Supplementary material, Piseth SENG *et al.*; Identification of rare pathogenic bacteria in a clinical microbiology laboratory: impact of MALDI-TOF mass spectrometry.

Details referring to the Results section:

Table S1. Distribution and identification of the 76 bacterial species identified using only conventional phenotypic identification; 15 of the species were absent from our MALDI-TOF database.

Table S2. Distribution and identification of the 124 bacterial species identified using only MALDI-TOF; 103 of the species were absent from Vitek 2 database and only 21 were present.

Table S3. List of 21 species of 670 isolates that were confirmed by a second phenotypic identification; 3 of these species were absent from our MALDI-TOF database and 18 were present.

Table S4. List of 339 species of 1,273 isolates that were confirmed using molecular identification; 24 of these species were absent from our MALDI-TOF database and 63 from the Brüker database.

Table S5. Distribution of the sources of clinical samples for the 48 rare bacterial species identified by phenotypic identification.

Table S1. Distribution and identification of the 76 bacterial species identified using only conventional phenotypic identification; 15 of the species were absent from our MALDI-TOF database.

Phylum	Genus	Bacterial species identified using only CPI*	N° of isolates	Our MALDI-TOF database
Actinobacteria	*Actinomadura*	*Actinomadura cremea*	1	absent
	Actinomyces	*Actinomyces viscosus*	5	present
	Brevibacterium	*Brevibacterium luteolum*	1	present
	Cellulosimicrobium	*Cellulosimicrobium cellulans*	1	present
	Corynebacterium	*Corynebacterium auriscanis*	3	present
		Corynebacterium bovis	2	present
		Corynebacterium macginleyi	17	present
		Corynebacterium ulcerans	4	present
	Gordonia	*Gordonia sputi*	1	present
	Leifsonia	*Leifsonia aquatica*	3	present
	Microbacterium	*Microbacterium flavescens*	1	present
	Nocardia	*Nocardia abscessus*	1	present
		Nocardia asteroides	1	absent
		Nocardia otitidiscaviarum	1	present
	Pseudoclavibacter	*Zimmermannella bifida*	1	absent
	Varibaculum	*Varibaculum cambriense*	2	present
Bacteroidetes	*Bacteroides*	*Bacteroides eggerthii*	2	present
		Bacteroides stercoris	29	present
	Myroides	*Myroides odoratimimus*	1	present
	Prevotella	*Prevotella loescheii*	1	absent
		Prevotella massiliensis	1	present
Firmicutes	*Bacillus*	*Bacillus coagulans*	1	present
	Clostridium	*Clostridium baratii*	1	present
		Clostridium bifermentans	5	present
		Clostridium histolyticum	1	present
	Dialister	*Dialister pneumosintes*	3	absent
	Facklamia	*Facklamia languida*	1	present
	Lactobacillus	*Lactobacillus acidophilus*	2	present
		Lactobacillus vaginalis	1	present
		Lactococcus lactis subsp. cremoris	3	absent
	Listeria	*Listeria grayi*	1	present
	Peptoniphilus	*Peptoniphilus lacrimalis*	2	present
	Sporosarcina	*Sporosarcina ginsengisoli*	1	absent
	Staphylococcus	*Staphylococcus carnosus*	2	present
		Staphylococcus chromogenes	1	present
		Staphylococcus hyicus	1	present
		Staphylococcus kloosii	3	present
		Staphylococcus lentus	8	present
	Streptococcus	*Streptococcus sobrinus*	1	present
		Streptococcus uberis	1	present
Fusobacteria	*Fusobacterium*	*Fusobacterium varium*	4	present

Phylum	Genus	Bacterial species identified using only CPI*	N° of isolates	Our MALDI-TOF database
	Leptotrichia	*Leptotrichia goodfellowii*	1	absent
		Leptotrichia trevisanii	1	present
Proteobacteria	*Aeromonas*	*Aeromonas sobria*	8	present
	Agrobacterium	*Agrobacterium radiobacter*	1	absent
	Anaerobiospirillum	*Anaerobiospirillum succiniciproducens*	1	absent
	Bordetella	*Bordetella pertussis*	16	present
	Campylobacter	*Campylobacter upsaliensis*	1	present
	Cardiobacterium	*Cardiobacterium hominis*	1	present
	Chromobacterium	*Chromobacterium violaceum*	1	present
	Citrobacter	*Citrobacter sedlakii*	2	present
	Cronobacter	*Cronobacter sakazakii*	11	present
	Escherichia	*Escherichia fergusonii*	1	present
		Escherichia hermannii	9	present
	Helicobacter	*Helicobacter pylori*	1	present
	Ignatzschineria	*Ignatzschineria larvae*	1	absent
	Kluyvera	*Kluyvera intermedia*	1	present
	Mannheimia	*Mannheimia haemolytica*	1	present
	Neisseria	*Neisseria cinerea*	6	present
		Neisseria polysaccharea	1	present
	Pasteurella	*Pasteurella dagmatis*	1	present
		Pasteurella pneumotropica	3	present
	Pseudomonas	*Pseudomonas chlororaphis subsp. aureofaciens*	1	present
		Pseudomonas luteola	4	present
		Pseudomonas oleovorans	1	present
		Pseudomonas syringae	1	present
	Psychrobacter	*Psychrobacter phenylpyruvicus*	1	absent
	Roseomonas	*Roseomonas ludipueritiae*	1	absent
	Salmonella	*Salmonella enterica*	8	present
		Salmonella enterica subsp. arizonae	1	present
		Salmonella enterica subsp. enterica serovar Enteritidis	5	present
		Salmonella enterica subsp. enterica serovar Paratyphi A	3	present
		Salmonella enterica subsp. enterica serovar Typhimurium	3	present
	Serratia	*Serratia plymuthica*	7	present
	Shigella	*Shigella flexneri*	12	absent
		Shigella sonnei	26	absent

CPI*: conventional phenotypic identification (Gram staining, API, Vitek 2 system identification).

Table S2. Distribution and identification of the 124 bacterial species identified using only MALDI-TOF; 103 of the species were absent from Vitek 2 database and only 21 were present.

Phylum	Genus	Bacterial species identified using only MALDI-TOF	N° of isolates	Vitek 2 database
Actinobacteria	*Actinobaculum*	*Actinobaculum massiliense*	1	absent
	Actinomyces	*Actinomyces radicidentis*	2	absent
	Arthrobacter	*Arthrobacter polychromogenes*	1	absent
	Atopobium	*Atopobium minutum*	1	absent
	Bifidobacterium	*Bifidobacterium breve*	7	absent
		Bifidobacterium dentium	1	absent
	Brevibacterium	*Brevibacterium massiliense*	1	absent
		Brevibacterium paucivorans	1	absent
		Brevibacterium ravenspurgense	1	absent
	Collinsella	*Collinsella aerofaciens*	1	absent
	Corynebacterium	*Corynebacterium fastidiosum*	1	absent
		Corynebacterium freneyi	1	absent
		Corynebacterium glutamicum	1	absent
		Corynebacterium imitans	1	absent
		Corynebacterium mucifaciens	3	absent
		Corynebacterium pseudogenitalium	2	absent
		Corynebacterium pseudotuberculosis	1	absent
	Microbacterium	*Microbacterium paraoxydans*	1	absent
		Microbacterium schleiferi	1	absent
	Nocardia	*Nocardia cyriacigeorgica*	1	absent
	Trueperella	*Trueperella pyogenes*	1	absent
Bacteroidetes	*Bacteroides*	*Bacteroides cellulosilyticus*	3	absent
	Butyricimonas	*Butyricimonas virosa*	1	absent
	Capnocytophaga	*Capnocytophaga canimorsus*	2	absent
		Capnocytophaga gingivalis	1	absent
		Capnocytophaga ochracea	1	absent
	Chryseobacterium	*Chryseobacterium gleum*	3	present
	Porphyromonas	*Porphyromonas gingivalis*	1	absent
		Porphyromonas gulae	1	absent
	Prevotella	*Prevotella pallens*	1	absent
	Weeksella	*Weeksella virosa*	2	absent
Firmicutes	*Anaerococcus*	*Anaerococcus lactolyticus*	2	absent
		Anaerococcus octavius	6	absent
		Anaerococcus tetradius	3	absent
	Bacillus	*Bacillus amyloliquefaciens*	1	absent
		Bacillus circulans	3	absent
		Bacillus megaterium	2	absent
		Bacillus mycoides	1	absent
		Bacillus subtilis	2	absent
		Bacillus thuringiensis	3	absent

Phylum	Genus	Bacterial species identified using only MALDI-TOF	N° of isolates	Vitek 2 database
	Brevibacillus	*Brevibacillus agri*	1	absent
		Brevibacillus brevis	1	absent
	Clostridium	*Clostridium cadaveris*	1	absent
		Clostridium celerecrescens	3	absent
		Clostridium chauvoei	1	absent
		Clostridium sphenoides	1	absent
		Clostridium subterminale	1	absent
		Clostridium tetani	2	absent
	Enterococcus	*Enterococcus cecorum*	1	present
		Enterococcus hirae	12	present
		Enterococcus raffinosus	3	present
	Eubacterium	*Eubacterium tenue*	2	absent
		Eubacterium yurii	1	absent
	Gemella	*Gemella sanguinis*	1	present
	Lactobacillus	*Lactobacillus delbrueckii*	8	absent
		Lactobacillus iners	3	absent
		Lactobacillus johnsonii	1	absent
		Lactobacillus mucosae	1	absent
		Lactobacillus murinus	3	absent
		Lactobacillus salivarius	2	absent
	Lactococcus	*Lactococcus garvieae*	2	present
	Leuconostoc	*Leuconostoc mesenteroides*	1	absent
	Mogibacterium	*Mogibacterium timidum*	1	absent
	Paenibacillus	*Paenibacillus amylolyticus*	2	absent
		Paenibacillus barcinonensis	1	absent
	Pediococcus	*Pediococcus acidilactici*	5	present
		Pediococcus pentosaceus	3	present
		Peptococcus niger	1	absent
	Robinsoniella	*Robinsoniella peoriensis*	3	absent
	Ruminococcus	*Ruminococcus gnavus*	1	absent
	Staphylococcus	*Staphylococcus arlettae*	1	present
		Staphylococcus condimenti	2	absent
		Staphylococcus pasteuri	61	absent
		Staphylococcus pettenkoferi	29	absent
		Staphylococcus pseudintermedius	17	absent
		Staphylococcus vitulinus	1	present
	Streptococcus	*Streptococcus canis*	1	present
		Streptococcus cristatus	6	present
		Streptococcus equi	3	absent
		Streptococcus massiliensis	3	absent
		Streptococcus parasanguinis	37	absent
		Streptococcus pyogenes	75	present

Phylum	Genus	Bacterial species identified using only MALDI-TOF	N° of isolates	Vitek 2 database
		Streptococcus vestibularis	9	present
	Veillonella	*Veillonella dispar*	4	absent
		Veillonella montpellierensis	1	absent
Fusobacteria	*Fusobacterium*	*Fusobacterium periodonticum*	1	absent
Proteobacteria	*Acinetobacter*	*Acinetobacter bereziniae*	34	absent
		Acinetobacter calcoaceticus	4	absent
		Acinetobacter parvus	2	absent
		Acinetobacter pittii	84	absent
		Acinetobacter radioresistens	3	absent
		Acinetobacter schindleri	1	absent
	Aggregatibacter	*Aggregatibacter segnis*	1	absent
	Agrobacterium	*Agrobacterium tumefaciens*	2	absent
	Burkholderia	*Burkholderia gladioli*	1	present
		Burkholderia multivorans	10	absent
	Campylobacter	*Campylobacter curvus*	1	absent
	Comamonas	*Comamonas kerstersii*	1	absent
	Desulfovibrio	*Desulfovibrio desulfuricans*	1	absent
		Desulfovibrio fairfieldensis	3	absent
	Enterobacter	*Enterobacter cowanii*	3	absent
		Enterobacter hormaechei	20	absent
		Enterobacter kobei	190	absent
	Haemophilus	*Haemophilus parahaemolyticus*	6	present
	Moraxella	*Moraxella nonliquefaciens*	11	absent
		Moraxella osloensis	9	absent
	Neisseria	*Neisseria perflava*	2	absent
		Neisseria subflava	1	absent
	Ochrobactrum	*Ochrobactrum grignonense*	1	absent
		Ochrobactrum intermedium	1	absent
	Olsenella	*Olsenella uli*	1	absent
	Pandoraea	*Pandoraea pulmonicola*	9	absent
	Pasteurella	*Pasteurella aerogenes*	1	present
		Pasteurella canis	6	absent
	Pseudomonas	*Pseudomonas geniculata*	2	absent
		Pseudomonas hibiscicola	2	absent
		Pseudomonas mosselii	11	absent
		Pseudomonas pseudoalcaligenes	1	present
	Roseomonas	*Roseomonas mucosa*	2	absent
	Serratia	*Serratia ureilytica*	1	absent
	Shigella	*Shigella dysenteriae*	1	absent
	Vibrio	*Vibrio alginolyticus*	3	present
		Vibrio parahaemolyticus	1	present
		Vibrio vulnificus	1	present

Table S3. List of 21 species of 670 isolates that were confirmed by a second phenotypic identification; 3 of these species were absent from our MALDI-TOF database and 18 were present.

Phylum	Genus	Bacteria species needed 2nd PID*	N° of isolates	N° isolates, CPI** period	N° isolates, MALDI period	Our MALDI-TOF database
Actinobacteria	*Corynebacterium*	*Corynebacterium aurimucosum*	1	0	1	present
		Corynebacterium sp. A	52	52	0	absent
		Corynebacterium sp. G	1	1	0	absent
		Corynebacterium striatum	2	0	2	present
		Corynebacterium tuberculostearicum	2	0	2	present
Firmicutes	*Bacillus*	*Bacillus cereus*	1	0	1	present
	Lactobacillus	*Lactobacillus aviarius*	1	1	0	present
	Peptoniphilus	*Peptoniphilus harei*	1	1	0	present
	Streptococcus	*Streptococcus intermedius*	1	1	0	present
		Streptococcus oralis	2	0	2	present
		Streptococcus pneumoniae	1	1	0	present
		Streptococcus sp. 'group G'	596	561	35	absent
	Veillonella	*Veillonella parvula*	1	0	1	present
Fusobacteria	*Fusobacterium*	*Fusobacterium nucleatum*	1	1	0	present
Proteobacteria	*Acinetobacter*	*Acinetobacter guillouiae*	1	0	1	present
	Arthrobacter	*Arthrobacter ramosus*	1	0	1	present
	Citrobacter	*Citrobacter braakii*	1	0	1	present
	Enterobacter	*Enterobacter aerogenes*	1	1	0	present
		Enterobacter kobei	1	0	1	present
	Pseudomonas	*Pseudomonas monteilii*	1	0	1	present
		Pseudomonas nitroreducens	1	0	1	present

PID*: phenotypic identification; CPI**: conventional phenotypic identification (Gram staining, API, Vitek 2 system identification).

Table S4. List of 339 species of 1,273 isolates that were confirmed using molecular identification; 24 of these species were absent from our MALDI-TOF database and 63 from the Brüker database.

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
Actinobacteria	*Actinobaculum*	*Actinobaculum schaalii*	10	5	5	present	present
	Actinomyces	*Actinomyces europaeus*	3	1	2	present	present
		Actinomyces georgiae	3	1	2	absent	absent
		Actinomyces lingnae	1	0	1	absent	absent
		Actinomyces meyeri	1	1	0	present	present
		Actinomyces naeslundii	10	7	3	present	present
		Actinomyces neuii	9	5	4	present	present
		Actinomyces odontolyticus	10	7	3	present	present
		Actinomyces oris	1	0	1	present	absent
		Actinomyces radingae	5	3	2	present	present
		Actinomyces sp oral	2	2	0	absent	absent
		Actinomyces turicensis	7	1	6	present	present
		Actinomyces urogenitalis	2	0	2	present	present
		Actinomyces viscosus	4	2	2	present	present
	Arcanobacterium	*Arcanobacterium bernardiae*	3	1	2	present	present
		Arcanobacterium haemolyticum	4	2	2	present	present
	Arthrobacter	*Arthrobacter cumminsii*	5	4	1	present	present
		Arthrobacter nitroguajacolicus	1	1	0	absent	absent
		Arthrobacter oxydans	1	1	0	present	present
	Atopobium	*Atopobium parvulum*	9	3	6	present	present
		Atopobium vaginae	1	1	0	present	present
	Bifidobacterium	*Bifidobacterium breve*	3	3	0	present	present
		Bifidobacterium scardovii	1	1	0	present	absent
	Brachybacterium	*Brachybacterium muris*	1	0	1	present	present
		Brachybacterium sacelli	1	0	1	absent	absent
	Brevibacterium	*Brevibacterium casei*	3	2	1	present	present
		Brevibacterium massiliense	1	1	0	present	absent
		Brevibacterium otitidis	1	1	0	absent	absent
		Brevibacterium paucivorans	2	1	1	present	present
		Brevibacterium ravenspurgense	1	1	0	present	present
		Brevibacterium sanguinis	1	1	0	present	present
		Brevibacterium stationis	1	0	1	present	absent
	Cellulomonas	*Cellulomonas hominis*	1	0	1	present	absent
	Clavibacter	*Clavibacter michiganensis*	1	0	1	present	present
	Corynebacterium	*Corynebacterium accolens*	2	1	1	present	present
		Corynebacterium afermentans	4	3	1	present	present
		Corynebacterium amycolatum	42	15	27	present	present
		Corynebacterium argentoratense	2	0	2	present	present
		Corynebacterium aurimucosum	10	6	4	present	present

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
		Corynebacterium auris	1	1	0	present	present
		Corynebacterium auriscanis	3	3	0	present	present
		Corynebacterium bovis	1	1	0	present	present
		Corynebacterium confusum	1	0	1	present	present
		Corynebacterium coyleae	4	0	4	present	present
		Corynebacterium diphtheriae	1	1	0	present	present
		Corynebacterium durum	1	1	0	present	present
		Corynebacterium fastidiosum	1	0	1	absent	absent
		Corynebacterium genitalium	5	4	1	absent	absent
		Corynebacterium glucuronolyticum	3	1	2	present	present
		Corynebacterium imitans	1	0	1	present	present
		Corynebacterium jeikeium	13	8	5	present	present
		Corynebacterium kroppenstedtii	1	0	1	present	present
		Corynebacterium macginleyi	2	1	1	present	present
		Corynebacterium minutissimum	4	2	2	present	present
		Corynebacterium mucifaciens	3	0	3	present	present
		Corynebacterium propinquum	9	8	1	present	present
		Corynebacterium pseudodiphtheriticum	10	9	1	present	present
		Corynebacterium pseudogenitalium	1	0	1	present	absent
		Corynebacterium riegelii	1	0	1	present	present
		Corynebacterium simulans	4	2	2	present	present
		Corynebacterium striatum	12	5	7	present	present
		Corynebacterium tuberculostearicum	31	6	25	present	present
		Corynebacterium urealyticum	4	3	1	present	present
		Corynebacterium ureicelerivorans	1	0	1	present	present
	Dermabacter	*Dermabacter hominis*	15	10	5	present	present
	Dietzia	*Dietzia cinnamea*	1	1	0	present	present
	Eggerthella	*Eggerthella lenta*	6	6	0	present	present
	Gardnerella	*Gardnerella vaginalis*	2	2	0	present	present
	Janibacter	*Janibacter hoylei*	1	0	1	present	absent
	Kocuria	*Kocuria rhizophila*	1	1	0	present	present
		Kocuria rosea	1	1	0	present	present
	Kytococcus	*Kytococcus schroeteri*	1	1	0	present	absent
	Microbacterium	*Microbacterium aurum*	2	1	1	present	present
		Microbacterium chocolatum	1	1	0	absent	absent
		Microbacterium flavum	1	0	1	present	present
		Microbacterium liquefaciens	1	1	0	present	present
		Microbacterium oxydans	1	0	1	present	present
		Microbacterium paraoxydans	2	2	0	present	absent
	Micrococcus	*Micrococcus luteus*	4	3	1	present	present
	Nesterenkonia	*Nesterenkonia lacusekhoensis*	1	0	1	present	absent

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
	Nocardia	*Nocardia abscessus*	6	3	3	present	present
		Nocardia brasiliensis	1	0	1	present	absent
		Nocardia cyriacigeorgica	3	2	1	present	present
		Nocardia farcinica	5	3	2	present	present
		Nocardia otitidiscaviarum	2	2	0	present	present
		Nocardia transvalensis	1	1	0	present	present
	Ochrobactrum	*Ochrobactrum anthropi*	3	0	3	present	present
	Olsenella	*Olsenella uli*	1	0	1	present	absent
	Propionibacterium	*Propionibacterium acnes*	19	16	3	present	present
		Propionibacterium avidum	13	12	1	present	present
		Propionibacterium granulosum	2	1	1	present	present
		Propionibacterium propionicum	3	1	2	present	present
		Propionimicrobium lymphophilum	2	1	1	present	present
	Rothia	*Rothia dentocariosa*	4	3	1	present	present
		Rothia mucilaginosa	2	1	1	present	present
	Trueperella	*Trueperella abortisuis*	1	1	0	present	absent
	Turicella	*Turicella otitidis*	1	0	1	present	present
	Zimmermannella	*Zimmermannella bifida*	1	1	0	absent	absent
Bacteroidetes	*Alistipes*	*Alistipes finegoldii*	1	1	0	present	present
	Bacteroides	*Bacteroides dorei*	1	1	0	absent	absent
		Bacteroides fragilis	1	1	0	present	present
		Bacteroides heparinolyticus	3	1	2	present	absent
		Bacteroides ovatus	1	1	0	present	present
		Bacteroides pyogenes	1	1	0	present	absent
	Butyricimonas	*Butyricimonas virosa*	2	0	2	present	present
	Capnocytophaga	*Capnocytophaga canimorsus*	1	1	0	present	present
		Capnocytophaga gingivalis	1	1	0	present	present
		Capnocytophaga sputigena	4	4	0	present	present
	Chryseobacterium	*Chryseobacterium gleum*	1	0	1	present	absent
		Chryseobacterium hominis	1	0	1	present	absent
		Chryseobacterium indologenes	3	3	0	present	present
		Chryseobacterium vrystaatense	1	0	1	absent	absent
	Elizabethkingia	*Elizabethkingia meningoseptica*	1	1	0	present	present
	Parabacteroides	*Parabacteroides distasonis*	1	1	0	present	present
	Peptoniphilus	*Candidatus Peptoniphilus massiliensis*	1	0	1	absent	absent
	Porphyromonas	*Porphyromonas asaccharolytica*	2	2	0	present	present
		Porphyromonas uenonis	4	4	0	present	absent
	Prevotella	*Candidatus Prevotella conceptionensis*	1	1	0	present	absent
		Prevotella bivia	1	1	0	present	present
		Prevotella buccae	1	1	0	present	present

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
		Prevotella corporis	1	0	1	present	present
		Prevotella intermedia	3	3	0	present	present
		Prevotella loescheii	2	0	2	absent	absent
		Prevotella oralis	1	1	0	present	present
		Prevotella oris	2	2	0	present	present
	Wautersiella	*Wautersiella falsenii*	2	1	1	present	present
Firmicutes	*Abiotrophia*	*Abiotrophia defectiva*	2	1	1	present	present
	Aerococcus	*Aerococcus urinae*	4	4	0	present	present
		Aerococcus viridans	1	0	1	present	present
	Aerosphaera	*Aerosphaera taetra*	1	1	0	present	absent
	Anaerococcus	*Anaerococcus octavius*	2	2	0	present	present
		Anaerococcus prevotii	1	0	1	present	present
		Anaerococcus vaginalis	3	2	1	present	present
	Anaerotruncus	*Anaerotruncus colihominis*	2	1	1	present	absent
	Bacillus	*Bacillus cereus*	18	12	6	present	present
		Bacillus circulans	2	1	1	present	present
		Bacillus coagulans	2	1	1	present	present
		Bacillus flexus	1	1	0	present	present
		Bacillus licheniformis	6	2	4	present	present
		Bacillus megaterium	1	1	0	present	present
		Bacillus mycoides	1	1	0	present	present
		Bacillus pumilus	1	0	1	present	present
		Bacillus simplex	4	2	2	present	present
		Bacillus subtilis	1	0	1	present	present
		Lysinibacillus massiliensis	1	0	1	present	absent
	Catabacter	*Catabacter hongkongensis*	1	1	0	absent	absent
	Clostridium	*Clostridium aldenense*	1	0	1	present	present
		Clostridium botulinum	2	2	0	present	absent
		Clostridium celerecrescens	1	0	1	present	present
		Clostridium clostridioforme	2	2	0	present	present
		Clostridium hathewayi	2	2	0	present	present
		Clostridium lituseburense	1	1	0	present	absent
		Clostridium perfringens	1	1	0	present	present
		Clostridium ramosum	1	0	1	present	present
		Clostridium subterminale	1	0	1	present	present
		Clostridium tertium	3	3	0	present	present
	Dialister	*Dialister micraerophilus*	1	0	1	present	present
	Enterococcus	*Enterococcus avium*	5	2	3	present	present
		Enterococcus casseliflavus	1	0	1	present	present
		Enterococcus faecalis	6	5	1	present	present
		Enterococcus faecium	4	0	4	present	present
		Enterococcus gallinarum	1	1	0	present	present
		Enterococcus raffinosus	1	0	1	present	present

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
	Erwinia	*Erwinia rhapontici*	1	1	0	present	present
	Finegoldia	*Finegoldia magna*	6	6	0	present	present
	Flavonifractor	*Flavonifractor plautii*	5	5	0	present	absent
	Gemella	*Gemella haemolysans*	2	0	2	present	present
		Gemella morbillorum	2	1	1	present	present
	Granulicatella	*Granulicatella adiacens*	3	1	2	present	present
		Granulicatella elegans	1	1	0	present	present
		Granulicatella para-adiacens	1	0	1	present	absent
	Lactobacillus	*Lactobacillus casei*	3	3	0	present	present
		Lactobacillus fermentum	1	1	0	present	present
		Lactobacillus gasseri	3	1	2	present	present
		Lactobacillus jensenii	1	1	0	present	present
		Lactobacillus plantarum	1	1	0	present	present
		Lactobacillus rhamnosus	11	9	2	present	present
		Lactobacillus sakei	1	0	1	present	present
		Lactobacillus vaginalis	1	1	0	present	absent
		Lactobacillus zeae	2	2	0	present	present
		Lactococcus garvieae	1	0	1	present	present
	Leclercia	*Leclercia adecarboxylata*	4	4	0	present	present
	Leuconostoc	*Leuconostoc lactis*	1	1	0	present	present
		Leuconostoc mesenteroides	1	0	1	present	present
	Listeria	*Listeria monocytogenes*	2	2	0	present	present
	Lysinibacillus	*Lysinibacillus sphaericus*	1	1	0	present	present
	Parvimonas	*Parvimonas micra*	7	7	0	present	present
	Peptoniphilus	*Peptoniphilus harei*	3	2	1	present	present
		Peptoniphilus indolicus	1	0	1	present	present
		Peptoniphilus lacrimalis	1	1	0	present	absent
	Ruminococcus	*Ruminococcus gnavus*	1	1	0	present	present
	Sporosarcina	*Sporosarcina globispora*	1	1	0	present	present
	Staphylococcus	*Staphylococcus aureus*	7	5	2	present	present
		Staphylococcus capitis	1	1	0	present	present
		Staphylococcus caprae	3	0	3	present	present
		Staphylococcus cohnii	4	1	3	present	present
		Staphylococcus epidermidis	13	9	4	present	present
		Staphylococcus equorum	1	0	1	present	present
		Staphylococcus haemolyticus	1	0	1	present	present
		Staphylococcus hominis	2	0	2	present	present
		Staphylococcus intermedius	1	1	0	present	present
		Staphylococcus lugdunensis	1	0	1	present	present
		Staphylococcus pettenkoferi	2	0	2	present	present
		Staphylococcus saccharolyticus	2	0	2	present	present
		Staphylococcus saprophyticus	2	0	2	present	present

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
	Streptococcus	*Streptococcus anginosus*	21	17	4	present	present
		Streptococcus australis	1	1	0	present	present
		Streptococcus constellatus	22	16	6	present	present
		Streptococcus criceti	3	0	3	present	present
		Streptococcus cristatus	1	1	0	present	present
		Streptococcus dysgalactiae	5	1	4	present	present
		Streptococcus gallolyticus	12	9	3	present	present
		Streptococcus gordonii	8	3	5	present	present
		Streptococcus infantarius	4	4	0	present	present
		Streptococcus infantis	9	3	6	present	present
		Streptococcus intermedius	15	13	2	present	present
		Streptococcus lutetiensis	2	1	1	present	present
		Streptococcus massiliensis	2	2	0	present	present
		Streptococcus mitis	44	17	27	present	present
		Streptococcus mutans	5	5	0	present	present
		Streptococcus oligofermentans	4	4	0	absent	absent
		Streptococcus oralis	30	9	21	present	present
		Streptococcus parasanguinis	8	4	4	present	present
		Streptococcus pasteurianus	1	0	1	present	present
		Streptococcus peroris	1	0	1	present	present
		Streptococcus pneumoniae	10	3	7	present	present
		Streptococcus pseudopneumoniae	2	0	2	present	present
		Streptococcus pyogenes	3	1	2	present	present
		Streptococcus salivarius	9	6	3	present	present
		Streptococcus sanguinis	7	5	2	present	present
		Streptococcus sp oral	7	7	0	absent	absent
		Streptococcus thermophilus	8	5	3	present	present
		Streptococcus vestibularis	4	4	0	present	present
	Turicibacter	*Turicibacter sanguinis*	1	1	0	present	absent
	Veillonella	*Veillonella parvula*	1	1	0	present	present
	Weissella	*Weissella cibaria*	1	1	0	absent	absent
Fusobacteria	*Fusobacterium*	*Fusobacterium naviforme*	2	2	0	present	present
		Fusobacterium necrophorum	6	6	0	present	present
		Fusobacterium nucleatum	12	12	0	present	present
		Fusobacterium periodonticum	1	1	0	present	absent
	Leptotrichia	*Leptotrichia trevisanii*	5	4	1	present	absent
Proteobacteria	*Acetobacter*	*Acetobacter indonesiensis*	2	2	0	absent	absent
	Achromobacter	*Achromobacter xylosoxidans*	33	27	6	present	present
	Acinetobacter	*Acinetobacter baumannii*	1	1	0	present	present
		Acinetobacter calcoaceticus	7	1	6	present	present
		Acinetobacter haemolyticus	1	0	1	present	present
		Acinetobacter johnsonii	1	0	1	present	present

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
		Acinetobacter junii	7	3	4	present	present
		Acinetobacter lwoffii	2	2	0	present	present
		Acinetobacter parvus	1	1	0	present	present
		Acinetobacter pittii	4	0	4	present	present
		Acinetobacter schindleri	2	1	1	present	present
		Acinetobacter septicus	5	4	1	present	absent
		Acinetobacter ursingii	12	3	9	present	present
	Actinobacillus	*Actinobacillus ureae*	1	1	0	present	present
	Aeromonas	*Aeromonas veronii*	1	1	0	present	present
	Aggregatibacter	*Aggregatibacter aphrophilus*	7	5	2	present	present
		Aggregatibacter segnis	1	1	0	present	present
	Agrobacterium	*Agrobacterium tumefaciens*	2	0	2	present	present
	Aurantimonas	*Aurantimonas altamirensis*	1	0	1	present	absent
	Blastomonas	*Blastomonas ursincola*	1	1	0	present	present
	Bordetella	*Bordetella bronchiseptica*	3	2	1	present	present
		Bordetella holmesii	1	0	1	present	present
	Brevundimonas	*Brevundimonas diminuta*	3	2	1	present	present
		Brevundimonas vesicularis	1	0	1	present	present
	Brucella	*Brucella melitensis*	2	2	0	present	absent
	Burkholderia	*Burkholderia cenocepacia*	1	0	1	present	present
		Burkholderia cepacia	2	1	1	present	present
		Burkholderia fungorum	1	1	0	present	present
		Burkholderia multivorans	4	2	2	present	present
	Campylobacter	*Campylobacter fetus*	1	1	0	present	present
		Campylobacter jejuni	1	1	0	present	present
		Campylobacter lari	1	1	0	present	present
		Campylobacter rectus	1	1	0	present	present
		Campylobacter ureolyticus	3	3	0	present	present
	Delftia	*Delftia tsuruhatensis*	7	5	2	present	absent
	Desulfovibrio	*Desulfovibrio fairfieldensis*	3	0	3	present	absent
		Desulfovibrio intestinalis	1	1	0	absent	absent
	Eikenella	*Eikenella corrodens*	9	7	2	present	present
	Enterobacter	*Enterobacter aerogenes*	3	2	1	present	present
		Enterobacter cancerogenus	2	0	2	present	present
		Enterobacter cloacae	7	1	6	present	present
		Enterobacter hormaechei	3	1	2	present	present
		Enterobacter kobei	3	0	3	present	present
	Erwinia	*Erwinia tasmaniensis*	1	1	0	present	present
	Escherichia	*Escherichia coli*	6	4	2	present	present
	Grimontia	*Grimontia hollisae*	1	1	0	present	present
	Haematobacter	*Haematobacter massiliensis*	3	1	2	absent	absent
	Haemophilus	*Haemophilus influenzae*	2	1	1	present	present
		Haemophilus parainfluenzae	4	4	0	present	present

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
	Ignatzschineria	*Ignatzschineria larvae*	3	3	0	absent	absent
	Inquilinus	*Inquilinus limosus*	7	6	1	present	present
	Kingella	*Kingella kingae*	5	5	0	present	present
	Klebsiella	*Klebsiella oxytoca*	2	1	1	present	present
		Klebsiella pneumoniae	9	4	5	present	present
	Moraxella	*Moraxella catarrhalis*	6	6	0	present	present
		Moraxella lacunata	1	1	0	present	present
		Moraxella nonliquefaciens	1	1	0	present	present
		Moraxella osloensis	3	0	3	present	present
	Morganella	*Morganella morganii*	2	1	1	present	present
	Neisseria	*Neisseria canis*	1	1	0	present	present
		Neisseria cinerea	3	1	2	present	present
		Neisseria flavescens	2	0	2	present	present
		Neisseria gonorrhoeae	1	0	1	present	present
		Neisseria mucosa	1	1	0	present	present
		Neisseria sicca	2	1	1	present	present
	Pandoraea	*Pandoraea pnomenusa*	1	1	0	present	present
		Pandoraea pulmonicola	3	0	3	present	present
	Pantoea	*Pantoea ananatis*	5	2	3	present	present
		Pantoea brenneri	1	0	1	absent	absent
		Pantoea eucrina	1	0	1	present	absent
	Pasteurella	*Pasteurella canis*	5	1	4	present	present
		Pasteurella multocida	11	10	1	present	present
	Pseudochrobactrum	*Pseudochrobactrum asaccharolyticum*	1	0	1	present	present
	Pseudomonas	*Pseudomonas aeruginosa*	47	28	19	present	present
		Pseudomonas alcaligenes	5	3	2	present	present
		Pseudomonas fluorescens	1	0	1	present	present
		Pseudomonas lurida	1	0	1	present	absent
		Pseudomonas mendocina	10	0	10	present	present
		Pseudomonas mosselii	1	0	1	present	present
		Pseudomonas oleovorans	1	1	0	present	present
		Pseudomonas oryzihabitans	4	2	2	present	present
		Pseudomonas putida	2	0	2	present	present
		Pseudomonas rhodesiae	1	0	1	present	present
		Pseudomonas stutzeri	2	1	1	present	present
		Pseudomonas syringae	1	0	1	present	present
	Rahnella	*Rahnella aquatilis*	1	0	1	present	present
	Ralstonia	*Ralstonia insidiosa*	1	0	1	present	present
		Ralstonia mannitolilytica	2	0	2	present	present
	Roseomonas	*Roseomonas genomospecies 5*	1	1	0	present	absent
		Roseomonas mucosa	3	3	0	present	present
	Rothia	*Rothia aeria*	1	1	0	present	present

Phylum	Genus	Bacterial species confirmed using molecular identification	N° of isolates (n=)	N° of isolates, CPI* period	N° of isolates, MALDI-TOF period	Our MALDI-TOF database	MALDI-TOF database (Brüker)
	Salmonella	*Salmonella enterica*	1	0	1	present	present
	Serratia	*Serratia nematodiphila*	1	0	1	absent	absent
		Serratia rubidaea	2	0	2	present	present
	Slackia	*Slackia exigua*	3	3	0	present	present
	Sphingomonas	*Sphingomonas mucosissima*	1	1	0	present	present
		Sphingomonas paucimobilis	1	1	0	present	present
	Stenotrophomonas	*Stenotrophomonas maltophilia*	11	9	2	present	present

CPI*: conventional phenotypic identification (Gram staining, API, Vitek 2 system identification).

Table S5. Distribution of the sources of clinical samples for the 48 rare bacterial species identified by phenotypic identification.

Phylum	Genus	Bacteria species	Clinical samples	N° of Isolates
Actinobacteria	*Actinobaculum*	*Actinobaculum massiliense*	Joint bone infection	1
	Actinomadura	*Actinomadura cremea*	Biopsy	1
	Actinomyces	*Actinomyces europaeus*	Abscess	1
			Biopsy	3
			Joint bone infection	2
			Skin wound	4
			Surgical drainage	2
		Actinomyces radicidentis	Bloodstream	3
		Actinomyces radingae	Abscess	8
			Biopsy	2
			Bloodstream	1
			Cardiac pacemaker	2
			Skin wound	1
			Surgical drainage	6
	Arthrobacter	*Arthrobacter cumminsii*	Biopsy	1
			Bloodstream	2
			Skin wound	1
			Surgical drainage	1
	Brevibacterium	*Brevibacterium luteolum*	Skin wound	1
		Brevibacterium massiliense	Bloodstream	1
		Brevibacterium paucivorans	Bloodstream	1
		Brevibacterium ravenspurgense	Skin wound	1
	Corynebacterium	*Corynebacterium auriscanis*	Ear	1
			Skin wounds	1
			Skin wound	1
		Corynebacterium coyleae	Bloodstream	4
			Urinary tract infection	3
		Corynebacterium fastidiosum	Biopsy	2
		Corynebacterium imitans	Bloodstream	2
		Corynebacterium mucifaciens	Bloodstream	2
			Cerebrospinal fluid	3
	Microbacterium	*Microbacterium schleiferi*	Cornea	1
	Pseudoclavibacter	*Zimmermannella bifida*	Bloodstream	1
	Varibaculum	*Varibaculum cambriense*	Abscess	1
			Surgical drainage	1
Bacteroidetes	*Alistipes*	*Alistipes finegoldii*	Bloodstream	3
	Bacteroides	*Bacteroides cellulosilyticus*	Biopsy	1
			Bloodstream	2
			Surgical drainage	1
	Butyricimonas	*Butyricimonas virosa*	Joint bone infection	1
	Porphyromonas	*Porphyromonas somerae*	Biopsy	3
			Cardiac pacemaker	1

Phylum	Genus	Bacteria species	Clinical samples	N° of Isolates
			Joint bone infection	3
			Surgical drainage	2
	Prevotella	*Candidatus Prevotella conceptionensis*	Sinusitis	3
		Prevotella massiliensis	Bloodstream	1
Firmicutes	*Acidaminococcus*	*Acidaminococcus intestini*	Abscess	1
			Surgical drainage	1
	Anaerococcus	*Anaerococcus lactolyticus*	Bloodstream	1
			Surgical drainage	2
		Anaerococcus octavius	Biopsy	1
			Bloodstream	1
			Joint bone infection	2
			Pleural biopsy	1
			Sinusitis	1
			Surgical drainage	1
	Eubacterium	*Eubacterium tenue*	Bloodstream	1
			Pericardial effusion	1
		Eubacterium yurii	Sinusitis	1
	Facklamia	*Facklamia languida*	Abscess	1
	Peptoniphilus	*Peptoniphilus harei*	Abscess	8
			Aortic aneurysm	1
			Biopsy	32
			Bloodstream	10
			Bone marrow culture	1
			Joint bone infection	15
			Joint-Bone	2
			Sinusitis	2
			Skin wound	2
			Surgical drainage	22
	Robinsoniella	*Robinsoniella peoriensis*	Joint bone infection	2
			Skin wound	1
	Sporosarcina	*Sporosarcina ginsengisoli*	Bloodstream	1
	Streptococcus	*Streptococcus massiliensis*	Bloodstream	2
			Peritoneal fluid	1
			Skin wound	1
	Turicibacter	*Turicibacter sanguinis*	Bloodstream	2
			Peritoneal fluid	1
	Veillonella	*Veillonella montpellierensis*	Surgical drainage	1
Fusobacteria	*Leptotrichia*	*Leptotrichia goodfellowii*	Surgical drainage	1
		Leptotrichia trevisanii	Bloodstream	3
Proteobacteria	*Acinetobacter*	*Acinetobacter parvus*	Bloodstream	1
			Sputum	1
	Comamonas	*Comamonas kerstersii*	Bloodstream	2
	Enterobacter	*Enterobacter cowanii*	Biopsy	1
			Sinusitis	1

Phylum	Genus	Bacteria species	Clinical samples	N° of Isolates
			Urinary tract infection	1
		Enterobacter kobei	Abscess	3
			Biliary drainage	3
			Biopsy	8
			Bloodstream	54
			Bone marrow culture	1
			Bronchoalveolar lavage	11
			Oral ulcer	1
			Conjunctiva	1
			Dialysis catheter	1
			Ear newborn	1
			Human semen	1
			Intrauterine device	1
			Joint bone infection	7
			Nasal swabs	1
			Peritoneal fluid	2
			Pharynx newborn	1
			Pleural biopsy	1
			Pulmonary biopsy	1
			Skin wound	40
			Sputum	15
			Surgical drainage	10
			Tracheobronchial aspiration	18
			Umbilical cord bloodstream	1
			Urinary tract infection	89
	Ochrobactrum	*Ochrobactrum grignonense*	Bloodstream	1
	Pandoraea	*Pandoraea pulmonicola*	Bloodstream	2
			Bronchoalveolar lavage	5
			Pleural biopsy	1
			Sputum	17
			Tracheobronchial aspiration	6
	Paracoccus	*Paracoccus yeeii*	Bloodstream	2
	Pseudomonas	*Pseudomonas hibiscicola*	Biopsy	1
			Sputum	1
	Roseomonas	*Roseomonas ludipueritiae*	Bloodstream	1
	Serratia	*Serratia ureilytica*	Skin wound	1

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