</i>	FHE	AZDA000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>bombi</i>	DSM 26517T	2014	Digestive tract of laboratory-reared bumblebee queens			<i>L. alimentarius</i>	FHE		KJ078643	x	x	x	x	x
<i>Lactobacillus</i>	<i>bombicola</i>	DSM 28793T	2015	Bumble bee gut	1.93	47.48	<i>L. delbrueckii</i>	FHE		LK054485	x	x	x	x	x
<i>Lactobacillus</i>	<i>brunae</i>	DSM 23927T	2012	Faeces of Canada goose	2.47	45.96	<i>L. casei</i>	OHE	AYZQ000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>brevis</i>	DSM 20054T	1919	Faeces	2.47	45.96	<i>L. buchneri</i>	OHE	AZCP000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>buchneri</i>	DSM 20057T	1983	Tomato pulp	2.45	44.41	<i>L. buchneri</i>	OHE	AZDM000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>cacaoman</i>	DSM 21116T	2009	Cocoa bean heap fermentation	1.92	33.87	<i>L. salivarius</i>	FHE	AYZE000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>camelliae</i>	DSM 22697T	2007	Fermented tea leaves (mian)	2.57	55.39	<i>L. casei</i>	OHO	AYZJ000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>capillans</i>	DSM 19910T	2008	Fermented brine used for stinky tofu production	2.24	37.63	<i>L. salivarius</i>	OHO	AZEF000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>casei</i>	DSM 20011T	1916	Cheese	2.83	46.45	<i>L. casei</i>	FHE	AZCC000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>curvise</i>	DSM 100239T	2017	Oval cavity of a home-bred ant on rice			<i>L. reuteri-vaccinostercus</i>	OHE		KT34143	x	x	x	x	x
<i>Lactobacillus</i>	<i>ceresivariae</i>	DSM 100836T	2017	Spoiled beer			<i>L. buchneri</i>	n.d.		KT448596	x	x	x	x	x
<i>Lactobacillus</i>	<i>cepii</i>	DSM 22408T	2008	Lungs of a beaked whale	1.40	33.73	<i>L. salivarius</i>	FHE	JQBZ000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>colosohominis</i>	101-4-CHN	2009	Vaginal urogenital tract	1.72	41.1	<i>L. reuteri-vaccinostercus</i>	FHE	AC0H0000000.1		x	x	x	x	x
<i>Lactobacillus</i>	<i>coli</i>	DSM 101872T	2017	Northern Bobwhite (<i>Coturnix virginianus</i>)			<i>L. delbrueckii</i>	n.d.		KU161105	x	x	x	x	x
<i>Lactobacillus</i>	<i>collinoides</i>	DSM 20515T	1972	Fermenting apple juice	3.62	46.11	<i>L. buchneri</i>	OHE	AYYR000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>compositi</i>	DSM 18527T	2007	Composting material of distilled shochu residue	3.47	43.95	<i>L. perolens</i>	FHE	AZGA000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>convexus</i>	DSM 17758T	2005	Walls of a distilled spirit fermenting cellar	1.90	43.3	<i>L. convexus-L. dextrinicus</i>	OHO	AZFX000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>coryniformis coryniformis</i>	DSM 20001T	1965	Silage	2.71	42.86	<i>L. coryniformis</i>	FHE	AZCN000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>coryniformis torquens</i>	DSM 20004T	1965	Air of cow shed	4.28	42.94	<i>L. coryniformis</i>	FHE	AZDC000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>crispus</i>	DSM 20584T	1953	Wheat	2.06	36.59	<i>L. delbrueckii</i>	OHO	AZCW000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>crustorum</i>	JCM 15951T	2007	Wheat sourdough	2.22	35	<i>L. alimentarius</i>	OHO			x	x	x	x	x
<i>Lactobacillus</i>	<i>curvise</i>	JCM 18524T	2013	Stinky tofu brine	2.10	39.8	<i>L. buchneri</i>	OHE	CP01896.1		x	x	x	x	x
<i>Lactobacillus</i>	<i>curvise</i>	JCM31185T	2017	Beer			<i>L. rossiae-L. vilginsii</i>	n.d.		LC093898	x	x	x	x	x
<i>Lactobacillus</i>	<i>curvise</i>	DSM 20019T	1913	Milk	1.82	41.97	<i>L. buchneri</i>	OHE	AZDL000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>delbrueckii bulgaricus</i>	DSM 20081T	1909	Bulgarian vouhotur	1.76	49.91	<i>L. delbrueckii</i>	FHE	QJAV000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>delbrueckii delbrueckii</i>	DSM 20074T	1896	Sour cream mash	1.75	49.86	<i>L. delbrueckii</i>	OHO	AZCR000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>delbrueckii indicus</i>	DSM 15966T	2005	Traditional dairy fermented product (Dahi tova)	1.88	49.54	<i>L. delbrueckii</i>	OHO	AZFL000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>delbrueckii jakobeni</i>	DSM 26046T	2013	Dolo wort (Alcoholic fermented beverage)	1.75	50.31	<i>L. delbrueckii</i>	OHO	JQCG000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>delbrueckii lactis</i>	DSM 20072T	1919	Emmental cheese	1.87	49.86	<i>L. delbrueckii</i>	OHO	AZDE000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>delbrueckii sankii</i>	DSM 24966T	2012	Sauki, a Japanese traditional pickle			<i>L. delbrueckii</i>	OHO		AB641833	x	x	x	x	x
<i>Lactobacillus</i>	<i>dextrinicus</i>	DSM 20335T	1964	Silage	1.81	38.05	<i>L. convexus-L. dextrinicus</i>	OHE	AYYK000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>dilatiorans</i>	DSM 14421T	2002	Maize silage	2.02	40.01	<i>L. buchneri</i>	OHO	AZYZ000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>equi</i>	DSM 15833T	2002	Faeces of horses	3.90	39.03	<i>L. salivarius</i>	OHO	AZFH000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>equicursoris</i>	DSM 19284T	2010	Healthy thoroughbred racehorse	2.05	47.71	<i>L. delbrueckii</i>	OHO	AZDU000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>equigenensis</i>	DSM 18793T	2008	Faeces of thoroughbred horse	1.60	42.65	<i>L. reuteri-vaccinostercus</i>	OHE	AZGC000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>fabifermentans</i>	DSM 21115T	2009	Cocoa bean heap fermentation	3.28	45.03	<i>L. plantarum</i>	FHE	AYGX000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>faecis</i>	DSM 23956T	2013	Animal faeces			<i>L. salivarius</i>	OHO		AB812750	x	x	x	x	x
<i>Lactobacillus</i>	<i>farcinicus</i>	DSM 20184T	1970	Sausage	2.48	36.38	<i>L. alimentarius</i>	OHO	AZDR000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>farraginis</i>	DSM 18382T	2007	Composting material of distilled shochu residue	2.86	42.05	<i>L. buchneri</i>	FHE	AZFY000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>fermentum</i>	DSM 20055T	1901	Human saliva	1.90	52.42	<i>L. reuteri-vaccinostercus</i>	OHE	JQAU000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>floricola</i>	DSM 23037T	2011	Flower of <i>Caltha palustris</i>	1.29	34.53	<i>L. delbrueckii</i>	OHO	AYZL000000000		x	x	x	x	x
<i>Lactobacillus</i>	<i>florum</i>	DSM 22689T	2010	Penny (<i>Poaonia sulfarificosa</i>)	1.35	41.14	<i>L. buchneri</i>	OHE							

<i>Lactobacillus intestinalis</i>	DSM 6629T	1974	Intestine of rat	2.01	35.37	<i>L. delbrueckii</i>	FHE	AZGN0000000	x	x	x	x	x
<i>Lactobacillus ivanensis</i>	DSM 26942T	2013	Ochadragrus (<i>Chrysothrix glomerata</i> L.) silage			<i>L. coryniformis</i>	OHO	AB773428					
<i>Lactobacillus itorae</i>	LMG 29008T	1976	Flower (West-Indian tamarac)			<i>L. buchneri</i>	OHE	LC094494					
<i>Lactobacillus jensenii</i>	DSM 20557T	2010	Human vaginal discharge	1.61	34.33	<i>L. delbrueckii</i>	FHE	AYYU0000000	x	x	x	x	x
<i>Lactobacillus johnsonii</i>	ATCC 33200T	1992	Human blood	1.77	34.43	<i>L. delbrueckii</i>	OHO	AZCY0000000	x	x	x	x	x
<i>Lactobacillus kaltenzisi</i>	DSM 16043T	2005	Human stomach	2.08	36.1	<i>L. delbrueckii</i>	OHO	AZFM0000000	x	x	x	x	x
<i>Lactobacillus kefirranofaciens kefirranofaciens</i>	DSM 5016T	1988	Kefir grains	2.26	37.22	<i>L. delbrueckii</i>	OHO	AZGG0000000	x	x	x	x	x
<i>Lactobacillus kefirranofaciens kefirgranum kefir</i>	DSM 10550T	1984	Kefir grains	2.10	37.48	<i>L. delbrueckii</i>	OHO	AZEM0000000	x	x	x	x	x
<i>Lactobacillus kimchidii</i>	DSM 20587T	1993	Kefir grains	2.23	41.66	<i>L. buchneri</i>	OHE	AYYV0000000	x	x	x	x	x
<i>Lactobacillus kimchidii</i>	DSM 26263T	2014	Honey stomach of the honeybee <i>Apis mellifera</i>	2.19	36	<i>L. delbrueckii</i>	FHE	JXLH0000000.1	x	x	x	x	x
<i>Lactobacillus kimchiensis</i>	JCM 15530T	2008	Kimchi	2.59	46.59	<i>L. buchneri</i>	FHE	AZCC0000000	x	x	x	x	x
<i>Lactobacillus kimchiensis</i>	DSM 24716T	2013	Kimchi	2.70	35.48	<i>L. alimentarius</i>	OHO	JQCF0000000	x	x	x	x	x
<i>Lactobacillus kisomensis</i>	DSM 19906T	2009	Sunki, a Japanese traditional pickle	3.01	41.74	<i>L. buchneri</i>	OHE	AZEB0000000	x	x	x	x	x
<i>Lactobacillus kitatanensis</i>	DSM 16761T	2003	Chicken intestine	1.91	37.51	<i>L. delbrueckii</i>	FHE	AZFU0000000	x	x	x	x	x
<i>Lactobacillus koreensis</i>	JCM 16448T	2011	Cabbage kimchi	2.97	49.15	<i>L. buchneri</i>	OHE	AZDP0000000	x	x	x	x	x
<i>Lactobacillus kullbergensis</i>	DSM 26262T	2014	Honey stomach of the honeybee <i>Apis mellifera</i>	2.12	35.8	<i>L. delbrueckii</i>	FHE	JXBY0000000.1	x	x	x	x	x
<i>Lactobacillus kurdici</i>	DSM 12361T	1998	Commercial grape wine	1.52	36.43	<i>L. buchneri</i>	OHE	AZCK0000000	x	x	x	x	x
<i>Lactobacillus lindneri</i>	DSM 20690T	1901	Spout beer	1.44	34.14	<i>L. buchneri</i>	OHE	JQBT0000000	x	x	x	x	x
<i>Lactobacillus malferramentans</i>	DSM 5705T	1953	Sour beer	2.05	41.03	<i>L. buchneri</i>	OHE	AZGG0000000	x	x	x	x	x
<i>Lactobacillus mali</i>	DSM 20444T	1970	Apple juice from cider press	2.59	36.06	<i>L. salivarius</i>	OHO	AYYH0000000	x	x	x	x	x
<i>Lactobacillus manihotivoraans</i>	DSM 13343T	1998	Cassava sour starch fermentation	3.14	47.7	<i>L. casei</i>	OHO	AZEU0000000	x	x	x	x	x
<i>Lactobacillus mellifer</i>	Bin8NT	2014	Honey stomach of the honeybee <i>Apis mellifera</i>	1.82	39.5	<i>L. alimentarius</i>	FHE	JXJQ0000000.1	x	x	x	x	x
<i>Lactobacillus mellis</i>	DSM 26255T	2014	Honey stomach of the honeybee <i>Apis mellifera</i>	1.81	36.4	<i>L. alimentarius</i>	FHE	JXHZ0000000.1	x	x	x	x	x
<i>Lactobacillus melliveneris</i>	Hma8NT	2014	Honey stomach of the honeybee <i>Apis mellifera</i>	2.12	35.9	<i>L. delbrueckii</i>	FHE	JXLI0000000.1	x	x	x	x	x
<i>Lactobacillus mindensis</i>	DSM 14500T	2003	Sourdough	2.34	38.21	<i>L. alimentarius</i>	OHO	AZEZ0000000	x	x	x	x	x
<i>Lactobacillus mixiphalii</i>	DSM 28880T	2015	Silage			<i>L. buchneri</i>	OHE	AB894863					
<i>Lactobacillus modestissoliterans</i>	NBRC 107235T	2015	Traditional fermented foods			<i>L. plantarum</i>	OHO	AB907192					
<i>Lactobacillus mucosae</i>	DSM 13345T	2000	Pig small intestine	2.25	46.4	<i>L. reuteri-vaccinosciens</i>	OHE	AZEQ0000000	x	x	x	x	x
<i>Lactobacillus midjungensis</i>	LMG 27194T	2013	Chinese traditional pickle and sourdough			<i>L. plantarum</i>	OHO	HF679037					
<i>Lactobacillus murinus</i>	DSM 20452T	1982	Intestine of rat	2.20	40.05	<i>L. salivarius</i>	FHE	AYYN0000000	x	x	x	x	x
<i>Lactobacillus musae</i>	NBRC 112868T	2017	Banana fruits			<i>L. alimentarius</i>	OHO	LC184607					
<i>Lactobacillus nagelii</i>	DSM 13675T	2007	Partially fermented wine	2.50	36.69	<i>L. salivarius</i>	OHO	AZEV0000000	x	x	x	x	x
<i>Lactobacillus namurensis</i>	DSM 19117T	2000	Sourdough	2.48	51.99	<i>L. buchneri</i>	OHE	AZDT0000000	x	x	x	x	x
<i>Lactobacillus nanensis</i>	DSM 16982T	2006	Wheat sourdough	2.91	36.18	<i>L. alimentarius</i>	FHE	AZFW0000000	x	x	x	x	x
<i>Lactobacillus nasusensis</i>	JCM 17158T	2012	Saundergs silage sample	2.28	57.02	<i>L. casei</i>	OHO	AZDV0000000	x	x	x	x	x
<i>Lactobacillus nenjiangensis</i>	LMG 27192T	2013	Chinese traditional pickle and sourdough			<i>L. reuteri-vaccinosciens</i>	OHE	HF679039					
<i>Lactobacillus nodensis</i>	DSM 19682T	2009	Japanese pickles	2.68	37.57	<i>L. alimentarius</i>	FHE	AZDZ0000000	x	x	x	x	x
<i>Lactobacillus odoratofufi</i>	DSM 19909T	2010	Fermented brine used for stinky tofu production	2.76	44.25	<i>L. buchneri</i>	OHE	AZEE0000000	x	x	x	x	x
<i>Lactobacillus oeni</i>	DSM 19972T	2009	Bobal wine	2.12	37.33	<i>L. salivarius</i>	OHO	AZEH0000000	x	x	x	x	x
<i>Lactobacillus oligofermentans oris</i>	DSM 15707T	2005	Bowler tea	1.83	35.57	<i>L. reuteri-vaccinosciens</i>	OHO	AZEF0000000	x	x	x	x	x
<i>Lactobacillus oryzae</i>	DSM 4064T	1988	Human saliva	2.03	42.98	<i>L. reuteri-vaccinosciens</i>	OHE	AZEG0000000	x	x	x	x	x
<i>Lactobacillus oryzae</i>	JCM 18671T	2013	Fermented rice grain (<i>Oryza sativa</i> L. subsp. <i>japonica</i>)	1.85	42.8	<i>L. buchneri</i>	OHE	BBM0000000.1	x	x	x	x	x
<i>Lactobacillus otakiensis</i>	DSM 19908T	2009	Sunki, a Japanese traditional pickle	2.35	42.39	<i>L. buchneri</i>	OHE	AZED0000000	x	x	x	x	x
<i>Lactobacillus oceanis</i>	DSM 23829T	2011	Chrysanthemum, Oze National Park	1.48	31.93	<i>L. buchneri</i>	OHE	AYYQ0000000	x	x	x	x	x
<i>Lactobacillus panis</i>	DSM 6035T	1996	Sourdough	2.01	48.05	<i>L. reuteri-vaccinosciens</i>	OHE	AZGM0000000	x	x	x	x	x
<i>Lactobacillus pasteurii</i>	DSM 15945T	2002	Jaunar faeces	2.55	52.9	<i>L. casei</i>	OHO	AZJF0000000	x	x	x	x	x
<i>Lactobacillus parabrevis</i>	ATCC 53295T	2006	Cheese	2.61	49.05	<i>L. buchneri</i>	OHE	AZJZ0000000	x	x	x	x	x
<i>Lactobacillus parabuchneri</i>	DSM 15322T	1989	Blair alcohol distillery	2.61	43.47	<i>L. buchneri</i>	OHE	JQB0000000	x	x	x	x	x
<i>Lactobacillus paracasei paracasei</i>	DSM 5622T	1989	N/A	2.88	46.5	<i>L. casei</i>	FHE	AZGH0000000	x	x	x	x	x
<i>Lactobacillus paracasei tolerans paracasei/tolerans</i>	DSM 20258T	1965	Pasteurized milk	2.38	46.42	<i>L. casei</i>	FHE	AYYU0000000	x	x	x	x	x
<i>Lactobacillus paracollinoides</i>	DSM 15502T	2004	Brewery environment	3.49	46.84	<i>L. buchneri</i>	OHE	AZJW0000000	x	x	x	x	x
<i>Lactobacillus paraferruginis</i>	DSM 18390T	2007	Composting material of distilled sludges residue	3.08	45.23	<i>L. buchneri</i>	FHE	AZJX0000000	x	x	x	x	x
<i>Lactobacillus parakefiri</i>	DSM 10551T	1994	Kefir grain	4.91	42.59	<i>L. buchneri</i>	OHE	AZJN0000000	x	x	x	x	x
<i>Lactobacillus paraimentarius</i>	DSM 12383T	1999	Saundergs silage	2.55	35.1	<i>L. alimentarius</i>	FHE	AZJS0000000	x	x	x	x	x
<i>Lactobacillus pasteurii</i>	DSM 10667T	1996	Beer contaminant	3.40	43.69	<i>L. plantarum</i>	FHE	AZEC0000000	x	x	x	x	x
<i>Lactobacillus pasteurii</i>	DSM 23907T	2010	N/A	1.87	38.51	<i>L. delbrueckii</i>	FHE	AZYN0000000	x	x	x	x	x
<i>Lactobacillus pasteurianus</i>	DSM 22467T	2013	Yeast storage tank containing laager beer	2.37	49.06	<i>L. buchneri</i>	FHE	JQC40000000	x	x	x	x	x
<i>Lactobacillus pentosiphilus</i>	DSM 10294T	1927	Silage	n.d.		<i>L. buchneri</i>	n.d.	LC085284					
<i>Lactobacillus pentosus</i>	DSM 20314T	1921	N/A	3.65	46.31	<i>L. plantarum</i>	FHE	AZCU0000000	x	x	x	x	x
<i>Lactobacillus perolens</i>	DSM 12744T	2000	Onion-lemonade	3.31	49.08	<i>L. perolens</i>	FHE	AZEC0000000	x	x	x	x	x
<i>Lactobacillus pligioni</i>	NBRC 107333T	2015	Traditional fermented foods			<i>L. plantarum</i>	FHE	AB907190					
<i>Lactobacillus plantarum plantarum</i>	CGMCC 1-2437T	1919	Pickled cabbage	3.21	44.48	<i>L. plantarum</i>	FHE	AZEH0000000	x	x	x	x	x
<i>Lactobacillus plantarum argentinensis</i>	DSM 16365T	2005	Fermented cassava roots (fufu)	3.20	45	<i>L. plantarum</i>	FHE	AZFR0000000	x	x	x	x	x
<i>Lactobacillus plantarum plantarum</i>	DSM 13273T	1919	Joboba meal fermentation	3.45	44.24	<i>L. plantarum</i>	FHE	JQAW0000000	x	x	x	x	x
<i>Lactobacillus pobuzhii</i>	KCTC 13174T	1994	Pickled cabbage	2.35	37.72	<i>L. salivarius</i>	FHE	JQCN0000000	x	x	x	x	x
<i>Lactobacillus pontis</i>	DSM 8475T	2010	<i>Cor dia diabolus</i>	1.67	53.43	<i>L. reuteri-vaccinosciens</i>	OHE	AZGG0000000	x	x	x	x	x
<i>Lactobacillus porcinae</i>	LMG 26767T	2013	Traditional Vietnamese non chua			<i>L. casei</i>	OHE	HE616585					
<i>Lactobacillus prittici</i>	DSM 15354T	2001	Lung of parrot	1.54	35.64	<i>L. delbrueckii</i>	OHE	AZFB0000000	x	x	x	x	x
<i>Lactobacillus rapi</i>	DSM 19907T	2009	Sunki, a Japanese traditional pickle	2.86	42.95	<i>L. buchneri</i>	OHE	AZED0000000	x	x	x	x	x
<i>Lactobacillus rennini</i>	DSM 20253T	2006	Remisin	2.27	40.67	<i>L. coryniformis</i>	FHE	AYYU0000000	x	x	x	x	x
<i>Lactobacillus reuteri</i>	DSM 20016T	1982	Intestine of adult	1.94	38.63	<i>L. reuteri-vaccinosciens</i>	OHE	AZDD0000000	x	x	x	x	x
<i>Lactobacillus rhomus</i>	DSM 20021T	1988	N/A	2.95	46.68	<i>L. casei</i>	OHE	AZCQ0000000	x	x	x	x	x
<i>Lactobacillus rodentium</i>	DSM 24759T	2014	Digestive tract of wild rodents			<i>L. delbrueckii</i>	OHO	HQ851022					
<i>Lactobacillus rossiae</i>	DSM 15814T	2005	Wheat sourdough	2.87	45.34	<i>L. rossiae-L. siliginis</i>	OHE	AZTF0000000	x	x	x	x	x
<i>Lactobacillus rosalia</i>	DSM 20403T	1973	Bovine rumen	2.01	43.39	<i>L. salivarius</i>	OHO	AYYU0000000	x	x	x	x	x
<i>Lactobacillus rosenmuri</i>	DSM 16049T	2004	Pig faeces	1.69	42.57	<i>L. salivarius</i>	OHO	AZFP0000000	x	x	x	x	x
<i>Lactobacillus sakei carnosus</i>	DSM 15831T	1996	Fermented meat product	1.99	41.02	<i>L. sakei</i>	OHE	AZFG0000000	x	x	x	x	x
<i>Lactobacillus sakei sakei</i>	DSM 20017T	1934	1.91	41.07	<i>L. sakei</i>	FHE	AZDN0000000	x	x	x	x	x	
<i>Lactobacillus salivarius</i>	DSM 20555T	1953	Saliva	1.98	32.5	<i>L. salivarius</i>	FHE	AYTU0000000	x	x	x	x	x
<i>Lactobacillus saunfencensis</i>	DSM 20451T	1971	Sourdough	1.23	34.7	<i>L. buchneri</i>	OHE	AYYM0000000	x	x	x	x	x
<i>Lactobacillus sanviri</i>	DSM 24301T	2012	Faeces of a Japanese healthy adult male	2.44	47.73	<i>L. casei</i>	FHE	JQCE0000000	x	x	x	x	x
<i>Lactobacillus satsumensis</i>	DSM 16230T	2005	Shochu mash	2.65	39.94	<i>L. salivarius</i>	OHO	AZFF0000000	x	x	x	x	x
<i>Lactobacillus scalphilus</i>	DSM 17896T	2007	Sourdough	1.65	47.71	<i>L. reuteri-vaccinosciens</i>	FHE	JQBW0000000	x	x	x	x	x
<i>Lactobacillus selangorensis</i>	DSM 13344T	2002	Chili bo	2.09	46.45		OHO	JQAZ0000000	x	x	x	x	x
<i>Lactobacillus senioris</i>	DSM 24302T	2010	Faeces of a healthy 100-year-old Japanese female	1.57	39.09								

<i>Leuconostoc</i>	<i>carnosum</i>	JB16	1989	Kimchi	1.77	37.13	Leuconostocaceae	CP003851 - CP003853	x	x	x	x	x
<i>Leuconostoc</i>	<i>citrum</i>	KM20	2008	Kimchi	1.90	38.87	Leuconostocaceae	DQ489736 - DQ489740	x	x	x	x	x
<i>Leuconostoc</i>	<i>fallax</i>	KCTC 3337T	1992	Sauerkraut	1.64	37.53	Leuconostocaceae	AEEZ000000	x	x	x	x	x
<i>Leuconostoc</i>	<i>gelatum acenigmaticum</i>	DSM 19375T	2014	Packaged meat			Leuconostocaceae	KF57569					
<i>Leuconostoc</i>	<i>gelatum gasticomitatum</i>	LMG 18811T	2001	Tomato-marinated beef	1.95	36.66	Leuconostocaceae	FNS2274	x	x	x	x	x
<i>Leuconostoc</i>	<i>gelatum gelatum</i>	KCTC 3327	1989	Vacuum packaged beef	1.86	36.6	Leuconostocaceae	AEM0000000	x	x	x	x	x
<i>Leuconostoc</i>	<i>holzappelii</i>	LMG 23990T	2007	Ethiopian coffee fermentation			Leuconostocaceae	AM600682					
<i>Leuconostoc</i>	<i>inhae</i>	DSM 15101T	2003	Kimchi			Leuconostocaceae	AF439560					
<i>Leuconostoc</i>	<i>kimchi</i>	BNSU 11154T	2000	Kimchi	2.10	37.91	Leuconostocaceae	CP001751 - CP001758	x	x	x	x	x
<i>Leuconostoc</i>	<i>mesenteroides eremoris</i>	ATCC 10254T	1929	Hanson's dried starter powder	1.74	37.9	Leuconostocaceae	C2KK01	x	x	x	x	x
<i>Leuconostoc</i>	<i>mesenteroides destrianicum</i>	ATCC 19255	1912	N/A	1.85	38.04	Leuconostocaceae	CP01209.1	x	x	x	x	x
<i>Leuconostoc</i>	<i>mesenteroides jonggakkimchi</i>	JCM 31571T	2017	Kimchi			Leuconostocaceae	CP014611	x	x	x	x	x
<i>Leuconostoc</i>	<i>mesenteroides mesenteroides</i>	ATCC 8293T	1878	Fermenting olives	2.08	37.67	Leuconostocaceae	NC_008496, NC_008531	x	x	x	x	x
<i>Leuconostoc</i>	<i>niyukimchi</i>	JCM 17445T	2012	Brown algae (<i>Ulvaria</i> <i>simmatifida</i>)			Leuconostocaceae	HQ263024					
<i>Leuconostoc</i>	<i>pulmae</i>	DSM 21144T	2009	Palm wine	2.01	39.06	Leuconostocaceae	AM940225	x	x	x	x	x
<i>Leuconostoc</i>	<i>pseudomesenteroides</i>	4882	N/A	N/A			Leuconostocaceae	CAKV0000000	x	x	x	x	x
<i>Leuconostoc</i>	<i>rapti</i>	DSM 2776T	2015	Tumpin-like vegetable			Leuconostocaceae	HG515542					
<i>Leuconostoc</i>	<i>suonicum</i>	DSM 20241T	2012	Sweden			Leuconostocaceae	HM443957					
<i>Oenococcus</i>	<i>alcoholitolerans</i>	LMG 27599T	2015	Cachaça and ethanol fermentation			Leuconostocaceae	HQ009794					
<i>Oenococcus</i>	<i>hiatharae</i>	DSM 17330T	2006	Distilled residue of shechi mules	1.84	42.68	Leuconostocaceae	AFVZ0000000	x	x	x	x	x
<i>Oenococcus</i>	<i>oeni</i>	PSU-1	1972	Spontaneous malolactic fermentation	19.10	37.9	Leuconostocaceae	CP000411.1	x	x	x	x	x
<i>Olecella</i>	<i>ali</i>	DSM 7084T	1991	Human gingival crevice	2.06	64.69	Leuconostocaceae	JQC00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>acidilactici</i>	ASL 2696	N/A	N/A	1.93	42.13	Leuconostocaceae	JQAQ0000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>argentinicus</i>	DSM 23026T	2008	Fermented wheat flour	1.76	36.67	Leuconostocaceae	JQCQ0000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>cellicola</i>	DSM 17757T	2005	Distilled pits-fermenting cellar	2.04	39.04	Leuconostocaceae	JBEB00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>clausenii</i>	DSM 14800T	2002	Spoiled beer	1.88	36.74	Leuconostocaceae	JBEB00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>damnosus</i>	DSM 20531T	1903	Lager beer yeast	2.19	38.23	Leuconostocaceae	JBEB00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>ethanolitolerans</i>	DSM 22301T	2006	Walls of a distilled spirit-fermenting cellar	2.26	37.18	Leuconostocaceae	JBVY00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>inguinatus</i>	DSM 20285T	1988	Brewery yeast	2.11	38.61	Leuconostocaceae	JBBC00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>loli</i>	DSM 19927T	1887	Ryegrass silage	2.04	42.13	Leuconostocaceae	JQC00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>parvulus</i>	DSM 20332T	1961	Silage	3.99	40.38	Leuconostocaceae	JBEB00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>pentosacens</i>	DSM 20336T	1934	Dried American beer yeast	1.74	37.25	Leuconostocaceae	JBFB00000000	x	x	x	x	x
<i>Pediosoccus</i>	<i>stilicii</i>	DSM 18001T	2006	White maize grains	1.84	38.11	Leuconostocaceae	JBEX00000000	x	x	x	x	x
<i>Weissella</i>	<i>beniensis</i>	DSM 22752T	2010	Cassava fermentations			Leuconostocaceae	EU439435					
<i>Weissella</i>	<i>bombi</i>	DSM 28794T	2015	Bumble bee gut			Leuconostocaceae	LK054487					
<i>Weissella</i>	<i>ceti</i>	NC36	2014	Farmed rainbow trout	1.35	40.8	Leuconostocaceae	ANCA0000000.1	x	x	x	x	x
<i>Weissella</i>	<i>cibaria</i>	LMG 17699T	2002	Food and clinical samples	2.32	45.1	Leuconostocaceae	AEK101000001	x	x	x	x	x
<i>Weissella</i>	<i>confusa</i>	DSM 20196T	1969	Sugar cane	2.22	44.73	Leuconostocaceae	JQAY00000000	x	x	x	x	x
<i>Weissella</i>	<i>diestrannenae</i>	JCM 18559T	2013	Gut of a camel cricket (<i>Diestrannona coreana</i>)			Leuconostocaceae	JQ646523					
<i>Weissella</i>	<i>fabalis</i>	LMG 26217T	2013	Cocoa bean fermentations			Leuconostocaceae	HE576795					
<i>Weissella</i>	<i>fabaria</i>	DSM 21416T	2010	Ghanaian cocoa fermentation			Leuconostocaceae	FM179678					
<i>Weissella</i>	<i>ghansensis</i>	DSM 19935T	2008	Ghanaian cocoa fermentation			Leuconostocaceae	AM882997					
<i>Weissella</i>	<i>halotolerans</i>	DSM 20190T	1983	Sausage	1.37	43.06	Leuconostocaceae	JQAX00000000	x	x	x	x	x
<i>Weissella</i>	<i>holmae</i>	DSM 7378T	1994	Fermented sausages	1.82	36.9	Leuconostocaceae	NZ_FJAW0000000	x	x	x	x	x
<i>Weissella</i>	<i>jogajjogajjogali</i>	JCM 30589T	2015	Jogje joggal, Korean fermented food			Leuconostocaceae	KP027016					
<i>Weissella</i>	<i>landleri</i>	DSM 20593T	1983	Digest serum	1.33	39.67	Leuconostocaceae	JBEP00000000	x	x	x	x	x
<i>Weissella</i>	<i>koreensis</i>	JCM 11263T	2002	Kimchi	1.73	35.5	Leuconostocaceae	AKGG0000000.1	x	x	x	x	x
<i>Weissella</i>	<i>minor</i>	DSM 20014T	1983	Milking machine slime	1.77	39.29	Leuconostocaceae	JQC00000000	x	x	x	x	x
<i>Weissella</i>	<i>oryzae</i>	JCM 1819T	2013	Fermented rice grains	2.13	38.9	Leuconostocaceae		x	x	x	x	x
<i>Weissella</i>	<i>paramesenteroides</i>	DSM 20288T	1993	Fermented sausages	1.98	38	Leuconostocaceae	ACKL0000000.1	x	x	x	x	x
<i>Weissella</i>	<i>soli</i>	DSM 14420T	2002	Soil			Leuconostocaceae	AV028260					
<i>Weissella</i>	<i>thailandensis</i>	Fsb4-2	2000	Korean fermented seafood	1.97	40	Leuconostocaceae	HE575133-HE575182	x	x	x	x	x
<i>Weissella</i>	<i>uvorum</i>	DSM 20000T	2014	Wine grapes			Leuconostocaceae	KF999666					
<i>Weissella</i>	<i>viridescens</i>	DSM 20410T	1957	Cured meat products	1.54	41.09	Leuconostocaceae	JBEM00000000	x	x	x	x	x

Table S2

Sequence information for the 29 ribosomal proteins and 12 phylogenetic markers.

Genes MLST

<i>L. salivarius</i>					
UCC118 locus					
Gene	tag*	COG	Annotation	Co-ordinates*	Length*
<i>dnaK</i>	LSL_0578	COG0443O	Chaperone protein	619577..621424	1848
<i>fusA</i>	LSL_0202	COG0480J	Protein Translation Elongation Factor G	244403..246496	2094
<i>groEL</i>	LSL_1211	COG0459O	Molecular chaperone GroEL	1246385..1248007	1623
<i>gyrA</i>	LSL_0006	COG0188L	DNA gyrase subunit A	6446..8998	2553
<i>gyrB</i>	LSL_0005	COG0187L	DNA gyrase subunit B	4451..6409	1959
<i>ileS</i>	LSL_1042	COG0060J	Isoleucyl-tRNA synthetase	1065203..1067998	2796
<i>lepA</i>	LSL_0580	COG0481M	GTP-binding translation elongation factor	622843..624672	1830
<i>pheS</i>	LSL_0813	COG0016J	Phenylalanyl-tRNA synthetase subunit alpha	829184..830230	1047
<i>recA</i>	LSL_1130	COG0468L	Recombinase A	1161704..1162849	1146
<i>rpoA</i>	LSL_1409	COG0202K	DNA-directed RNA polymerase subunit alpha	1482888..1483832	945
<i>rpoB</i>	LSL_0197	COG0085K	DNA-directed RNA polymerase beta chain	235025..238624	3600
<i>rpoC</i>	LSL_0198	COG0086K	DNA-directed RNA polymerase subunit beta	238653..242318	3666

Genes rMLST

<i>L. salivarius</i>					
UCC118 locus					
Gene	tag*	COG	Annotation	Co-ordinates*	Length*
<i>rpsA</i>	LSL_0887	COG0539J	SSU ribosomal protein S1P	910977..912024	1048
<i>rpsB</i>	LSL_0511	COG0052J	SSU ribosomal protein S2P	557234..558031	798
<i>rpsC</i>	LSL_1429	COG0092J	SSU ribosomal protein S3P	1492402..1493058	657
<i>rpsD</i>	LSL_1077	COG0522J	SSU ribosomal protein S4P	1101963..1102562	600
<i>rpsE</i>	LSL_1418	COG0098J	SSU ribosomal protein S5P	1488030..1488530	501
<i>rpsF</i>	LSL_0007	COG0360J	SSU ribosomal protein S6P	9217..9507	291
<i>rpsG</i>	LSL_0201	COG0049J	SSU ribosomal protein S7P	243812..244282	471
<i>rpsH</i>	LSL_1421	COG0096J	SSU ribosomal protein S8P	1489522..1489920	399
<i>rpsI</i>	LSL_1402	COG0103J	SSU ribosomal protein S9P	1477906..1478297	392
<i>rpsL</i>	LSL_0200	COG0048J	SSU ribosomal protein S12P	243364..243777	414
<i>rpsM</i>	LSL_1411	COG0099J	SSU ribosomal protein S13P	1484365..1484696	332
<i>rpsO</i>	LSL_0638	COG0184J	SSU ribosomal protein S15P	681490..681759	269
<i>rplA</i>	LSL_1239	COG0081J	LSU ribosomal protein L1P	1272210..1272751	542
<i>rplB</i>	LSL_1432	COG0090J	LSU ribosomal protein L2P	1493784..1494599	816
<i>rplC</i>	LSL_1435	COG0087J	LSU ribosomal protein L3P	1495557..1496180	624
<i>rplD</i>	LSL_1434	COG0088J	LSU ribosomal protein L4P	1494909..1495532	624
<i>rplE</i>	LSL_1423	COG0094J	LSU ribosomal protein L5P	1490153..1490695	543
<i>rplF</i>	LSL_1420	COG0097J	LSU ribosomal protein L6P	1488953..1489489	537
<i>rplL</i>	LSL_1237	COG0222J	LSU ribosomal protein L12P	1270893..1271206	314
<i>rplI</i>	LSL_1727	COG0359J	LSU ribosomal protein L9P	1809124..1809573	450
<i>rplJ</i>	LSL_1238	COG0244J	LSU ribosomal protein L10P	1271311..1271814	504
<i>rplK</i>	LSL_1240	COG0080J	LSU ribosomal protein L11P	1272873..1273279	407
<i>rplM</i>	LSL_1403	COG0102J	LSU ribosomal protein L13P	1478312..1478755	444
<i>rplN</i>	LSL_1425	COG0093J	LSU ribosomal protein L14P	1491066..1491428	363
<i>rplO</i>	LSL_1416	COG0200J	LSU ribosomal protein L15P	1487364..1487798	435
<i>rplQ</i>	LSL_1408	COG0203J	LSU ribosomal protein L17P	1482490..1482849	360
<i>rplT</i>	LSL_0497	COG0292J	LSU ribosomal protein L20P	546770..547101	332
<i>rplW</i>	LSL_1433	COG0089J	LSU ribosomal protein L23P	1494625..1494909	285
<i>rplX</i>	LSL_1424	COG0198J	LSU ribosomal protein L24P	1490781..1491025	245

*These columns are provided according to the reference genome *L. salivarius* UCC118

SVNNKDPEEAKQRPHPALTPFIYPNQQLTLATTPDVLSTRLVDFAPIGFGQRLVVAPP
KAGKTLLKAIANGISKNHPPNAKLIVLLIDERPEEVTDLERSIDGEVVYSTFDQEPNHT
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>QTS_2490

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>QTS_2524

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FKQLKYIQEKDYLLLYCLSTENFTNLAKSILIDPSPNFALRLSLCEDLIKLGysekvQVY
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>QTS_2525

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>QTS_3870

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>QTS_4397

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>QTS_4707

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KNAGTYTDLTYD TDWYTFEISNDVKLVKDSNGDAALLVKYNYTNKTQSNEIPQRVQNTAI
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NDWLDTTQPLK L K